

**Varazdin Development and Entrepreneurship Agency**  
in cooperation with  
**University North**



Editors:

**Ivica Filipovic, Goran Kozina, Fran Galetic**

## **Economic and Social Development**

8<sup>th</sup> International Scientific Conference on Economic and Social Development  
and 4<sup>th</sup> Eastern European ESD Conference: Building Resilient Economy



**Book of Proceedings**

Zagreb, 19 December 2014

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**Publishing Editor** ■ Domagoj Cingula

**Publisher** ■ **Design** ■ **Print** ■ Varazdin Development and Entrepreneurship Agency, Varazdin, Croatia  
in cooperation with  
University North, Koprivnica, Croatia

**Copies** ■ 100 CDs

A CIP catalogue record for this book is available in the Online Catalogue of the National and University Library in Zagreb as 894212.

**ISBN 978-953-6125-14-2**

The Book is open access and double-blind peer reviewed.

The Book is regularly indexed and abstracted by ProQuest, EconBIZ and Hrcak databases. It is available for downloading in a PDF format from the Economic and Social Development Conference website, <http://www.esd-conference.com>

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Section 1

**Globalization and Challenges of the Modern World**

## **ORGANIZATIONAL CHANGE RESISTANCE: EXPERIENCE FROM PUBLIC SECTOR**

**Vesna Stojanovic Aleksic**

*Faculty of Economics, University of Kragujevac  
vesnasa@kg.ac.rs*

**Snezana Zivkovic**

*Faculty of Occupational Safety, University of Nis  
snezana.zivkovic@znr fak.ni.ac.rs*

**Aleksandra Boskovic**

*Faculty of Economics, University of Kragujevac*

### **ABSTRACT**

*The study described in the paper aimed to measure the level of resistance of public sector employees to organizational changes, in order to draw a conclusion on whether the level of resistance is a risk to the successful implementation of change or not. The differences between the resistance of several categories of employees were observed, depending on age, education and satisfaction with personal monthly income. In addition, the most important causes of resistance to change within the sample were determined, such as: lack of involvement of employees in the process of planning change, conviction of employees about non-existence of adequate rewards for the accomplishment of change and high levels of stress at work. The findings indicate that the level of change resistance in public sector is within moderate limits, which means that this issue needs further attention in planning and management of organizational change, but, on the other hand, the situation can not be characterized as highly risky for the process of change implementation. The paper also provides a brief theoretical overview of the most important findings in the field of organizational changes in the public sector.*

**Keywords:** *organizational change, public sector, motivation, resistance to change*

### **1. INTRODUCTION**

In the modern business environment, characterized by high level of uncertainty, dynamism and turbulence, change is the only constant. In these circumstances, the ability to adapt to change in the external, as well as initiating and implementing the necessary changes in the internal environment, are essential for the growth and development of organizations, both in private and public sector. In Serbia, as in many other countries that were faced with the transition process, which began in the late twentieth century, it was necessary to perform a number of different organizational and other changes in the public sector. Public sector reform was one of the key preconditions for successful transition. There was a need to make public enterprises to some extent independent, to abolish monopolies and to improve public sector by rational organization of operations and changes in management style. Some of the planned changes are implemented more or less successfully, while others represent a plan for the future. To make the change possible, there has to exist an adequate level of knowledge and skills of managers leading the change. The literature discusses the various factors that influence the outcome of organizational change. Kotter (1995) dealt with the reasons why organizational change fail and identified eight of these various factors. Other authors have identified factors which lead to the success of organizational changes in public sector (Fernandez, Rainey, 2006), such as, inter alia, the construction of the internal support to

change and overcoming the resistance of employees. Almost every organizational change requires that an employees change some of their routine operations, the way they perform their work and their behavior (Petković, Janićijević, Bogićević-Milikić, 2010: 562). Therefore, it is of great importance to understand the opinions and views of employees regarding organizational change in order develop the necessary tools to motivate employees to change, so that their resistance can be reduced to the lowest possible level. The very important leader's role in the process of implementing organizational changes is related to overcoming resistance to changes, and it represents one of the most significant as well as most difficult tasks of a leader in the process of their implementation. Reducing change resistance is important because employees' reactions to change are considered critical for the success of change efforts (Van Dam et al. 2008). There is a huge consensus that a key factor in determining the success of any organizational change involves employees acceptance of it (Oreg and Berson 2011). In this study, we will deal with measuring the degree of employee's resistance to organizational changes in public organizations in Kragujevac, in order to highlight the impact that their views have on the risk of the change implementation process. In addition, the focus was put on a wide set of variables that proved to be important for understanding resistance to change, such as: age of respondent, level of education, position in the organization, personal monthly income and satisfaction with personal monthly income.

## **2. ORGANIZATIONAL CHANGE MANAGEMENT**

More and more organizations are engaged in multiple and ongoing-change events, such as the introduction of new top management teams, reorganizations or restructurings, downsizing, layoffs, and new strategic initiatives. The potential impacts of change on people working in organizations are significant: on the positive side, change can provide a wealth of opportunities for growth and development; but, on the negative side, there can be substantial costs to having to negotiate new relationships, skills and patterns of activity (Cartwright, Cooper, 1992; Kotter, 1995). In order for changes to be successful and to lead to positive results, it is necessary to properly manage the process of their implementation by agents of change. Agent of change is the individual or group responsible for managing the changes actions. They may or may not be managers, the current employees in the organization, new employees or external consultants (Robbins, Judge, 2009:646). There are different models of change management, all of which consist of certain interrelated activities that may be called phases or steps. Different authors recommend different steps in change management, which actually represent a kind of instructions or recommendations for managers who lead this process. According to (Kotter,1998), mentioned activities can be classified into ten groups:

***Change initiaion*** - This is the phase where the management of the organization has to recognize the need for change, as well as their causes, to overcome inertia, make the decision to initiate change, choose an agent of change, define its tasks and to establish a productive relationship with him.

***Diagnosis of the state of the organization and the causes of change*** - This is a group of activities in the process of change through which a state of organization and the reasons why change is necessary are determined. This group of activities is performed by the diagnostic model and includes data collection and analysis in order to determine the causes of changes.

***Creating a vision and making a plan for new organization*** – The phase includes activities of planning the desired state of organization to which the change should lead. This module also includes the creation of a vision of the new organization, as well as its expansion throughout the organization.

***Planning and organizing the proces of change*** – This step in the management of organizational change involves planning the flow of change, as well as the building of the structure which will support realization of change.

***Motivation for change*** - Management to motivates employees to accept and implement change and raises the energy needed to successfully implement changes.

***Change implementation*** - The sixth stage involves the implementation of a change in the strict sense. During this phase, managers perform changes in several cycles. They plan and implement initial success and support and accelerate the implementation of change.

***Management of power structures and political processes*** – One group of activities must be committed to shaping the power structure in the organization which will, if not favor, then at least enable changes.

***Management of personal transition*** – This group of activities is committed to work with people. During the implementation of change, management has to manage emotions and give support to personal transition of members of the organization. They have to provide training and counseling, and the largest possible participation of employees in changes. Most importantly, management has to reveal and overcome resistance to change.

***Stabilization of change through their involvement in the organizational culture*** – During this phase, the implemented changes are being frozen, which means they are being included in the organizational climate and therefore becoming legitimate way of organizing and functioning of enterprise.

***Monitoring and control of organizational change*** – The last stage in managing organizational change is to monitor, measure and control the effects of changes.

It is possible to single out two general objectives of organizational change. First, the planned change aims to increase the organization's ability to adapt to changes in the environment. Second, it seeks to change the behavior of employees. (Robbins, Judge, 2009:646). As each organizational change requires a change in employee behavior, it is of great importance to ensure acceptance of change by employees, motivate them to actively participate in the change implementation, and reduce the change resistance, as much as possible.

### **3. RESISTANCE TO CHANGE**

Employee motivation for change is an extremely important task without which it is not possible to successfully make organizational changes. They must be confident that the change will have a positive impact on themselves and their organization. Only then, the people will accept the changes and commit to its implementation. Managers who act as agents of change are largely responsible for the motivation of employees. They must apply the appropriate techniques and strategies of motivation, but above all, they must be personally motivated and willing to change in order to transfer their enthusiasm to the employees. The literature reveals two basic strategies to motivate employees to change (Janićijević, 2008:416):

1. ***Creating dissatisfaction with the current situation*** - Dissatisfaction with the current situation can be caused by various reasons, such as: informing about the real situation and prospects of the company; setting high standards of performance or disconfirmation of existing behavior and the development of a sense of guilt.
2. ***Development of positive expectations of change*** - Positive expectations of change can be created by the development of psychological security and expectations of gains from the change. It is necessary to create and present a vision of the new organization and to develop positive expectations of the new organization. Therefore, it is extremely important to apply the following techniques to motivate employees, such as: communication with employees, exposing objective information, teamwork, planning and control.

It is very important to perceive that resistance is a common phenomenon which follows all types of changes and it should be seen as a natural and inevitable occurrence (Robbins,1992,p.193). It is precisely resistance that can be a sign of something significant and unusual happening in a company, and if it is a case of radical, transformational moves which bring bigger changes, strong and often dramatic reactions should be expected.

When faced with changes for the first time, a common human reaction is fear. The reason for this is the fact that the change involves abandoning the status quo and the way in which the work was previously performed, and the acceptance of the unknown. Even when the change is positive, there is always a some sense of uncertainty. Hence, change agents are often faced with the problem that concerns not only low motivation, but also the active or passive resistance of employees to change.

In order for managers to successfully overcome the resistance, it is necessary to understand the cause of this resistance, as well as to develop the proper tactics by means of which this problem is solved.

The following four may be pointed out as the most important causes of change resistance (Kotter, Schlesinger, 2008:132-134):

1. ***Parochial self-interest*** – People think that they will lose something of value as a result of the change. In these cases, people focus on their own best interests and not on those of total organization.
2. ***Misunderstanding and lack of trust*** – People also resist change when they don't understand its implications and perceive that it might cost them much more than they will gain. Such situations often occur when trust is lacking between the person initiating the change and the employees.
3. ***Different assessments*** – Another common reason people resist organizational change is that they assess the situation differently from their managers or those initiating the change and see more costs than benefits resulting from change, not only for themselves but for their company as well.
4. ***Low tolerance for change*** – People also resist change because they fear they will not be able to develop new skills and behavior that will be required of them. All human beings are limited in their ability to change, with some people much more limited than others.

After the managers come to the knowledge of the cause of resistance, they must choose the right strategy for solving this problem. The strategy depends on many different factors, and each strategy has its positive and negative effects. Therefore, it is important to carefully consider the situation in which the organization is based, to collect the necessary information, to determine the causes of resistance and to assess whether employees have the power to resist change. In addition, the cost-benefit analysis must be conducted, in order to draw a conclusion whether it is profitable to apply a particular strategy. The following table shows the most commonly used methods or strategies for solving the problem of resistance to change.

*Table 1. Methods for dealing with resistance to change*

<b>Approach</b>	<b>Commonly used in situations</b>	<b>Advantages</b>	<b>Drawbacks</b>
Education + communication	Where there is a lack of information or inaccurate information and analysis.	Once persuaded, people will often help with the implementation of change.	Can be very time consuming if lots of people are involved.
Participation + involvement	Where the initiators do not have all the information they need to design the change, and where others have considerable power to resist.	People who participate will be committed to implementing change, and any relevant information they have will be integrated into the change plan.	Can be very time consuming if participators design an inappropriate change.
Facilitation + support	Where people are resisting because of adjustment problems.	No other approach works as well with adjustment problems.	Can be time consuming, expensive, and still fail.
Negotiation + agreement	Where someone or some group will clearly lose out in change, and where the group has considerable power to resist.	Sometimes it is relatively easyway to avoid major resistance.	Can be too expensive in many cases if it alerts others to negotiate for compliance.
Manipulation + co-optation	Where other tactics will not work or are too expensive.	It can be a relatively quick and inexpensive solution to resistance problems.	Can lead to future problems if people feel manipulated.
Explicit + implicit coercion	Where speed is essential, and the change initiators possess considerable power.	It is speedy and can overcome any kind of resistance.	Can be risky if it leaves people mad at the initiators.

*Source: Kotter, P.J., Schlesinger, A.L., 2008:7*

When we speak of Serbian companies and other organizations and institutions in the public sector, it is often assumed that the resistance of employees to organizational change is extremely high given that these organizations operated by habitual patterns over many years, relying on the bureaucracy. However, some research has shown that, despite the Serbian national culture is generally labeled as a culture with a low tolerance of change and uncertainty, 78% of employees in local companies have shown the will to engage in a process of organizational change, if they believe it will bring improvement for the company in which they work, and for themselves. (Šapić, Stojanović Aleksić, Erić, 2009: 410).

Research in 2007 showed similar results (Stojanovic -Aleksic, 2007). As the most important causes of resistance to changes, respondents have stated a lack of information regarding changes (62%), a fear of losing one's position in the company (20.3%), distrusting the leader in charge of changes (14.5%) and a lack of knowledge and competence to get involved in changes (3.2%). Therefore, the largest number of respondents opposes changes due to insufficient amount of information which is, in a sense, favorable for leaders of domestic

companies as this kind of resistance can be easily overcome by better informing employees about all important aspects of changes. After all, informing represents one of the most significant strategies for overcoming resistance to changes, which was discussed in the paper.

#### **4. CHANGES IN THE PUBLIC SECTOR**

The public sector is part of the national economy, which includes the general government and nonfinancial enterprises controlled by the state (public companies) that are primarily engaged in commercial activities (Budget System Law).

The public sector is the institutional system of economic engagement of the state and it consists of different sub-sectors (Vigvari, Raićević, Brnjaš, 2003:23-24):

1. *Budget sub-sector* – which involves bureaucratic regulation of state authorities, whose activity takes place in a special system of rules and with direct political control by political parties and relevant ministries.
2. *State-owned enterprises* (public companies) sub-sector – which includes a number of enterprises, institutions, agencies, associations and other forms of organization of companies, established by the state or local governments, aimed at marketing, sale and distribution of state's products and services, in order to meet the public needs of the population.
3. *Non-profit and non-governmental organizations and institutions sub-sector* – which includes a wide range of services, oriented to the promotion of democratization, the realization of the rights of various marginalized political, social, religious and other groups in the community, as well as education and training groups for inclusion in the socio-political system of a country.

Activities and functions of the state and its organs usually are directed towards satisfying the public's needs. It is important to note that there is a fundamental difference between the needs of the organization of public services and public administration. The public services are established exclusively to meet the needs of the whole community, but also every citizen, individually, within the following industries: farming, scientific, educational, health, social and other.

Public administration aims at the implementation of the legal provisions and bylaws adopted by the Parliament or the Government of the Republic of Serbia. Their function is prevention, counseling, and control, as well as the application of legally prescribed penal provisions against entities that do not comply with the statutory provisions.

The frequently asked question is whether it is possible to achieve efficiency in the process of organizational change in public organizations, on the same level as it is the case in private sector. Designed to hold organizations accountable for a broad range of objectives, there are many rules and procedures that lead to rigid bureaucratic structures that can inhibit effective organizational change in public sector. Such elements as civil service systems, inflexible reward systems, specialized and invariant job designs, highly formalized processes and procedures, and strict reporting requirements yield centralized, bureaucratic hierarchies and the highly political nature of public arena frequently lead to assumption that organizational changes are difficult to implement successfully in the public sector. (Robertson, Seneviratne, 1995: 548).

However, nowadays public organizations are increasingly switching to market-motivated way of doing business, which includes a focus on users. Consequently, they must carry out a series of changes in the organizational structure, such as downsizing, establishing new sectors, changes in the delegation of authority and coordination, and more. Transition countries, such as Serbia, are particularly interesting area for conducting these kind of research because the

public sector in these countries is often the subject of criticism. The importance of the public sector of the Republic of Serbia, with an estimated cca 700,000 employees, is reflected both in the redistribution of gross domestic product in taxes and public spending, and in the share of public investment of 15% of total investments (Arsic et al, 2010:143). The main characteristic of the public sector in Serbia is low efficiency and a high level of expenses, compared to the quality and scope of services that the sector provides. (Veselinović, 2014: 143). Key problems in the functioning of the public sector of the Republic of Serbia are (Veselinović, 2014: 144):

- High costs of public administration and public services, in the form of the wage bill and their share in gross domestic product;
- A common practice of forming various government agencies and similar institutions, without prior assessment of the existing infrastructure and assessment whether there already exists an organization that conducts such activities or have the capacity to perform them;
- Irrational spending of budget funds by subsidizing inefficient public enterprises;
- Inefficient system of pension insurance, social security and health care, and education;
- Inefficient and bureaucratic administration that encourages the private sector to the informal economy.

The Government of the Republic of Serbia, attaches a special importance, within the economic reforms, to the measures directed towards public companies at all levels of government. Specific austerity measures are defined by the Program of measures for public sector reform (Program of Measures for Public Sector Reform, Ministry of Finance, Republic of Serbia, 2013:9-11):

1. *Introduction of rules in the operation of public companies* - the dominant direct impact on the work of state bodies of public enterprises, reduction of direct and indirect subsidies from the budget of the Republic, stricter control over the issuance of guarantees.
2. *Improving the control of the number of employees and wage bill in the public sector* - the establishment of the Public Registry of employees in the public sector, the transition to a centralized calculation of personal income of employees, determining the optimal number of employees, reduction of other additional and related costs to minimum.
3. *Structural reforms of the public sector* - the completion of the restructuring process in 179 companies in this status, increase efficiency, independence and transparency of public companies (consistent application of the Law on Public Enterprises, better tracking result of any work by introducing key performance indicators, corporatization and strengthening public-private partnerships) sale and / or withdrawal of capital in certain public of enterprises.

The World Bank uses Governance Indicators to evaluate how well certain states manages public sector. Based on all six indicators, Serbia is far below average compared to other countries in the region. (Veselinović, Milovanović, 2009:403). Hence, it is necessary to implement a series of organizational changes in the public sector in Serbia, some of which are listed above. Providing support and motivation of employees in public organizations and overcoming the resistance are some of the biggest challenges for managers. Therefore, this study puts the focus on the opinion of employees in public sector on specific organizational changes that were implemented in their organizations. This provides a basis for measurement of the degree of change resistance and its impact on the success of the change implementation process. Research has been conducted in a number of public organizations on the territory of Kragujevac, as one of the largest cities in Serbia.

## 5. EMPIRICAL RESEARCH

Bearing in mind the above identified problem area, the subject of this study will be: measurement of the degree of resistance to organizational changes in public sector institutions in the territory of Kragujevac, as well as its impact on the risk of the change implementation process. Taking into consideration the defined problem area and formulation of the subject, the main goal of scientific research is gathering relevant data and information, that lead to precise and objective knowledge of the views and opinions of employees in the public sector in the territory of Kragujevac about organizational changes, their resistance, and its impact on the outcome of the change implementation process.

This set of basic goal helps define the following derived objectives:

- Examine the relationship between respondents' age and level of resistance to organizational change.
- Examine the relationship between the education level of the respondents and the degree of resistance to organizational change.
- Examine the relationship between employees' satisfaction with personal monthly income and level of resistance to organizational change.

In accordance with the defined subject, and according to the research objectives, the paper starts from the certain hypothesis, which will be tested.

**Basic hypothesis (H0):** Resistance to change is an important factor that affects the risk in organizational change implementation in the public sector.

**Derived hypothesis (H1):** The youngest employees will show a lower degree of resistance to organizational change.

**Derived hypothesis (H2):** Employees with higher level of education will show a lower degree of resistance to organizational change.

**Derived hypothesis (H3):** Employees who are more satisfied with personal monthly income will show a lower level of change resistance.

**Methodology of research:** As a diagnostic tool, the CRS will be used to determine the overall resistance to an organizational change and its contribution to the risk of implementation failure. The Change Resistance Scale (CRS) (Conner, 2011) is designed to serve as an aid in dealing with the human aspects of an organization's adaptation to change. The CRS can be used in following situations:

- While organizational change is being considered or during initial planning.
- Before the change has been announced.
- Anytime after the announcement has been made.
- After project implementation is complete.

The Change Resistance Scale profiles people's perceptions of a specific change. It comprises 25 items that correspond to 25 primary ways people respond to organizational change. Each item is measured on a scale of 1 to 10 and respondents place a check mark above the number that best reflects their view of each of the following items. In addition to this instrument, the qualitative analysis and comparison with the existing literature and scientific knowledge was used in this research. The sample consisted of 72 respondents from six public organizations on the territory of Kragujevac, as one of the largest cities in Serbia. Of all respondents, 36 (50%) are male, while 36 (50%) are female. The following tables (Table 1, Table 2) show the structure of the sample by age and by level of education of the respondents. The largest percentage of respondents are between 39-49 years old (37.5%), while more than half of the respondents have a university level of education (54.2%).

*Table 2. Age of the respondents*

Age	Frequency	Percent
18-27	7	9,7 %
28-38	24	33,3 %
39-49	27	37,5 %
> 50	14	19,4 %
Total	72	100,0 %

*Table 3. Level of education of the respondents*

Level of education	Frequency	Percent
University degree	39	54,2 %
College degree	12	16,7 %
Secondary education	16	22,2 %
Skilled worker	5	6,9 %
Total	72	100,0 %

Employees from the following organizations were involved in the study:

- Electric Power Industry of Serbia - The company "CENTER" LTD Kragujevac
- Clinical Center Kragujevac
- Ministry of Finance – Tax Administration - Regional Center Kragujevac
- "Public Enterprise for the City Construction" Kragujevac
- Public Utility Company „City Market“ Kragujevac
- Public enterprise "Post Serbia" - a business unit of Kragujevac

The empirical data will be processed using the following softwares:

1. Microsoft Office Excel 2007 - Within this framework, various mathematical operations will be used in order to calculate the CRF in different categories.
2. The software package SPSS (Statistical Package for the Social Science), version 20.00 - Within this framework, the techniques of descriptive statistics will be used in order to describe the sample, as well as to observe relations between the analyzed variables.

Based on the survey results, the average Change Resistance Factor (CRF) for all respondents was 49.21 which implies an intermediate level of resistance. Intermediate level of resistance, according to CRS, affects the formation of a moderate risk in the implementation of organizational changes. This means that the level of resistance to change should be taken as a significant factor in predicting the success or failure of the change implementation process in public sector in Kragujevac. Thus, target resistance will be a pivotal element in the project's outcome and, therefore, requires special attention and resources in the planning and execution of the implementation steps.

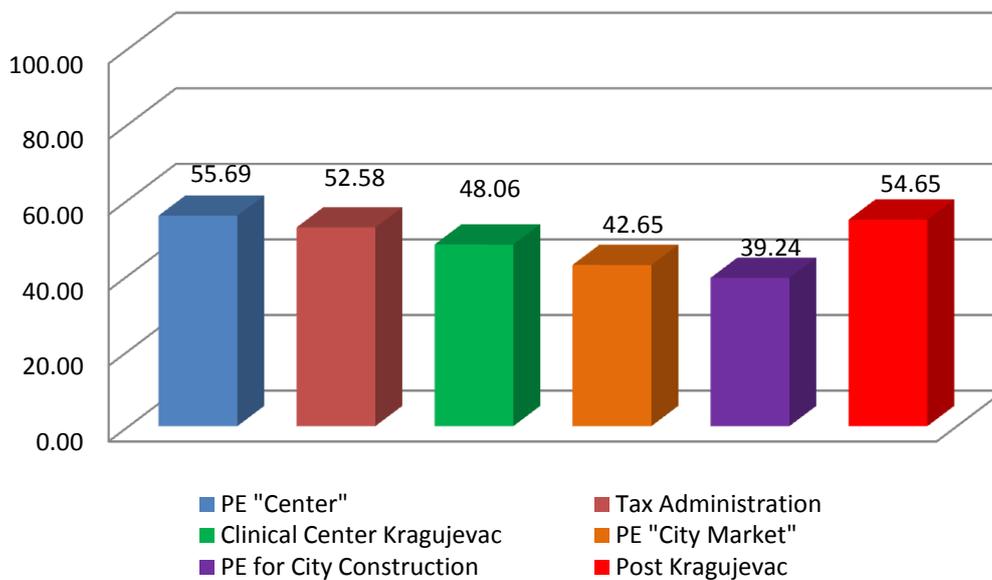
Table 4 provides some of the descriptive statistic indicators and other information about the dependent variable - the level of risk in the implementation of change, measured by CRF.

*Table 4. Descriptive statistical measures*

		Statistic	Std. Error	
CRF	Mean	49,21	1,651	
	95% Confidence Interval for Mean	Lower Bound	45,92	
		Upper Bound	52,50	
		5% Trimmed Mean	49,20	
	Median	49,80		
	Variance	196,273		
	Std. Deviation	14,010		
	Minimum	18		
	Maximum	79		
	Skewness	-,109	,283	
	Kurtosis	-,612	,559	

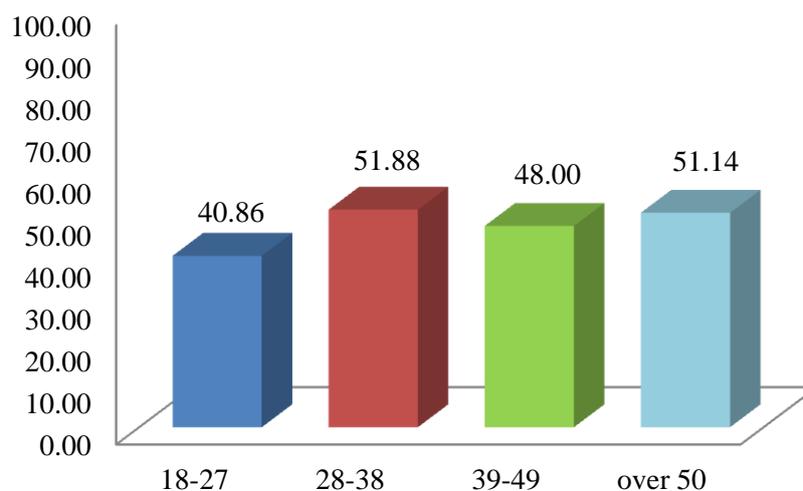
Among the results are the skewness and kurtosis, which describe the distribution of results within the two groups. The distribution is negatively skewed (-,109), ie most of the results are greater than the average value. On the other hand, the distribution is flatter than the normal (-,612). The average deviation of CRF of all respondents of the mean value is 14,010 points. The results can also be observed depending on the organization in which employees work. In all six organizations surveyed, the average CRF is at the intermediate level and indicates a moderate level of risk for the implementation of organizational changes. Comparative review of the individual average CRF for each organization is given in the following chart (Chart 1). Employees in company "Center" have shown the highest level of resistance (CRF = 55.69), while the lowest factor has been recorded in "PE for the City Construction" (CRF = 39,24), which is somewhat logical, bearing in mind that only incremental changes have been implemented in this organization.

Chart 1. Change resistance factor in public organizations in Kragujevac



It was hypothesized that different control variables affect the level of resistance of public sector employees to organizational change, such as their age, education and satisfaction with personal monthly income. In order to come to conclusion about the way that each variable affects the level of resistance, average values of CRF for each of the observed categories were calculated. Some of the most significant results are shown below. Although the results of all four age groups are within the moderate risk category (Chart 2), one of them particular stands out. This group includes respondents aged between 18 and 27 years, whose CRF is 40.86 which is significantly lower compared to older employees. This speaks about the lower level of resistance in the youngest group of employees, as was assumed in one of the hypotheses *hypothesis (H1)*.

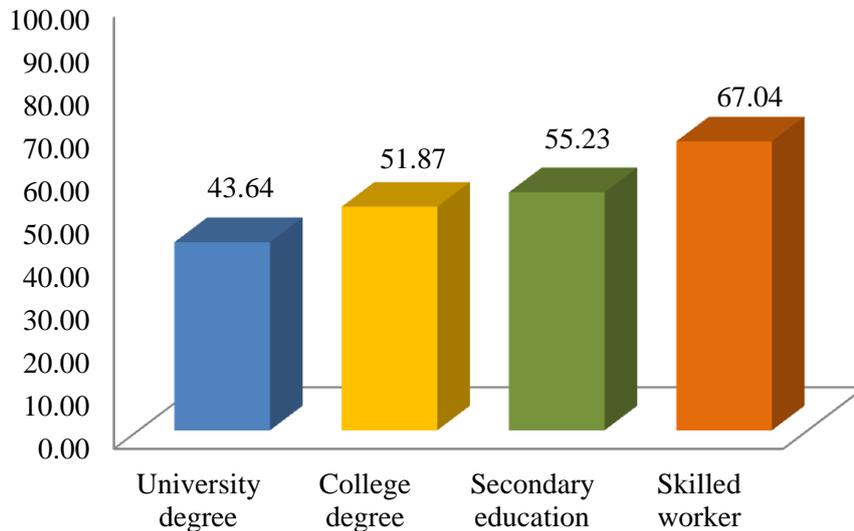
Chart 2. The impact of age on the level of resistance to organizational change



As for the education level of the respondents, this factor proved to be extremely important for the degree of resistance to organizational change. Specifically, employees with higher education (university degree) showed significantly lower levels of resistance in relation to

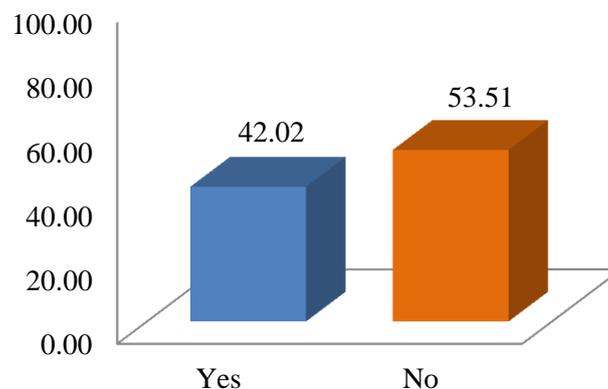
qualified workers **hypothesis (H2)**. Their average CRF is close to 43 (moderate risk), while CRF of respondents with the lowest level of education (skilled worker) reaches 67,04, indicating high risk in change implementation. There may be symptoms of resistance such as low morale, miscommunication, defensiveness, territoriality and hostility.

Chart 3. The impact of education on the level of resistance to organizational change



Based on Chart 4 it can be noted that employees who have declared themselves dissatisfied with personal monthly income have shown a higher level of resistance to organizational change (average CRF = 53.51) compared with the employees who have declared themselves satisfied with personal monthly income (average CRF = 42, 02), **hypothesis (H3)**. However, both values of CRF belong to the category of intermediate level of resistance that leads to moderate risk in change implementation. Thus, although dissatisfied respondents have shown higher resistance, the difference is not as high as one would perhaps assume.

Chart 4. The impact of satisfaction with monthly income at the change resistance level



There are different reasons why there is a certain level of resistance among employees. Based on the survey, the three causes of resistance to change within the sample were set aside as the most important:

1) One of the most important cause of resistance is the *lack of involvement of employees in the process of planning change*. Asked "How involved have you been in the planning of this change"? even 47.2% of respondents gave a rating of 10, which means complete exclusion from the planning changes. Grades 6-9 were given by 20.9% of respondents, while only 8.3% reported a rank of 1 - meaning that they utterly agree with the statement "I have been involved in planning of this change". It is human nature for people to support what they have helped to create. If people do not believe that they have a significant degree of input into the planning of change, resistance usually increases.

2) Another important cause of resistance refers to the *conviction of employees of the non-existence of adequate reward for the accomplishment of specific change*. Asked "Do you believe that adequate rewards are being provided to accomplish this change"? only 1.4% gave the answer 1 which implies complete agreement with the statement "I believe that there are adequate rewards for accomplishing this change". Even 30.6% of responses are in the range 8-10, while 16.7% of them explicitly said they do not believe in the existence of adequate reward for the implementation of the change, giving a rating of 10 points. This result is logical considering the inflexible system of rewards in public sector.

3) *High levels of stress at work* could also be singled out as one of the major causes of resistance to organizational changes in the observed sample. When asked "How much stress are you currently facing in your job", 61.1% of respondents gave grades in the range of 6-10, of whom 15.3% fully agreed with the statement "I am overly stressed or burdened by my current workload," giving a rating of 10 points. On the other hand, only 5.6% of respondents completely disagreed with the statement "I am not overly stressed or burdened by my current workload". As creators of CRS tools emphasize, when people are already busy and under stress, the additional pressure of a change may become too much for them to assimilate.

***Limitations and recommendations for future research.*** The study has several limitations that could serve as opportunities for future research within the monitored area. First, it is possible to carry out more complex statistical analyzes in order to reach more precise conclusions about the relationship of certain variables. Second, study was conducted in a short period of time, exclusively on the territory of Kragujevac. It would be desirable for similar studies to be undertaken in successive time intervals, in order to anticipate progress in suppressing the resistance of employees to change. In addition, it is possible to extend the sample by including employees of public organizations in several major cities in Serbia. Finally, it would be valuable to repeat the study in the private sector. In this way, the level of resistance in these two sectors could be compared and the advantages and disadvantages of the process of change management in both sectors could be determined. The results of this study may be useful for identifying certain practices and solutions that have proven successful in the private sector and adapting them to public sector organizations.

## **6. CONCLUSION**

Despite the existence of the usual assumptions about the high level of resistance to public sector employees to organizational changes, as well as the fact that the Serbian national culture is generally labeled as a culture with a low tolerance of change and uncertainty, we came to the conclusion that resistance is not at a level that would represent a distinct threat to the future success of the implementation of changes. The resistance is within the moderate boundaries, which does not mean that the additional attention during the planning and

management of the change process is not needed. It is clear that the implementation of wide range of techniques and strategies for motivating employees to change represents a necessity in the future, in order to reduce the existing resistance to the lowest possible level. The study found that the youngest respondents, the ones with higher levels of educational attainment, as well as employees who are satisfied with their personal incomes, show lower resistance to change. Therefore, more attention must be paid to motivation of other categories of employees, such as people older than 50 years and employees with lower levels of education. Bearing in mind that the key decisions about the level of personal monthly income are under the jurisdiction of the Government of the Republic of Serbia, managers in the public sector have a negligible impact on this factor. However, it is the application of certain forms of short-term earnings based on performance, such as bonuses and special prizes, which can serve to increase employee satisfaction with incomes, and reduce their resistance to change. In addition, the contribution of this study is reflected in the obtaining of information about the dominant causes of resistance to organizational changes, such as: lack of involvement of employees in the process of planning change, conviction of employees of the non-existence of adequate reward for the accomplishment of specific change and high levels of stress at work. Particular attention is drawn to second factor, which may be associated with the previously mentioned, dissatisfaction with personal income, all of which leads to an unambiguous conclusion about the need to intensify efforts in terms of building an adequate award system. Also, efforts for creating pleasant working conditions, good organizational communication and employee involvement in the planning process of change, by taking into account their opinions and suggestions are priorities in order to improve the change management process in the public sector.

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## **RISKS IN COLLABORATIVE DISTRIBUTED BANKING SYSTEMS**

**Liviu Adrian Stoica**

*Bucharest Academy of Economic Studies, Romania*

*liviu.stoica@csie.ase.ro*

### **ABSTRACT**

*This article aims to analyze collaborative distributed systems and the impact of the vulnerabilities that can occur in the system components. It defines a model for the collaborative distributed systems and its components, with associated weight of each component in the system, in order to determine the impact of each component on the model stability. At the component level model, it analyzes and determines the class of risks which the model can suffer; the probability and frequency that certain events may affect the system and it try to settle the impact matrix functionality. It tries to identify strategic and vulnerable points at system components level but also of its subcomponents and their ranking according to importance and vulnerability. The model is analyzed and validated on the banking system which is a collaborative distributed system. The scope is to obtain the full model of collaborative distributed system for banking system with all its components and subcomponents and determine the set of rules to protect the system, to make it secured and without any breaches. The risk classification and importance on each subsystem and component will help to improve the model and make it more efficient and stable. For analyze are used the latest articles and books from research and have a mathematical approach based on probability and efficiency.*

**Keywords:** *bank, collaborative, distributed, risk, vulnerability*

### **1. DISTRIBUTED COLLABORATIVE SYSTEMS**

A distributed system is a collection of independent computers that appears to its users as a single system. (Tanenbaum, 2007). In this analyse the distributed system is not referring only at computers and on the network and software architecture. It refers to any sub-system which have components that act as one, like the software department where all the programmers and project manager and developers, testers are seen as a team, as a piece of the system not individually as components or persons. A collaborative system is a system with a large number of components and a wide range of connections between components that are joined and used to achieve a common goal.

In this article all the sub-systems and components of the bank system are collaborative because aims for the same goal which is the maximization of the business profit.

### **2. BANK DISTRIBUTED COLLABORATIVE SYSTEM**

The Bank seen as a business, not as an institution is formed from a lot of systems, sub-systems and components.

The main sub-systems of the bank system are:

- The employees system (with its detailed organizational chart);
- The bank distribution as central location, branches, agencies;
- The informatic and software systems, seen as Information Technology system;
- The customer system.

All the above components include both distributed and collaborative systems. The flow of the bank distributed collaborative system is presented in Figure 1.

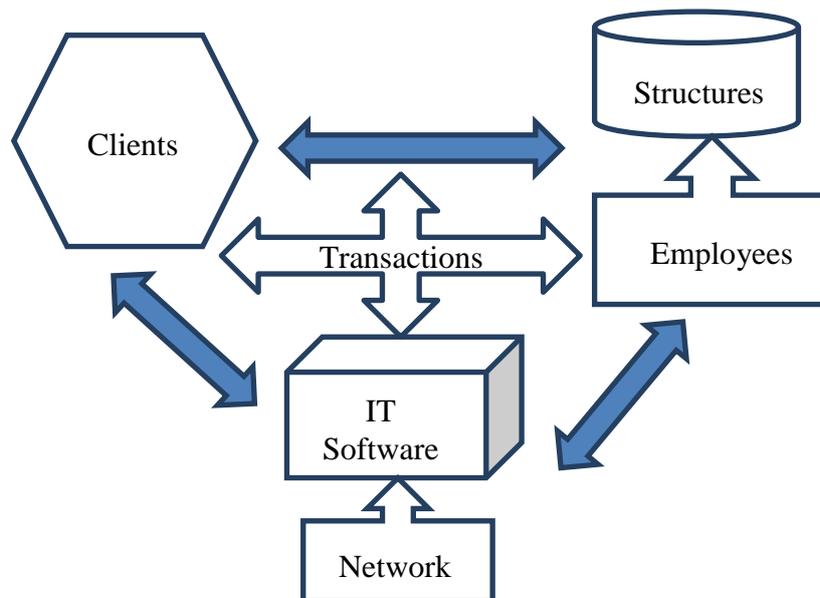


Figure 1. - Bank distributed collaborative system.

### 2.1. The structure system.

The structure system is presented in Figure 2. It refers to the distribution of the bank across the world based on the locations and structures. It starts with the bank central core and then with the country cores with its branches and agencies. The structure as an entity is coupled with the online as a one entity. At this level is not seen as two separate parts. Not even if the structures itself have different products or are addressed to different customers from different levels.

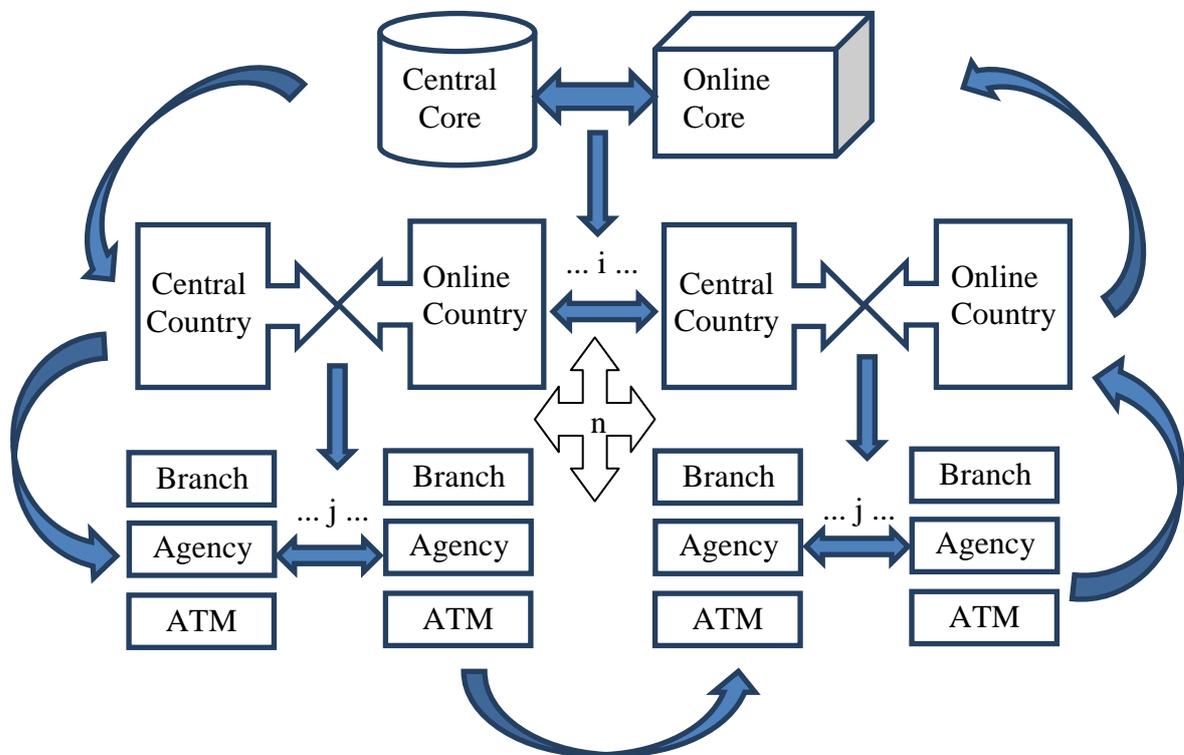


Figure 2. - Bank structure system.

As it is described in Figure 2, the relations are between all the structures and all of them work as a collaborative system because their main goal is to ensure the bank stability and increase the revenue.

### 2.2. The software system

The software system is presented in Figure 3. It is the main system of the bank system and is the most important one. True this system all the transactions are processed, all the information regarding customers, businesses, investments, loans are stored. All the information on which the bank functionality is based is stored on the informatic system. The predictions, the papers, the analyzes are done true the software, even a part of the contact with clients. Meaning the most important is the same time the most sensitive and exposed to risks and vulnerabilities.

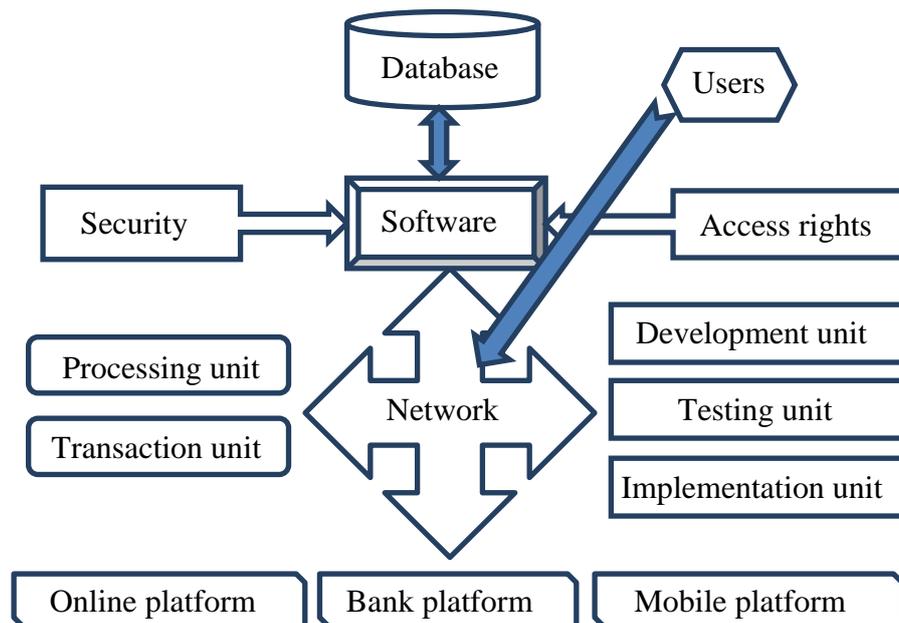


Figure3. Software system.

### 2.3. Customer system

The customers themselves made a system itself because they act as one. Each customer can interact with the bank on different ways such as internet, mobile or direct relation with the bank representative. They do different transactions with the bank and using the bank system and resources. The customer system is presented in Figure 4.

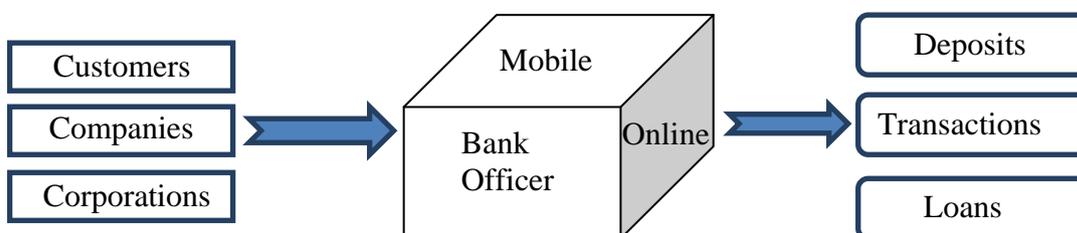


Figure 4. - Customer system

### 2.4. Employees system

The employees system is described in Figure 5.

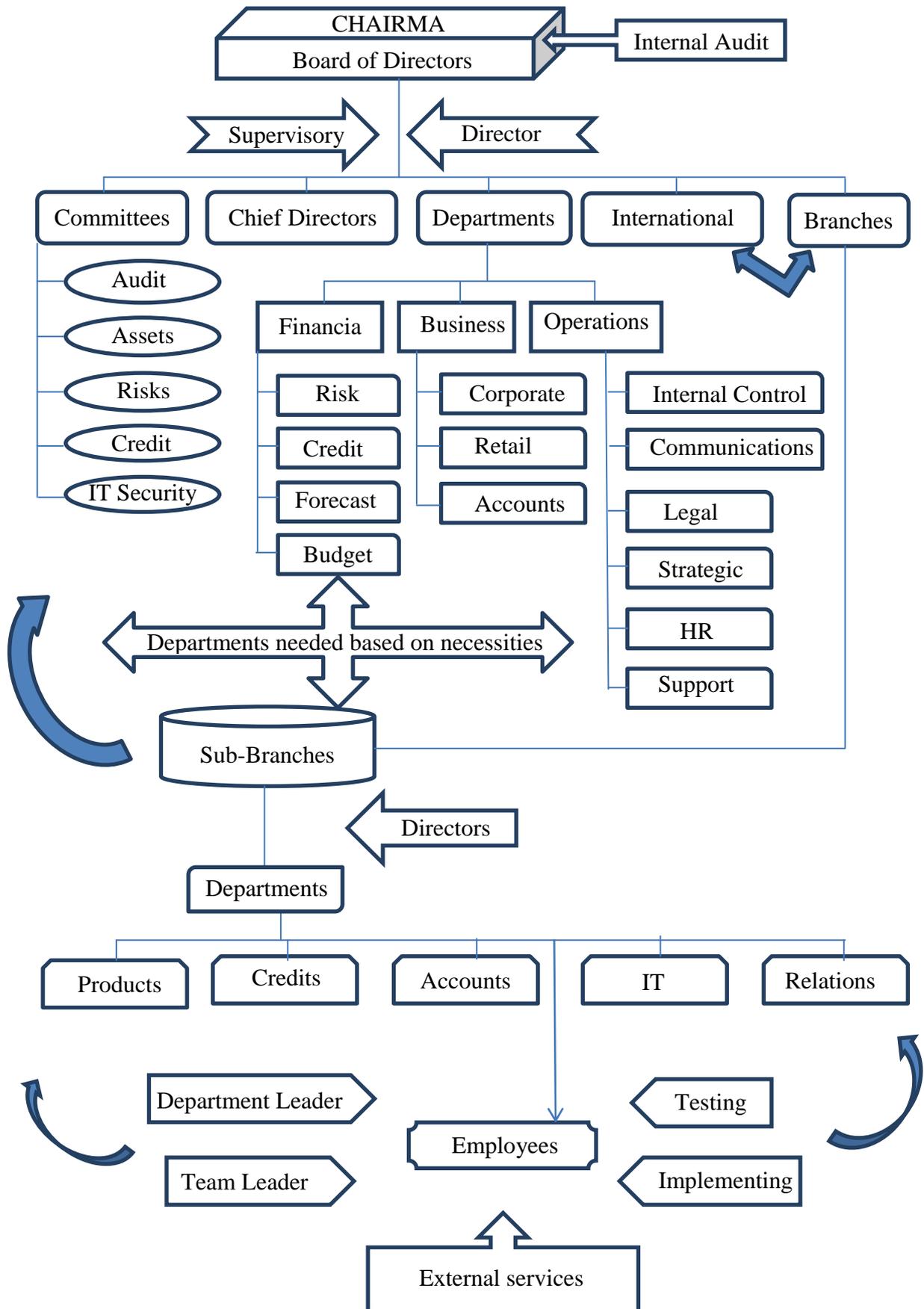


Figure5. Employees system

### 3. RISK LEVEL MATRICE

The risk level matrice is based on the probability of an event to appear and its impact caused to the system. The vulnerabilities on which the system is exposed are on different categories based on the subsystems and the components. The vulnerabilities at the system level are the most dangerous with the hugest impact on the system and those at the level of components are the smallest. As the bank distributed collaborative system level as a one part there is only one vulnerability to be exposed at it, the environment. Because is made from so many sub-systems that to be breake all at same time and cause a breache in the system to have an signifiant impact, means to affect the customers, employees, IT infrastructure, buildings, in one world everything, only the nature can do it, in case of a catastrophyc disaster. On the other way, analyzing the components there we can identify a series of vulnerabilities and of strategic components that can breake a subsystem, like a war in a country which will breake the whole activity of subsystems on that country, or at employee levels when changing a director on a department that can influence the activity on that department. In that case can be affected only a deparment on an ageny, a whole agency or a brench or even a part from the business but never the whole system.

In the distributed collaborative systems is quite easy to change a part without affecting the system and its work-flow.

*Table 1. - System risks (Stoica, 2013)*

Impact/Probability	1	2	3	4	5
1	1	1	2	2	3
2	1	2	2	3	4
3	2	2	3	4	4
4	2	3	4	4	5
5	3	4	4	5	5

Where 1=Very Low, 2=Low, 3=Medium, 4=High, 5=Very High

*Table 2. – System exposure (Stoica, 2013)*

Exposure rate	Effects	Probability
1	Minor financial losses	40% - 99%
2	Low financial losses	20% - 39%
3	Medium financial losses	10% - 19%
4	Important financial losses	1% - 9 %
5	Catastrophic financial losses	< 0.0001%

Based on Table 1. and Table 2. we can evaluate the risks impact over the system or its components. The vulnerability level is based on the component is applied. As an example we can take a credit control officer that can ignore the indicators and approve a loan that will become a 100% loss for the business. This will be a low vulnerability for the system. If we take into consideration the same approach of bad behavior and intention from an employee on the development software that can insert a malicious malware to infect the system and exploit it on its own behalf we obtain a vulnerability with a High level.

All the impact matrices and vulnerabilities are treated at the point of view of each component. And each component have its own impact over the system.

#### 4. MATHEMATICAL APPROACH

To define the system with its component as a mathematical approach we need to define the subsystems and the components with their associated vulnerabilities and impact levels.

It is defined the Importance of a component the percent on which that component can affect the system and the impact that will produce considering the probability of a certain threat or event to appear. It will be calculated for the main system considering the importance of the four subsystems in the system.

The subsystems are defined as follow:

- Bank structure : BS
- Bank employees : BE
- Bank IT : BI
- Bank customers : BC
- Other facts like third parties involved BO
- Distributed collaborative system : DCS

The total impact of a subsystem is the sum of the components impact on the subsystem:

$$TI_z = \sum_{i=0}^{nc} I_{c_i}, \text{ where}$$

TI= Total Impact

z = subsystem (BS, BE, BI, BC, BO)

nc = number of components

I = impact

c = component

$$I_c = \frac{1}{nc} * P_c \% * \frac{V}{nv} * D_c, \text{ where}$$

$P_c$  = probability of an event to appear for component c

$D_c$  = damage produced by that event for component c

V = vulnerability level from the list of vulnerabilities that a component c have

nv= number of vulnerabilities for that component

$$Q_z = TI_z * P_z \%, \text{ where}$$

$Q_z$  = Importance of subsystem z

$P_s$  = The percent of the component z on which the system is affected

#### 5. CONCLUSION

To determine the risks of a system we must split that system on subsystems and components of the subsystems, to find out the importance of each subsystems in the system, then the importance of each component for the subsystem that will show a clear way to the correlation between the component and the system. After splitting the system into components and identifying the importance of each component, including testing the behaviour of the system if the component is missing, we define the risks that appear at the component level. After finding the risks on the component it is setting the rules of diminishing that risks and evaluate the vulnerabilities versus improving the component. In the base of the evaluation if the investment is justified then the component can be improved or not. If a component does not affect in a risk percentage the system and the investment to protect that component is not justified, even if the risks are defined and known they can be ignored.

After defining the risks for each component it is defined the model of risks for subsystems and then for the system. The research can be and will be improved by adjusting the mathematic model with new elements, defining and determining each variable.

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### **Acknowledgement**

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/142115 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain”

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## THE UNITED STATES OF AMERICA VS. PEOPLE'S REPUBLIC OF CHINA: A QUEST FOR OIL IN SUB-SAHARAN AFRICA

**Petar Kurecic**

*University North, Varazdin, 104. brigade 3, Croatia  
petar.kurecic@unin.hr*

### **ABSTRACT**

*The paper studies a quest for oil in Sub-Saharan Africa, pursued by the world's great powers, the United States of America (the U.S.) and the People's Republic of China (China). Since the beginning of the 21<sup>st</sup> century, China shows rapidly increasing demand for natural resources, and especially oil. The establishment of the association of BRIC countries and the policy of diversification of energy resources pursued by the U.S., China and other developed and emerging economies has made Sub-Saharan Africa ever more important in the global geo-economic and geostrategic relations. The political and diplomatic activities, as preludes to the economic activities of China in Sub-Saharan Africa have increased significantly since the beginning of this century. These activities were primarily aimed at the exploitation of natural resources, directly through resource extraction, and indirectly through infrastructure projects, such as roads, railroads and pipelines. Chinese workers, followed by merchants, are present in many important i.e. resource rich states of Sub-Saharan Africa. The only superpower of present day, the U.S., does not look at the activities of China in Sub-Saharan Africa with favor. On the contrary, the U.S. has increased its military build-up in Africa and established new military bases. Consequently, Sub-Saharan Africa has already become the stage for geo-economic rivalry between the U.S. and China, and the future of the region will be marked by geo-economic and geopolitical conflicts, as an expression of the geo-economic rivalry between today's (and future) great powers . The two regions most affected by this rivalry would be the Gulf of Guinea and the Horn of Africa. They are strategically most valuable regions of Sub-Saharan Africa, primarily because of their oil reserves.*

**Keywords:** *the U.S., China, Sub-Saharan Africa, oil, geo-economic rivalry, the Gulf of Guinea region.*

### **1. INTRODUCTION**

Neoliberal capitalism is a project of establishing new or preserving existing class privileges, through what *D. Harvey* refers to as "accumulation by dispossession" (of status, right of ownership) (*Harvey, 2003*). Primitive accumulation of capital and goods is an ongoing phenomenon that occurs continuously (*Vasudaven, A. McFarlane, C., Jeffrey A., 2008*). In a neoliberal project, primitive accumulation is legitimized through expulsion and persecution of populations from their land and their impoverishment, a process too common in many parts of the developing world. Neoliberalism could be subsumed under the label "modernization" which, through this process, allows the state to legitimize and consequently, enhance its role. Contemporary economic liberalization policy of the People's Republic of China coupled with maintaining an authoritarian government can be viewed as part of the process of neo-liberalization, a part of which is also the increasingly important role of the country on an international level. The outcome of China's involvement in Africa will largely depend on the dynamics between state and capital, i.e. the way Chinese capital and the Chinese government instruments of influence connect and intertwine with blocks of capital and political blocs in Africa. China is capable and ready, as it has already definitely proven, to invest in the exploitation of various minerals and oil in Sub-Saharan Africa. This part of the world has also become an increasingly attractive market for Chinese mass consumption products. Much of

today's population of Africa, which is about one billion, can obtain a whole range of otherwise unavailable products owing to Chinese presence on the continent.

Today's Sub-Saharan Africa is anything but homogeneous and anywhere but on the path to development and stability. The fragmentation of the region in more than 40 countries does not say enough about the actual degree of fragmentation and even atomization of some parts of the region, because the state borders, in many cases, are merely imaginary lines, over which there is no real control, particularly in Central and West Africa. The developed and rapidly developing countries, perceive this part of the world as a reserve of natural resources, where it is worthwhile and important to have an influence. However, they almost completely ignore the political situation in individual countries, especially the three key indicators: the state of political freedoms, the quality of life and the level of corruption in government bodies.

The 53 countries in Africa possess only 9 percent of the world's proven petroleum reserves compared to almost 62 percent for the Middle East. But Africa remains largely unexplored and may well be the location of significant future oil and gas discoveries (Shinn, 2014). However, much of the potential sources of oil in Africa have yet to be explored, while in the Middle East, many sources have already been explored and exhausted to some degree. Even more important than the quantity itself is the diversification of sources and routes of oil delivery to the "thirsty" emerging economies, whose oil consumption has been significantly increasing year after year (this primarily refers to China<sup>1</sup> and India<sup>2</sup>).

In the past two decades, China has experienced a growing need for natural resources, in particular for energy resources such as oil and natural gas. The rise of vehicle ownership in China, although still far from numbers in developed countries, has considerably increased the demand for oil. The establishment of the association of BRIC countries and the policy of diversification of sources and routes of delivery of energy resources (primarily oil), implemented by the U.S. and China, as well as some other developed as well as emerging economies, has increased the importance of Sub-Saharan Africa in global geo-economic and geo-strategic relations.

## **2. PEOPLE'S REPUBLIC OF CHINA IN SUB-SAHARAN AFRICA: CONTINUOUS EXPANSION OF INFLUENCE**

Political and diplomatic activities of China in Sub-Saharan Africa aimed at establishing economic cooperation have greatly increased since the early 2000s. Trading grew continuously in the first decade of the 21<sup>st</sup> century at a rate of as much as 30-40 percent annually and has continued to grow. In 2012, imports from Sub-Saharan Africa to China amounted to about USD 200 billion<sup>3</sup>. This is a reflection of the aspirations of China to expand its influence beyond its borders and neighboring regions, to other continents. Africa, especially Sub-Saharan Africa, has been the most suitable ground for the spread of Chinese

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<sup>1</sup> <http://www.forbes.com/sites/kenrapoza/2013/08/25/within-four-years-china-to-consume-more-oil-than-u-s/>.

<sup>2</sup> <http://blogs.wsj.com/moneybeat/2014/09/01/india-outpacing-chinas-oil-demand/>.

<sup>3</sup> China's trade with SSA is highly concentrated in a few countries. Five countries, Angola, South Africa, the Democratic Republic of the Congo, the Republic of Congo, and Equatorial Guinea account for about 75 percent of SSA's exports to China. Six countries, South Africa, Nigeria, Liberia, Ghana, Benin, and Angola account for more than 80 percent of SSA's total imports from China. By 2008 (before the short-lived collapse in oil prices in 2009), mineral fuel and related materials accounted for about 45 percent of all SSA exports to China, and for more than 84 percent of exports if we exclude South African exports. The main drivers of SSA's imports from China are machinery, chemicals, and manufactured goods, although there is some heterogeneity across trading partners. Compared with DAC countries as import origins, SSA imports from China are more concentrated on manufactured products.

More in: Drummond, P., Liu, E. X. (2013). *Africa's Rising Exposure to China: How Large Are Spillovers Through Trade?* IMF Working Paper, 13 (250), Washington, D.C.: International Monetary Fund, pp. 7-9.

influence and presence because there are no big and strong, economically, militarily and politically powerful states that could defy the Chinese influence. Rather than defying this influence, many African countries are trying to benefit from it as much as possible. The only ones who could oppose the Chinese influence in Sub-Saharan Africa in any significant measure are not in Africa, but outside the region. The only global superpower, i.e. the United States of America, and the emerging global power, the People's Republic of China, satisfy part of their needs for natural resources in Sub-Saharan Africa. Their approach to the region differs only in the manner and extent of their involvement in the extraction of natural resources and economic presence, whereas there are no substantive differences in their treatment of the region, in terms of ending the relationship of economic domination and exploitation. In Sub-Saharan Africa, China respects the principles of sovereignty and non-intervention, which gives an impression that it does not impose its political views, ideals and principles on the countries in which it exercises its influence and secures its interest (Davies, M. Edinger, H. Tay, N., Naidu, S., 2008: 57). China “admits”, in a way, that it needs Africa more in its development, but in saying so does not exclude that Africa needs China (Anshan, 2006). The activities and the role of China in Africa cannot be analyzed without a critical examination of the wider geopolitical context of the relations between China and Africa. China also intervenes as a geo-economic and geopolitical actor in Africa (Power, Mohan, 2010: 462). By accepting the basic tenets of neoliberal, global capitalist economy, China opted for the highest possible economic growth and use of natural resources, and Africa is an excellent source of these resources. Chinese neoliberalism has been increasingly developing as a political process (Power, Mohan, 2010: 464). Chinese foreign policy turned from the promotion of ideology to the promotion of trade, investment and involvement in the economy of countries with natural resources that China needs. The question is whether this is a new ideology or a foreign policy without ideology. China has established relations with many countries, through cooperation with the elites of these countries, thus fostering increasingly clientelistic regimes. Chinese “oil diplomacy” is ready to offer loans without any conditions and at very low interest rates, and sign agreements on technical assistance. The goal is, obviously, to ensure the best possible access to oil and control over oil exports from Africa (King, 2007: 337-347). China is even perceived as a threat to sustainable development because it “expels organizations which are needed” and at the same time “promotes a more corrupt, chaotic and authoritarian world” (Naim, 2007: 95). China has been investing in the construction and development of mine infrastructure in more and more countries in Sub-Saharan Africa, particularly in Central and West Africa. Chinese workforce is involved in the construction of the infrastructure as well as in many other projects. There are six key factors that significantly affect China’s approach to Africa:

1. The intention of China to establish a strategic partnership with Africa fits very well into its foreign policy strategy and the vision of the development of the international system;
2. Chinese leaders are convinced that the Chinese history, which they consider to be similar to African history, gives China the edge over western powers in the relations with Africa;
3. A history of good, friendly relations between China and African countries is considered a stable basis for future partnerships;
4. China is convinced that Africa will very soon experience economic growth;
5. Chinese policymakers are convinced that their approach to Africa, focused on the role of the state, will highlight the key strategic strengths of China and fit well with the preferences of African countries;
6. Chinese policymakers are convinced that it is necessary to include “third parties” in the relations between China and Africa; but that it should be done gradually and cautiously (Mr. Bates, Chin-hao H. Morrison, SJ, 2007: 5).

Nevertheless, China is facing numerous problems in its relations with African countries, ranging from cultural and racial prejudices and differences and a growing sense among African nations that Chinese people are not interested in the welfare of African societies, but only in their raw materials. The main problem is economic in nature. The Chinese approach primarily involves the export of raw materials from Africa and the construction of transport infrastructure that facilitates the export of raw materials. The fact that most of the realized and planned investments are intended for the development of the mining sector and the oil industry and the fact that Chinese workforce is building the infrastructure and industrial facilities (again, primarily in the mine industry), indicates that Chinese approach to Sub-Saharan Africa is essentially not different from that of the Western countries. Both China and the Western countries are primarily interested in African raw materials, which they want to import at the lowest possible prices, and ensure, as much as possible, the long-term supply of these raw materials. To reach their goal, they have no compunction about securing their strategic interests in African countries. An important factor which affects China's involvement in Sub-Saharan Africa is the fact that the national markets in the region are open to Chinese industrial products, ranging from heavy industry and automobile industry to consumer goods, which are far cheaper than goods coming to African markets from European and Anglo-American countries. In addition, the possibilities of barter trading conducted by China are far greater than those offered by developed countries.

### **3. BATTLE FOR OIL IN SUB-SAHARAN AFRICA: THE U.S. AND CHINA**

Depending on the type of natural resources, i.e. whether the source of energy and the quantities for export can be considered significant, geo-economic rivalry between the U.S. and China can be simply divided into competition for control over oil exports and competition for control over exports of other natural resources from Sub-Saharan Africa (diamonds, precious metals, rare minerals and ores, rare and valuable types of wood).

The U.S. approaches the region as a superpower seeking to ensure unobstructed export of natural resources from the region through their military presence and collaboration with the elites of individual countries. China's approach to Sub-Saharan Africa is somewhat different. Geo-economic objectives of China are slightly broader in scope, although the primary goal is the same as that of the U.S.

Chinese influence is evident mainly in economic cooperation and involvement, whereas the U.S. involvement is reflected mainly in cooperation with the elites of individual African countries, military presence and engagement in the region. The increasing interest of China in Sub-Saharan Africa coincides with the increasing interest of the U.S. for this part of the world. Behind that interest are the same motives.

In addition to the growing geo-economic rivalry between China and the U.S., which is mainly reflected in the battle for control over the exploitation and export of natural resources from Sub-Saharan Africa, there is rivalry between smaller countries who also have interests in the region; however, it is of slightly lower intensity because the forces involved are smaller and have less influence, i.e. they are not globally dominant forces.

This primarily refers to the involvement of other Asian countries in the battle for control of natural resources, which represent "new" players in Sub-Saharan Africa: India, Japan, and South Korea. One should not forget the "old" players in Africa, i.e. former colonial powers, especially France and Britain, which still exert a certain level of influence on a large part of their former colonies; however, their influence, in comparison to that of the U.S., China and the aforementioned "new" players has become weaker.

A higher level of cooperation between global players, whose geo-economic rivalry is the subject of this research, is hardly feasible. The dialogue is possible, as well as avoidance of

the collision of interests in certain key issues in the most important countries in Sub-Saharan Africa (Nigeria, Angola, Democratic Republic of the Congo, South African Republic) when it comes to the most strategically important natural resources such as oil and rare minerals. However, the level of cooperation that would involve more than that is hardly possible, since the interests of global players are diametrically opposed and their power bases have become quite different, especially in recent years.

In fact, since the onset of the global economic crisis, it has become clear as never before that the greatest assets of the two superpowers are the military power in the case of the U.S. and the economic power in the case of China. This does not mean that the U.S. lost their economic power, but rather that the economic power of the U.S. has weakened compared to that of the emerging economies, especially in Asia (and Latin America).

Neither does it mean that the military power of China has decreased. Rather, the opposite is the case: it has never been greater, but China's economic power is what makes this country a truly global power. In countries where the influence of one of these two major global powers is so dominant over the influence of the other, there is no room – or no need – for cooperation. The overextended presence of American military forces on all continents, especially in Asia (the greater Middle East region and East Asia, in particular) and the western edge of Eurasia (which is particularly evident in the critical involvement of the U.S. in the past and possible future NATO enlargement), leaves China some maneuvering room, due to the weaker U.S. influence in Sub-Saharan Africa, although the influence of the two global players has become more and more intertwined in some countries of Sub-Saharan Africa.

The influence of the U.S. and China in most countries in Sub-Saharan Africa is heavily dependent on the level of cooperation with the ruling political, military and economic elites, which, in Africa, are usually closely connected and supportive of each other and, generally, not accountable to the citizens through elections.

The fragility of government institutions in Sub-Saharan Africa, high levels of corruption, and low levels of political freedom are the reasons why in many countries in the region the military institutions are the only ones that sustain the current government in power. China is committed to preserving the sovereignty and the status quo of individual regimes in Sub-Saharan Africa, an approach that supports greater stability wherever possible.

Although it has not undertaken any military actions on the African continent, due to its influence over the international community and the Security Council of the UN (being a permanent member with veto power), on several occasions, it was able to prevent the Council from passing certain UN resolutions that might have led to actions that could have broken down certain regimes (e.g. in Sudan, following the crimes committed in Darfur).

The Chinese policy towards some key allies in Sub-Saharan Africa, in terms of preserving their regimes, does not differ from the policy of the U.S. towards their allies in the same region (Nigeria, Ethiopia).

*Table 1: Countries and objects of interest to China in Sub-Saharan Africa*

<b>Sub-Saharan regions</b>	<b>Countries of interest to China</b>	<b>Objects of interest to China</b>	<b>Influence of China compared to the influence of the U.S.</b>
<i>Central (Equatorial) Africa</i>	Democratic Republic of the Congo	Rare minerals and ores, high quality wood	Stronger
	Chad	Oil	Dominant
<i>South Africa</i>	Angola	Oil, diamonds	About the same
	South African Republic	Diamonds, rare minerals	About the same
<i>East Africa and the Horn</i>	Sudan	Oil	Dominant
	South Sudan	Oil	Dominant
<i>Gulf of Guinea region</i>	Congo	Oil	Dominant
	Equatorial Guinea	Oil	Stronger
	Gabon	Oil	Weaker
	Cameroon	Oil, high quality wood	Stronger
	Nigeria	Oil	Weaker

China now obtains almost one-third of its imported oil from Africa; this compares with one-quarter as recently as 2004. About two-thirds of all African exports to China consist of oil. Twenty-two percent of U.S. crude imports came from Africa in 2006; this compares with only 15 percent in 2004 and slightly exceeded U.S. imports from the Middle East. U.S. oil imports from Africa have nearly doubled since 2002. Both China and the United States are projected to increase their percentages of imports from Africa. Three countries: Angola, Sudan, and Equatorial Guinea, demonstrate the success and challenges of China's oil diplomacy in Africa. Angola has been China's most important African source of petroleum since the beginning of the twenty first century, while Sudan was until last year the second most important African supplier (Shinn, 2014).

Both in the case of Sudan and in the case of Equatorial Guinea, the insistence of the U.S. to improve the human rights situation in those countries and in particular, in the case of Sudan, to stop crimes in Darfur (a region rich in oil) caused these countries to move towards geo-economic influence of China and reduce the influence of the U.S.. The policy of promoting human rights and freedoms tilted the geo-economic and geo-strategic balance in East Africa, the Horn, and the Gulf of Guinea region in favor of China. Oil imports to China from Angola and Republic of the Congo have also increased significantly. In Democratic Republic of the

Congo, through large infrastructure projects, Chinese engineers and workers are building roads and railways to open up to the world the hinterland of this huge, largely unstable, and in many parts inaccessible country.

Chinese plans in Sub-Saharan Africa represent a challenge for the U.S. and compel the largest global force to develop new, comprehensive strategies aimed at reducing the growing influence of China in Sub-Saharan Africa<sup>4</sup>. Strategic rivalry and battle on a strategic level could, in the long run, bring more harm than good to both sides, a scenario which is still possible. Geo-economic rivalry is already present and the possibility of future conflicts over natural resources cannot be ruled out. These conflicts would occur through third-party countries, i.e. countries in Sub-Saharan Africa, or rather in these countries, between groups that would be supported by one or the other superpower, whose primary interest is control of the highest possible share of exploitation and exports of natural resources. For the time being, China is prepared to enhance the involvement and participation of African institutions and business entities in economic cooperation, although Chinese workforce is very much involved in the construction of the infrastructure. An important step in gaining access to Sub-Saharan Africa for both superpowers will be their willingness to offer medical aid and knowledge, i.e. provide assistance in increasing the quality of health care in the region.

Cooperation between each of the two major powers and countries in Sub-Saharan Africa on resolving certain conflicts, fighting the AIDS epidemic, malaria and other infectious diseases, peacekeeping operations and establishing stability is possible, maybe even probable in the future, if current trends are any indicator. However, cooperation between the two superpowers on resolving certain issues in Sub-Saharan Africa does not seem realistic, at least not when it concerns issues in which the interests of one or the other superpower would suffer, and there are far more issues like that than those with a shared interest. The U.S. and China have conflicting geo-economic interests in Sub-Saharan Africa, as they do elsewhere in the world and this fact causes geo-economic rivalry<sup>5</sup>. Significant ideological and institutional differences between the U.S. and China are additional factors that make the cooperation between the two superpowers in Africa more difficult. The main reasons for the unlikelihood of real cooperation are opposed geo-economic interests.

In 2006, the World Bank estimated the loans of The Export-Import bank of China towards Africa (the majority of which are connected with Sub-Saharan Africa), at more than 12.5 billion US dollars in infrastructure projects alone. Projects financed by The Export-Import bank of China were generally undertaken in the countries of Sub-Saharan Africa in which

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<sup>4</sup> Two Chinese academics wrote last year in the Far Eastern Economic Review “energy security is already playing an increasingly important role in Sino-U.S. relations, intensifying friction on regional issues.” They cited, for example, policy disagreements between the United States and China over Sudan. Although Sudan is not a source of crude for the United States, it supplies about 7 percent of China’s imports. China also has significant energy investments in Sudan. As the United States tries to isolate or punish countries like Sudan, China has concluded that they are important to its energy security and the rapid growth of its economy. In: Shinn, D. H. (2014). Africa, China, the United States, and Oil. Center for Strategic and International Studies (CSIS) Comment.

<sup>5</sup> The third important player appearing in Sub-Saharan Africa more and more is India. It is not a major power (yet), but an emerging economic power and a fairly significant military power, which admittedly does not engage in overseas military activities. As a rising economic power, with growing population, of which more and more people can be classified in the middle class, India’s needs for raw materials are increasing. These needs are satisfied by importing from the neighboring countries (e.g. gas from Burma), the greater Middle East region (mainly oil), but also Sub-Saharan Africa, from which it imports oil and various ores. India offers Africa affordable loans, development aid and political support in the development of profitable projects on the exploitation of oil. Oil from Nigeria only accounts for 10 percent of the total oil imports to India, and 20 percent of its oil imports come from Africa. Between 2000 and 2007, the trade between India and Africa increased almost tenfold, from 3.4 billion to 30 billion US dollars at the rate of about 30 percent annually.

China has major interests, especially Angola, Mozambique, Sudan, Nigeria and Zimbabwe. China imports an increasing portion of crude oil for its growing needs from Sub-Saharan Africa<sup>6</sup>. In 2006, more than one-third of Chinese oil imports came from Sub-Saharan Africa, i.e. major oil-exporting countries in the region, primarily from Angola, Nigeria, Sudan and Equatorial Guinea, which represented about five percent of the total energy needs of the Peoples' Republic of China (Bates G., Chin-hao H. Morrison, S.J., 2007). However, the overall importance of the role of the World Bank and its loans, used mainly to finance infrastructure projects in Africa, is diminishing because of the activities carried out by the People's Republic of China<sup>7</sup>. Reduced influence of the World Bank means reduced overall influence of the western countries in Africa, especially the U.S.

Chinese companies officially “cooperate with African countries on the development and rational use of their natural resources”. But is this really so? What does “rational use” of non-renewable natural resources, especially oil, mean? If the proceeds from the exploitation of natural resources in Africa were used mainly for development of other African economy sectors, the increasing exploitation of non-renewable natural resources could be considered rational. However, since most of the proceeds from the exploitation of natural resources is lost to corruption, while the manufacturing sector (such as consumer product industry) has hardly developed, the exploitation of natural resources benefits only the small, ruling elite in African countries and those exploiting natural resources, primarily China and the U.S.. In addition, the superpowers, especially China, place more and more of their products on the African markets, thus benefitting further from economic cooperation with Africa.

Chinese and western oil companies (primarily from the U.S.) are mostly interested in high-quality oil with low sulphur content from the Gulf of Guinea and want to secure oil exploitation rights. They have also undertaken great efforts and have successfully completed the construction of the infrastructure, pipelines and refineries.

According to increasingly stronger and louder non-governmental organizations in Sub-Saharan Africa, Chinese approach is still not sufficiently prepared. Since the end of the Cold War, the level of democratization in Sub-Saharan Africa has increased and the political arena has become larger and easier to penetrate, allowing existing groups protecting the interests of the local population in Sub-Saharan Africa to grow stronger, and new ones to emerge.

The mention of oil-rich countries usually makes one think of the Gulf of Guinea region, which is largely situated in West Africa. However, there is oil in countries stretching to the south, along the Atlantic coast of Africa, but their oil reserves mostly come from offshore oil fields in the Atlantic Ocean, which are more difficult to sabotage. In Nigeria, most of the oil still comes from the Niger River Delta area, which is vulnerable to sabotage and conflicts between the military forces and rebels, who are against the excessive exploitation of oil resources and

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<sup>6</sup> About eight percent of the world's oil reserves are found in Sub-Saharan Africa, of which approximately three quarters are in the Gulf of Guinea countries.

According to: <http://www.eia.gov/countries/index.cfm?view=reserves>.

<sup>7</sup> China has also provided Africans with new options. While its African investment stake officially stands at \$15 billion, this figure may be three times as much if money flows from tax shelters are factored in. The decline in the World Bank's importance as a tool for development can be seen in its own figures. In 1990, at the end of the Cold War, World Bank grants and loans (\$17.7 billion) were in the ballpark of private investment flows to developing countries (\$21.1 billion). By 2000, this had changed dramatically, with \$18.5 billion from the World Bank, compared with \$144.5 billion in private financing. By 2011, foreign investment far outstripped World Bank spending by a factor of 19 to 1 (\$612 billion to \$32 billion). In Africa, considered the investment laggard among developing countries and the most in need of aid, World Bank spending was just \$5.6 billion in 2011, versus over \$46 billion in foreign direct investment.

More in: [http://www.nytimes.com/2013/07/12/opinion/global/the-world-banks-diminishing-role-in-africa.html?\\_r=0](http://www.nytimes.com/2013/07/12/opinion/global/the-world-banks-diminishing-role-in-africa.html?_r=0)

environmental destruction in the Niger River delta, as well as unjust centralized distribution of oil revenues and corrupt structures in charge of distributing those revenues. Chinese influence is also growing in oil-rich Gulf of Guinea countries, i.e. Cameroon, Republic of the Congo, and Equatorial Guinea.

Resource-rich countries are of great interest to superpowers. The area stretching between Chad in the northeast and the Angolan boundary in the southwest is called Central or Equatorial Africa. In a narrow sense, it comprises Chad (in the north, there is a transition zone towards the Sahara and North Africa), the Central African Republic, and Democratic Republic of the Congo. When the Cold War ended, large parts of Central Africa became a so-called compression zone<sup>8</sup>, characterized by noticeable disintegration of already weak government structures and institutions. Tensions in this part of the world intensified due to ethnic and tribal issues, accompanied by the growing influence of neighboring countries. In the 1990s, the interest and influence of external powers in Sub-Saharan Africa subsided, particularly in Central Africa, and as a consequence, the surrounding countries seized an opportunity to benefit financially and increase their influence in the countries that were falling apart. The best example for that is Democratic Republic of the Congo. This was particularly evident in the so-called Central African war during the 1990s. Even today, large parts of Democratic Republic of the Congo are compression and anarchy zones. In parts of the country where there is more or less stable local government, controlled by the central government in Kinshasa, China has been very actively involved in the exploitation of mineral resources as well as the infrastructure construction, to facilitate export of mineral resources from the country's hinterland, mainly the province of Shaba, the richest province in mineral resources, located deep in the continent of Africa. The Chinese have built a railroad that will connect the province of Shaba, across Angola (Lobito port), with the Atlantic Ocean<sup>9</sup>. In geo-economic terms, Democratic Republic of the Congo is the main prize in Central Africa. This country occupies 60 percent of the territory and is home to about 70 percent of the population of Central Africa. In addition, most of the mineral resources are located there.

Angola is the richest country in oil in South Africa and second richest in Africa in terms of reserves and production of oil, most of which is exported. South Africa is the world's largest source of diamonds (South African Republic, Angola, and Botswana). Scarcer natural resources, compared to other regions in Sub-Saharan Africa, are the consequence of the fact that geo-economic rivalry of the two superpowers in East Africa has not yet assumed such proportions as in West and Central Africa. For China, Angola is the most important country in Sub-Saharan Africa, in terms of oil imports. Since 2003, the majority of oil imports from Sub-Saharan Africa to China has come from Angola, which in 2006, surpassed even Saudi Arabia and became the largest single oil exporter to China.

#### **4. CONCLUSION**

Sub-Saharan Africa is of geo-economic and geo-strategic interest to the U.S. and China, the two major global powers today. China's economic penetration of Sub-Saharan Africa is a fact that cannot be ignored and has very important geo-strategic implications. An increasing share of oil imports to China comes from Sub-Saharan Africa. The relative importance of Sub-Saharan Africa to the U.S. and, especially, to China is increasing daily. Unable to compete with China's economic penetration of the region and due to implementation of the policy of human rights protection and promotion, at least declaratively, the U.S. influence in several

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<sup>8</sup> Cohen, S. B., (2008). *Geopolitics – The Geography of International Relations*. Lanham, MD: Rowman & Littlefield, pp. 320-337.

<sup>9</sup> <http://china-africa-reporting.co.za/2014/02/angolas-chinese-built-rail-link-and-the-scramble-to-access-the-regions-resources/>.

important countries has greatly diminished over the last decade. This in turn increased the share of those country's oil exports to China. As the importance of Sub-Saharan Africa has been increasing, so has the interest and level of involvement of the two superpowers in the region, which could increase the rivalry, and possibly cause a conflict over natural resources with more direct involvement of the two powers. In addition to East Asia, in which China is located and in which the U.S. have been strategically engaged since the end of World War II, Sub-Saharan Africa might become a future testing ground for economic and political power and influence of the U.S. and China. The U.S. military presence in Sub-Saharan Africa could be challenged by China's military presence, especially if the relations between the two great powers become increasingly burdened with their geo-strategic and geo-economic rivalry.

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## THE COMPETITIVENESS OF A REGIONAL ECONOMY AND REGIONAL DEVELOPMENT

**Jozef Habanik**

*Alexander Dubcek University of Trencin, Faculty of Social and Economic Relations, Slovakia  
jozef.habanik@tnuni.sk*

**Peter Hostak**

*Alexander Dubcek University of Trencin, Faculty of Social and Economic Relations, Slovakia  
peter.hostak@tnuni.sk*

### **ABSTRACT**

*A broad definition of competitiveness refers to the tendency and ability to compete, win and sustain a position in the market, increase market share and implement commercially viable activities that ultimately generate premium returns on investment. Theoretical concepts describing a firm's capacity to compete are relatively uncontested, but applying the same framework to geographical unit has been subject of much debate. This paper argues that the competitiveness, policies that promote the elimination of regional disparities, partner networks and cooperation of regional government with the business sector constitute a prerequisite for the regional economy. Such an economy then integrates systems of regional development to ensure growth in living standards in the defined geographical unit, territories and markets. Within this context it is important to note that a unilaterally oriented basis which drives economic growth may, in the future, pose a threat to stable and sustainable development, and regions without proper structures that support innovation and research could eventually experience an economic hardship due to the loss of competitiveness. Regional development in terms of ensuring sustainable growth, competitiveness and standard of living is conditioned by the expansion of social and economic potential of the region. Innovativeness, innovations, educational structure, qualifications, skills and abilities are among the key factors that determine the sustainability and competitiveness. The aim of this paper is to analyze the conditions for increasing the competitiveness of the regional economy and the conditions of regional development with an emphasis on promoting innovation, technology transfer and the new structure of the regional economy.*

**Keywords:** *Region, Regional Development, Regional Economies, Innovation, Disparity, Sustainability.*

### **Acknowledgments**

This article is one of the outputs of the project VEGA 1/0613/14 "Changes in the economic structure of the regions of Slovakia and their impact on economic and social development", the FSEV TnUAD IGS no. 2/2014 "The impact of trade and industrial policy of the EU on the competitiveness of the Slovak Republic" and the Operational Program "Education" ITMS code: 26110230099 project "TnUAD in Trencin is committed to offering quality and modern education".

### **1. INTRODUCTION**

Within the regional economy operate various institutions and partnerships whose mission and activities create conditions conducive to the development of the region, formation of its structure and capacity utilization. Adaptation of regions to the new environment, socio-economic turbulences, sustainability challenges and emphasis on creativity are all factors that translate into a continual need for flexible responses to endogenous and external stimuli. This

paper offers, in terms of its scope and depth, a partial theoretical-methodological analysis of selected models of regional development. Innovations, research and development, respectively their capacities and infrastructural amenities shape the basic conditions for balanced and sustainable economic and social development of the regions.

## **2. DEVELOPMENT OF REGIONS, GOALS AND APPROACHES**

Regional development is often initiated via administrative, economic and social interventions from top to bottom and there is a general agreement that regional governments and institutions should play a dominant role in this process. The concept of endogenous development strategy favors spatial (horizontal) approaches to sectoral (vertical) management, thereby enhancing decision-making, accountability and autonomy of institutions in the regions with the aim of utilizing the potential of the area. This is motivated by the pace of social and economic processes, restructuring of regional economies, globalization and regionalization, social, health and demographic aspects, and limitations of public funds and resources.

The aim of regional development is to ensure balanced development of individual regions and to eliminate or reduce the differences between their levels of development. This concept also includes the necessity to increase the competitiveness and economic performance of regions. Cohesion of regions will require continuous and gradual transfer of responsibilities of governments to transnational integration level as well as regional self-government level, which, however, weakens the role of national economies.

The utilization of endogenous factors, external factors and the potential of the area is an essential starting point for the development of regions and constitutes a necessary condition for changes that will lead to a new, higher quality of life, competitiveness, productivity, income and of course improvement of social standards. Competitiveness of the region can be measured by:

- regional GDP per capita,
- quantitative description of selected social and economic indicators,
- qualitative analysis of selected social and economic indicators,
- measurement of regional disparities and levels of development of the region.

There are several methods, differing in their inputs, interpretability and data availability, that are being used in practice to measure regional disparities (differences) and the development level of regions. Generally, various domestic and foreign scientific and professional sources in the field of regional development interpret disparity as different degrees of social and economic development that reflect inequalities between the compared entities. A different approach is a classification according to OECD methodology, where the disparity might also mean spatial as well as distance differences.

Under the influence of global and regional changes associated with the processes of decentralization, strengthening the competencies of local self-government and fiscal decentralization, regional disparities are becoming more visible also from the point of view of public. These differences are determined by economic, social and structural changes, infrastructure endowments as well as geography and human capital potential of the region. Under these conditions individual territories acquire the status of marginal or developing region. Marginal regions are characterized by a low level of transport, technical and social infrastructure, rapid aging of the population, but on the other hand such regions are often rich in natural resources.

Negative differences need to be distinguished from positive differences, representing a decisive force for the development of the region and its differentiation from other regions. Positive disparities stimulate elements that act in favor of rapid development, thereby creating

differences that might be contrary to the objectives of harmonious regional development and as such must be mitigated or eliminated by using the tools of regional policy. It follows that the disparities do not possess purely social and economic dimension, but can be understood more broadly as differences in spatial inequality, geography, politics, social conditions, ecology, mineral resources, and the like.

Regional disparities are mainly seen as inequality or quantitative differences in economic performance, as well as differences in the use of production capacity, the available resources and endogenous potential, which varies across the territorial and administrative units. These differences are measurable on the basis of pre-defined economic and social indicators.

The combination of the effects of market forces, globalization, with its paradoxes and "virtualization" of processes naturally leads to the concentration of development in several core regions with favorable conditions and consequently may intensify regional disparities.

The isolation of a region is not a viable option in today's economic environment characterized by international exchange of goods, services, investments and free movement of capital. The policy of isolation would ultimately result in a significant reduction in the standard of living, but also a high degree of openness may cause turbulences associated with fluctuations in the business cycle and the waves of the economic crisis.

Availability of natural resources, human resources, social and technical infrastructure and functioning of self-governing institutions are among the key factors that determine the development of the endogenous potential of the region. These are the conditions for innovation and technological activity and support small and medium business and employment. Various forms of regional economic institutions create conditions conducive to regional development, especially those supporting and activating the research, development, innovation, education, technology transfer and capital inflows.

### **3. DEVELOPMENT OF REGIONS AND COMPETITIVENESS OF THE ECONOMY**

Globalization and technological progress within the regional economy context create pressure to increase competitiveness and readiness to cope with new challenges and future trends. The regional economy should not be understood only as a supporting activity, respectively activity in the construction of industrial parks and business incubators, but mainly as a synergistic effect of positive actions of academic, research and business partnerships based on a public-private principles. The balance between innovation and cohesion growth poles based on intellectual resources and higher technological platforms is essential for the formation of the regional economy at the national level.

Activity in the regional economy ultimately contributes to the growth of competitiveness of the region, which greatly benefits from the partnership between the public and private sectors in relation to the influx of investments with higher value added, transfer of technology and knowledge and growth in employment opportunities.

Competitiveness of the region reflects its ability to cope with innovation activities and investments with the objective to improve its economic performance and stimulate growth in employment through the creation of new jobs that match latest development trends and impulses and thus significantly help the region's economy. The regional economy is dependent on the appropriate structure and organization of entities of public administration, the rate of saturation of local and regional markets, knowledge of regional needs, resources, and their contribution while ensuring social and economic balance.

Interrelationship of the regional economy with the entrepreneurial and innovation environment in the region acquires in the context of the knowledge society new dimension with numerous qualitative changes. Competition sharpens structural relationships, and it is a task for national and regional governments to create, promote and develop the right

entrepreneurial and innovation environment and the capacity of regional economies to diversify the region's resources in terms of their availability, efficiency, creation and redistribution.

Innovation and innovation performance determine the degree of technical and technological level of the economy of the region and complete the complex interrelationships that are cumulatively formed and thus become an organic structure which constitutes a key parameter of regional development. Geographical, sectoral and scientific-research linkages with a high degree of interconnection between institutions, companies and organizations can be followed on the example of the developed economies, such as Sweden or Finland, where exists a sophisticated innovation system with regional elements. This form of cooperation increases the efficiency of the entire system and in terms of regional government puts pressure on the dynamics of regional development. These objectives are paradoxically supported through unflattering and undesired outcome documented in the European innovation evaluation (EIS, 2010), in which Slovakia is ranked 23rd among all EU Member States. Economies of the European Union can be divided according to the Summary Innovation Index 2010 into several groups, the inclusion into a particular group corresponds to a certain value of the index. Leading group consists of the Nordic economies, such as Sweden, Denmark, Finland and the "driving force of the EU" in Germany. The second group consists of countries with index values ranging from 0.5 to 0.6 (France, Austria, Great Britain, Luxembourg and others). The third group consists of countries with moderate levels of innovation, with an index value of less than the average innovation performance of the EU-27 countries. This group includes Italy, Spain, Greece, the Czech Republic, Slovakia and more. The last group consists of countries with a low level of innovation (index value below 0.3), namely Romania and Bulgaria.

Support of science and technology from public funds is currently focused on supporting technology incubators, technology parks, technology transfer centers and centers of research and development for the transfer of research results into practice. Research and development cannot function effectively without additional links to education and innovation activities in the commercial sector.

Emphasis on cooperation between academic research and economic practice is realized through the support of the creation of regional networks of research that contribute to the development of regional economy. The creation of regional networks of research should be preceded by an analysis of the business environment and development potential, which examines how to fully exploit the real innovation potential in the region.

Innovation performance of regions depends on the structure of the regional economy in relation to the possible synergies between national and regional aid from public funds and the ability to attract private enterprises in these activities. Research and educational institutions will have to improve their ability to serve as a source of impulses that motivate private sector investment in research, development and innovation.

These components are one of the main tools for making better use of the internal potential of the region, geographical area, labor force, raw materials and technology in connection with changes in the internal and external socio-economic environment captured in the "Europe 2020 Strategy and the Program Horizon". Support for small and medium-sized enterprises in the region and their cooperation with research institutions, promotion of employment and creation of new effective jobs, innovation and new technologies in relation to the development of services in the region play an important role in achieving objectives of socio-economic development of the regions.

The above objectives cannot be fulfilled without the strong support of innovative activities in the regions, thereby improving their competitiveness. These phenomena have resulted in the growing importance of the role and functions of regional governments and national governments and their involvement in new forms of enterprise in the regions (scientific and technological parks, university science parks, clusters, innovation centers, technology incubators, incubators of creativity, competence centers, centers for technology transfers, and the like). In the case of incubators in principle, we can distinguish three basic types:

- a) business incubator,
- b) technological incubator,
- c) an incubator of creativity.

The first type is focused on the development of small and medium-sized enterprises in the region, capacity building in the region, job creation and expansion of services. In contrast to a business incubator, technology incubator supports new advanced technologies and innovative medium-sized enterprises in accordance with Schumpeter's classification oriented to new markets and new types of products. The aim is to associate incubators in a manner that will be beneficial to regional development in the areas of business environment, employment and thereby stimulate the recovery of regional economies in the social and economic field. Incubator of creativity focuses attention on supporting innovative small and medium-sized enterprises operating in the creative industries and services. This type of incubator has administrative and institutional properties similar to the features of technological incubator (in terms of equipment, outsourcing of administrative and accounting services, training activities, consulting services, networking, project management, etc.).

Regions with significant institutional and program support for raising the level of education, the development of innovative activities and the establishment of appropriate structures tend to achieve economic growth and employment dynamics necessary to ensure sustainable development.

#### **4. STRUCTURE OF THE REGIONAL ECONOMY IN TERMS OF INNOVATION AND TECHNOLOGY**

Regional economy uses partial comparative advantages, because at the level of the regional economy we know how to accurately and efficiently shape the specific conditions and manage them in accordance with the interests of global strategic objectives. With the view of ensuring a better quality of life and higher standards of living, it is important to note that the comparative advantage based on low cost of materials and low labor costs tend to bring only short-term effects, can lead to rapid plundering precious mineral resources while positive effects often disappear very quickly. Conversely, comparative advantages based on the application of research results, transfer of knowledge into practice and innovation potential promote long-term competitiveness and sustainability of economic growth, employment and revenue base of economic entities in the regions. Therefore institutional units such as scientific-technological parks, clusters, research and development centers, centers of excellence, technology transfer centers, incubators and regional innovation centers play an increasingly important role in the structure of the regional economy.

Science and technology parks (STP) carry out mainly activities that support the commercialization of research and development in practice through small and medium enterprises that are part of them. STP acquires the results of research and development through its own activities or contracts with research and development institutions (university, academy, research institute), in relation to the development of the region. Under EU rules, the concept of scientific and technological park is understood in a narrow sense as a tool within

the structure of a particular area, in our case in the region, which provides comprehensive support for the building and development of such entities. A common phenomenon is the thematic focus of these parks based on sectoral nature and focus of the local economy, the implementation of sectoral policies and close links to research characteristics that reflect the actual conditions and traditions in the region. STP creates a nexus of subcontractors, paves the way for employment growth and improvement of living standards, in the first phase pulls ahead manufacturing and assembly environment, and in the later stages supports production-development companies, as well as technology companies. A prerequisite for the creation of the STP is a master plan, which defines the appropriate zone for the park, defines the boundaries for the intended STP, examines the broader relationships and their arrangement, determines conditions for the development of basic research infrastructure and ensures that proper technological conditions are maintained.

University technology parks, respectively university science parks may in future serve as a new important tool for supporting the development of innovation in the region. As confirmed by the positive experiences in Finland, France and Germany, such parks successfully combine the physical and technical infrastructure, promote academic basic research, provide support and accelerate the transfer of knowledge and technologies into practice. Private business involvement, participation of private capital, professional management of public subsidies and grants are an integral part of university technology parks.

Innovation performance contributes significantly to economic growth and competitiveness of the region. An important issue is the fact that the regions currently lack the institutional capacity to continue to prepare regional innovation strategies for the transfer of new technologies and apply innovations in the sectors of industry and services. One method of addressing the current situation is creating a network of regional innovation centers to increase the use of innovative tools in order to:

- improve the competitiveness of regions, reduce regional disparities and increase regional employment rates through the development of innovative instruments at the regional level;
- re-establish and expand the potential of innovation in the context of applied research and development for innovative entrepreneurship, develop cooperation of enterprises with research, development and educational institutions in the regions,
- transform knowledge obtained in universities and other research and educational institutions into the industrial practice with a focus on small and medium-sized enterprises in the regions,
- create conditions for the emergence and development of small and medium sized innovative companies focused on the use of new production processes and technologies, the production of competitive products and the improvement of service quality.

The main mission of centers for the promotion of innovation is to effectively interconnect business sphere and research capacities. These centers will contribute to the social and economic development of their respective regions by encouraging innovation and creating new innovative businesses.

Transfer of knowledge gained in the research and development activities of universities into the business environment and the structure of the regional economy is still limited. It is important that universities and colleges in the region improve in the future their competence to manage multi-source financing and ability to generate income from business activities, licenses, grants and the like.

According to Ivanova (2011), innovation performance is crucial for sustainable economic growth, which is the main feature of an economy based on quality. Regionalization of economies must be in the interests of progress and development accompanied by the integration of new technologies and innovation. Therefore, the public sector should support the creation of regional innovation centers, as well as define other tools that support these objectives. This is especially important in regions that already have sufficient educational and research base.

Tackling these issues within the context of a regional economy also supports the European Commission's report. This report defines the following priorities aimed to promote efficiency and competitiveness in research, technological development and innovation in the regions:

- growth of spending in research and development,
- interconnectedness of research projects, educational institutions and the business sector,
- significant retreat from purely academic research output.

## 5. CONCLUSION

Economic and financial crisis as well as the growing pressure of competing countries with cheap labor are the factors that stimulate the transition to a new stage of development in which the structure of regional economies relies on the use of outputs and effects of tools such as STP, clusters, innovation centers, technology incubators and their networking within the region, national economy and transnational integration units. The driving force behind such developments may be the increased education level of the population, powerful research and development base, the innovation potential of the private sector prompted by a favorable business environment and participation of regional authorities in the public-private innovation partnerships. However, in the absence of significant changes in legislation, competences and financial incentives that promote research and development investments and innovations in industry, technologies and services, the regions will fail to attract private capital to support R&D and innovation potential and thereby shaping the new structure of the regional economy, based on the long-term competitiveness.

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## UNEMPLOYMENT AND LABOUR MARKET IN THE POST-GREAT RECESSION RECOVERY – THE CASE OF THE REPUBLIC OF MACEDONIA

**Predrag Trpeski**

*University “Ss. Cyril and Methodius”, Faculty of Economics – Skopje, R. Macedonia  
predrag@eccf.ukim.edu.mk*

**Vladimir Filipovski**

*University “Ss. Cyril and Methodius”, Faculty of Economics – Skopje, R. Macedonia  
vladfil@eccf.ukim.edu.mk*

### ABSTRACT

*The post-Great Recession recovery in major developed economies has seen unemployment rates declining gradually, although still not reaching their long-term, "natural" levels. At the same time, labour productivity has been improving, but this has not been followed by a corresponding increase in real wages. We analyse the unemployment and employment rates in the Republic of Macedonia in comparison to EU28 average and some selected countries of South-Eastern Europe during the recession and its aftermath, and we notice that the developments in Macedonia in this particular period have been in the opposite direction to those in the comparing countries. We also include quantitative analysis of the relationships between the following macroeconomic variables of the Macedonian economy: (i) GDP growth and changes in unemployment; (ii) changes in employment rate and labour productivity growth; and (iii) labour productivity growth and changes in average real wage. Finally, we conclude that the standard (i.e. expected) relationships between the unemployment/employment, GDP growth, labour productivity and price of the labour cannot be confirmed in the case of the Republic of Macedonia, and that there seems to be a strong influence of some peculiar institutional and policy factors that shape the functioning of the labour market in the country (the consolidation of the registry of unemployed persons, the existence of grey economy, some non-standard institutional arrangements related to the employment in the public sector, and the like).*

**Keywords:** *GDP, Great Recession, labour productivity, real wages, unemployment.*

### 1. INTRODUCTION

During the whole period of transition in the Republic of Macedonia labour supply drastically exceeded labour demand, resulting in high unemployment rates for quite a prolonged period of time. High unemployment rate was inherited from the period even before the transition, because at the end of 1980s, unemployment rate in Macedonia was 22.6%. Unemployment continuously increased during transition period and reached its apex of 37.3% in 2005. Today Macedonia has one of the higher unemployment rates in Europe.

In Table 1 are presented key economic indicators and labour market performances in the Republic of Macedonia. As can be seen from Table 1, unemployment in Macedonia has a long-term and structural character. During the whole period of transition the unemployment rate has remained at levels above 30%. The same period has been characterised by: very small increase in the employment rate, very low (negative in 2009 and 2012) rates of productivity growth and in most years negative rates of industrial production growth.

*Table 1. Performance of the economy and labour market performance in the RM (NBRM, Quarterly bulletin - I /2014.)*

Year	Real GDP growth rate	Industrial production Growth rate	Unemployment %	Employment %	Productivity annual growth rates	Gross wages		
						MKD*	Nominal changes	Real Changes
2000	4.5	/	32.2	35.8	/	17,958	6.0	-
2001	-4.5	/	30.5	38.6	/	17,893	-0.4	-5.6
2002	0.9	-5.3	31.9	35.8	/	19,030	6.4	4.5
2003	5.6	4.7	36.7	34.5	/	19,957	4.9	3.7
2004	4.6	-2.2	37.2	32.8	/	20,779	4.1	4.5
2005	4.4	7.0	37.3	33.9	0.1	21,335	2.7	2.2
2006	5.0	5.9	36.0	35.2	0.5	23,037	8.0	4.6
2007	6.1	3.9	34.9	36.2	2.4	24,139	4.8	2.4
2008	5.0	5.1	33.8	37.3	1.9	25,349	8.7	0.3
2009	-0.9	-8.7	32.2	38.4	-4.2	29,923	9.4	10.3
2010	2.9	-4.8	32.0	38.7	1.4	30,226	1.0	-0.6
2011	2.8	6.9	31.4	38.9	1.8	30,603	1.3	-2.5
2012	-0.4	-2.8	31.0	39.0	-1.2	30,670	0.2	-3.0
2013	2.9	3.2	29.0	40.6	-1.3	31,025	1.2	-1.6

\* MKD – Macedonian denar.

As a result of the structural imbalances between supply and demand with respect to worker qualifications and geographic distribution, as well as having in mind the long duration of unemployment, it can be said that the unemployment in Macedonia has predominantly been structural in its nature. This also means that the unemployment in Macedonia is such that the phenomenon of “discouraged workers” has been quite important. The research conducted by Trpeski (2012) suggests that 87.16% of unemployment in the Republic of Macedonia can be explained with long-term (structural) unemployment, and only 13.24% can be explained with short-term (frictional) unemployment. Also, only 6.75% of the changes in unemployment can be explained by changes in GDP (Trpeski 2012, p. 191-204).

At the beginning of the transition, the share of the long-term unemployment (unemployment longer than one year) in total unemployment was very high and reached almost 80%, in 1997 it was 83% and remained at that level until today (in 2010 it was 83.5%). The situation with the unemployment longer than 4 years has been even worse. Namely, unemployment longer than 4 years in 1997 was 15.7%, which was 43% of the total unemployment. But, unemployment longer than 4 years in 2010 reached 20.2% which was 63.2% of the total unemployment. The long-term unemployment in Macedonia confirms global evidence that there is a negative correlation between opportunity to find a job and duration of unemployment. This is a typical situation of the phenomenon of so-called discouraged workers.

Structural unemployment in Macedonia comes from the mismatch between the qualification structures of the labour supply and labour demand, without a significant influence of wage flexibility. The skills and qualifications supplied by workers do not correspond with qualifications that are demanded by employers. In 2008, only 7.7% of unemployed persons are with higher education, and 90.3% are with four years of secondary school at most; out of the latter group, 41.6% are with only primary school. In the transition period, although certain changes have occurred, there has been little progress in improving the educational structure of the unemployed persons. In fact, the problem of structural mismatch between the qualifications supplied and qualifications demanded has remained even at present days in the Republic of Macedonia. The reasons for the very high and persistent unemployment in Macedonia are numerous, but generally we can emphasize five of them: 1) the occurrence of structural

imbalances at the beginning of nineties; 2) the process of creating labour market institutions; 3) the effect of so-called Hysteresis; 4) the low level of investment since independence until today, and 5) the complete focus of economic policies on the aggregate demand side and almost complete neglect of the aggregate supply (Trpeski 2012,)

## 2. COMPARISON WITH EU MEMBER STATES AND SELECTED COUNTRIES FROM SOUTH EASTERN EUROPE

All the above factors have contributed to Macedonia's labour market having performed much worse in comparison with European countries. Table 2 provides one picture for unemployment and employment in EU-28, Euro area and selected countries from South Eastern Europe.

*Table 2. Comparison of unemployment and employment in EU-28, Euro Area and selected countries form South Eastern Europe (European Commission 2013, State statistical office of the R.M. 2008, 2009, 2010, 2011, 2012, 2013, National Bank of the R.M. 2014).*

		EU 28	Euro area	Bulgaria	Croatia	Greece	Romania	Slovenia	Macedonia
2008	Employment rate (%)	65.7	65.9	64.0	57.8	61.9	59.0	68.6	37.3
	Unemployment rate (%)	7.1	7.6	5.6	8.4	7.7	5.8	4.4	33.8
	Employment growth (%):								
	-Agriculture	/	/	/	/	/	/	/	11.2
	-Building and construction	/	-2.0	18.6	/	-1.1	10.6	11.6	-3.7
	-Services	/	1.4	2.2	/	0.4	1.0	3.7	1.0
-Manufacturing industry	/	/	/	/	/	/	/	-4.8	
2009	Employment rate (%)	65.4	64.5	62.6	56.6	61.2	58.6	67.5	38.4
	Unemployment rate (%)	9.0	9.6	6.8	9.1	9.5	6.9	5.9	32.2
	Employment growth (%):								
	-Agriculture	-1.9	-2.2	0.0	/	2.6	-0.1	-1.7	-2.6
	-Building and construction	-5.3	-6.5	-6.9	/	-4.5	-1.2	-0.9	-3.0
	-Services	-1.5	-1.7	3.3	/	-0.6	0.4	0.3	9.2
-Manufacturing industry	-6.2	-5.4	/	/	-4.5	-9.7	-9.5	-2.8	
2010	Employment rate (%)	64.0	64.1	59.7	54.0	59.6	58.8	66.2	38.7
	Unemployment rate (%)	9.7	10.1	10.3	11.8	12.6	7.3	7.3	31.4
	Employment growth (%):								
	-Agriculture	0.0	-1.0	-3.6	/	0.4	4.8	-2.0	4.4
	-Building and construction	-4.4	-3.9	-18.9	/	-12.7	-3.1	-9.5	-5.0
	-Services	0.1	0.1	0.3	/	-2.5	-2.0	-0.6	1.3
-Manufacturing industry	-3.5	-3.2	/	/	-4.9	-6.7	-6.2	-3.5	
2011	Employment rate (%)	64.1	64.2	58.4	52.4	55.6	58.5	64.4	38.9
	Unemployment rate (%)	9.7	10.1	11.3	13.5	17.7	7.4	8.2	31.0
	Employment growth (%):								
	-Agriculture	-2.4	-1.9	-2.9	/	-5.0	-5.7	-2.5	0.7
	-Building and construction	-2.9	-3.8	-11.8	/	-22.5	-3.4	-11.4	11.8
	-Services	/	/	/	/	/	/	/	-0.2
-Manufacturing industry	0.4	0.1	/	/	-8.5	1.5	-0.2	-0.2	

2012	Employment rate (%)	64.1	63.8	58.8	50.7	51.3	59.9	64.1	39.0
	Unemployment rate (%)	10.5	11.4	12.3	15.9	24.3	7.0	8.9	29.0
	Employment growth (%):								
	-Agriculture	-1.5	-1.9	-5.9	/	-3.7	3.0	-0.9	6.9
	-Building and construction	-4.0	-4.7	-6.3	/	-17.0	2.2	-7.8	5.6
	-Services			/	/	/	/	/	4.0
-Manufacturing industry	-1.1	-1.1	/	/	-13.3	0.7	-1.6	0.3	

One of the key insights of this comparative data is that Macedonia's registered employment rate has been comparatively quite low: during the period 2008-2012 the average employment in Macedonia (38.5%) has only been 60% of the EU28 average employment rate (64.5%); even compared to Croatia, whose average rate (53.4%) has been the lowest within this group of EU member countries, Macedonia's rate has still been only 70% of the Croatia's rate. This might be due to some long-term factors influencing the labour market and job creation: first, the decline in employment in the first years of transition, caused by political circumstances (dissolution of the ex-Yu federation); second, the processes of (insider dominated) privatization and enterprise restructuring in the real sector without any meaningful support by a quality foreign capital inflows; third, the relatively restrictive mix of monetary and fiscal policies, which prevented any significant increase in credit and private investment; and, fourth, the persistent presence of a significant informal sector of the economy, which has been distorting both the official unemployment rate but also the employment rate.

But, when looking at the employment dynamics, the situation is quite different. During the period 2008-2012, the employment rate in Macedonia has slowly but steadily increased by about 1.5 percentage points, whereas the EU28 employment rate has decreased by a similar size – such opposite movements are even more pronounced when one looks at individual comparing economies – for example, in Croatia the employment rate has fallen by 7 percentage points, in Bulgaria by 5.2 percentage points, and in Slovenia by 4.5 percentage points<sup>10</sup>.

On the other hand, the unemployment rate in Macedonia during the period 2008-2009 has been significantly higher than the comparable countries: the average unemployment rate in Macedonia (31.4%) has been 3.4 times higher than the average rate for the EU28 (9.2%), and 4.6 times higher than in Slovenia and Romania (6.9%) – even compared to Greece, the Macedonia's average unemployment rate has been 2.2 times higher than Greece's. And again, when it comes to the unemployment rate dynamics, the direction of changes has been quite the opposite to the changes in the EU countries: during this period of prolonged and deep recession, Macedonia has experienced a decline in the unemployment rate by 4.8 percentage points—falling year after year, it had fallen from 33.8% (2008) to 29.0% (2012). However, the level of unemployment still remains relatively high – even after its decline the Macedonia's unemployment rate in 2012 is 2.8 times higher than the average rate of the EU28 and is higher than the rates of all the comparing countries.

<sup>10</sup> Only in Romania, the employment rate has actually increased by 0.9 percentage points. On the other hand, Greece has been the extreme case, as its economy has been most severely hit by the European debt crisis and recession, with its employment rate declining by 1/6 in only 5 years.

### 3. SOME QUANTITATIVE ANALYSIS – DATA, METHODOLOGY AND RESULTS

The purpose of this part of the paper is to quantitatively investigate the relationship between unemployment, labour productivity, economic cycle and wages in the Republic of Macedonia during the period of transition with particular focus on post-Great Recession recovery. In our analysis we rely on the previous work of Gordon (1995), and Blanchard, Solow and Wilson (<http://economics.mit.edu/files/1909>) on the relationship between unemployment and productivity, as well as on the work of Fiti et al. (2013) on the relationship between GDP gap and unemployment gap in the Republic of Macedonia.

In our quantitative analysis we use quarterly data for GDP growth rates, unemployment rates, employment rates and real wage growth rates which have been compiled by the National Bank of the Republic of Macedonia, in their Statistical Quarterly Bulletin. Also we use data compiled by the State Statistical Office. Our analysis of the labour market and unemployment/employment dynamics consists of three segments: the relationship between GDP growth and changes in unemployment; the relationship between changes in labour productivity and changes in real wages; and, the relationship between changes in employment and changes in labour productivity.

Under the definition of recession as a two successive quarters with negative real GDP growth rates, Macedonia has experienced two, but relatively short and shallow recessions in the period during and in the aftermath of the Great Recession – one in 2009 and the other in 2012. However, during the whole period 2008-2013 the economy has experienced a steadily declining unemployment rates, albeit from the very high levels, which contradicts to conventional wisdom that recessions are generally associated with increasing unemployment rates.

In this paper, we analyze the relationship between the GDP growth and unemployment by using quarterly data for the period Q1:2005 – Q1:2014. Based on the logic of the Okun's law, Mankiw (2013, p. 276) cites an empirical analysis which shows that the correlation coefficient between the percentage change in real GDP and the change in unemployment rate is  $-0.89$ . We use this simple relationship and regress GDP growth rate ( $GDP(g)_t$ ) on unemployment rate change  $*(U_t - U_{t-1})$ . Our estimated regression equation is the following:

$$GDP(g)_t = 2.94 - 0.71*(U_t - U_{t-1}) \quad (1)$$

correlation coefficient  $\rho = -0.1423$ ;  $R^2 = 0.0203$ ;  $SEE = 2.8695$ ; t-value for  $\rho = -0.8383$ ;  
t-critical value for 5% significance =  $\pm 2.0322$ ; p-value = 0.4078

The equation shows that when unemployment rate falls for 1 percentage point, the growth rate increases by 0.7 percentage points. However, although the signs of the estimated regression coefficients are as expected, the model shows very low level of statistical significance. Therefore, it seems that in the case of the Republic of Macedonia there has been a quite low association between the changes in the business cycle and the changes in unemployment.

Another aspect of the functioning of the labour market we have investigated is the relationship between the real gross wage and labour productivity. The theoretical hypothesis is that an increase in labour productivity should be associated with an increase in real wage, since higher productivity reflects increased marginal product of labor, which should be matched by higher valuation of labour as a production factor. In this context, we regress the real gross wage growth rate ( $RGW(g)_t$ ) on productivity growth rate ( $PROD(g)_t$ ) for the period Q1:2006-Q1:2014.

We obtained the following estimated regression equation:

$$RGW(g)_t = 2.00 - 1.00*PROD(g)_t \quad (2)$$

correlation coefficient  $\rho = -0.5008$ ;  $R^2 = 0.2508$ ;  $SEE = 5.05$   
t-value for  $\rho = -3.22$ ; t-critical value for 5% significance =  $\pm 2.0395$

The regression points out to somewhat unexpected result: a decrease in productivity growth is associated with an increase in real wage growth in the observed period in the RM. However, one reasonable explanation may well be related to the what has been happening in the public sector of the Macedonian economy: a significant pace of increase in employment in this sector, with a possible adverse effect on the labour productivity of the overall economy, while, at the same time, an increase in wages in the public sector during the recessionary period (which was even considered as a counter-recessionary measure).

The third piece of quantitative analysis concerns the relationship between the changes in employment and changes in labour productivity. We regress the percentage rate of change in labour productivity ( $PROD(g)_t$ ) on the two-period lagged change in employment rate ( $(\Delta EMPL)_{t-2}$ ), whereby  $\Delta EMPL = EMPL_t - EMPL_{t-1}$ . In order to choose the lag length, we checked the correlation for 1, 2, 3 and 4 quarters, and the two-quarter lag length showed the highest correlation. Since both variables can be the cause and the outcome of the relationship, we choose to investigate the causation running from change in employment to change in labour productivity. The estimated regression equation is the following:

$$PROD(g)_t = 0.47 - 1.8607 * (\Delta EMPL)_{t-2} \quad (3)$$

correlation coefficient  $\rho = -0.4134$ ;  $R^2 = 0.1709$ ;  $SEE = 2.94$

t-value for  $\rho = -2.57$ ; t-critical value for 5% significance =  $\pm 2.0369$

The equation shows that if the employment rate increases by one percentage point in the current period, that would lead to a fall in productivity growth rate by 1.86 percentage points. If there is no change in employment rate, productivity growth rate would increase by 0.47 percentage points. These results suggest that the positive trend in employment rate in the RM during the most of the analyzed period has not always been associated with the improvement in labour productivity, i.e. the improvement in the allocation of labour in the economy. From the statistical point of view, this results show relatively satisfactory degree of statistical significance.

#### **4. INSTITUTIONAL CONSTRAINTS, LABOUR MARKET AND UNEMPLOYMENT DYNAMICS**

The role of institutional factors in determining the ultimate performances of the labour market in the Republic of Macedonia cannot be overstated. This can be associated with some general features of the Macedonian economy, like the lack of stable political environment (internal as well as external), the quite extensive state interference with the economy and the society as a whole, and the long tradition of trade union activity. The labour market institutions not only affect unemployment, but are also related to the labour force participation rate, the job search process, the process of wage determination, the social protection, the changes in the quality of labour force, the on-the-job protection of workers, the labour income taxation, and etc., all of which in the final instance affects the level of employment and unemployment.

In this context, of particular importance in the case of the Republic of Macedonia are the so-called non-standard labour market institutions, as well as the activities undertaken by the Government and the State Employment Agency related to the consolidation of the registry of unemployed persons in the country.

##### **4.1. Non-standard institutions**

One of the very peculiar institutional arrangements related to the labour market in the RM has been the implementation of the Ohrid Framework Agreement (OFA), which ended the internal armed conflict in the RM in 2001. Under the OFA, the so-called equitable representation of the underrepresented ethnic communities in the public sector employment should be achieved by faster-than-average increase in public sector employment of the members of the non-

majority ethnic groups. From the economic point of view, this generally means that the basic criterion for new employment (in the public sector) is not the expected marginal productivity of labour, or the differences in the quality of labour (and human capital), but the ethnicity. And during the recessionary period 2008-2012 this policy has been implemented quite intensively, leading to a job creation in the public sector which has been insensitive to the business cycle or to the need to maintain an economically sustainable size of the public administration.

#### **4.2. Consolidation of the registry of unemployed persons**

Activities of the Government and Employment agency of Republic of Macedonia in the past few years, for consolidating the register of unemployed persons, have significant influence on unemployment in the country. This affect unemployment rate to decline in a period of stagnation of economic activities.

Actually decreasing of unemployment in Macedonia in the period 2008-2012 is not result of employment of unemployed persons, but is due to the fact that unemployed persons crossed in to the contingent of inactive population. Namely, in a mentioned period, 69.226 persons, in average per year, crossed from unemployed into the inactive population, but in a opposite direction crossed 21.214 persons in average per year. It creates net outflow from unemployed of 48.012 persons average per year. Therefore, we can conclude that decreasing in unemployment in the period 2008-2012 is result, primarily of negative balance of flows on relation from unemployed into the inactive population and vice versa, while the flows from unemployment into the employees and vice versa affects unemployment to increase.

With other words, negative balance between unemployed-inactive population, or net-outflow, exceeds net-inflow, or positive balance between unemployed-employed. This means that unemployment is decreased because persons which are in a records of unemployed (in Employment agency of the RM) in large number crossed into the inactive population and in a small portion to employed. This probably happens from administrative reasons by removal unemployed persons from the records of unemployed in the Employment Agency.

Namely, for 2007 and 2008 Employment Agency of the Republic of Macedonia on the basis of a survey has determined the number of people who are registered at the agency only with aim to use health insurance. They are not real job seekers. Number of these persons in 2007 was 75,508 or 21% of unemployed, and in 2008 was 71,589 persons or 20.9% of unemployed (Employment Agency of the RM, Annual statements for 2007 and 2008). But in 2009 Government amended two laws. Based to the Law on Amendments to the Law on Contributions for Mandatory Social Insurance (Official Gazette no. 64/2009) and the Law on Amendments to the Law on Health Insurance (Official Gazette no. 67/2009), starting from June 1, 2009, temporarily unemployed while receiving unemployment compensation, and unemployed which actively look for a job and are registered in the Employment Agency will realize their rights to compulsory health insurance through the Health Insurance Fund of the RM, which is now responsible for the calculation and payments of contributions for compulsory health insurance. (Employment agency of the RM, Annual Report 2009, p. 99).

With moving the compulsory health insurance in the Health Insurance Fund of the RM, the number of unemployed persons registered at the Employment Agency has decreased. Thus, at the Employment Agency remained only those persons who actively look for job and who are willing to work.

This explains one contradiction in the Macedonian economy, that in 2011 and 2012, when the economy has seen stagnant or even negative rates of GDP growth, unemployment has declined. In a period 2008-2012 employment increased. This increasing in employment can be explained on slightly non-standard way. Standard explanation is that employment are

increased as a result of crossing the persons from unemployed to employed. Namely, unemployed found job and become employed. But in the Republic of Macedonia employment are increased as a result of greater inflow from the inactive population. From a inactive population in a period 2008-2012 are employed 167,027 persons, while from the registered unemployed persons are employed only 53,621 persons.

The Contingent of employed persons has positive net-inflow with the contingent of inactive population of 37,257 persons in average per year, while for the same period has net-outflow of 25,194 persons with the contingent of unemployed persons. This is an additional indication that unemployment in the Republic of Macedonia has long-term and structural character.

### 4.3. Effect of the Grey Economy

One important factor that affects the level of registered unemployment as well as the overall functioning of the labour market in the RM has been the grey economy. The size of the grey economy in the RM has been large during the whole transition period – even during the second decade of transition, Schneider et al. (2011) estimate that the size of the grey economy has been over 30% of GDP. This has made the official figures for unemployment and employment unreliable, and has also contributed to the low level of labour productivity in the economy.

*Table 3: Estimates for grey economy in Macedonia, 1999-2007 (Schneider et al 2011)*

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	average
Grey economy as a % of GDP	39	38.2	39.1	38.9	38.4	37.4	36.9	36	34.9	37.6

However, some supply-side policy measures introduced in 2007-2008 seems to have had a positive effect in terms of increase in employment rate, by shifting the labour from unregistered to registered employment. Namely, starting from 2007 the previous progressive tax structure of the personal income tax and the corporate profit has been replaced by a flat tax at a single rate of 12% (2007) and 10% (2008 and thereafter), which effectively amounted to a tax cut and also reduced the tax wedge on wages. This tax wedge reduction was accompanied by a reduction in the social contributions for pension, health and unemployment insurance, amounting to a reduction in the overall fiscal burden on wages from almost 50% (2006) to 32% (2011) and 36.1% (2014). (See, Table 4.)

*Table 4. Personal income tax and social contributions in the R.M (%)  
(Trpeski and Tashevska 2012, p. 576)*

	2006	2007	2008	2009	2010	2011	2012	2013	2014**
Pension and disability insurance	21,2	21,2	21,2	19	18	18	18	18	17,6
Health insurance	9,2	9,2	9,2	7,5	7,3	7,3	7,3	7,3	7,3
Unemployment insurance	1,6	1,6	1,6	1,4	1,2	1,2	1,2	1,2	1,2
<b>Total social contributions</b>	<b>32</b>	<b>32</b>	<b>32</b>	<b>27,9</b>	<b>26,5</b>	<b>26,5</b>	<b>26,5</b>	<b>26,5</b>	<b>26,1</b>
Personal income tax	15, 18 и 24	12	10	10	10	10	10	10	10
<b>Total burden/wedge</b>	<b>47, 50 и 56</b>	<b>44</b>	<b>42</b>	<b>37,9</b>	<b>36,5</b>	<b>36,5</b>	<b>36,5</b>	<b>36,5</b>	<b>36,1</b>

## 5. CONCLUSION

The labour market in the Republic of Macedonia has permanently been in disequilibrium during the transition period, with labour supply exceeding the demand for labor, and the unemployment rate being very high. It can be said that the unemployment in the country has basically been of long-term, i.e. structural nature, creating the problem of so-called

discouraged workers. The comparison with the average levels for the EU28 and some selected EU member countries of the South-Eastern Europe shows that the Macedonian unemployment rate has been significantly higher and the Macedonian employment rate has been significantly lower than the comparing countries. However, when comparing the dynamics during the period of the Great Recession and its aftermath, the Macedonian economy has produced strikingly different outcomes than the comparing countries (and contrary to intuitive economic reasoning): during that period, the unemployment rate has been declining, while the employment rate has been rising.

The quantitative analysis has shown that there has been very weak association between changes in unemployment and changes in the business cycle (i.e. the fluctuations in the real GDP growth in the RM). Also, the quantitative analysis suggests that the positive trend of increase in employment rate in the RM in recent years have actually been associated with a decrease in labour productivity, meaning that the improvement in employment situation has not been matched with improvement in the allocation of labour within the economy. In the similar vein, the third conclusion of the quantitative analysis is that the decreasing labour productivity growth has been associated with an increase in average real wage in the economy, which may be interpreted with what has been happening in the public sector in the RM – an increase in number of employees in the public sector which may not always be driven by efficiency considerations, and coupled with absence of any significant downward adjustment of wages during the recession.

All this leads to conclusion that there have been some structural features of the Macedonian labour market coupled with some peculiar institutional arrangements that have prevented normal functioning of the labour market mechanism and reduction of the unemployment to some relatively normal (economically reasonable) levels. The privatization and enterprise restructuring in the earlier phases of transition, coupled with adverse political circumstances, had not generated enough job creation in the formal sector of the economy in order to resolve the problem of high unemployment in the country. The persistence of the large sector of informal economy has been both a reflection of weak labour market institutions and a factor in keeping the official unemployment rate very high. Moreover, some institutional arrangements in the RM have included some non-economic and non-efficiency criteria in the process of matching the demand and supply of jobs.

In summary, the large part of the unemployment in the RM has been structural, i.e. long-term in its nature, which prevented its substantial reduction to relatively normal, long-term equilibrium rate. The unexpected unemployment dynamics during the recession and post-recession period suggest that the institutional factors have had a significant influence, in a sense that the process of building efficient labour market institutions has been relatively slow, with some standard institutional reforms being counterweighted with some other institutional arrangements involving non-economic considerations.

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## **THE ANALYSIS OF COMPANIES OF THE POLISH FUEL SECTOR BASED ON AN EXAMPLE OF PKN ORLEN, LOTOS AND OTHER COMPANIES VERSUS VALUE OF FUEL PRICES AND THEIR IMPACT ON FUEL SECTOR MANAGEMENT**

**Rafal Parvi**

*School of Banking in Wroclaw  
Street Fabryczna 29-31, 53-609 Wroclaw, Poland  
rafalp4@o2.pl*

### **ABSTRACT**

*The Polish fuel distribution market is consolidating that is the share of five grand fuel concerns, including PKN Orlen and Lotos and five foreign ones is growing. On the other hand, the number of single petrol stations is decreasing, cheap stations located at supermarkets are disappearing, and the black economy is still operating despite introduced tax tightening. The beginning of 2014 brought surprisingly good results of retail segments of grand Polish fuel companies. Grand concerns gave surprisingly good trading results in the form of record high EBITDA value. Simultaneous growth of sales in petrol stations and growth of fuel and non-fuel margins appeared.*

*It is due to the fact that 45% of the retail sector is held by two fuel concerns; PKN ORLEN (35.9%) and LOTOS (9.2%). On the other hand, foreign concerns maintain their holdings of petrol stations. However, they are fuel concerns which have the greatest impact and they hold over 52% of the fuel sector. Those are as follows: PKN ORLEN, BP, Shell, Lotos Group, and Statoil. Petrol stations built earlier at hypermarkets such as Carrefour, Intermarché, Tesco, Auchan, and E.Leclerc, and which were supposed to be their future, will not develop much and they stopped at this stage. Moreover, new ones have not been built since 2011. This is the proof of very strong domination of petrol stations holding the sector that is the biggest fuel concerns. The development of Polish petrol stations on the example of PKN ORLEN and LOTOS is connected with their good financial condition which will be surveyed and presented in this study. Research methods used in the survey of the Polish fuel sector are ratio and comparative methods. This study is to present the assessment of the financial condition of fuel sector companies and connections of these values with the change of fuel prices' values. Within couple of years, surveyed companies improved their profitability and doubled their turnover. The research was conducted from 2005 to the third quarter of 2014.*

**Keywords:** *fuel sector, financial condition, profitability, fuel prices*

### **1. INTRODUCTION**

The fuel market in Poland is developing and operating very well, and fuel concerns such as PKN ORLEN even extend beyond the borders of the country. It should be noted that along with the sale of fuel, the fuel concerns earn much money, and even after the depreciation, they earn more than average and have a very high rate of return. The Polish fuel market is consolidating and according to it, the share of five grand fuel concerns, including PKN Orlen and Lotos and three foreign ones, is growing. The number of single petrol stations is decreasing, cheap stations located at supermarkets are disappearing. The beginning of 2014 brought surprisingly good results of retail segments of large Polish fuel companies.

In 1 January 2014, the Regulation of the Minister of Economy of 21 November 2005, on the technical conditions that depots and stations of liquid fuel as well as the long-distance transmission pipelines for the transport of crude oil and its products and their location, entered into force (Journal of Laws of 2005 No. 243 item 2063). It means that all operators of the

petrol stations should have tanks adapted to the technical conditions defined in the Regulation. Its validity may cause the closure of a number of stations active on the market. In 2013, and some time earlier, an evident clarification of active tendencies on the retail market took place. The most important are:

- The ongoing focus on the retail market, understood as the increasing advantage of great players to the small independent market participants.
- Reduction in the number of foreign chain operators at the increasing and still summed up number of objects within these chains.
- The stoppage of chains' development at supermarkets.
- The diverse trends in the development of the economic segments of chains of the petrol stations.
- The problematic end of chains of the automatic self-service petrol stations.

## **2. FUEL MARKET IN POLAND**

PKN ORLEN and LOTOS are one of the largest fuel concerns in Poland. They are quoted on the Warsaw Stock Exchange, where they are valued in terms of market activity and the potential rate of return from the funds paid by the investors. Moreover, the following concerns should be distinguished: MOL, PGNIG, SERINUS, DUON and EXILLON, however, in the case of the last one, there is no data that allow for the performance of the complete technical and economic analysis. Fuel prices in Poland do not significantly differ from the fuel prices within the European Union. However, it should be noted that fuel prices should be adjusted to the portfolio of citizens living in a given country. Well, it is impossible to compare the national average salary in Poland, in the amount of PLN 4017.75, with the national average, e.g. in Germany, 14000.00 in PLN. Therefore, the purchasing power of money in such an amount is larger, and thus much more fuel can be bought by a German citizen than a citizen of Poland. Accordingly, although the fuel in Poland is cheaper, the Poles still do not have enough money to use the means of transport as in Germany. Comparing fuel prices in Poland, it can be noticed that averagely one litre of petrol (PB95) and diesel (ON) varied between PLN 5.00 to PLN 6.00 in the last few years. The fuel market in Poland is developing quite dynamically, thus, from year to year, the number of petrol stations, which distribute fuel, in the fuel concerns, such as PKN ORLEN or LOTOS, is growing. However, as far as the companies quoted on the Warsaw Stock Exchange in Poland are concerned, it should be noted that they are undervalued because they only follow the WIG20 index. Moreover, due to the fact that from 2008 their value, in the majority of cases, did not recover the maximum value of 2008, thus, especially according to the calculations and conducted studies, it was found that the fair value of the fuel sector companies was impossible to achieve (Adamska, 2012, pp. 87-90; Zaremba, 2014, pp. 89-91). The WIG-PALIWA (WIG-FUEL) index presented in Figure 1 shows that since 2011, the fuel sector companies in Poland have revealed stagnation and lateral trend within their values. It is possible to claim that their value does not reflect the market value and fair value (Fisher, 2014, pp. 45-51; Katsenelson, 2013, pp. 89-94).

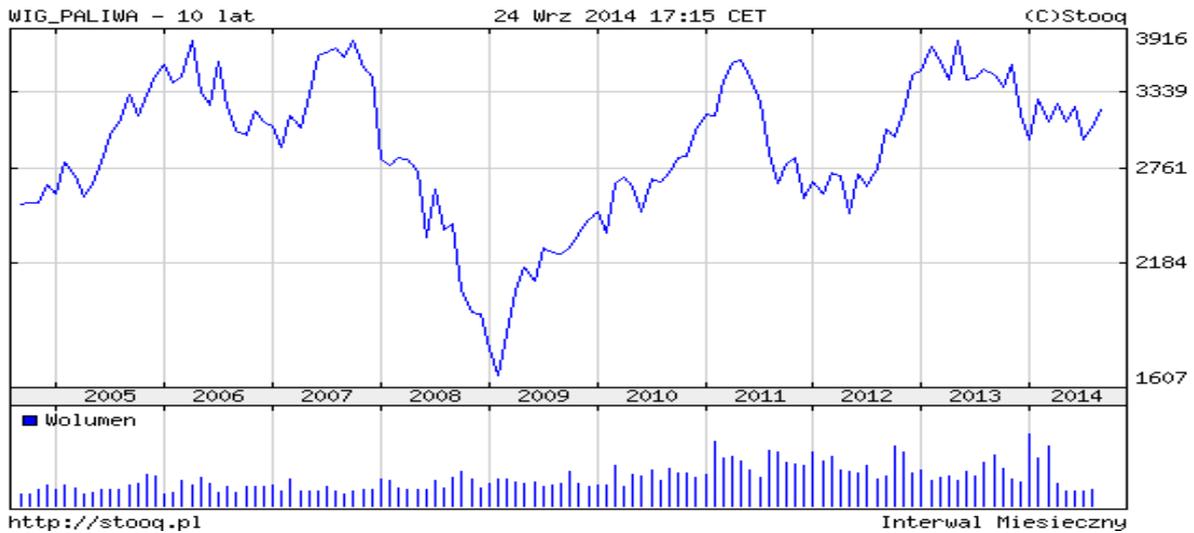


Figure 1: WIG-FUEL in the period from 01.2005 to 09.2014 (data of the stooq.pl).

Analysing the WIG-FUEL price/earnings graph, it should be noted that it is not even 50% of the lost value of 74.59, which was reported in 2010. Currently, this value is 18.61 as of September 2014 (data of the stooq.pl).



Figure 2: WIG-FUEL price/earnings in the period from 01.2005 to 09.2014 (data of the stooq.pl).

Nevertheless, with such a volatile market and the noticed good moods of investors, it will be possible to achieve the reported maximum and also fair value of the fuel sector companies.

### 3. FUEL SECTOR COMPANIES QUOTED ON THE WIG-FUEL INDEX IN POLAND

The companies quoted on the WIG-FUEL index are characterised by the good financial condition (gpw.pl, 2014, data of the Warsaw Stock Exchange):

- a) DUON - Duon SA Group is a dominant entity of the DUON Capital Group, which operates in two areas: Infrastructure and trade. Within the infrastructure segment, the group's activity is focused on the supply of the network natural gas and liquefied natural gas (LNG) through the distribution networks and the LNG regasification stations. Within the trade segment, the group sells the natural gas and electricity to end users on the TPA basis, i.e. through the networks of operators of the transmission and distribution systems.

- b) EXILLON - The company is an independent producer of oil, it was established the Isle of Man and operates in two oil-bearing regions in northern Russia – Timan Pechora and western Siberia. The group is developing two types of assets which may be significantly improved within next 2-5 years. The group is going to increase the level of production and resources through, among others, the exploratory and testing drilling, production optimisation, formation evaluation, and the subsurface modelling.
- c) LOTOS - Lotos Group is the largest oil company of the Pomeranian region and the second, in terms of scale, in Poland. It is engaged in the distribution and sale of products and petroleum goods. Grupa Kapitałowa Grupy LOTOS SA (The Capital Group of Grupa LOTOS SA) is a vertically integrated oil company engaged in the extraction and processing of crude oil and the distribution of petroleum products. The company is, inter alia, a leader in the lubricating oils sector. The companies in the Capital Group provide the market with the products, such as unleaded petrol, diesel oils, heating oils, aviation fuel, motor and industrial oils, asphalts and gas. The capital group consists of about twenty direct subsidiaries and ten indirect subsidiaries, including: Lotos Czechowice, Lotos Jasło and extractive: Petrobaltic and Lotos Norge.
- d) MOL - MOL is a leading integrated company of the oil and gas sector in Central Europe, and also the largest company, in terms of sales revenue), in Hungary. The concern is engaged in exploration and extraction of oil and gas (including the deposits in Russia and Kazakhstan), oil refining and the wholesale and retail sale of refinery products. It controls Slovak Slovnaft and the Italian IES refinery. It has shares in the Croatian INA oil company.
- e) PGNiG - PGNiG is the largest company operating in the natural gas market in Poland. The basic activity of this company involved the exploration and exploitation of natural gas and crude oil deposits as well as the import, storage, trade and distribution of gas and liquid fuel. The group consists of companies engaged in exploration and extraction, industry and distribution of gas.
- f) PKN ORLEN - PKN Orlen Group is a dominant producer and distributor of the petroleum and petrochemical products in Poland. It deals with the processing of crude oil into products such as unleaded petrol, diesel, heating oil, aviation fuel, plastics and petrochemical products. Refineries belonging to the PKN Orlen group (in Płock, Trzebnia, Jedlicz) have approx. 70% of the nominal capacity of the Polish refineries. PKN Orlen sells, in terms of the wholesale, about 60% of motor fuel in Poland, the retail sale reaches almost 40%. In Central Europe, the company has the largest chain of the petrol stations located in Poland, Germany, Czech Republic and Lithuania. The PKN Orlen group comprises over eighty companies,
- g) Serinus - SerinusEnergy Inc. is an international company operating in the sector of exploration and extraction of oil and gas. It has a diversified portfolio of assets, including both projects at the stage of exploration and development of deposits, and also projects of the substantial exploration potential. The land concession areas in Brunei as well as shares in a huge land exploration block in Syria are the main assets of the company. In June 2013, the takeover of WinstarEnergy as well as changing the name and KOV logo to SerinusEnergy took place.

#### **4. ANALYSIS AND VALUATION OF THE FUEL SECTOR COMPANIES QUOTED ON THE WARSAW STOCK EXCHANGE (WSE) IN POLAND**

Within the fuel sector, one company, which reported its maximum value on 24.09.2014, can be distinguished, and this is PGNIG. The remaining companies did not have its maximum or even fair value, though they can show the net profit and good financial condition. On the other

hand, some companies were overvalued by more than 50%. These companies are DUON, EXILLON, LOTOS, MOL and SERINUS. Only PKN ORLEN is trying to stay ahead and regain its value from the last years (Table 1).

*Table 1: The fuel sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.09.2014 (own development based on the data of the Warsaw Stock Exchange)*

<b>Name</b>	<b>Average rating</b>	<b>rating</b>	<b>Current price PLN</b>	<b>Maximum price PLN from the beginning of the stock exchange quotation</b>
DUON	3.5/5.0	A+	1.94	7.57
EXILLON	No data	No data	8.47	20.72
LOTOS	4.0/5.0	BBB	28.30	57.08
MOL	4.5/5.0	BB-	166.80	381.30
PGNIG	3.5/5.0	AA	21.36	21.36
PKNORLEN	4.0/5.0	BBB	41.75	59.64
SERINUS	4.0/5.0	D	6.72	18.90

Table 2 presents the key ratios that show the financial condition of the fuel sector companies. Within the seven examined companies, the generated profit per share was reported in 7 companies. It shows that the fuel companies prosper properly on the financial market and are able to record higher or lower profits (Parvi, 2014, pp. 262-267).

The price to the operating earnings ratio shows losses of the company and this state of affairs was reported in four stock exchange quoted companies – LOTOS, MOL, PKNORLEN and SERINUS, but DUON and PGNiG generated a nearly double-digit ratio (risk).

*Table 2: Technical Evaluation of the fuel sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.09.2014 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

<b>Name</b>	<b>P/OE (price/ operating earnings)</b>	<b>P/BV (price/ book value)</b>	<b>P/P (price/ profit)</b>	<b>Profit per share</b>
DUON	7.98	0.92	0.41	1.94
EXILLON	0.00	0.00	0.00	8.47
LOTOS	-29.46	0.41	0.12	28.30
MOL	-57.47	0.58	0.23	166.80
PGNIG	9.68	1.05	0.96	21.36
PKNORLEN	-4.04	0.80	0.16	41.75
SERINUS	-17.28	1.09	1.04	6.72

In contrast, analysing P/BV and P/P, it should be noted that both the price to the book value and the price to profit demonstrate that two companies exemplary operate on the market and have a value of about 1.0 (Parvi, 2014, pp. 179-185), and these are PGNIG and SERINUS. Other companies do not significantly differ from the average values, and these are DUON, LOTOS, MOL, PKN ORLEN.

Table 3 presents the studies concerning, among others, the net profit, depreciation, EBITDA and assets of the fuel sector companies.

According to the obtained values, it is clear that only SERINUS showed a loss, which was confirmed by the previous ratios included in Table 3. Other companies have shown a substantial profit which was generated in 2013.

*Table 3: Technical evaluation of the fuel sector's companies quoted on the Warsaw Stock Exchange in Poland as of 31.12.2013(own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

<b>Name</b>	<b>Net profit (net loss) in thousands PLN</b>	<b>Depreciation in thousands PLN</b>	<b>EBITDA in thousands PLN</b>	<b>Assets in thousands PLN</b>
DUON	10.322	5594	20965	304074
EXILLON	No data	No data	No data	No data
LOTOS	39415	656065	802559	20299617
MOL	21609000 (HUF)	539094000 (HUF)	520384000 (HUF)	2147483647 (HUF)
PGNIG	1918000	2463000	5612000	47144000
PKNORLEN	176000	2170000	2503000	51644000
SERINUS	-68682	27782	79243	312473

The book value per share presents that the companies are overvalued, and these are LOTOS, MOL, PGNIG, PKN ORLEN, and in the case of two companies, such as DUON and SERINUS, undervalued. However, it is important not to follow this opinion because the values are only the book values, and the calculation of them is purely mathematical and financial. In the case of using the economic attitude and interpretation (Parvi, 2014, pp. 168-177), it would occur that the companies do not have the fair value (Table 4).

*Table 4: The fuel sector's companies quoted on the Warsaw Stock Exchange in Poland as of 31.12.2013 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

<b>Name</b>	<b>Book value per share in PLN</b>
DUON	1.962
EXILLON	No data
LOTOS	70.756
MOL	16141.543 (HUF)
PGNIG	4.822
PKNORLEN	60.667
SERINUS	1.758

The profitability of the equity as well as the profitability of assets is shown only by LOTOS, PGNIG and PKN ORLEN, however, DUON and MOL do not have it. Therefore, according to the presented study, it is possible to observe that the fuel concerns have the profitability and they are not threatened by any disturbance of the financial liquidity (Table 5).

*Table 5: The fuel sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.09.2014 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

<b>Name</b>	<b>ROE</b>	<b>ROA</b>
DUON	-0.61	-0.59
EXILLON	No data	No data
LOTOS	11.86	5.23
MOL	0.33	0.11
PGNIG	8.70	5.21
PKNORLEN	9.28	5.14
SERINUS	No data	No data

Currently, the value of companies significantly deviates from the maximum value achieved a few years ago. The only one exception is PGNIG, which achieved the maximum value in its history. Other companies have the value less than 50% of the maximum one - Table 6.

*Table 6: The fuel sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.09.2014 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

<b>Name</b>	<b>Current value</b>	<b>Maximum value</b>
DUON	1.94	7.57
EXILLON	8.47	20.72
LOTOS	28.30	57.08
MOL	166.80	381.30
PGNIG	21.36	21.36
PKNORLEN	41.75	59.64
SERINUS	6.72	18.90

However, the fair value which should be reflected by the share prices of the examined companies significantly differs from the calculated value (Froehlich, 2013, pp. 67-75), which was presented in Table 7. In some cases, it is even 50% of the current value. However, the fair value is considerable higher than the current value of the examined companies, and only similar in one company, PGNIG.

*Table 7: The fuel sector's companies quoted on the Warsaw Stock Exchange in Poland as of 24.09.2014 (own development based on the financial data of the companies quoted on the Warsaw Stock Exchange in Poland)*

<b>Name</b>	<b>Fair value</b>	<b>Deviation from the fair value in PLN</b>
DUON	6.52	4.58
EXILLON	20.01	11.54
LOTOS	56.45	28.15
MOL	310.54	143.74
PGNIG	26.04	4.68
PKNORLEN	61.52	19.77
SERINUS	16.87	10.15

## **5. CONCLUSION**

The share price of the fuel sector companies quoted on the Warsaw Stock Exchange in Poland is significantly underestimated by the current financial situation in the world (Jabłoński, 2011, pp. 32-55). Nevertheless, fuel companies should demonstrate the higher value and at least the fair value because fuel prices are stabilized, and their profits indicate good financial condition, especially within grand fuel concerns, such as PKN ORLEN, LOTOS and PGNIG. The value of the fuel sector companies should be valued because the companies have the majority of assets expressed in the fuel supplies.

Fuel companies earn money because they largely focus on the fuel sale as well as the increase or decrease of the sale price. Therefore, the constantly kept stores result in the profit growth and sometimes the decrease of profit together with the price which is liquid and reflects their current assets. However, they achieve huge profits which was confirmed in the studies of ratios in the last few years and the net profit studies in 2013.

The fair value of the fuel sector companies quoted on the Warsaw Stock Exchange in Poland should be achieved within three years, until 2018, with the improvement of situation on the Global financial markets.

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## IMPACT OF THE UKRAINIAN CONFLICT ON THE POLITICAL AND ECONOMIC SITUATION IN EUROPE

**Mirosław Przygoda**

*University of Warsaw, Faculty of Management, Szurmowa 3, Warsaw, Poland,  
miroslawprzygoda@wp.pl*

### **ABSTRACT**

*On 17 March 2014, only one day after the local referendum won by an overwhelming number of votes, the highest authorities of the Autonomous Republic of Crimea approved the decision of the independence of the peninsula including separate City of Sevastopol located within its territory. Subsequently, they requested Moscow to annex the new structure to the Russian Federation. On the same day, the Crimea Republic was recognized as sovereign and independent country by the authorities at Kremlin. Already on 21 March, Crimea together with Sevastopol became a new administrative entity of the largest country in the world. At the beginning of April 2014, two territories bordering with Russia located in the east of Ukraine declared independence. The rebellious areas that assumed the names of the Donetsk People's Republic and Lugansk People's Republic, rejected Kiev's authority and, on 24 May 2014, signed the agreement on the creation of the Federal State of Novorossiya. The situation in the east of Ukraine began to resemble dominoes falling one after the other, slipping out of control of the state authorities. Military counteraction of the government in Kiev, aiming at preventing the disintegration of the country, encountered organized resistance of the separatist forces. International public opinion sided with Ukraine, which aspired to associate with the European Union. To reduce the support for the rebel forces provided by Russia, the latter has been hit with severe economic sanctions. The Russian Federation announced that it will respond by using similar measures against the countries of the West. In the meantime, the conflict in the east of Ukraine has gone into the phase of a permanent battle of two forces on the regional level. Nature and duration of this confrontation indicates that the armed struggle is entering a stage reminiscent of the war that has been ongoing for several years between the Palestinian National Authority and Israel. Just as in the Middle East, this situation may result in the following: the growing tension in this part of the globe and the danger of the conflict spreading into other areas. However, the Ukrainian problem in addition poses the threat of the deterioration of the economic situation in Russia and economic stagnation in the United Europe. In this situation, the following tasks might be of interest: analysis of factors that affect the intransigent attitude of the parties involved in the aforementioned events, possible outcomes of the conflict and forecast of the developments in the upcoming future.*

**Keywords:** conflict, impact, Russia, Ukraine, sanctions.

### **1. INTRODUCTION**

The current conflict in Ukraine results from the events of the recent past. Everything started in 1988 with a series of progressive political and economic changes in the Soviet Union, a country that disintegrated in the late 1991. The Soviet Union was replaced by a state organisation which returned to its original name: Russia. As a result of changes in its boundaries, the new international entity has lost almost 24% of its former territory and more than a half of its population. Despite the losses, the march towards social changes continued along with the emerging free market. Russia opened for ideas and solutions from the West. As a consequence of this trend, in the early 90s the Russian Federation sought accession to NATO. And this was not the first attempt anyway. As early as in March 1954, the authorities of the former USSR sought to end the confrontation with the Western world and expressed the

intention to join NATO. In response, the command of the Alliance presented five conditions to be met by the Soviet Union in order to be admitted to the organisation. They were as follows (Tikhomirov W., 2005):

- consent for a peaceful reunification of Germany,
- making Austria a fully independent country,
- signing of the general disarmament treaty,
- restitution of occupied territories in the Far East to Japan,
- recognition of the fundamental principles of the Charter of the United Nations.

The naivety of the Soviet, and then Russian, authorities observed in the 50s and 90s seems stunning from today's perspective. Both in the mid-twentieth century, and in its last decade, talks concerning Moscow's accession to NATO ended in failure. An attempt of Russia to strengthen the relations with the EU did not succeed either. Executive boards of the European integration group deemed the greatest country in the world not suitable to be a member of the organisation as it failed to comply with the "Copenhagen criteria". As it was established, a member of the Union may only be (Highland MW, 2007, p.125):

*"A free, independent, sovereign and democratic European state which adheres to international law and which has a developed market economy capable of competing on a single, common internal market."*

Apart from weak economy and insufficiently developed democratic mechanisms, the path to the European Union was barred to the Russian Federation due to allegations of strong promotion of Eurasianism, of no anti-corruption measures and accusations of violating human rights and national minorities.

Politicians of the Union closing "the door to Europe" to Russia and the United States attempting to marginalise the importance of Moscow in the world led the authorities in the Kremlin to seek, in dramatic circumstances, new allies and unprecedented solutions. These aspirations reflected in a proposal to create a Eurasian Union, a political and economic association of Russia, Kazakhstan, Belarus, Kyrgyzstan and Tajikistan. A much more ambitious project was the creation of a group bringing together the so-called "BRICS", including Brazil, Russia, India, China and South Africa. The objectives of the participants of this organisation have been defined as follows:

- to create a new monetary system,
- to increase the role of developing countries in global monetary institutions,
- to reform the United Nations.

In both of the above organisations, the Russian Federation wants to play an absolutely decisive, or even the leading role. In order to secure a privileged position, Moscow's needs to keep the status of superpower and the hitherto owned sphere of influence. A warranty and a key allowing to achieve this goal is to keep Ukraine in its influence area at any price. It might be said that it is a country extremely wealthy in all kinds of natural resources, unique surface goods and a significant human potential. Ukraine is a big country, the third largest state on the continent (following Russia and France). An institutional or public entity that wins influence in Ukraine, will be able to build on this basis its geopolitical power. Without the access to the resources of this country, Russia will not retain its hegemonic position in the entire region. The European Union and its leader, Germany, are never to attain the growth potential of the United States, China, Brazil, India and other most dynamically developing countries of the world.

## 2. FURTHER CRISIS

As a result of the revolution started in November 2013 in Maidan, Kiev, Ukraine redefined its orientation from pro-Russian to pro-European. However, not all residents of the country have accepted the new direction of the policy. Southern and eastern Ukrainian territories, inhabited to a great extent by Russian-speaking population, were strongly in favour of staying in the zone of Russian influence and of keeping the order of things unchanged. This situation might be seen as triggered by the direct interference of the Russian Federation in the Ukrainian affairs. The *dramatis personae* of this process were Russian secret services, the army of this country, or the so-called "volunteers" and a large-scale propaganda employing all the media available. As early as on 17 March 2014, only one day after the successful local referendum, the highest authorities of the Autonomous Republic of Crimea approved the decision of the independence of this region in the south of Ukraine. The declaration on Crimea independence also included an important army base and a separate City of Sevastopol located within its territory. Subsequently, the authorities of the peninsula requested Moscow to annex the new structure to the Russian Federation. In dozens of hours, the Crimea Republic was recognised by the authorities at Kremlin as a sovereign and independent country. The decision of the parliament dated 21 March made Crimea a new administrative entity and a part of the Russian Federation. And at the beginning of April 2014, two territories bordering with Russia located in the east of Ukraine declared independence. The rebellious areas that assumed the names of the Donetsk People's Republic and Lugansk People's Republic, rejected Kiev's authority and, on 24 May 2014, signed the agreement on the creation of the Federal State of Novorossiya. The situation in the east of Ukraine began to slip out of control of the state authorities. The government in Kiev resorted to military counteraction in order to prevent the disintegration of the country, which encountered organised resistance of the separatist forces. Some time later, the rebel troops were supported by well-trained formations of the regular Russian army equipped with modern weapons. In such circumstances, the scales of victory soon tipped in favour of pro-Russian groups. Ukrainian troops suffered a military defeat which involved thousands of wounded and dead soldiers. Thousands of civilians were affected as well.

## 3. IMPACT OF THE CONFLICT ON UKRAINE

The phrasing "severe defeat of Ukraine" is not exaggerated. A ceasefire agreement achieved by the participants of the contact group: Ukraine-Russia-OSCE in September 2014 in Minsk, Belarus, is a real defeat of the Kiev government. In the documents signed, Ukraine expressed consent for what it has hitherto definitely refused, namely (Skwieciński P., 2014, p. 80):

- to recognise the separatists as equal partners in the talks held,
- to commit to actual demilitarisation of its eastern regions,
- to agree to grant an unspecified autonomous status for the region of Donbass,
- to allow for a far-reaching political and economic interference of Russia in the affairs of the rebellious districts of Donetsk and Lugansk,
- to suspend economic integration with the EU by the end of 2015.

The conflict in the eastern borderland exposed the previously concealed weakness of Ukraine. It turned out that it is a country struggling with many serious problems, of which the major and at the same time the most visible ones are the following:

- total energy dependence on Russia,
- profound collapse of public finances,
- obsolescence of the army equipment,
- corrupted and insufficient administrative system,
- lack of a coherent domestic and foreign policy,
- increasing poverty of a large part of society,

- lack of compliance with legal provisions in many areas,
- movements and parties officially operating in the political life that are recognised by Western Europe for their views as obscurantist or illegal.

It would seem that at present the future of Ukraine has not been decided yet. But in fact it has. The answer on its immediate future is to be given as soon as in the coming months. However, all the prognoses regarding it look bleak. One might fear that the current government and state structures will not survive the coming winter period. Cut off gas supplies from Russia may trigger a breakdown of the exhausted and weak Ukrainian economy at any moment now. Increasing problems on the labour market, rampant inflation and the still smouldering armed conflict will lead to the society assuming a radical stance. No expected assistance from NATO, the European Union and passivity of organisations which had been founded for the purpose of international support, such as the World Bank and the European Bank for Reconstruction and Development will result in bitterness, disappointment, dissatisfaction and, most probably, in changing the existing beliefs of the masses formed by the poorest citizens. The idea of the Ukrainian authorities to close land, air and sea borders with Russia from September 2014 should be considered as an act of final desperation. The intention to stop the large neighbour from meddling in the internal affairs of the state means in fact breaking all contacts with Russia. One shall not forget that Moscow still remains the largest trading partner of Kiev. In 2013, approximately 24% of the Ukrainian exports went to Russia. At the time, import from Russia amounted to over 30%. In addition, the potential secession of the region of Donbass means a reduction by about 20% of the Ukrainian GDP hitherto supplied to the state treasury by this region. In fact, the loss is even higher if one takes into account the irretrievable loss of the Crimea, a popular holiday resort with a tourist infrastructure providing considerable revenue and with a military base in Sevastopol bringing Kiev millions of roubles a year for leasing to the Russian army and fleet the land it used (Bohun T., 2014, pp. 88 - 91). At the moment, the percentage of the public debt in relation to GDP is only 38%. However, this indicator does not show neither the full complexity of the situation of the country nor its financial situation. The situation is really grave, as (Orlowski W. M., 2014):

- tax revenues do not get to the state coffers, most funds are transferred to foreign accounts owned by a small group of oligarchs,
- the country owes money mainly to investors from abroad, and both the government and the private sector are indebted,
- in the case of Ukraine, the bulk of the debt is short-term and should be repaid in 2015,
- Ukraine's foreign currency reserves decreased by half to a dangerously low level of \$ 15 billion,
- Fitch agency downgraded Ukraine's solvency rating from "B minus" level to "CCC" level, which in practice means that the country is soon to be bankrupt.
- Standard and Poor's rating agency downgraded Ukraine's rank from "B minus" to "CCC plus" level, explaining their decision by political instability in the country and no likely improvement,
- given its insolvency, Ukraine has nowhere to go to borrow money in order to survive the coming months. The amounts provided by the West do not even cover a fraction of its needs.

Some experts are predicting that Ukraine is soon going to break up into two completely separate states (Dugin A., 2014, p.4). They argue it will be brought about by the clear linguistic and ethnic division as well as by poor efficiency and fragility of the state apparatus. They also emphasise the historical and civilisational distinction of the eastern part of the country in relation to its western part.

#### **4. IMPACT OF THE CONFLICT ON RUSSIA**

Russia cannot lose the conflict in Ukraine. Its defeat would mean a fiasco of the policy hitherto implemented by President Putin. Such course of action could shake the foundations of power throughout the entire Federation and oust the current Kremlin residents. Awkward questions would arise about the validity of the political line adopted and about the costs of the sacrifices made by the society. It would also break the bond uniting the whole nation in a huge effort. The slogan "Without Ukraine, Russia will never be a superpower" produced a significant increase in public support for Vladimir Putin. Seizing Crimea and military intervention in Ukraine, in turn, resulted in an approval for his actions at the level of 90%. The sense of participation in the reconstruction of the former power recognised in the entire world, allows the public to tolerate the lack of democratic freedoms and humiliations experienced (Wildstein B., 2014, p. 18). For centuries, territorial expansion has been an important element for the functioning of the country. First it was the main drive of the state of the tsars, then of the Soviet Union, and now appears as a powerful flywheel for contemporary Russia (Mitin S., 2014, pp. 64 - 67). In response to the actions of Moscow, the United States and the European Union had political and economic sanctions introduced. The more Russia became involved in the conflict in Ukraine, the more severe those sanctions were. They gradually intensified passing through subsequent phases and consisted of (Szymańska - Borginon K., 2014):

- interruption of talks held between the EU and Russia regarding the alleviation of the visa regime,
- suspension of negotiations between the EU and Russia concerning a new cooperation agreement,
- prohibition entry to more than a hundred people from Russia and Ukraine to the USA and the EU and freezing their bank assets,
- embargo imposed by the USA and the EU on trade in arms and military equipment with Russia,
- exclusion of Russia from the group of the most influential countries in the world colloquially known as G8
- prohibition on seeking funds in the European capital markets for companies operating in the defence industry and for national oil companies from Russia,
- suspension of military cooperation between the USA and Russia,
- prohibition for selected Russian banks to issue securities in Japan and intensified inspections aimed at preventing exports from that country to Russia of weapons and equipment needed in the armed forces,
- preventing Russian banks from acquiring funds in the American and European markets,
- prohibiting Russia to sell technology enabling extraction of crude oil and exploration of offshore deposits of raw materials,
- restrictions by the United States and Canada regarding prohibition of exports to Russia of dual-use (civil and military) goods.
- debate on the possibility of taking away from Russia the organisation of the World Cup Football Championship in 2018.

In response to sanctions imposed by the Western countries, on 7 August 2014, Russia introduced a ban on imports of fruit, vegetables, meat, poultry, fish, milk and dairy products from the USA, European Union, Australia, Canada and Norway. It is worth mentioning here that in 2013, the Russian Federation purchased abroad food products worth 43 billion dollars. Moscow also announced further visa restrictions prohibiting certain people's entry to the RF. They were to apply mainly to the citizens of the United States and of the EU in the same

number in which it affected citizens of Russia who were refused entry to the West. Those included 12 American soldiers who, according to Moscow, are responsible for torturing prisoners at Guantanamo, Cuba and Abu Ghraib prison in Iraq. Restrictions imposed by Russia soon translated to changes in food prices. According to estimates, in September 2014, in some regions of the country remote from the capital, the citizens had to pay between 10% and 60% more than a couple of months before for meat, fruit and vegetables (Malczyk J., 2014). According to prognoses, in the near future Russia will see a further increase in prices, the decline in GDP, increasing unemployment and a substantial economic slowdown. In this context, the GDP growth of 2 – 2.5% assumed for 2014 is rather illusory, especially when considered that in 2013 the real GDP growth amounted to only 1.4% (Szczęsny J., 2014). However, it is difficult to imagine the Russian economy collapsing both in a short and in a long term. Russia owes its significant geopolitical position to revenues from the export of natural gas and crude oil. The share of revenue from the sale of the above natural resources in the total value of Russian exports has been remaining for the past few years at the level of over 50% and it clearly shows an upward trend. This means that all the rest of the economy is becoming less important. Therefore, as long as Russia finds buyers for its energy resources, it may not be concerned about the stability of its own economy and the supply of the much-needed foreign currency. At the moment, the majority of state expenditure goes towards two sectors, namely social and military. Social expenditure is to guarantee support for the current government in the Kremlin and social peace. The budget for "national defence", according to previous plans, was increased in 2014 to almost 2.5 trillion roubles (about 70 billion dollars) from 2.1 trillion roubles in 2013. In nominal terms, Russian expenditure on armaments increased by 92.3% compared to 2010. Russian military budget currently amounts to 3.4% of gross domestic product and to as much as 20% of total state expenditure. Further 16.5% of the Russian budget is absorbed by other defence and law enforcement institutions. In 2015, military and army spending are expected to absorb 4% of GDP and reach a record high of 82 billion dollars. Russian authorities are currently implementing an ambitious program for increasing armaments expenditure by more than one-third by the year 2016 (Kolany K., 2014). The goal of the efforts made in the area of the military is to modernise the maintained army over a few years period, to increase its number and operational capacity and thus make Russia again a major player in the international arena.

## **5. IMPACT OF THE CONFLICT ON EUROPE**

Russia is the second largest (following United States) sales market for goods and services for the EU. In 2013, EU exports to the Russian Federation amounted to €11.372 billion. According to the statement of the European Commission, the Russian embargo on agricultural and food products is to cost the whole group integration approximately €5 billion 252 million. It is currently difficult to verify this data. However, some experts claim that the potential damage to the Old World agriculture caused by the Russian retaliatory sanctions may amount to as much as over € 7 billion. According to preliminary estimates, of all the EU-28, the largest financial losses are going to affect (Cukiernik T., 2014, p. 16):

- Lithuania – €927 million
- Poland – €841 million
- Germany – €595 million
- The Netherlands – €528 million
- Italy – €412 million
- Denmark – €377 million
- Spain – €338 million
- Finland – €283 million
- Belgium – €281 million,
- France – €244 million.

However, the losses will be smaller than expected, as Russia, when imposing restrictions on the Union, limited the suspension of imports to selected products only. In the economic sphere, the United Europe will successfully extricate itself from its current difficult situation

in the search for new sales markets, while the political situation of the Old World has become really complicated. There has been a split in the very bosom of the European Union. Some of its members strongly advocate further sanctions against Russia. These are the following: Czech Republic, Estonia, Denmark, the Netherlands, Lithuania, Latvia, Poland, Sweden and the United Kingdom. The harm of further tightening of sanctions is emphasised by (Szymanowski, M., 2014, pp. 58 – 59): Austria, Bulgaria, Cyprus, Greece, Spain, Portugal, Slovakia, Hungary, Italy, and through the mass media and unofficial non-governmental sources also France and Germany. Other countries belonging to the European Union openly express their doubts as to the validity of restrictions and they have not taken a clear common stance in relation to the existing problem. Thus the crisis in Ukraine has effectively led to the differentiation and polarisation of views and to a clear, yet broad division in the sphere of the common foreign policy of the Union.

However, what is the most dangerous for post-war Europe, is the departure from the status quo, or the inviolability of the borders of our continent. The annexation of Crimea and the secession of Eastern Ukraine were a dangerous precedent that could cause unimaginable, or even tragic changes in the coming future. Further prolongation of the conflict or its escalation are capable of leading to uncontrolled imbalance in the part of the world we inhabit. It might result in a change of the hitherto existing boundaries, creation of entirely new state organisms, resumption of old conflicts in traditionally "conflictual regions", establishment of new influence zones and consent to use force in international disputes.

## **6. IMPLICATIONS OF THE CONFLICT IN UKRAINE – BROADER DIMENSION**

The ongoing conflict in Ukraine has a limited range, but it is only in geographical terms. Its political and economic influence extends over a much wider area, including Russia and the entire Europe, as well as Japan, USA and Canada. At the beginning of autumn 2014, its intensity has much weakened, giving those who observed it a false impression of extinction, and those affected by it a hope for a just peace. It seems that the situation in Donetsk and Lugansk entered the phase of "Palestinisation". This means that military actions will sometimes lose their intensity only to explode twice as violently when the interests of one of the participants require so. The conflict only apparently relates to Ukrainian forces and Separatist troops. Indirectly, it also affects numerous state and economic entities that have favoured one of the feuding parties. The surprising aspect of the Ukrainian dispute is its long duration and regional character. What is really puzzling, is the fact that the military conflict has not yet spread further to the West and that it has not involved larger Russian forces. This can be explained by the activity in the political sphere of selected European countries in cooperation with the United States. The purpose of this activity would be to stop and discourage Russia to aggressive actions, both now and in the future. Another explanation would be an intended action by Moscow, planned to bring in the near future a change in the order of things already existing in the world. Of course, Russia is currently too weak to do this alone. In most areas of its international activity it needs strong political and economic support of allies with common aspirations. This idea is implemented by the Kremlin authorities in two ways. First, there is the ever-recurring idea of creating a Eurasian Union, which makes one think of the attempt to reintegrate the Soviet Union. Secondly, there is the ongoing creation of the association of the "BRICS", countries whose purpose is to oppose the dominance of Western countries on our planet. The five BRICS members are Brazil, China, India, Russia and South Africa. In total, they occupy 26% of the total land area of the Earth. They are inhabited by approximately 3 billion people, which represents over 40% of the population of our planet. Their economies account for about one-fifth of the GDP of the entire world (Strzempka K., 2014). They are the most powerful countries in their regions. They have

common characteristics, common interests, and some analysts believe that they have found a common enemy, namely the United States (Skowronek T., 2014). It seems that within the BRICS organisation, Russia is closest to China. The relationship between these two powers is much better than with the other members of the association of the five countries. It is thanks to China that Russia can afford to do what it's currently doing in Europe. This is due to the contract for the supply of gas to the Middle Kingdom signed in May 2014. Media informed that a document signed in Shanghai in the presence of the presidents of both countries concerns the supply of 38 billion cubic meters of gas per year for 30 years and amounts to over 400 billion dollars (Kublik A., 2014). The People's Republic of China has also benefited from the agreement. Ensuring uninterrupted gas supply from a friendly neighbour allows the authorities in Beijing to focus on the dynamic development of the country, to organise the internal affairs and to gain effective independence from whatever market situation. It should be noted here that the signing of the gas contract in Shanghai was preceded by heated negotiations lasting no less than 10 years. Talks so long can be ascribed one reason. It can be expected that the concluded agreement also has a yet undisclosed part in which important matters have been determined concerning international problems and in which the common strategy on global politics has also been specified. Both countries have quite an experience in concluding secret agreements. To justify this claim it is enough to give examples of agreements that became publicly known despite their confidentiality clauses:

- a secret agreement between Uzbekistan and China on gas supplies dated October 2011,
- secret agreement on cooperation between Microsoft and the Government of China dated December 2011,
- German-Soviet Molotov-Ribbentrop Pact. An agreement concluded in August 1939 on the delimitation of zones of mutual interests in Eastern Europe,
- secret agreement Merkel-Putin dated July 2014 on the conditions of ending the crisis in Ukraine.

Many facts support the hypothesis of concluding an additional secret agreement when signing the contract in Shanghai. For example, recently there has been observed a disturbing Russia's military activity in Europe and near the United States territory. Moreover, there have been intensified movements and open military actions of People's China in South-East Asia and in the Pacific Islands area. However, contrary to many fears, these actions should not be seen as a prelude to a large armed conflict or seeking confrontation on a global scale. Rather, they are trying to probe the determination of the USA and Western Europe within Atlantic Alliance to defend their own positions and their status of ownership. Another interesting issue is cessation of any mutual territorial disputes between Russia and China. Neither are there any conflicts on the long common border between the two countries, although minor armed incidents often occurred there in the past. Interestingly, Russia has consistently refrained from criticism of China in the international arena, and China likewise does not condemn the actions of Russia in Ukraine. These data may indicate that mutual zones of influence have been appointed between the two superpowers and that a united policy concerning key issues of the upcoming future has been adopted.

## **7. CONCLUSION**

Crisis in Ukraine and the outbreak of an armed conflict in its territory proved the fragility of conventions relating to the borders and to the European order. Agreements on these important settlements were concluded after World War II with full legitimacy and mutual respect. Now, we are witnessing the development of a new world order, while the existing order is just becoming history. The current world saw the reactivation of old players such as Russia, Germany and China. And it is those countries that will have their say in the near future rather

than others. Such players as the United States, Lithuania, Latvia, Estonia, Finland, Slovakia, Poland and Ukraine have a very difficult time ahead of them. New alliances and agreements reduce their international position and marginalise their political role. The economic situation created as a result of the Ukrainian conflict in the east of the Old Continent weakens to a greater extent smaller and medium-sized countries than the large and economically strong ones. Protracted crisis negatively affects the political and economic sphere not only on a European, but also global scale. It hinders trade, increases the military spending pool, distorts international cooperation in many areas, including in science and culture, interferes with the free movement of capital and people, limits economic growth, destroys the industrial infrastructure, raises prices and brings about a sense of uncertainty and disappointment. In 1994, Ukraine resigned from the possession of nuclear weapons. In return for this gesture it received a joint guarantee from the USA, Great Britain and Russia on the inviolability of its borders. It was an international agreement. The great powers failing to comply with their previous promises have put into question the integrity and the good intentions of their governments. It also started social unrest and insecurity. At the moment it seems that the future of Ukraine has already been decided, and that decisions concerning its fate have been made behind closed doors without the participation of its representatives. Striving to ensure their own further economic development, both Russia and the European Union led by Germany will not hesitate to take radical steps and will seek to divide Ukraine into two subordinate zones of influence. China, with their secured rich resource base in Siberia and tranquillity on the northern border will gain momentum at the expense of the declining United States. First, their predominance will be seen in the Far East, then in most parts of the Pacific, to achieve global dominance by the end of the second decade of the twenty-first century. The accuracy of the prognoses outlined in this paper is to be put to the test by the events which we will witness in the coming months and years.

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## **LOCAL KNOWLEDGE ON SANDALWOOD (SANTALUM ALBUM L) TREES CONSERVATION IN TIMOR TENGAH SELATAN DISTRICT OF EAST NUSA TENGGARA PROVINCE - INDONESIA**

**Nursalam**

*Faculty of Social and Political Sciences*

*University of Nusa Cendana Kupang (East Nusa Tenggara Province-Indonesia)*

*nursalamjeppu@yahoo.com*

### **ABSTRACT**

*One kind of biodiversity found in East Nusa Tenggara province (Indonesia) in particular that there are in Timor Tengah Selatan district is a tree Sandalwood (Santalum album, L). This type of trees known as a fragrant aroma type and has a lot of other benefits, including parfun as raw materials, drug spilis disease and incense sticks in religious rituals of Hinduism - Buddhism, so the timber has a high economic value.*

*As a result of large-scale exploitation, Sandalwood tree then suffered deforestation and lead to a state of scarcity. Then a solution to conservation of this tree is not become extinct, and one of the to maintain its sustainability perspective is to consider the aspect of local knowledge.*

*The aim of this research was to determine (1) the various local knowledge in the sandalwood tree conservation policy implementation; (2) any local knowledge that support conservation of sandalwood trees in Timor Tengah Selatan district .*

*The method used to reach purpose are used qualitative research methods, techniques of informants determination is purposive, namely the stakeholders are considered to understand local knowledge to conservation of the sandalwood tree. They are farmers sandalwood owners, community leaders, government officials of villages, districts, and forest service officials. Techniques of data collection, namely by in-depth interviews, participant observation, and techniques of documentation related regulations and meetings resume in order to the effort the conservation of sandalwood*

*The research results show that there are was local knowledge that can be used as a reference in conserving sandalwood tree. Implementation of conservation policy is not maximized because the local knowledge ignored to (1) the formulation of the strategy of increasing population sandalwood trees; (2) the formulation of farmer empowerment of sandalwood tree owners; (3) the determine of pricing strategy for the allocation of the conservation area, and (4) the determine the amount of the allocation of resources to conservation policy.*

**Keywords:** *Local Knowledge, Policy Implementation, Sandalwood (Santalum album L)*

### **1. INTRODUCTION**

One of the forest resources that are important to East Nusa Tenggara Province, especially in Timor Tengah Selatan district is a sandalwood (Santalum album, L), a specific wood species with high economic value. According Rohadi et al (2001, p. 170), sandalwood has a lot of the benefits, among other things:

1. In the shape of logs can be used to make chairs, desks, cabinets and other accessories.
2. Due it smells very fragrant, the sandalwood oil used as a raw material parfun.
3. The sandalwood powder used as incense, are usually used when there is a ceremony of death, and many other purposes, so that sandalwood has a very high economic value. Currently the price of sandalwood can reach 5 USD per kilogram.

In addition sandalwood been a significant contribution to regional income and employment opportunities, export, and popular handicraft industry, so as to provide a comparative advantage for Timor Tengah Selatan District (Rohadi et al, 2002, p. 195). By 1993 -1997 sandalwood still contributes an average of 9.48% which comes from taxes and retribution to the government of Timor Tengah Selatan District (the office of revenue the Timor Tengah Selatan district, 2006). But in 1998 until now sandalwood are no longer contribute to the revenues regions.

Declining population due to the exploitation of sandalwood massively since the 1960s until the 1980s because of the high demand in the market both in domestic and outside the country. Result sandalwood have been deforested and threatened with extinction.

To recover the population of sandalwood and icons for East Nusa Tenggara province and particularly of Timor Tengah Selatan district concrete efforts are needed in the form of government policy that sandalwood can be processed in a sustainable manner. The government of Timor Tengah Selatan district then issued the regional regulation no. 25 of 2001 on sandalwood. Regulation is to be a reference the regions in the rehabilitation efforts towards the conservation sandalwood. By observation, although the policy of conservation of sandalwood has been there and has been implemented but the fact conservation does not run as expected. The reality has shown, that the sandalwood conservation efforts have not met expectations due to the condition of the current population of sandalwood was left 70,000 trees, whereas in 2001 there are 332, 000 trees (the office of revenue Timor Tengah Selatan district, 2012). The refer to the data, shown that the success rate of seedling growth into a the tree aged less than 1 year is 49.83%. Meanwhile growing success of seedlings become the tree age more than 2-3 years is 11.21%, the normally growing success of seedlings become the tree age more than 2 years is to reach 25% (The institute of Kupang forestry research, 2012)

One of the causes of failure of policy implementation the sandalwood because the public is less support the regional regulation no. 25 of 2001 on sandalwood. They perceive that these regulations have been ignoring the values or known as the local knowledge and technology. According Adimihardja (2008, p. 2):

“As a system, the local knowledge of living and growing locally, is an outgrowth of the whole tradition of the local society. Truly the main feature of the local knowledge, not the values of originality, but more emphasis on the territorial aspects or particular locality, supported both the knowledge and the system has to adapt to the values of the outside”

Local knowledge system is a distinctive cultural expression that it contains the values, ethics, norms, rules and skills of the communities in meeting the sustainability challenges of life. The nature of contained is to give guidance to people to behave and in harmony with the rhythms of the universe, so as to create a balance between Humans and the natural environment (Nurjaya, 2006, p.106).

The local knowledge should be understood to include various shape of of intellectual creativity of public, which is a response to sustainability and contemporary individually and socially to the development of environment, includes knowledge of agriculture, medical, ecological, and product design in the field of handicrafts and architecture, as well as the expression and spiritual. Local knowledge is able to provide an overview of the wisdom traditions of public in the utilization of natural resources and social wisely which refers to balance and environmental sustainability.

The problem that then occur is the protection of the practices, rules and laws have different views among practitioners and among policy makers. They pay less attention local knowledge on both in the formulation and in the implementation of the policy. It is at the urgency in the article that is how local values compounded by the process of policy implementation, especially about the sandalwood conservation policy.

## **2. THEORETICAL FRAMEWORK**

### **2.1. Local Knowledge**

local knowledge is a system of values and norms that is organized, shared, understood and applied in the local community based on understanding and experience in interacting and with the environment. The values contained in the local knowledge that, as an explicit and implicit conception that is typical of a person, a group or community. One desired value which can affect the choices available from the forms, methods, and goals of sustainable action (Fischer, 2004). Value can only be inferred and interpreted from speech, acts and materials made by human beings derived through a ritual or educational activity. Therefore, a direct function of the value is to drive the behavior of individuals in everyday situations, while the indirect function is to express basic needs in the form of motivational (Nasruddin et al, 2011).

Nakashima and Roue (2002), argued that local knowledge is: indigenous knowledge system are the complex arrays of knowledge, know-how, practices and representations that guide human societies in their innumerable interactions with the natural milieu; agriculture and animal husbandry; hunting, fishing and gathering; struggles against disease and injury; naming and explaining natural phenomena; and strategies for coping with changing environment.

### **2.2. Local Knowledge and Natural Resources Management**

The damage natural resource happened in many countries tend to come from the pattern policy control and utilization of natural resources which is dominated by the state, and solely to pursue economic growth. The implication of this pattern is to close the space for public participation and public access as well as the neglect of the original values of the community in the management of resources.

According Nurjaya (2006, p.105), local knowledge is very necessary to be considered in the management of natural resources because people can become victims of the development, stating: “the activities of development dominated of state, patterned centralized and oriented solely to the pursuit of economic growth in the end only cause the victims of development”.

The findings of anthropological research on the management of natural resources by local communities in developing countries to prove that that indigenous peoples have a capacity of culture, knowledge systems and technology, religion, tradition, and social capital such as ethical and environmental wisdom, norms and legal institutions to manage natural resources wisely and sustainably.

In the context of natural resource management, local knowledge in the form of ethical, religious, environmental wisdom, local legal norms are cultural treasures that should be taken into account, utilized, and accommodated in the policy formulation and implementation.

Local communities have a system of knowledge in natural resource management, characterized by a deep knowledge of agriculture, hunting, medicine based on the surrounding natural resources. This knowledge system also includes a variety of rules regarding ownership and control over the natural resources. Just as said by Adimihardja (2008, p. 104) that the local knowledge appears from their behavior that has a high respect for the natural environment so that an integral part of their lives. Local knowledge has been proven to have a positive functions for society to save the environment in which they live. The exploitation of natural resources which they do constantly adapt to the natural environment as well as the distribution system and the allocation of these products.

Therefore the need for reform in development policy by considering the local cultural values, need to be accommodated within the substance of the content of the policy. in other words the approach and natural resource management strategies should recognize and reward systems knowledge is contained in the values of the local culture. The reason was because the

indigenous community as a layer with the grass roots support system of the knowledge they have is quite thick and resilient in dealing with various challenges, they remain survival through a process of continuous adaptation over the centuries with the environment in which they live.

### **2.3. The concept of Conservation of Biodiversity**

The world conservation strategy cited by Jeffries (2006, p. 174) has divided the 3 elements of the conservation strategy, namely: protection, sustainable use, and shared the benefits. Article 1 of the agreement of Rio biodiversity has emphasized conservation of biodiversity, use the sustainable manner, elements of the strategy and share them fairly and decent benefits biodiversity. The protection of biodiversity is currently associated with the sustainable exploitation. The Developing countries had directed him, starting with participation or conservation based on community. Developed an approach that recognizes that local communities should be involved and benefit from the scheme or plan of conservation.

The cultural change about conservation have affected so many countries means that giving attention to problem with article 1 of the agreement Rio, about efforts to incorporate the principles of economic and ecological sustainability.

Protecting habitat in the form of biological communities is an effective way to conserve overall biodiversity. The important part is discussed in protected areas is the basis of the establishment of protected areas. According Indrawan et al (2007, p. 288), the determination of protected areas can be done in various ways:

- a. The government policy. This policy is generally generated on the national level, such as government regulations. Besides, the policy can be done at the regional or local level, local regulations.
- b. Land purchases made by individuals and conservation organizations. For example, a global partnership has allocated funds to realize concessions without logging forest in Sumatra Island.
- c. Supporting local culture and customs.
- d. The establishment of a field research station by universities and other research institutions.

*International Union for the Conservation of Nature and Natural resources* (IUCN) as cited by Davey (1998, p. 45), establish a classification system of protected areas, which cover a wide range of intensity of use of habitat by humans, from small to large scale. In Indonesia types of protected areas along the criteria include: nature reserves; wildlife; national parks; tourist park; hunting parks; and protected areas.

The priorities for conserving biodiversity need to be set as the foundation for efforts to keep the species from extinction. The challenge is how the conservation efforts so as to reduce the rate of extinction of species with limited resources capabilities.

Natural resource management practices, which have emphasized the maximum production, either in the form of goods (volume of timber harvested), and services (the amount of visitors in the area) viewpoint needs to be enriched with more precise and expanded to include biodiversity conservation and ecosystem protection.

The other side it also pays that with regard to the conservation principles are aspects of good governance. Good governance is an agreements created by the government, society and private sectors. principles in terms of conservation efforts as proposed by Indrawan et al (2007, p. 539-541), namely:

- Participation. Associated with participation. The main problem is how to increase the participation of the public, and further, how to move the services to public. The principle of participation is an essential basis for the pattern of natural resource management effectively. From this known principle of "ecological stewardship", consistent with a certain variety of customary rights. From this known principle of "ecological stewardship", consistent with a certain variety of customary rights.
- Law certainty. Laws relating to forestry in Indonesia, for example still overlap the Rights of Indigenous Peoples in managing natural resources.
- Transparency. In the field of biodiversity utilization, are needed fair and equitable sharing of benefits. One of the mechanisms is with building effective public consultation and dialogue with the stakeholders concerned continuously.
- Responsiveness. The pattern of natural resource management necessary be adaptive. Like it or not, good governance is influenced by the market mechanism, so that the necessary leveraging change through the market.
- Developing agreements. Job description and authority are clearly necessary for the continuity of effective governance. Conflict of authority between levels need to be completed with various consultation mechanisms, including through the process of arbitration institutions.
- Equality. Including gender equality, keep in mind that in many cases women often proves itself as a natural resource managers a more efficient and effective compared to men. In addition to gender equality, the system of ownership, access, and utilization of natural resources need to be improved.
- Effective and efficient. Production of natural resources should be made efficient in order to be sustainable. In same time, mechanisms need to be developed in order to realize a fair profit sharing and impartial.
- Responsible. All stakeholders should be responsible. Both government, private, and civil society. The private sector, the accountability should include aspects of both social and ecological.
- The strategy vision. Wide perspective and further ahead is the core of this strategic vision, need to be aware that the management of natural resources is a key issue of sustainable development. Systems and traditional customs that have developed for centuries should get a reasonable legitimacy.

#### **2.4. The Sandalwood Conservation Policy**

Along with the decentralization policy in Indonesia, which is given by the central government through the Act no. 32 of 2004, impact on the delivery of a wide range of authority to the local government to conduct government affairs and development, it is further handed over the management of the District government sandalwood each region producing sandalwood. After the local government has the authority to regulate the management of sandalwood.

The district government of Timor Tengah Selatan then issued a policy to regulate all matters relating to the management of sandalwood in Timor Tengah Selatan district, namely district regulations Timor Tengah Selatan district number 25 of 2001 on the management of sandalwood.

The main substance of this regulation is the management of sandalwood want to restore to the welfare of the community, because sandalwood is a specific commodity and a mainstay for the Timor Tengah Selatan District.

### 3. METHODS

This study used a qualitative research method that is research that produces descriptive data in the form of written words or refer to the processes and meanings which is not rigorously examined or measured, both in terms of quantity, intensity, and frequency. Emphasis is given to the nature and the social construction of reality.

The main emphasis on the qualitative approach in this study is based on the consideration that research focus is local knowledge in the sandalwood conservation policy implementation. In addition to describe local knowledge of the sandalwood conservation policy implementation, this study also reveal the influence of the context of cultural values as setting the process. To see the social and cultural conditions, necessary interpretation of the meaning (Creswell, 1994).

The focus of the study consists of: (1) identify types of local knowledge evolving used as a reference by the farmers in the cultivation of sandalwood; (2) identify local knowledge that are still relevant and support sandalwood conservation policy. While the techniques of data collection, observation, documentation, and interviews. While the techniques of data collection, observation, documentation, and interviews. The data has been collected then analyzed using qualitative descriptive analysis. Qualitative data collected will be interpreted by triangulation

### 4. RESULTS AND DISCUSSION

Based on the description of the concept of local knowledge and the results of data collection, it is identified some local knowledge of communities in conservation sandalwood, among others:

#### a. The norms and belief Against Sandalwood

To ethnic communities of Timor or Timorese, sandalwood plants since ancient believed to be part of their ancestors. They believe that this type of timber is the incarnation of ancestral spirits. They believe that this type of timber is the incarnation of ancestral spirits. They believe that this type of timber is the incarnation of ancestral spirits. Treatment of sandalwood is also not to carelessly. Their view that the sandalwood concurrent with the arrival of their ancestors in heaven, so that they assume that the sandalwood is also their ancestors.

Before they know the religion, they believe a belief about the nature of the cosmos that controls human life, they believe that this nature that govern human life. The universe should be treated with the best that human life also becomes well. His view of the nature as God incarnate in the ethnic languages of Timor, namely: (1) *uis neno* (God / King / Ruler); (2) *uis ah* (Lord of the Land); (3) *uis oe* (Water ruler).

The cosmos in the form of earth where timorese reside filled many different types of flora and fauna. Various types of plants and the vegetation is a unity of God which they believe to be the regulator of the ethnic Timorese human life.

Based on this belief, the sandalwood is considered as an integral part of life and daily activities for Timorese.

According to Bora (2009), the myth of sandalwood include: (1) the origin of sandalwood along with the presence of the earth, Sandalwood is considered as *hau hena*, plants existed since the beginning (before man was created); (2) plant the sandalwood is naturally, rather than artificial or the result of human engineering; (3) moment and how to harvest, is after obtaining approval from *usif* (king) and when old (sandalwood the fall leaves); (4) how to

maintain and care for sandalwood, has become a habit, not by coercion; (5) prohibitions or taboos, closely related to the conservation and maintenance of the customary oath sandalwood.

At the era kingdom of Timor, when sandalwood harvest want, first considered first age of sandalwood, call a traditional leaders to cast a spell, that the trees have been cut down, ghost of ancestors do not come to bother man. In addition, before the sandalwood trees in cutting, first dedicated animal blood.

The rational actions performed by the ethnic communities Timor is unacceptable, but it is a social reality, local communities sandalwood treated very carefully. The facts show that the special treatment of the sandalwood population in the past is very lot of. In ancient times, before was formally exploited, the condition sandalwood is still a stretch of forest that extends to all land in the district of Timor Tengah Selatan.

The story of how the condition of sandalwood in the past is the proof that the local community has its own knowledge and belief in exploiting sandalwood. But otherwise the treatment and knowledge is rarely found today. Dutch colonial regime and the Indonesian regime has destroyed the local wisdom and replace them with modern ways to manage sandalwood. The result is a population of sandalwood the longer the decreased.

Chronology of how the process can be traced to the destruction of sandalwood Widiyatmika quoted Rohadi et al (2001, p. 195), mentioned that initially the entire sandalwood on the island of Timor ruled by King, the King further pointed "Landlord" (*fetor or uis pah*) to oversee the production of sandalwood in the area. Landlords are then appointed as the head of indigenous for maintaining and securing sandalwood trees that exist and perform rituals to be performed if the harvesting of sandalwood. If all activities are finished harvesting sandalwood, sandalwood roots belong to the King, stems is given to Landlord, and branches to the owner of the sandalwood tree (Ormeling in Rohadi, 2001, p. 196). Management practices such as occupation lasted until the time of the Dutch Indies, and since it is also a very fundamental change in the management of sandalwood. Changes happen in the case of logging.

In the Dutch colonial era, there has been a change in the payroll system of exploitation. The Dutch provide certainty of compensation in any harvesting of sandalwood, but the compensation provided was not clear to local rulers, as well as compensation from the local authority to the people. This rule then protested and rejected by the people. In 1925, the compensation system is replaced with the tax system, at that time sandalwood management conducted by the government *Swapradja*. In 1925 enacted *Sandalwood Ordinance*. Announced at the time that the entire sandalwood become the property swapraja. Government of swapradja then watched sandalwood from place of origin to the destination of trade.

Since the independence of the republic of Indonesia in 1945 until today (the era of government reform), sandalwood still controlled by the government. In the constitution of 1945 article 33, is mentioned that the earth, water, air and all its contents owned by the State and used for the greatest benefit of the whole people of Indonesia. If refer to the actually destination wants to protect natural resources and beneficial for the welfare of the entire nation of Indonesia. However, in the implementation of policies to achieve this goal is still far from the expected, so people still become victims of promise and determination that have been submitted.

#### **b. Sanctions over Violations**

Social system in the Timorese know the mechanism of sanctions for violations of the provisions outlined by the norms and values of society, , Including the violation of the provisions of sandalwood exploitation. They know the culture *kiu muke* (penalty) to the breaking of values and norms. *kiu muke* is a system that is categorized heavy sanctions for

those who have done an offense. For example, do logging sandalwood immature, do wild grazing land sandalwood trees, and sandalwood theft.

If there is a violation by a member of the social system, then the violator imposed a fine form delivery of animals, example gives pigs, cows, or goats to the traditional institution called *ta haof to*. If a person who has committed an offense, but does not have a property that may delivered, the subject must be work at home *usif* (king), *amaf* (royal council), or at home *meo* (commander). given voluntarily without pay.

The following is a table showing the form of sanctions received by the offenders, namely:

*Table 1: Various forms of sanctions for violations customary*

No	type of violations	Forms of Penalties
1.	sandalwood theft	1 Beef
2	grazing Wild	1 goat
3	Burning grass	1 Pig
4	Cut down sandalwood immature	1 Pig

The decision about whether a person suspects violations is determined by imperial council decision (*amaf*) which is called by *lasi* (Decision), then subsequently announced by the commander of the kingdom (*meo*) to all people (*too*). The imperial council and the commander and all the people prepare for a big event as a means of to convey the information that one member of the social system was convicted.

Form of sanctions and the official announcement of the person convicted is one way to provide a deterrent effect on the infringers. The result is proven, that they are thinking of doing a custom violations for the second time.

In interviews with informants, it is known that the violations relating to the custom is very rare sandalwood. This is fact the cause of sandalwood on the past population levels are still high. Timorese ethnic communities have very high shame if they do custom violations. The local communities in Timor Tengah Selatan District is a society that upholds the social institutions that have built and shaped by the social system.

### **c. Customary Oath**

The local knowledge of other related conservation practices sandalwood that is the *Baan* (custom oath). This oath very supernatural because this oath direct implications on the practice of conservation of sandalwood. Someone who has vowed to maintain and protect sandalwood, it will be shown as a result of the oath. Results of interviews with custom leaders, stating that one should not carelessly make oath because the oath had consequence, both positive and negative.

When someone makes custom oath that they have not sandalwood was stolen or disturbed by other people which is called by *banu* ritual, then the sandalwood if was stolen, there are unqualified, Both in terms of smell and of content (hard core), so not having economic value (selling price is very cheap).

Sometimes local communities perform rituals *tsanut banu*, a ritual to determine the feasibility of a tree, whether it's time to cut down or not. Those who perform the ritual, will get the clue that it was time for a particular sandalwood trees to be harvested. But when harvested but not yet old enough then it does not have a sandalwood odor quality and content.

Under overview of the custom oath, it can be interpreted that the custom oath is a customary mechanisms that have effectiveness to maintain and protect sandalwood trees from the other party disorder.

#### **d. The Sandalwood Cultivation System**

The local knowledge of local communities in Timor Tengah Selatan District can also be seen sandalwood cultivation system. Community groups do sandalwood cultivation as a manifestation of their experience in interacting with sandalwood. According to Daniel et al (2006, p. 17) is the development of silviculture and forest cultivation covering the fields of seeding, tree breeding, planting, maintenance, and protection. Meanwhile, according to Pua Upa (1996, p. 7) states that silviculture is the science and art in an effort to plant, cultivate, nurture. Collect the produce and implement artificial regeneration silvika based knowledge in forest management. Knowledge of this very basic silviculture nature because it gives understanding to the farmers to undertake farming activities efficiently and effectively.

The sandalwood silviculture in the management carried out in line with the attention given in order to save the sandalwood tree from extinction due to deforestation sandalwood since the decade of the 1980s. The efforts that have been taken in silviculture include the following activities.

- Procurement activities of seeds

The seed procurement activities include picking beans on a sandalwood tree that meets the requirements, includes registration pests and diseases, tree age over 20 years, disinfected seed storage, , incorporated into plastic bags, and stored in a cool dry space. Supply Managed is done through stocking of seeds in seed trays, planting seeds in a plastic bag, by the stump, specific to areas with high rainfall (Patty, 2001, p. 33).

- Planting activities

Planting is done, either directly or indirectly. Direct planting by seed, planting intercropping. While planting indirectly such as by way of nursery and planting saplings via cuttings or grafts. Because it is semi-parasitic sandalwood trees in need of host plants, so that when planting should be planted together with its host (other crops, such as chili plants or plant acids).

- Care activities

Sandalwood tree is a plant that requires special handling because it is very sensitive, either to weather or with pest. The activities are carried out in the care of replanting, namely replacing dead sandalwood saplings with new seedlings do when the rainy season is still there. The next activity was weeding, fertilizing, pruning, thinning, pest eradication.

- Protection activities

Attempts are being made to protect sandalwood trees of various disorders such as wild grazing, fire, and theft. Most disorders sandalwood tree damage when stands are 1-2 years old are caused by activities livestock grazing in the wild thus destroying seedlings that are still standing are 1-2 years old. Another factor is the burning bushes that is practiced by farmers who lead sandalwood saplings were burned.

Local knowledge in silviculture is not contrary to the principles of silvicultural conducted by the extension agents of the Forestry Agency Timor Tengah Selatan District. This means that the knowledge society through the cultivation of sandalwood in line with the principles of modern cultivation.

#### **5. CONCLUSION**

The development that ignores local values lead to the marginalization of local communities. Model of development into top-down and not rooted in local cultural values. In the last three decades of legislation products in the management of natural resources tend to exhibit characteristics that are patterned centralized, exploitative (user oriented), pro investor (capital oriented), sectoral, closing the space for transparency and public participation, ignoring the rights of local communities.

The ways that that result in: (1) Abandonment of the principle of justice, democracy, public participation; (2) degradation of natural resources due to the orientation of public policy is directed to the pursuit of economic growth, increase revenues by exploiting natural resources; (3) lead to the marginalization and destruction of the social order and culture of local communities as centrally as desired made uniform government; (4) there is a process criminalization, victimization and dehumanization of the activities of the local communities in the utilization of natural resources through primitive societies stigma, obstacles to development, irrational, uncooperative, forest destruction, illegal farming, illegal miners and others, stigma tends to discredit the existence of the local community, (Nurjaya, 1985).

The conservation of sandalwood tree has become an important issue in the development in the district of Timor Tengah Selatan, because it was realized that the exploitation of sandalwood during this lead to environmental degradation and loss of natural resources scarce this area. The increased decline of of sandalwood, the more we realize that conserving sandalwood tree is very urgent effort in order to save these rare trees from extinction. Various attempts have been made in order to conserve the sandalwood tree among the measures taken by the local government through local regulation number 25 of 2001 on sandalwood, but in the implementation of this regulation has not been implemented so that the optimal population level impacts showed no significant progress a trend to decrease, sandalwood tree is feared extinct. In the implementation of the policy on sandalwood necessary paradigm shift for policy implementers, namely those have to explore the values that is owned by the local community. In the implementation of the policy, values or local knowledge is not a guide for policy implementers in performing its duties and functions, approach adopted is top down approach based on the technical instructions of the forestry department, whereas there are also local knowledges in conserving sandalwood trees. This is not to be noticed by the implementers resulting in the execution of duties to cultivate sandalwood lack of local public response. The new paradigm is that needs to be held by the implementers are supposed to pay attention to the balance between the continuity of the function of economy, ecology and social culture of the sandalwood management is not centralized by building community self-reliance. To achieve this paradigm is needed; (1) reorientation of national development goals and the forestry sector to the balance between the continuity of the function of economy, ecology and social culture in the management of scarce natural resources for improving the quality of human life; (2) good governance in the management of resources is characterized by goes the principles of transparency, public participation and accountability to the public; (3) the efforts of empower the parties relating to the adjustment or reorientation of national development paradigm and the forestry sector (Kartodihardjo, 2006). Access and use rights over a wide range of resources, which are arranged as well as possible for all the local community groups by taking into account various aspects as emphasized in Forestry Act 41 of 1999 Article 2 “Implementation is based forestry and sustainable benefits, citizenship, justice, solidarity, openness and integrity”. The forestry administration aims for prosperity of the people with justice, and sustainable. Utilization of forest resources are required to pay attention also multipurpose includes soil and water conservation, timber and non-timber resources for local communities, conservation of flora and fauna as well as support functions for other development programs.

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## ESP, ECONOMY AND GLOBALIZATION

**Shqipe Husaj**

*University –Haxhi Zeka-Peje*

*Shqipe.husaj@unhz.eu*

### **ABSTRACT**

*The purpose of this paper is to discuss the importance of the foreign languages in particular English for Specific Purposes in the process of integration, economy and development of a country. The main body of this work will be focused on English language spoken by the local staff here in Kosovo as a country in transition period, considering that no politics, no business, no cooperation can be run properly if people are not able to speak the language of the partner/ the Global understanding. Considering that the globalised world includes all industrial, political, legal, economic, social and cultural processes, ESP is one of the terms required to be part of this world as people cannot communicate without speaking the language of the partner in a specific field. Translation of legal documents are required for many different reasons relating to judicial or administrative proceedings in other countries. Often the translation must be accompanied by a sworn affidavit of the translator, certified by foreign authorities so as to be considered valid in the procedure for which it is required. As migration into Europe is increasing each year, it brings significant economic and cultural benefits. Some newcomers are very successful in the labor market and enjoy positive relations with other residents but there is another part of them who no matter how skilled they are the lack of language knowledge disables them to adapt in a new environment. All of these will be discussed in this paper.*

**Keywords:** *EU, languages, integration, economy, communication, global understanding*

### **1. INTRODUCTION**

Language is the written and spoken method of combining words to create meaning used by a particular group of people. Language therefore remains potentially a communicative medium capable of expressing ideas and concepts as well as moods, feelings and attitudes. Every language has its own importance but English language, the world's language considered as lingua franca comes to our aid in commercial transactions throughout the globe and the language of the latest business management in the world. English is a means not only for international commerce; it has become increasingly essential for inter-state commerce and communication. The last few decades have been experiencing a growth in the role of the English language around the world as the lingua franca for economic, scientific, and political exchange. The term lingua franca means 'any language used for communication between groups who have no other language in common' (Matthews, 2000:209). English language is a tool that helps to integrate both politically and economically into the global community. This is the reason why General English differs from English for Specific Purposes –ESP which according to Dudley - Evans (in Anthony: 1997) has been referred to as "applied ELT" (English Language Teaching) as the content and aims of any course are determined by the needs of a specific group of learners. ESP is often divided into EAP (English for Academic Purposes) preparing students for academic studies in universities around the world and EOP (English for Occupational Purposes) teaching English in general or particular workplace training and development. Further sub-divisions of English for Occupational Purposes are sometimes made into business English, professional English (e.g. English for doctors, lawyers) and vocational English (e.g. English for tourism, nursing, aviation, and bricklaying). All these types of English have a certain purpose and a very important role in every field of

our life starting from entertainment, to politics and economy. Therefore the role of English in the world can be considered as either a form of linguistic imperialism, a vehicle for social and economic mobility, or a global lingua franca necessary for a global *demos* for a global justice. It means English language in fact ESP (English for Specific Purposes) facilitates communication, live or online, reduces expensive mediation of interpretation and translation, It has no differences between rich and poor, powerful and powerless. It helps people debate, cooperate, lobby, demonstrate effectively across borders etc. English is everywhere. The Economist says, "English is the language of globalization - of international business, politics... It is the language of computers and the Internet... it is the dominant international language in communications, science, aviation, entertainment, radio and diplomacy...."( Economist 2001-The triumph of English).

As mentioned above the benefits from knowing ESP in business are: cutting the time required for negotiations in half, being able to establish a relationship with other countries, and eliminates poor judgment due to insufficient data. Being able to speak the nation's language helps one achieve goals much easier and much quicker. Carrie Harris (2006, The Importance of foreign language in Business) wrote about the importance of foreign languages (global understanding) in business, because of the following reasons:

- having a deep desire to become his own boss,
- wanting to converse with diverse people freely, and
- wanting to have an edge over his competitors in his chosen field.

With this society becoming more diverse with other cultures and peoples beliefs, it is only natural and right to learn other languages to keep up with the change. In the developing business, one does not want to isolate people due to his/her handicap of not knowing their language, because that would limit one from providing services, lose money, and lose credibility throughout the community. Given that English has acquired its world-wide reputation due, in large part, to globalized power relations, those companies and governments employing well-trained non-native speakers for their international business communication needs will obviously see the advantage of hiring non-native speakers of the English language with multilingual talents.

## 2. ENGLISH AND GLOBALIZATION

The global impact of English in a country's identity, in the economic dimension determines its value and status in countries with aspirations to participate in the knowledge economy. Proficiency in English, accompanied with educational credentials provide career and employment competitive advantage in certain sectors of the global economy, because the number of job-seekers world-wide is much higher compared to the job creation in labor market. As English and Globalization are closely related to each other, Giddens (2000) defined globalization as a separation of space and time, emphasizing that with instantaneous communications, knowledge, and culture could be shared around the world simultaneously. Globalization has been viewed primarily as an economic phenomenon, involving the increasing interaction, or integration of national economic systems through the growth in international trade, investment, and capital flow. However, the definition has expended to include also cross-border social, cultural, political, and technological exchanges between nations and in particular, between people. Considering all these definitions there is a question to be answered. *How could all these interactions, international trade, technical exchanges, politics, contracts etc between different nations happen when all speak different languages?* No doubt that the answer is simple- **by speaking the global language** – English language which is a great help in the process of expanding trade and commerce by creating a borderless

market. By understanding the global language we can now be the first one to know what is happening in the farthest corner of the world and travel to whatever country we want in the shortest possible time. In this globalised world which has become a small village with the mutual understanding and cooperation, our world could certainly be a better place to live in.

### **2.1. International legal language**

Increased globalization led many businesses to go international with their offerings. These global marketplaces were highly competitive and played a vital role in establishing good relations among businesses and states all around the world. However, these relationships called for integration and understanding of each others economic and legal system which further escalated the need of legal translations.

International Legal language (English Language for lawyers) differs from standard international English in that it refers to the style of English used by legal professionals in their work. For example, the language used in international contracts and statutes, which can also be referred to as “legalese”, is spoken and written by professionals of a law field, because a translator should have a good knowledge in the field of law and order in his own mother tongue, otherwise the contracts and statuses risk to be misunderstood. When it comes to legal texts it is generally agreed by both lawyers and linguists that because of the special nature of legal texts the translator will have to stay close to the source text by representing the exact or near exact meaning in the translation. Legal English has long been considered a necessary skill for lawyers in English-speaking countries however due to the emergence of English as the language of international business it is fast becoming a necessary skill for all legal international professionals to consider acquiring.

In solving international legal problems, a lawyer will be dealing with law words, and the accuracy of a written legal document depends largely on word selection, syntax and good sentence structure. According to A. Samuel Adelo, (Adelo 2001, Language in Civil State Court) “the lawyer must then depend on a translator to render the words he uses in a legal document into another language.” Conversely, a lawyer in international practice will often require the services of a translator to render foreign documents (usually drafted by an attorney subject to equally demanding requirements relating to word selection, syntax and sentence structure) into the lawyer’s native language. Unfortunately, lawyers often underrate the importance of selecting a good translator to accomplish these important tasks.

Legal translation is often more difficult than other types of technical translation because of the system-bound nature of legal terminology. Unlike scientific or other technical terminology, each country has its own legal terminology (based on the particular legal *system* of that country), which will often be quite different even from the legal terminology of another country with the same language.

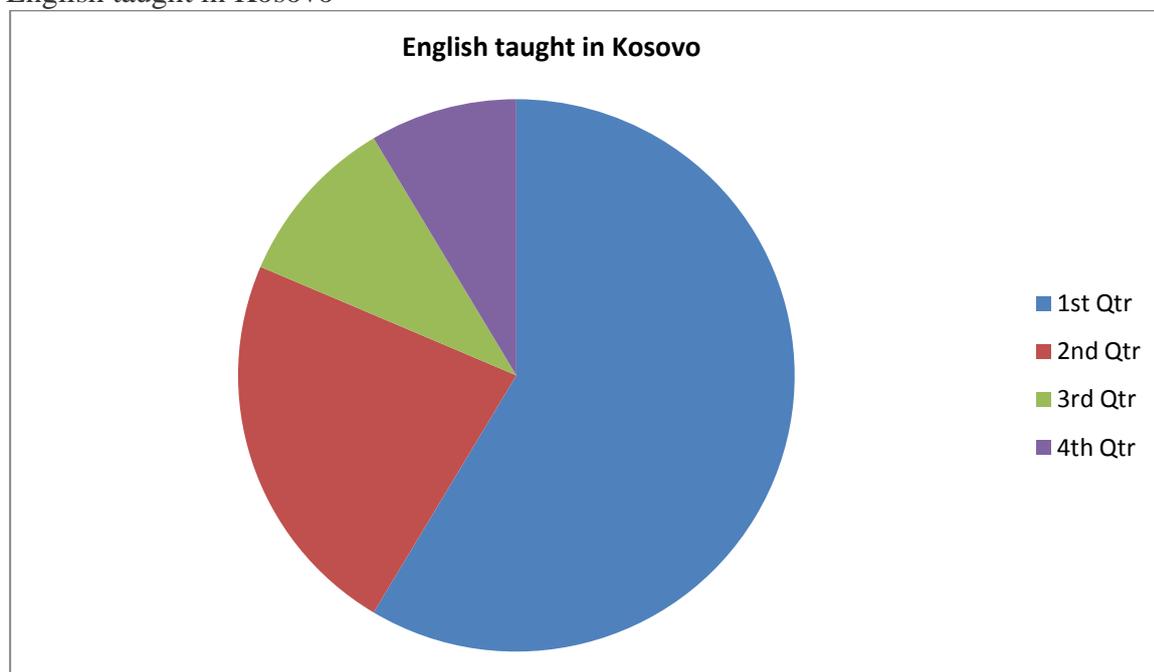
As legal translation is the translation of texts within the field of law then it is only professional translator specialized in legal translations who should translate legal documents and scholarly writings. The mistranslation of a passage in a contract, for example, could lead to lawsuits and loss of money. When translating a text within the field of law, the translator should keep the following in mind. The legal system of the source text (ST) is structured in a way that suits that culture and this is reflected in the legal language; similarly, the target text (TT) is to be read by someone who is familiar with the other legal system (corresponding to the jurisdiction for which TT is prepared) and its language (Mett; Faber, Dorrit (2001). "**Lexical ambiguity and legal translation: a discussion**".) Most forms of legal writing, and contracts in particular, seek to establish clearly defined rights and duties for certain individuals. It is essential to ensure precise correspondence of these rights and duties in the source text and in the translation. Legal translation may also involve, Certificates of Accuracy, Witness

Statements, Depositions, Trusts, Wills, Articles of Incorporation, Litigation Documents, Immigration Documents, Property/Exhibit Labels and in some cases attendance in court by the translator(s).

#### The effect of ESP in Kosovo economy

Because of the English language knowledge many university students have been granted scholarships in various European countries enabling them exchange experiences. It is exactly a foreign language which enable the Kosovar businessmen to do business both in the country and abroad. Here should also mention immigrants who due to their language skills proved successful wherever they lived by quickly integrating in the society. Since 1990 up to now the international presence in Kosovo was a great help in improvement of foreign languages and thus enhanced integration of our country in the European Union. Kosovo's cooperation with the other countries is essential for its commercial development, economic growth and political stability . It means its citizens should pay more attention on foreign language learning, especially English ( global) language.

English taught in Kosovo



*Chart 1. English taught in Kosovo*

The chart shows the scale at which schools, colleges and universities in Kosovo teach English Language, be it General English or ESP. According to the data collected from the pupils and students in all levels of education in Kosovo, it comes out that the first quarter of the chart which is sixty percent all elementary schools teach General English. The second quarter (red one) represents the percentage of General English taught at secondary schools while the two other quarters presenting about thirty percent , show that colleges and universities teach ESP. It is a small number of private colleges that teach general English because of the students low knowledge in English language. All respondents asked to fill in the questionnaire declare that they are offered ESP classes and are aware of the aim the ESP courses. Both professors and students of colleges and universities observed declare that the aim of ESP courses is to provide opportunities for students to gain knowledge and skills in order to understand , explain, and communicate in their study field, be able to translate from English into Albanian or Albanian into English, write reports and of course write business letters and have discussions in English . Every university unit uses the adequate literature necessary for the

particular study field as well as additional literature in order to familiarize students as much as possible with professional vocabulary. Therefore, if we consider this chart we can have a picture of people in Kosovo speaking English. It means more than thirty percent of all administration, businessmen and politicians speak they professional English. The rest at about twenty five percent speak General English, with is sufficient for them to achieve their understanding while traveling, shopping and holidays in foreign countries.

### 3. CONCLUSION

The purpose of this paper was to discuss the importance of the foreign languages, in particular English for Specific Purposes in the process of integration, economy and development of a country. Kosovo as a country in transition , dealing with many recognitions from other countries, doing politics, businesses and cooperation was largely helped by its citizens knowledge of foreign languages especially English for Specific Purposes, used in every single professional field.

Translation of legal documents required for many different reasons relating to judicial or administrative proceedings in other countries were treated with a great attention. Often the translation had to be accompanied by a sworn affidavit of the translator, certified by foreign authorities so as to be considered valid in the procedure for which it was required. All these documents in Kosovo's case proved to be correct. Emigrants in Europe are being very successful in the labor market and are enjoying positive relations with other residents but there is still another part of them who no matter how skilled they are the lack of language knowledge disables them to adapt in a new environment. All these issues mentioned above are results of colleges and universities which offer their students English courses in certain study field which is called English for Specific Purpose.

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## EFFICIENCY OF ETHICAL ORGANISATIONAL CULTURE IN PUBLIC SECTOR IN CROATIA

**Silvija Vig**

*PhD candidate on Faculty of Economics & Business, Zagreb, Croatia  
silvija.vig@zg.ht.hr*

### **ABSTRACT**

*The accession of the Republic of Croatia to the European Union requires a regular review of policies, practices and procedures that affect ethical behaviour in the public sector. There are increasing expectations from public that governments should foster and sustain higher standard of integrity in the public service. In this context, joining the EU many states recognized ethical cultures as a crucial priority in general. It is considered to be a vital component for maintaining the confidence of society and politicians in the public sector. Responsibility of management in public sector is to establish the ethics-based organizational culture through ethical infrastructure that promotes ethical values in decision-making, work processes and operations. In transitional economy the responsibility is particularly stressed. After fast replacement of the old system, the change goes much slower and often much longer retain the remains of replaced and incompletely destroyed social system. Communism and collectivistically-oriented society did leave a unique legacy by creating a peculiar cultural syndrome at the enterprise level generating a challenge for doing business there. This article examines the results of a study conducted in public sector units in Croatia. The aim of the study was to examine and describe the efficiency of ethical organisational culture in Croatian public sector. The construct of efficiency was measured by a consideration of three areas: legal framework, institutional setting and ethical infrastructure. The results indicate that most public sector units are in the early stages of development. It is established a basic framework for the ethical conduct of civil servants in the public administration, but the government bodies did not take specific actions to motivate and encourage civil servants to adopt certain ethical principles and values and to implement them in daily operation.*

**Keywords:** *Collectivistically oriented society, Ethics, Ethical organisational culture, Ethical leadership, Public sector*

### **1. INTRODUCTION**

The aim of this study is to offer an overview of the current situation of ethics in public sector in the Republic of Croatia. The study discusses the various measures that have been taken to promote ethics in public sector. Commissioned by the State Audit Office and the Ministry of Justice, there are two main sources that have set the ground for this project. The first is a study by the State Audit Office titled "The effectiveness of the functioning of ethical infrastructure in the state administration" carried out in December 2013 that followed-up to the earlier survey study of the Anti-Corruption Program including ethics and integrity for state-owned enterprises and regional and local government bodies carried out by the Ministry of Justice from 2010 to 2012.

The paper provides a wealth of information on the state of public-service ethics in Croatia and it is structured as follows. After the introductory part of the paper, the second part of the paper explores the theoretical frameworks of public sector emphasizing significance of public sector, impact of national cultures and work habits and challenges of the ethical organisational culture. The third part of the paper discusses methodology and research results of survey carried out in the public sector in Croatia. The last part of the paper includes conclusion.

## **2. THEORETICAL FRAMEWORKS OF PUBLIC SECTOR AND ETHICAL ORGANISATIONAL CULTURE**

### **2.1. Significance of public sector**

Behaving ethically is critical in the public sector. Menzel (2003) argued that ethics and public service values are important elements in comprising the “body and soul” of public administration. Public servants exercise authority on behalf of government and their actions directly affect the lives of the public and the confidence that the public has in government. The Organization for Economic Co-operation and Development OECD (2000) that is focusing on helping governments in their member countries and elsewhere emphasize that citizens expect public servants to serve the public interest with fairness and to manage public resources properly on a daily basis. According to them fair and reliable public services inspire public trust and create a favourable environment for businesses, thus contributing to well-functioning markets and economic growth (OECD, 2000).

The public sector in the Republic of Croatia consists of: 1. the general government usually refers to the term of the government sector or the state, which is more often used colloquially; 2. non-financial public enterprises; 3. public financial institutions (Bratić et al, 2010). The general government sector can be divided into three levels: central government, regional and local authorities. All countries have all these levels, depending on their political organization and the level of fiscal and institutional decentralization (Litvack et al., 1998). Croatia’s public sector comprises general government and state-owned companies. General government includes central government (ministries, offices, state agencies and other budgetary organizations and extra-budgetary funds, including the bulk of health care and education) and local (429 municipalities, 126 cities and 21 counties) entities (Franičević and Matković, 2013). The total number of employees in the Croatian public sector in 2008 amounted 388.222 (Bratić et al, 2010). The majority of employees in the Croatian public sector were in general government (an average of about 82 percent), while employees of public companies presented an average of about 18 percent in the period under analysis from 2005 to 2008 (Bratić et al, 2010). Šunjerga and Špoljar (2014) mentioned that it is almost impossible to accurately calculate how many employees in the broader public sector are, because there is no systematic data. Furthermore, they stated that the framework data shows that for the state (in the broad sense) work almost 390.000 as every third employee in Croatia. At the same time, the average share of employment in public enterprises in total employment in Croatia was significantly higher than in most other European countries (EU, Norway, Switzerland, Iceland, Turkey and Macedonia). It was 12.47% in 2008, only lower than the proportion in Greece and Poland (Bratić et al, 2010).

According to Kinchin (2007), the ethics of public service should be based on five basic virtues; fairness, transparency, responsibility, efficiency and no conflict of interest. Prerequisite to define a set of values that reflect what the organization represents is to define what the key cultural messages are being sent about ethics, adhering to laws and regulations. The values are usually expressed in ethical rules and guidelines given to employees through the vision and mission, code of ethics or code of conduct. They should guide employees in making decisions and determining standards of behavior within the organization.

The Republic of Croatia has established ethical infrastructure and has adopted regulations that define the fundamental ethical values and ethical principles for employees in certain parts of the public sector. However, to ensure compliance with the prescribed ethical values and the application of ethical principles and increase their impact, it is necessary to carefully develop ethical values and ethics initiatives, implement and monitor them in a system.

## 2.2. National culture and work habits

The first approach that national culture has a significant impact on (among other things) work values, draws particularly on the work of Hofstede (Gahan and Abeysekera, 2009). The effect of national culture on an individual's work values is founded on the view that people live their lives in sociocultural milieus that differ in their shared values, customs, social practices, and institutional constraints and opportunity structures (Bandura, 2002). Hofstede argues that important values are "programmed" into members of every culture (Johnson, 2012). In his study, he emerged four value orientations, including power distance, masculinity versus femininity, uncertainty avoidance and individualism versus collectivism. Individualistic cultures (the United States, Australia, and Great Britain) put the needs and goals of the person and her or his immediate family first. Members of these cultures see themselves as independent actors and believe that everyone should take care of themselves and their immediate family. In contrast, collectivistic cultures give up top priority to the degree of the larger group – extended family, tribe, community. Members of these societies (Guatemala, Ecuador, and Panama) think in terms of "we", not "I" (Johnson, 2012). Croatia is on the 44 place in the rankings (Hofstede and Hofstede, 2005), as the national cultures of the Central and Eastern European countries, Croatia has generally been characterized as more collectivistic. Members of a collectivistically oriented society tend to be most efficacious and productive when they manage things together. It is assumed that this is because the collectively oriented are disposed to place group interest and shared responsibility above self-interest. At the psychological level, dependency on the collective can be manifested as an external locus of control, with an individual believing that his or her life is controlled by luck or powerful others, such as the state (Rotter, 1966). For example, in a 43-country study, Smith et al. (1995) investigated the relationship between culture and locus of control, they found that people in the Central and Eastern European countries (Romania, Poland, the Czech Republic, Slovenia, and Croatia) tended to be more socially or externally oriented, and that those in the United States and other Western countries tended to be more individually or internally oriented. Individualistic countries prefer universal ethical standards, such as Kant's categorical imperative (Carroll and Gannon, 1997). Collective societies take a more utilitarian approach, seeking to generate the greatest good for in-group members (Johnson, 2012). Citizens of these nations are more sensitive to elements of the situation. Examples of how individualism and collectivism affect ethical decisions are presented in Table 1.

Grancelli (1995) covers similar themes about Communism that did leave a unique legacy in the transitional economies by creating a peculiar cultural syndrome at the enterprise level with its distinct set of values, norms, and standards based on the notion of the Communist theoretical conception of collectivism (Littrell and Valentin, 2005). Unique culture, tumultuous history, totalitarian political regimes, and undeveloped system of business laws in the Central and Eastern European countries have led to the current state of ambiguity and ambivalence about business ethics (Puffer and McCarthy, 1995). Scotchmer (1992) even claims that corruption was one of the only things that were efficiently produced by communism. In a transitional period, where points of reference are scarce, it may scare a lot of people to deny their old habits in order to learn new ones (Su and Richelieu, 1999). Feldman (2012) stated that a compromise between the two views, both past and present, is one of the mechanisms for which all social changes occur slowly. He mentioned that one of the basic purposes of life is not learning, but unlearning from learned and deprogramming is sometimes much harder than learning.

*Table 1. How individualism and collectivism affect ethical decisions  
 (Carroll and Gannon, 1997)*

<b>Issue</b>	<b>Individualistic</b>	<b>Collectivistic</b>
Bribery	Seen as a form of corruption	A way to meet community obligations, more common
False Information	Lie to protect privacy	Lie to protect the group or family
Expressing Disagreement	Direct	Indirect; save face
Intellectual Property	Protected by copyright laws	Knowledge is to be shared
Gender Equality	Promote equal opportunity	Women seen as an out-group; need to protect status quo
Nepotism	Hire based on qualifications	Hire based on connections (family and friends)
Privacy	Right to privacy	Public interests take priority over privacy
Wealth	Wealth distributed more equally	Large differences in wealth
Human Rights	High human rights ratings	Low human rights ratings
Laws	The same for all	Vary according to tradition and status

### **2.3. Challenges of the ethical organisational culture**

It is difficult to define business ethics and ethical organisation without defining the terms like ethics and morals beforehand. According to Klačić (1978) ethics comes from the Greek term *ethos*, meaning “custom”, “habit”, “values” or “character”. Moral is derived from the Latin *mos* or *moris*, meaning “conduct” or “usage”. Organizational ethics applies moral standards and principles to the organizational context (Johnson, 2012). Ethical behaviour in business is “behaviour that is consistent with the principles, norms, and standards of business practice that have been agreed upon by society (Trevino and Nelson, 2011). According to Nordström and Ridderstråle (2002), ethics should permeate everyone and everything in an organisation. It needs to be applied everywhere and constantly. Ethics in the workplace can be managed through implementing an ethics code of conduct, obtaining top management commitment and support, the appointment of an ethics officer, ethics training, reward systems, a system to report unethical behaviour and the auditing of ethical performance (Lloyd and Mey, 2010). Numerous authors have created constructs and models that differ in their criteria, but all have an aim to establish an ethical organization. Vig (2014) stated that a model that assist in complying an ethical organisation culture with determined criteria of business ethics (emphasizing values and mission of business; code of ethics and ordinances of ethical behaviour; determining ethics officer; programmes of ethical education and trainings; a check of candidate’s ethics prior to employment; hot-line, motivation and policies ethical behaviour and reactions to unethical behaviour; leader as an example of ethical behaviour for employees; communicating ethical values (awareness campaigns); monitoring and controlling of implementation) is based on values, implementation and governance of such an organisation. Values are relevant to individuals, to organizations, and to societies. For individuals, values can be defined as “one’s core belief about what is important, what is valued, and how one should behave across a wide variety of situation (Trevino and Nelson, 2011). In order to have a certain mechanism and ethical principles, ethical maxims that will streamline ethical behaviour within an organisation towards good, it is necessary to implement standards and criterions (determining ethics officer, programmes of ethical education and training, hot line, policy of awarding ethical behaviour and reacting to unethical behaviour, leader as an example of ethical behaviour for employees; communicating ethical values (awareness

campaigns); monitoring and controlling of implementation) that allow the organization to establish an ethical organizational culture. Governance through leadership should be a key source of ethical guidance for an organisation. Trevino and Nelson (2011) and Schein (1995) believe that leadership is critical in creating, establishing and maintaining an ethical organisation (Lloyd and Mey, 2010). Trevino and Nelson (2011) argue that ethical leaders do right thing, showing concern for people and treat them with dignity and respect, they are open and listen, and live a personally moral life. Finally, Nordström and Ridderstråle (2002) concluded that a company functions similar to a fish. It spoils from the head towards the tail, therefore, they think if the top of the organisation does not provide good role models, why would the rest of the company behave like decent citizens.

### 3. METHODOLOGY AND RESEARCH

The study makes use of a set of data collected in 2013. For the survey it was used multiple methods of data collection such as interviews and meetings, review relevant documentation (laws, codes of ethics, internal documents) and a questionnaire. Interviews and meetings were hold with managers at senior levels in the state administration (ministries), and the Officers of ethics (20 Ethics Officers), representatives of the Ethics and value system in the state administration, as well as members of the Ethics Committee. The questionnaire consisted on 32 questions divided in four groups of questions, covered by legal framework, institutional setting and ethical infrastructure; some eliciting factual information (demographics of workers and firms): age, gender, education, position and years on work and others asking about knowledge of ethical issues in general, function, implementation and governance of ethical infrastructure, values and principles in the workplace. There were 1933 responses. Factual information on the demographics of the sample is indicated in Table 2. The leading questions related on ethical issues and implementation and governance of ethical infrastructure, values and principles in the workplace is presented in Table 3.

Table 2: Sample composition (The State Audit Office, 2013)

	%		%
<i>Civil servants according to age</i>		<i>Civil servants according to qualifications</i>	
up to 30 years	5,8	PhD	0,8
from 31 to 45 years	54,0	M.Sc.	4,2
from 46 to 60 years	36,7	Univ. Spec.	2,1
more than 60 years	3,4	B.Sc.	52,5
They didn't specify their age	0,1	college education	17,7
<i>Civil servants according to work</i>		high school diploma	22,4
civil servants	76,5	low qualifications	0,1
middle management	18,0	no response	0,2
top management	2,4		
no response	3,1		

#### Codes of ethics and ordinances of ethical behaviour

The legal framework governing ethical conduct in the public sector in Croatia makes the Civil Servants Act and the Code of Ethics, and other rules and regulations which are partly related to the application of the rules of ethical conduct in the public sector. These are the Law on the system of internal financial control in the public sector, the Law on Prevention of Conflict of Interest, Anti-Corruption Strategy and Human Resources Development Strategy in the Civil Service for the period 2010 – 2013. The legal framework review has been determinate that the mentioned regulations not covered the whole public sector. In addition, mentioned Acts are not clearly defined "high ethical standards" and framework for making code of ethics.

In March 2011, the Croatian Government has adopted a Code of Ethics that regulate code of conduct for civil servants. Having reviewed the Code of Ethics and its comparison with the Civil Servants Act it has been found that a code of conduct for civil servants, or ethical principles, moral principles and values that public servants should respect in the workplace are not clearly and unambiguously defined. Ethical principles are defined, and the moral principles and values are not. Furthermore it doesn't define the term "ethics" in terms of the Act and the Code of Ethics. Having reviewed the Code of Ethics it has been established that rights and obligations of civil servants are not clearly defined in cases where they did not act in accordance with the Code of Ethics, or when in a relation with them, they are not treated in an ethical manner.

*Table 3: Acquaintance of ethical measurements (The State Audit Office, 2013)*

<u>Ethical questions</u>	<u>Yes (%)</u>	<u>No (%)</u>	<u>No response (%)</u>
Are you familiar with the role and duties of the ethics and value system?	22,7	74,3	3,0
Are you familiar with the role and responsibilities of the Ethics Committee?	29,3	68,2	2,5
Do you know who was appointed Ethics Officer in government body in which you work?	46,6	51,9	1,5
Are you familiar with the role and responsibilities of the Ethics Officer?	36,4	62,0	1,6
Did you participate in training courses/ educations in the field of ethics or related to the field of ethics during your work experience?	6,5	92,6	0,9
Do you think that mentioned actions of the Ministry of Administration are useful and contribute to the awareness of ethics in the public sector?	23,3	74,6	2,1
Do you think that some other initiatives and actions could be implemented in public administration or in government body in which you work to promote ethical values?	38,0	50,3	11,7

### **Determining ethics officer**

Considering that most ministries did not announce the decision about the appointment of the Ethics Officer, a significant number of civil servants (51,9%) does not know who was appointed Ethics Officer in government body (ministry) in which they are employed, and a large number of civil servants (62,0%) were not familiar with the role and responsibilities of the Ethics Officer. Furthermore it was determined that most of the Ethics Officers neither are satisfied with the way of their appointment nor the way of performing their activities related to the promotion of ethical behaviour and resolving complaints of unethical conduct. Some of the reasons are related to their commitment to simultaneously perform regular job and work of Ethics Officer, on a voluntary basis without extra payments, an unenviable position in relation to other colleagues and insufficient knowledge and skills related to the promotion of ethical behaviour and resolving individual complaints. According to the data, it is evident that 74.3% of civil servants are not familiar with the role and tasks of the Ethics Department. Furthermore a large number of civil servants (68,2%) were not familiar with the role and responsibilities of the Ethics Committee, as well.

### **Programmes of ethical education and training**

According to the data the majority of the Ethics Officer passed only one form of ethical training which according to their assessment is not sufficient. In addition 92,6% of civil servants aren't during their work experience participated in education and training in the field of ethics or related field of ethics. Furthermore 77,5% of civil servants have not completed any training program in the field of ethics during their regular education.

### **Hot line, filing and resolving complaints**

According to the survey, 50,0% of civil servants would report unethical conduct. Unethical conduct related to unfairness and unprofessionalism would report 37,0% of civil servants while unethical conduct of their colleague in cases of offence to the dignity, discrimination and insult reputation of civil services would report 44,5% of civil servants. In 2012, from total of 325 submitted complaints, 218 complaints referred to the ministry. The largest number of complaints is related to the behaviour of the citizens and complaints about behaviour which harmed the reputation of the civil service, but mostly related to the behaviour of civil servants.

### **Communicating ethical values (awareness campaign)**

Regarding the improvement of civil servants ethics through promotional activities, it was conducted a campaign called "We're here for you." According to survey, it is concluded that 40,0% of civil servants are not familiar with this action. Furthermore it is important fact that 74,6% of civil servants considered that the above mentioned action is not helpful and does not contribute to the awareness of ethics in the public sector and 38,0% of civil servants are considered that other initiatives and actions related to the promotion of ethical values should be carried out in government bodies or ministries.

### **Governance of ethical infrastructure in state administration**

On the question; *do you think that in your ministry are established and clearly defined elements of an ethical infrastructure?* Most civil servants responded they are partially established and clearly defined; rules of conduct and ethical values (44,7%), ways of promoting ethical principles and values (49,8%) procedures in case of unethical conduct (43,2%), procedures of controls and preventions of irregularity (48,3%) and procedures and measures of unethical conduct prevention and resolving of ethical dilemmas (47,9%). Furthermore, 70,0% of civil servants responded they were familiar with the principles, rules of conduct and ethical values that are required to apply in their daily work. With reporting of unethical conduct are familiar 84,6% of civil servants. However, civil servants (59,7%) are not fully familiar with the procedure in the case of unethical conduct (mobbing, injustice, offence to the dignity) and in cases of suspected illegal acts (suspected corruption, bribery, conflict of interest). In the assessment of implemented ethical infrastructure within their ministries, on the question whether is effective, they responded "partially" (50,4 %) or "not" (12,0%).

On the question; *do you think that all civil servants in your ministry respect defined principles of conduct?* Answer is lower because 50,2% of civil servants gave a positive response, 40,0% gave the answer "partially", while 10,0% did not answer or the answer was negative.

With regard to the mutual relations of subordinates and superiors, and superiors acting in accordance with ethical principles, 23,3% of civil servants responded they received the order from their superiors to carry out a decision for which they knew it was not in accordance with ethical principles. In addition, 54,1% answered that superiors respect the principle of non-abuse of powers and the principle of avoiding conflicts of interest, while 58,0% responded they respect the principle of non-acquisition of material or other benefits.

The results obtained from the first study carried by the State Audit Office titled "The effectiveness of the functioning of ethical infrastructure in the state administration" could be

compared with the similar results from earlier survey study of the Anti-Corruption Program including ethics and integrity for state-owned enterprises and regional and local government bodies carried out by the Ministry of Justice from 2010 to 2012. In regional and local government bodies were 576 and in state-owned enterprises were 654 responses in total.

According to the survey, in regional and local government bodies Ethics Officer was appointed in only 9,57% of the units (less than 60), and of those who are appointed officers, 42,37% published their contacts to be available to employees. In only 26,67% of the units that appointed Ethics Officer, it was held employee training in order to promote ethical conduct - a total of 208 employees in 29 organizational units of regional and local government bodies have been trained. The Code of Ethics is binding only for civil servants but not for the employees at the local or regional government bodies. So that regional and local government units use regulations for certain areas that are also presented to a lesser extent: the gifts and benefits from business partners and to business partners (5,38%), asset management (42,88%), confidentiality and impartiality (12,50%), the separation of private and business interests (16,49%).

In some OECD countries, the state-owned enterprises still represent a significant proportion of gross domestic product, employment and market capitalization. Moreover, state-owned enterprises are often prevalent in utilities and infrastructure industries, such as energy, transport and telecommunications, whose business is of great importance for wide segments of the population and other parts of the business sector. Consequently, the management of state-owned enterprises is fundamentally significant to ensure their positive contribution to overall economic efficiency and competitiveness of countries (OECD, 2005). In the Republic of Croatia, according to the law, an employer who employs at least twenty workers shall adopt and publish a labour regulation governing the wages, work organization, procedure and measures of dignity protection, safeguards against discrimination and other issues important to workers employed by this employer, if these issues are not regulated by collective agreements. The survey shows that state-owned enterprises are not aware of the importance of adopting a Code of Ethics because only 20,49% of the enterprises adopted codes. Furthermore, only 20,49% of respondents have a code of ethics available to employees, while only about 5,81% of the enterprises have published the code on the website. Ethics Officer was appointed in only 10,46% of state-owned enterprises. Data through which all interested employees can get in touch with the Ethics Officer are available only in 6,12% of enterprises. On the question; *are all the employees of the state-owned enterprises informed about the Ethics Officer?* Only about 11,01% answered affirmative.

#### **4. CONCLUSION**

Within the public sector in Croatia, the ethics has begun to evolve slowly and the commitment to the ethics is less than well developed at this stage. The results of this study tend one to conclude that at this time public sector units are just partially addressing the issues inherent in ethical practice. Even though ethics has become the fundamental condition for governments to provide a trustworthy and effective framework as a way they need to conduct to operate in a modern society, the data presented in this paper gave reason to several preliminary observations and conclusions related to the frequency and the acceptability of constructs and models that assist in complying an ethical organization culture. Organisations often have a set of values or principles which reflect the way they do business or to which they aspire to observe in carrying out their business. Evidence is now available to show that values are underdeveloped in all public sector units that need to clearly define certain terms such as ethics, ethical values, ethical infrastructure, morality, ethical principles, and other concepts that are important for understanding and implementing these regulations in practice. Since the code of ethics currently exists only for civil servants, it should be considered to adopt such a

document also in regional and local government bodies and in state-owned enterprises in order to improve ethical standards at all levels of government. There is an obvious lack of determination and function of ethics officer, ethical education and trainings, hot-line, reaction on unethical behaviour, communication of ethical values and governance and leading by example that indicate a lower level of commitment than for which one may have hoped. Furthermore, there is no evidence of other constructs (checking of candidate's ethics prior to employment, motivation for ethical behaviour, monitoring and controlling implementation) required in establishing an ethical organisational culture. Even though a code of ethics is cornerstone on which most organizations build their ethics programs and a key role in setting tone toward ethics, it is not enough to set a code, without ensuring that all employees are informed and understood what is required of them. There is a great responsibility of leaders to establish a program or model of ethics that will represent to the employees and to the public what are the leading values of their public unit culture. Their behaviour has a considerable effect on the organisational culture and organisational member's behaviour as well. The government bodies through leaders roll modelling and taking responsibilities need to take specific actions to motivate and encourage civil servants to adopt certain ethical principles and values and to implement them in daily operation. Therefore their responsibility in raising an ethical awareness in the public sector is crucial.

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## EVALUATION OF CREDIT RISKS IN THE BANKING SECTOR OF KAZAKHSTAN

**Nurseit Nurlan**

*Kazakh-British Technical University, Kazakhstan  
askartau@mail.ru*

**Alimbayev Farhat**

*Kazakh-British Technical University, Kazakhstan  
falimbayev@mail.ru*

### **ABSTRACT**

*The paper investigates the credit risks in Kazakhstan in the period of 1997-2013, using the non-performing loans (NPLs) as a proxy for these types of risks. The paper finds that the level of NPLs can be attributed to both macroeconomic conditions and banks' specific factors, though the latter's were found to have a relatively low explanatory power. While NPLs were found to respond to macroeconomic conditions, such as GDP growth, unemployment, and inflation, the analysis also indicates that there are strong feedback effects from the banking system to the real economy, thus suggesting that the high credit risks that Kazakhstan currently face adversely affect the pace economic recovery.*

**Keywords:** *Credit risks, Kazakhstan, NPLs*

### **1. INTRODUCTION**

NPLs in the domestic banks kept steadily in the area of 33% since for a long time. The upward trend of NPLs started immediately with the outbreak of the financial crisis in 2008, but the sharp increase occurred one-two years later, when GDP growth slowed sharply in Kazakhstan.

High proportion of non-performing loans was connected with a credit boom in Kazakhstan in the pre-crisis period. It lasted a long time - from 1999 to 2007. At this time, growth rate of banking crediting was very high - about 50% annually. Against this background, the deterioration of the quality of credit portfolios caused by "bad" lending, was not visible and was not a concern of banking supervisory agency.

However, the situation changed dramatically after the mortgage crisis of mid-2007 and the outbreak of the global economic crisis in 2008, which caused a slowdown in lending. This situation was accompanied by a collapse in asset prices as a consequence of the credit bubble's bursting in the mortgage market, sharp increases in real interest rates, and a slowdown in capital flows, which were an important source of liquidity in the domestic market. In these conditions NPLs began grow rapidly, which led to a sharp deterioration in the quality of loan portfolios of Kazakh banks (Figure 1).

Currently, to preservation of high NPLs contribute reduced growth rates of GDP; the permanent devaluation of national currency – tenge, and tight financial conditions, that weakened the borrowers' repayment capacity. In the future, the outcomes of pension reform, which envisages the creation of a single state pension fund instead of a dozen private, and the expected withdrawal of the government from the nationalized banks during the recent financial crisis, - will also contribute to their persistence.

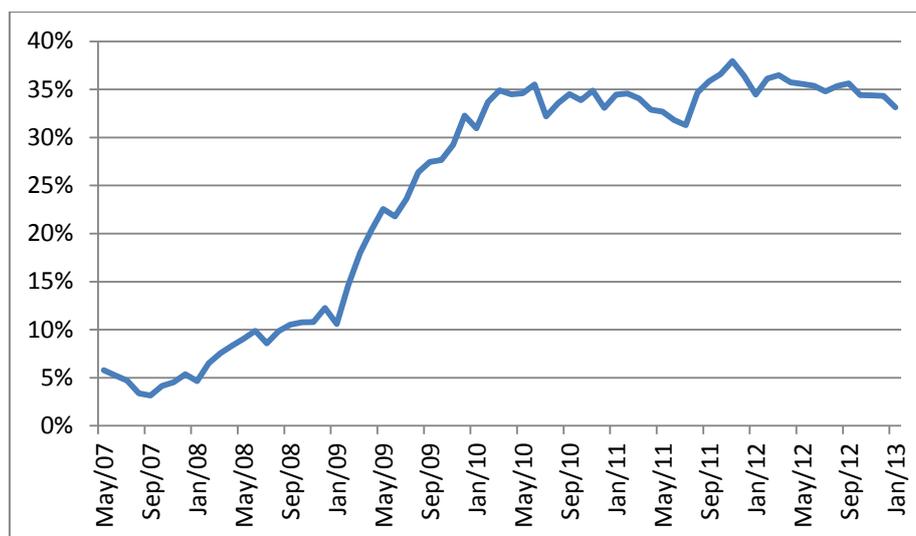


Figure 1: Non-performing loans in the banking sector of Kazakhstan

Beyond the macroeconomic factors, the high and volatile NPLs ratio, indicates that there may be non-negligible contribution of banks' specific factors. This includes the size capital, its lending policy, and bank efficiency.

The high proportion of toxic assets in the loan portfolio of banks led to a sharp slowdown in lending to the economy (Figure 2). The government has realized that such circumstances can interrupt the execution of tasks, pronounced in the long-term development plans of the country.

In this connection, the National Bank of Kazakhstan intends to reduce the level of problem loans to 10% from the total loan portfolio prior to 1 January 2016. Since January 1, 2016 level of 10% of problem loans will become prudential standard. Banks that do not comply with the new regulations after January 1, 2016 will lose their licenses. On the other hand through the Fund of bad loans the government will provide financial support to the banks, which are exempt from problem loans. The government has also prepared draft amendments to the tax legislation, which makes it easier to write off bad loans (Capital, 2014).

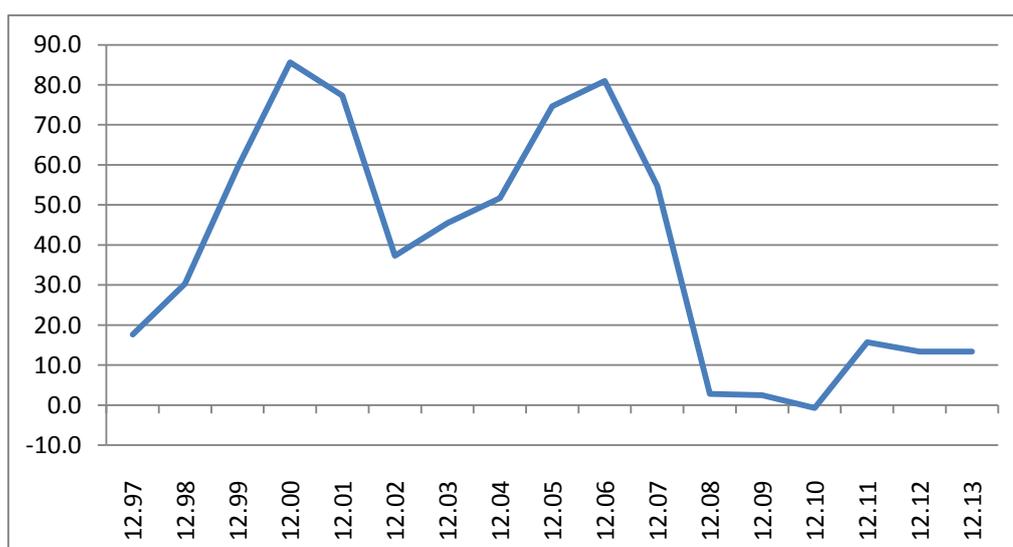


Figure 1: Banking credits to the economy of Kazakhstan

Analysts of the International rating agency Standard & Poor's also believe the main problem of the banking sector of Kazakhstan is a disproportionate share of problem loans. Nevertheless, they do not expect significant reduction of the share of problem loans in 2014. According to them, the government declared targets are unlikely to be achieved, if are not taken effective regulatory measures to substantial clearing banks' loan portfolios (Nomad, 2014). The rating agency Moody's Investors Service has the same opinion (Interfax – Kazakhstan, 2014).

This shows that the reduction of the share of NPLs in Kazakhstan is not an easy task and requires, above all, knowledge of the factors influencing their creation.

The paper addresses two questions - the question of the determinants of NPL and that of the interactions between NPL and real economy. To address the first question we use single-equation panel regressions by looking at both macroeconomic indicators and bank-level data over 1997–2013. Such a procedure helps not only to assess the relative importance of different factors but also to examine how it has changed since the onset of the financial crisis.

In addressing the second question, we use a macroeconomic panel VAR in order to discuss the potential feedback effects of bank performance on the supply of credit and growth.

The results suggest that NPLs are indeed affected by both macroeconomic and bank-level factors. The results suggest that such macroeconomic factors as higher unemployment rate, exchange rate devaluation and higher inflation contribute to higher NPLs while higher country's GDP growth results in lower NPLs. The impact of bank-specific factors is also in line with the literature: equity-to-asset ratio and return on equity (ROE) are negatively correlated with NPLs while excessive lending (measured by loan-to-asset ratio) and the past growth rate of banks' lending) leads to higher NPLs. Although bank-level factors have a significant impact on NPLs, their overall explanatory power was found to be low.

The study conducts this analysis using data of National Bank of Kazakhstan. According to a dynamic panel estimated over 1997–2013 on around 34 banks, the NPL ratio worsens as economic growth becomes lower and interest rates increase. Larger banks and banks with lower expenses would also have lower NPLs. Finally, high credit growth in the past could generate higher NPLs in the future. According to all models, NPLs are very persistent, which would suggest that the response of credit losses to the macroeconomic cycle could take time to materialize, although it would also imply that NPL would then cumulate to high levels.

## **2. LITERATURE REVIEW**

The empirical literature similarly provides evidence on the linkages between macroeconomic and bank-specific conditions and credit risks, facing by banking system.

### **2.1. Macroeconomic factors**

There is significant empirical evidence regarding the anti-cyclical behavior of the NPLs. The general explanation is that higher real GDP growth usually translates into more income of borrowers which improves their debt servicing capacity. In their attempts to receive more profit, banks extend their lending activities often reaching out for lower credit quality borrowers. Conversely, when there is a slowdown in the economy (Salas and Saurina, 2002; Espinoza and Prasad, 2010), the level of NPLs is likely to increase as unemployment rises (Bacouček and Jančar, 2005; Rinaldi and Sanchis-Arellano, 2006; Berge and Boye, 2007), borrowers face greater difficulties to repay their debt (Rinaldi and Sanchis-Arellano, 2006), and asset prices fall (Salas and Suarina, 2002; Fofack, 2005; Love and Ariss, 2014).

Other macroeconomic variables, which were found to affect banks' asset quality, include the exchange rate, interest rate (Berge and Boye, 2007; Espinoza and Prasad, 2010; Dell'Ariccia, Laeven, and Suarez, 2013), and inflation (Bacouček and Jančar, 2005).

Lown and Morgan (2006) find that credit standards tend to tighten following a monetary policy contraction, and they are loosened when interest rates are lowered (Maddaloni and Peydro, 2011). Exchange rate depreciation might have a negative impact on asset quality, particularly in countries with a large amount of foreign debt, and interest rate hikes affect the debt servicing ability in case of floating rate loans (Louzis, Vouldis and Metaxas, 2010).

Ioannidou, Ongena, and Peydro (2009) observed that low rates decrease the riskiness of banks' overall loan portfolios. Holding interest rates low for a short period of time may improve the overall quality of banks' loan portfolios, but holding them low for a prolonged period of time could increase loan default risk over the medium term. Lower overnight interest rates also induce banks to increase leverage (Jimenez et al., 2008).

The effect of inflation is not ambiguous. On one hand, higher inflation can make debt servicing easier by reducing the real value of outstanding loan, but on the other hand, it can also reduce the borrowers' real income when wages are sticky (Klein, 2013). In countries with variable loan rates, higher inflation can lead to higher interest rates resulting from the monetary policy actions to reduce inflation (Nkusu, 2011). On the other hand, a drop of stock prices might lead to more default via wealth effects and decline in the value of collaterals.

To determine the credit risk, various studies generally use different proxies of loan quality, including loan loss provisions, NPLs, and loan write-offs (Love and Ariss, 2014, p. 6). In this paper, we use NPLs as a proxy for credit risks, since they better reflect the already existing credit risks. In contrast, traditional risk-weighted capital buffers were uncorrelated with subprime-related write-downs (Beltratti and Stulz, 2011), and loan write-offs reflect more realized losses of banks due to credit risk, rather than current credit risk by its self.

Bofondi and Ropele (2011) find inverse impact of the burden of debt on the NPLs, which can be explained with a disproportionately rapid growth on debt servicing with their increasing.

## **2.2. Bank-specific factors**

A growing interest in the literature attributes not only to macroeconomic factors, but also to bank-specific factors such as size of bank, asset returns, cost of borrowing, past credit growth, financial leverage.

The size of capital refers to a bank's ability to absorb losses. Better-capitalized banks reduce the supply of lending less than other banks with similar exposure to shocks, which suggests that bank capital plays a key role in sustaining lending during crises. During crises, well-capitalized banks have more possibilities to sustain the supply of lending (Bonaccorsi di Patti and Sette, 2012; Kapan and Minoiu, 2013, p. 6) and to raise debt under more favorable terms than other banks due to lower agency costs (Kishan and Opiela, 2000; Stein, 1998; Holmstrom and Tirole, 1997; Bernanke and Blinder, 1988).

Allen and Gale (1998) suggested that the banking lending is determined by their future asset returns, which in turns are correlated with leading economic indicators. With the unfolding of economic recessions, the value of bank assets and of the collateral is reduced, thereby reducing the opportunities for lending.

An increase in the cost of borrowing erodes bank profits, which over time would result *ceteris paribus* in lower bank capital; therefore, banks may choose to forego profitable lending opportunities when interest rates rise to avoid ending up being undercapitalized in the future (Kapan and Minoiu, 2013, p. 6; Van den Heuvel, 2012, 2002; Bolton and Freixas, 2006). Berger and DeYoung (1997) argue that low cost efficiency is also a signal of "bad management" practices. Williams (2004), Podpiera and Weil (2008), and Louzis, Vouldis and Metaxas (2010), found support for this hypothesis. An alternative "skimping" hypothesis (Berger and DeYoung, 1997) suggests a possible positive causality between high cost efficiency and NPLs. It means that the high cost efficiency may reflect little resources

allocated to monitor lending risks and therefore may result in higher NPLs in the future. This hypothesis was confirmed by the findings of Rossi, Schwaiger, and Winkler (2005).

The “moral hazard” hypothesis, which was discussed by Keeton and Morris (1987) argues that banks with relatively low capital, measured by equity-to-assets ratio, tend to take more risks, and eventually absorbed higher losses. This link was also found by Berger and DeYoung (1997), Salas and Saurina (2002), Jimenez and Saurina (2005).

Keeton and Morris (1987) argued that banks that tend to take more risks, including in the form of excess lending eventually absorbed higher losses. Their finding was supported by Salas and Saurina (2002) and Jimenez and Saurina (2005).

Past credit growth of NPLs (Salas and Saurina, 2002) leads to a higher proportion of NPLs, that captures persistence in loan quality over time. When banks expect to incur more losses on their loan portfolio, their provisions for loan losses increase, thereby adding to the amount of reserves against which impaired loans can be charged off when these losses materialize (Love and Ariss, 2013).

The ratio of loans to assets reflects the choices of bank strategy towards riskier investments compared to holding government securities, and which may affect loan quality. A higher proportion of loans in assets increases credit risk exposure at banks and may result in more problem loans. Therefore it is expected the positive sign of this relationships between NPLs and the ratio of loans to assets (Inessa Love and Rima Turk Ariss, 2013).

### **3. DATA AND REGRESSION MODEL OF BANK RISK TAKING**

#### **3.1. Data**

The analysis uses panel data of individual banks’ balance sheets from National Bank as well as the National Statistic Agency of Kazakhstan datasets. Data is based on monthly frequency from March 2007 till June 2014, and covers all commercial banks in Kazakhstan. While many variables were considered in the estimation process, the baseline specification includes six explanatory bank-level variables (size of bank, asset returns, and cost of borrowing); bank policy variables (spread, collateral backing, and financial leverage); three country specific variables (exchange rate of tenge to USA dollar, nominal interest rate, and the share of bank loans to the private sector to GDP).

#### **3.2. Regression Model of Bank Risk Taking**

Our basic regression model is as follows:

$$NPL_t = NPL_{t-1} + Size_t + ROA_t + COST_t + SPREAD_t + COLL_t + FL_t + EX_t + INT_t + CRED\_SH_t + \varepsilon_t,$$

where  $NPL_t$  is the share of nonperforming loans by banks portfolio in month  $t$ ,  $Size_t$  is the size of bank  $i$  assets at the end of month  $t$ ,  $ROA_t$  – average asset returns of banks at the end of month  $t$ ,  $COST_t$  - cost of borrowing (expenses/avg. assets),  $SPREAD_t$  - the difference between interest rates on loans and deposits,  $COLL_t$  - the ratio of loan provisions to the size of the loan portfolio,  $FL_t$  - financial leverage (ratio of assets to equity),  $EX_t$  - logarithm of the exchange rate of tenge (national currency of Kazakhstan) to US dollar,  $INT_t$  - nominal interest rate on banks loans given to firms,  $CRED\_SH_t$  - the private sector credit-to-GDP ratio, which, as a proxy of the aggregate debt burden of households and businesses, reflects, to some extent, banks’ risk-taking behavior, and  $\varepsilon_t$  - the error term.

The correlation matrix between all variables of the model is presented in the Table 1. Very high positive correlations were observed between the variables as the size of bank and credit margin, the size of bank and unemployment, as well as collateral and exchange rate, and unemployment and collateral. Therefore, some variables to avoid multicollinearity problems, such as marginal, unemployment had not been included in the final regression model.

*Table 1. Correlation matrix*

	<b>NPLS</b>	<b>LN_SIZE</b>	<b>EXP_ASS</b>	<b>ROA</b>	<b>ROE</b>	<b>SPREAD</b>	<b>MARGIN</b>	<b>FL</b>	<b>COLL</b>	<b>EX_RATE</b>	<b>UNEMPL</b>	<b>NOM_INT</b>	<b>REAL_INT</b>
<b>NPLS</b>	1,000	0,544	0,243	-0,113	0,074	-0,319	0,315	-0,287	0,866	0,705	-0,744	-0,287	0,576
<b>LN_SIZE</b>	0,544	1,000	0,065	0,061	-0,223	-0,002	0,914	0,244	0,720	0,805	-0,842	-0,766	0,232
<b>EXP_ASS</b>	0,243	0,065	1,000	-0,300	0,416	0,152	0,028	-0,269	0,201	0,171	-0,114	0,064	0,283
<b>ROA</b>	-0,113	0,061	-0,300	1,000	-0,482	-0,504	-0,026	0,333	-0,212	-0,149	-0,024	-0,174	-0,357
<b>ROE</b>	0,074	-0,223	0,416	-0,482	1,000	0,380	-0,153	-0,743	0,049	0,070	0,155	0,312	0,186
<b>SPREAD</b>	-0,319	-0,002	0,152	-0,504	0,380	1,000	0,261	-0,168	-0,312	-0,103	0,221	0,340	-0,136
<b>MARGIN</b>	0,315	0,914	0,028	-0,026	-0,153	0,261	1,000	0,246	0,541	0,690	-0,656	-0,697	0,124
<b>FL</b>	-0,287	0,244	-0,269	0,333	-0,743	-0,168	0,246	1,000	-0,138	-0,080	-0,123	-0,384	-0,245
<b>COLL</b>	0,866	0,720	0,201	-0,212	0,049	-0,312	0,541	-0,138	1,000	0,858	-0,805	-0,618	0,640
<b>EX_RATE</b>	0,705	0,805	0,171	-0,149	0,070	-0,103	0,690	-0,080	0,858	1,000	-0,692	-0,656	0,525
<b>UNEMPL</b>	-0,744	-0,842	-0,114	-0,024	0,155	0,221	-0,656	-0,123	-0,805	-0,692	1,000	0,537	-0,234
<b>NOM_INT</b>	-0,287	-0,766	0,064	-0,174	0,312	0,340	-0,697	-0,384	-0,618	-0,656	0,537	1,000	-0,243
<b>REAL_INT</b>	0,576	0,232	0,283	-0,357	0,186	-0,136	0,124	-0,245	0,640	0,525	-0,234	-0,243	1,000

Moreover, the correlation of the table shows how various factors affect the share of nonperforming loans in the loan portfolio of the banking sector of Kazakhstan. For example, the growth of nonperforming loans is associated with an increase in the size of banks (LN\_SIZE), the cost of borrowing (expenses/avg. assets) (EXP\_ASS), the return on equity (ROE), the banking margin (MARGIN), the growth of loan collateral (COLL), the depreciation rate of the national currency (EX\_RATE), and rising real interest rates (REAL\_INT). At the same time, the growth of banks' return on assets (ROA), a more flexible policy of banks in respect of credit (SPREAD), higher financial leverage (FL), the rise in unemployment in the country (UNEMPL ) contribute to a decrease in the share of nonperforming loans in the loan portfolio of banks.

We have estimated model of credit risks, using the OLS method (Table 2).

*Table 2. Model of credit risk, calculated by the method of least squares*

LS // Dependent Variable is NPLS  
 Sample(adjusted): 2007:06 2014:06  
 Included observations: 85 after adjusting endpoints  
 Convergence achieved after 6 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPLS(-1)	0.868528	0.030725	28.26738	0.0000
ROA	-0.048677	0.029164	-1.669072	0.0991
REAL_INT	0.229194	0.091719	2.498871	0.0145
C	3.676458	0.827277	4.444049	0.0000
AR(1)	-0.077171	0.111924	-0.689497	0.4925
AR(2)	-0.214556	0.110847	-1.935607	0.0565

R-squared	0.933007	Mean dependent var	33.33125
Adjusted R-squared	0.928767	S.D. dependent var	8.288656
S.E. of regression	2.212198	Akaike info criterion	1.655946
Sum squared resid	386.6119	Schwarz criterion	1.828369
Log likelihood	-184.9875	F-statistic	220.0465
Durbin-Watson stat	1.885607	Prob(F-statistic)	0.000000

Inverted AR Roots     -.04+.46i     -.04 -.46i

The constructed model allows the following conclusions that the most significant factors affecting the level of nonperforming loans in the banking sector of Kazakhstan in respect of bank-level variables are the size of accumulated nonperforming loans and asset returns of banks (ROA). The NPLs were found to have high auto-correlation: the coefficient's size of the lagged NPLs ranges between 0.5 to 0.6, thus suggesting that a shock to NPLs is likely to have a prolong effect on the banking system. Real interest rates were found to be the significant factors among country specific variables. However, none of the variables related to the policy banks, was found as statistically significant.

#### **4. CONSLUSION**

The analysis shows that bank-specific variables, bank-policy variables, and macroeconomic variables contributed to some extent to the build-up in NPLs in Kazakhstan. Thus, the growth of the share of nonperforming loans in the loan portfolio of the banking sector of Kazakhstan is positively affected by an increase in the size of banks assets (LN\_SIZE), cost of borrowing (EXP\_ASS), return on banks equity (ROE), banking margin (MARGIN), the growth of loan collateral (COLL), as well as the depreciation rate of the national currency (EX\_RATE), and an increase of real interest rates (REAL\_INT). It is negatively affected by banks' return on assets (ROA), by flexible policy of banks in respect of credit (SPREAD), by higher financial leverage (FL), and the unemployment increase in the country (UNEMPL). The constructed OLS model allows the following conclusions that the most significant factors of nonperforming loans occurrences in the banking sector of Kazakhstan in respect of bank-level variables are the size of accumulated nonperforming loans and asset returns of banks (ROA).

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# IMPACT OF TAX POLICY ON EMPLOYMENT AND INTERNATIONAL COMPETITIVENESS OF THE REPUBLIC OF CROATIA

**Tomislava Majic**

*University North, Croatia  
tomislava.majic@gmail.com*

**Kresimir Buntak**

*University North, Croatia  
kresimir.buntak@unin.hr*

**Ivana Drozdek**

*University North, Croatia  
ivana.drozdek@unin.hr*

## **ABSTRACT**

*This paper conducts analysis and comparisons of tax policies implemented in the Republic of Croatia and the European Union, in order to establish the impact of tax policy on employment and competitiveness, and thus the general economic situation. Conducted research leads to several conclusions and insights of which some are listed. It turned out that the sustainability of the central government budget depends on the tax inflows of value added tax and excise duties. In Croatia, income tax does not have an important function in encouraging individual economic decisions, as it has, for example, corporate income tax, but however that Croatia does not tax most income from capital, so it can be concluded that the Croatian system of income taxation of the individual income is consumption-oriented and in that part its role in attracting foreign capital can be considered positive. Furthermore, studies have shown that a tax rates of employment in Croatia (contributions on and from salaries, income tax) is disproportionately high to the debit of capital, compared to the OECD countries, and as a result of the high tax rates, there is increased unemployment and expansion of the underground economy. This leads to the loss of government revenue, and loss of competitiveness in international trade.*

**Keywords:** *competitiveness, tax policy, tax wedge, taxation, employment*

## **1. INTRODUCTION**

Fiscal policy involves the management of taxes and dues similar taxes and public consumption. Public consumption has directly affects on the level of gross domestic product, as well as taxation that also affects on the size of the gross domestic product with larger or smaller income taxation, which affects on the increase or decrease in consumption of the population or economic activity of enterprises. Also, taxes affect on the price level of goods and services, investments, etc., which directly affect on the level of economic activity in the country. State budget in economic development since the time of the Great Economic Crisis takes a clear role in anticyclic regulating effective demand, in line with the dominant Keynesian school of economic thought.

Beside the stabilization of cyclical movements, other arguments for state regulation of aggregate demand apropos interventionism are found in the protection of market competition, rectification effects of externalities, the regulation of social and structural inequalities. The importance of the role of government in the economy is presented by the share of public expenditure in GDP, which since the end of the World War II until the mid-nineties is

constantly growing. Increases in government spending and / or reducing taxes are the instrument of the revival of economic activity, while the expansive fiscal policy has the task to act on increases in production, employment and incomes.

## **2. BASIC CHARACTERISTICS OF TAX POLICY IN CROATIA**

In the phases of peak economic activity, when excessive aggregate demand is threatened by inflation, implemented restrictive fiscal policy in measures is used to reduce public spending and tax increases, which have the task to slow down economic activity.

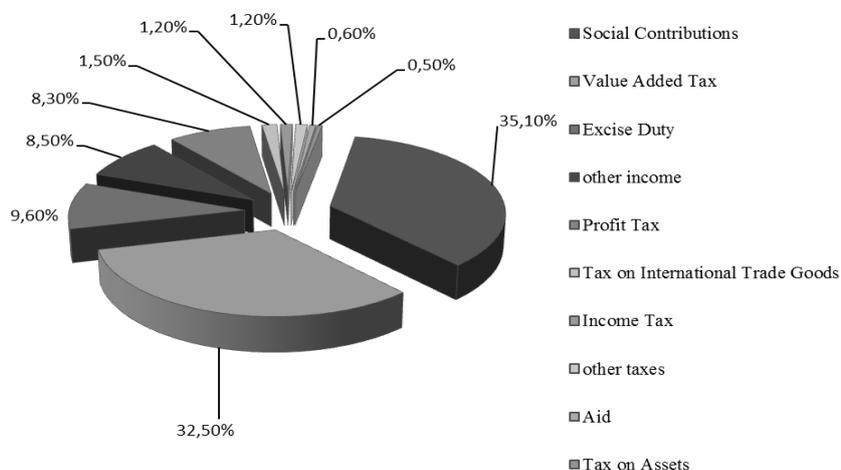
Positive effects of increased public expenditure to revive economic activity is lacking, if there is only a redistribution of income and increasing employment in the public sector. Following a stabilization program in Croatia in October 1993, fiscal policy was emphatically restrictive, so that the nominal exchange rate as a fundamental anchor stabilization could successfully achieve the goal of disinflation. Fiscal adjustment policy had the goal to reduce or eliminate the fiscal deficit, a fundamental premise of this implementation was the belief that the monetization of the deficit of the general or consolidated government was the underlying cause of inflation. The reduction of the fiscal deficit in Croatia caused a significant reduction in aggregate demand on the expenditure side of the accounts of GDP, and increase the tax burden on companies and households on the revenue side of the account GDP. Restrictive fiscal policy is carried out in terms of the expansion of government expenditure and revenue. Some economists conclude that in the period from 1992 to 1994, there was no need for borrowing on behalf of the state budget, and that all the imbalances were generated in extra-budgetary funds (Anušić et al., 1995, p. 79). The main reason for uneven loading and differences in deficit general and central government lies in insufficient charging of extra budgetary funds. Under the conditions of the underdeveloped capital markets and unfavorable ratio of working and inactive population, pension, social and health funds can't generate significant revenues. In 1994, there has been significant surplus of the state budget, which is caused not only by tax reform, but also the effect of the inverse Olivera-Tanzi effect in terms of disinflation after the introduction of the stabilization program. At the same time, the state borrowed from domestic or foreign commercial banks, with unfavorable conditions (Družić, 2004, p. 116). The largest increase in the tax burden was in 1998 after the introduction of value added tax (VAT). The marginal tax rate (absolute increase in taxes relative to an absolute increase in GDP) shows that the allocation for taxes from GDP growth increased from 31.8% in 1994 to 37.7% in 1995, after falling to 22.8% in 1996, increased to 70.6% in 1998. A similar trend shows the tax elasticity (the percentage change in the tax rate divided by the percentage change in GDP), whose value, higher than unit, points to faster growth in tax revenues than the growth rate of GDP. Since 2000 decreased revenues from the provision of import due for accession to the World Trade Organization (WTO) (Družić, 2004, p. 120). In Croatia, the revenues from direct taxes are significantly lower than in developed countries, and the share of consumption taxes are among the highest in the world, as shown in Figure 1. In the structure of tax revenues per unit bounce the revenue from consumption taxes, especially of value added tax while the relatively low share of taxes is on labor income, compared to the average structure of tax revenues in OECD countries. This relation of tax revenue is not the result of a very low income taxes, but the economic structure of the Republic of Croatia characterized by relatively low total mass of labor income, with relatively high compulsory contributions.

*Table 1. Revenues of Croatian State Budget for 2009 (own processing, Croatian Ministry of Finance, Time Series, Consolidated Central Government - January 2010, retrieved 6/30/2012. from www.mfin.hr)*

	u 000 HRK	%
<b>Total Income of the State Budget</b>	114.068.572	100%
<b>Tax Revenues</b>	<b>63.678.926</b>	<b>55,8%</b>
<b>Taxes on Goods and Services</b>	49.238.277	43,2%
- of which VAT	37.050.354	32,5%
- of which Excise Duty	10.998.910	9,6%
<b>- Tax on Assets</b>	532.297	0,5%
<b>- Profit Tax</b>	9.439.858	8,3%
<b>- Income Tax</b>	1.399.411	1,2%
<b>- Tax on International Trade Goods</b>	1.721.164	1,5%
<b>-other taxes</b>	1.347.920	1,2%
<b>Social contributions</b>	<b>39.994.739</b>	<b>35,1%</b>
<b>Aid</b>	<b>651.199</b>	<b>0,6%</b>
<b>Other income</b>	<b>9.743.709</b>	<b>8,5%</b>

Especially, there is a high proportion of tax revenues from value-added tax (32.5% in the recession, 2009) and excise duties (9.6%), so the sustainability of the central government depends greatly on these two taxes. For example in 2002, 71% (Družić, 2004, p. 126) of collected tax revenues was from the VAT accounted on imported goods. As the delivery of export goods is exempt from paying VAT, and the fiscal deficit at a constant high level after 1994, easily one can conclude that the reduction of the fiscal deficit, with the current high commitments to social transfers, as well as the national debt, depends on funding state budget from the assets of revenues from VAT. Since most commercial goods originate from imports, the conclusion is that the Croatian Government, with the intention of raising money for public consumption, has no interest in reducing the high imports and balance of payments.

*Figure 1: Structure of the Consolidated Central Government Revenues in the Republic of Croatia, 2009. (own processing of the author according to the Ministry of Finance of the Republic of Croatia, time-series data, Consolidated Central Government - January 2010,*



Income tax profits are also an item in which Croatia is deviating significantly from the EU-15 countries. There are reasons, from the fiscal point of view, that this rate does not change, because it increase and decrease of these rates would encourage capital outflow abroad or discourage foreign investment, and some authors (Družić, 2007, p. 11) propose a tax exemption on reinvested profits. Beside the fact that this would reduce outflow of capital abroad, it would simultaneously reduce unproductive use of realized profit, directing it into production and improving competitiveness.

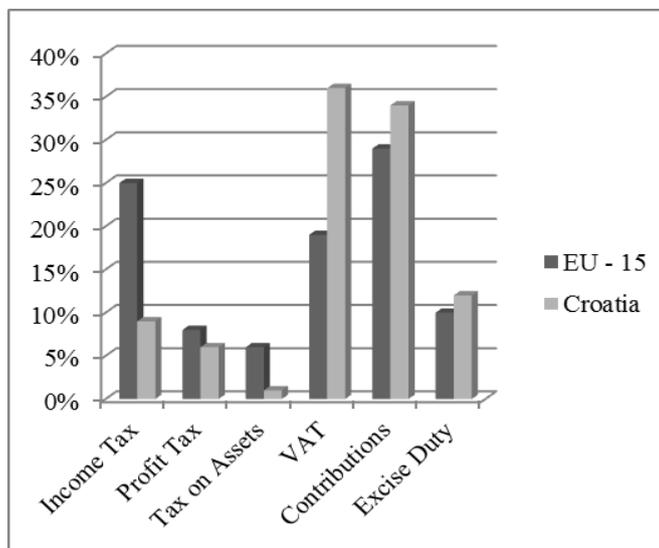


Figure 2: Comparative structure of tax revenues of EU-15 and Croatia for 2005 as a percentage of total taxes (Kesner - Škreb, M. (2007) What about taxes in Croatia? The tax burden, taxation of income, profits and assets [online]. Newsletter no. 10, Zagreb: Institute of public Finance, 30.6.2011. of <http://www.ijf.hr/newsletter/PDF/news10h.pdf>, p. 3)

### 3. TAX CHARGE ON LABOR

In Croatia, income tax is not a strong contributing factor in encouraging individual economic decisions, such as profit tax, the rates of which are low. Some forms of the capital income are not taxable, such as interest and capital gains. Croatian system of income taxation of individuals is consumer-oriented, so its role in building competitiveness and attracting foreign capital could be considered positive in this regard (Šimovic, 2008, p. 170). The amount of income tax should be viewed together with contributions from salaries and wages, i.e. the share of income tax and social security contributions in total labor costs. The tax wedge (Šeparović, 2009, p. 463) is the difference between gross labor costs for the employer and the net wages received by employees, i.e. gross labor costs is reduced by mandatory contributions and statutory taxes paid by employer and employee, and is formed as a result of labor taxation. Some research has shown that income tax and contributions rarely have an impact on investment decisions, so it is not usual to built investment incentives in these tax forms (Šimovic, 2008, p. 167). In terms of building competitiveness, it is important to emphasize that these tax forms have an affect on the amount of labor cost, however, as an incentive for investment it can reduce the proportion of tax paid by the employer.

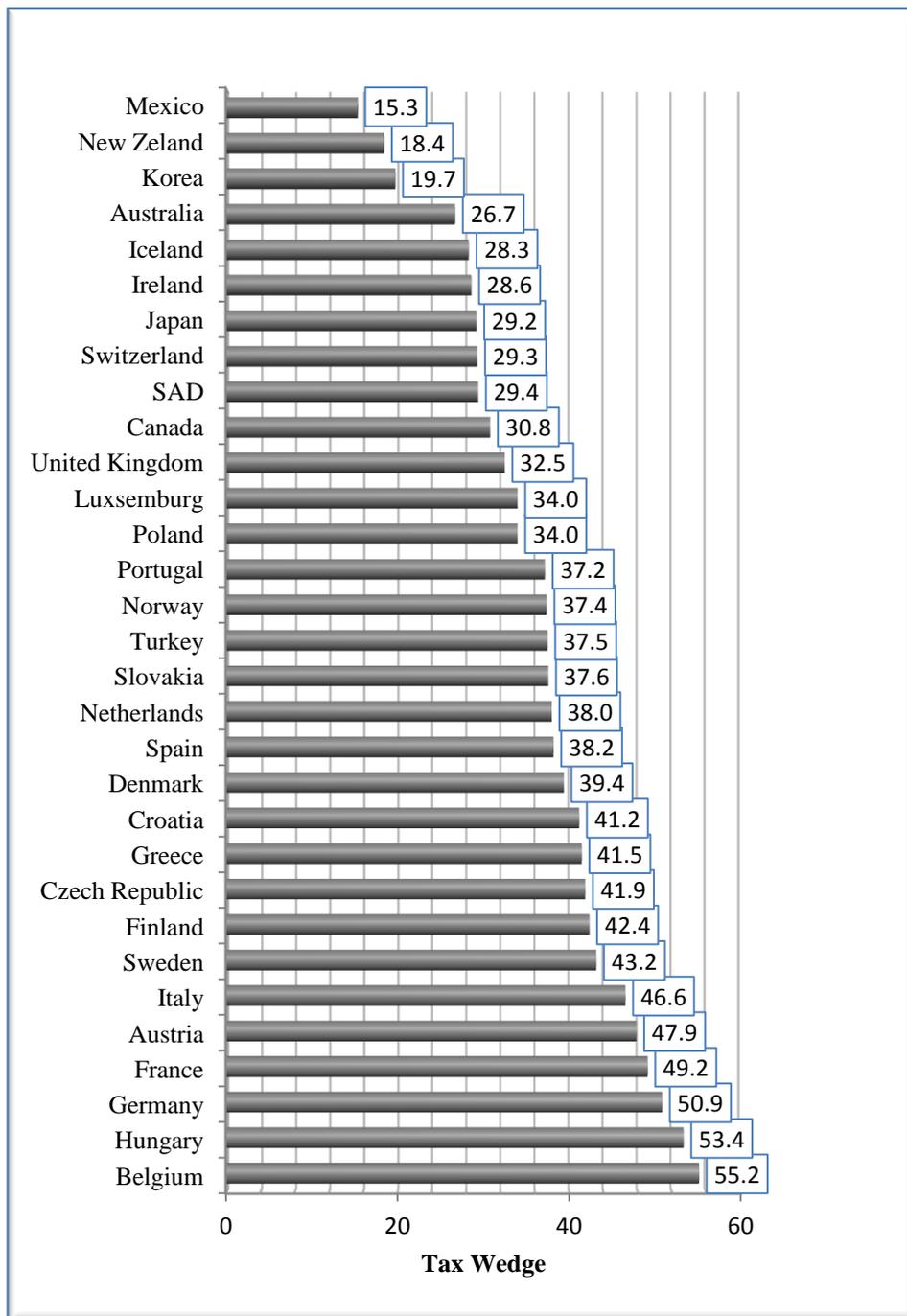


Figure 3: The Tax Wedge (single, without children, average wages) in OECD Countries and Croatia for 2009 (own processing, OECD (2010), Taxing Wages, Main Results 2009, table 01(online) from [http://www.oecd.org/document/6/0,3343,en\\_2649\\_34533\\_449934781111,00.html#table\\_01](http://www.oecd.org/document/6/0,3343,en_2649_34533_449934781111,00.html#table_01))

In Croatia this applies to contributions on wages paid by the employer (Šimovic, 2008, p. 167). Compared with OECD countries, it is evident that the tax charge on labor in Croatia (contributions on and from salaries, income tax) is disproportionately high to the debit of capital, well above the standards of OECD countries, as shown in table 2 and figure 3, although in the last decades, there have been significant reductions in relation to the nineties.

Table 2: Comparison of the tax wedge in the OECD countries and in Croatia in 2009 (percent of labor costs for the average wage, single, no children) (own processing OECD (2010), Taxing Wages, Main Results 2009, table 01 (online) iz [http://www.oecd.org/document/6/0,3343,en\\_2649\\_34533\\_44993478\\_1\\_1\\_1\\_1,00.html#table\\_01](http://www.oecd.org/document/6/0,3343,en_2649_34533_44993478_1_1_1_1,00.html#table_01))

u %	Tax Wedge	Tax Wedge Annual Change
Belgium	55,2	-0,54
Hungary	53,4	-0,72
Germany	50,9	-0,57
France	49,2	-0,05
Austria	47,9	-0,91
Italy	46,6	-0,03
Sweden	43,2	-1,65
Finland	42,4	-1,39
Czech Republic	41,9	-1,55
Greece	41,5	-0,06
<b>Croatia</b>	<b>41,2</b>	<b>1,23</b>
Denmark	39,4	-1,28
Spain	38,2	0,19
Netherlands	38,0	-0,96
Slovakia	37,6	-1,17
Turkey	37,5	-2,29
Norway	37,4	-0,12
Portugal	37,2	-0,07
Poland	34,0	-0,52
Luxsemburg	34,0	-1,16
United Kingdom	32,5	-0,34
Canada	30,8	-0,5
SAD	29,4	0,22
Switzerland	29,3	0,09
Japan	29,2	-0,26
Ireland	28,6	1,54
Iceland	28,3	0,03
Australia	26,7	-0,21
Korea	19,7	-0,27
New Zeland	18,4	-2,66
Mexico	15,3	0,21

So, in 1994. the tax wedge was higher (Šeparović, 2009, p. 475) than 50%, in 1997. about 45% and in 2005. It was 39.5%. Nevertheless, the tax wedge in Croatia is still rather large and there should be worked on reducing it. The tax wedge in Croatia in 2009 amounted to 41.2% of total labor costs, which means an increase of 1.23% in reference to 2008. In the same time the average of OECD countries reached 36,3%.

As a result of cancellation of „crisis-tax“ and increase of some tax-reductions, the tax-wedge in 2012 decreased to 38,8%. The consequences of such high tax charge labor is in increasing unemployment and the expansion of the underground economy, and thus the loss of

government revenue, and the loss of competitiveness in international trade. With increases in the tax wedge, there is an increase in the cost of labor and this indirectly affects the unemployment rate.

From the data in the table, it is evident that range of the tax wedge in the OECD countries is very different. The lowest tax wedge is in Mexico, 15.3%, and the highest Belgium, 55.2%. All countries, including Croatia, have a progressive tax wedge, which means, that, with the increases in income, there are increases in the tax wedge (Šeparović, 2009, p. 468). In this way, employees with lower incomes are shielded, and the higher tax burden is transferred to the economically superior employees, with higher incomes.

Analyses (Šeparović, 2009, p. 472) places Croatia in the group with moderately high tax wedge, together with Japan, USA, Switzerland, Canada, United Kingdom, Luxembourg, Norway, Portugal, Slovakia, Spain, Denmark and Greece. However, from the same analysis, it is evident that the range of the middle class is 29.2 to 42.5%, and it is evident that Croatia is at the upper level of this range and bordering on the category of higher tax wedge countries.

#### **4. COMPARISON OF THE STRUCTURE OF THE TAX-WEDGE IN CROATIA WITH OECD-COUNTRIES**

Tax obligations and mandatory contributions are different for different types of tax-payers. They depend on the level of salary of the employee, the geographic location of the employees place of residence place of living and the number of supported members, which influence the personal deduction of the taxpayer. For the sake of the analysis, an „average employee“ in Croatia is defined as a single, without supported family-members, with his salary as the only source of income, without additional life-, health- or pension insurance and with residence in Zagreb. The highest expenses, as can be seen, are the mandatory contributions of the employee, followed by the mandatory contributions of the employer and the smallest part are local taxes and income-tax. Given that local taxes and income-tax are paid by the employee, the majority of the burden is carried by the employees. From figure 4. can be read, that the relative share of income-tax in total labor-cost is about 10% (data from Ministry of Finance Republic of Croatia, from <http://www.mfin.hr/hr/novosti/porez-na-dohodak-porezno-opterecenje-2009-08-25-16-00-12>) and therefore in Croatia, relatively lower than the average of OECD countries, where it is 13,2%.

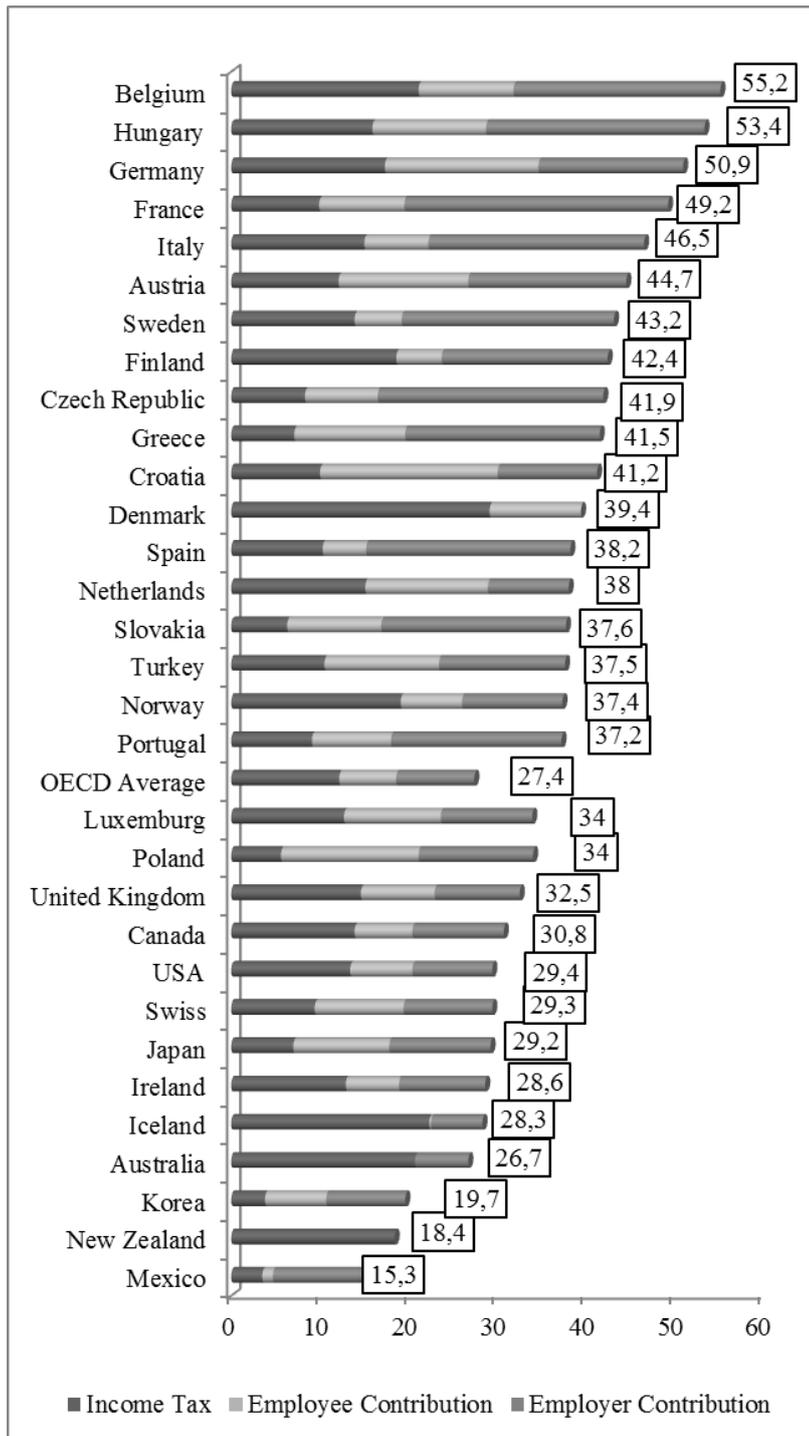


Figure 4: Tax-wedge, Income Tax, Contributions of Employees and Employers as Percentage (%) of labor cost, in OECD countries and Croatia, for 2009. (single, no children, average salary) (OECD (2010), Taxing Wages, Main Results 2009 iz [http://www.oecd.org/document/6/0,3343,en\\_2649\\_34533\\_44993478\\_1\\_1\\_1\\_1,00.html#table\\_02](http://www.oecd.org/document/6/0,3343,en_2649_34533_44993478_1_1_1_1,00.html#table_02))

At the same time the share of mandatory contributions which are paid by the employee is significantly different from the OECD average: in Croatia it was nearly 20% in fiscal 2009, while the average for OECD countries was on the level of 8,5% in the same fiscal period. The

share of mandatory contributions which are paid by the employer was slightly lower in Croatia, 11,2 %, while it was 14,6% in OECD countries. So looking at the structure of the tax-wedge, in Croatia the burden of the employee is higher than in OECD countries, while the burden for the employer is slightly lower than in OECD countries. This stresses the question, whether it is better to burden the employer or to burden the employee. If the burden is carried by the employees, it can have differing effects.

The de-stimulating effects of progression are known, like the effect of substituting labor by leisure. The negative effect on labor-offer can be increased at low income in interaction with various levies with various social transfers and benefits (Blažić, 2006, pg. 121). Employees with small salaries and low educational levels are affected most by high unemployment rates. Therefore some members of the EU (Austria, Belgium, France, Greece, the Netherlands, Spain and Great Britain), in the mid 1990-ies focused on these groups and decreased the tax-wedge for them (Joumard, 2001, pg. 100), to animate their employment. If the burden is carried by the employer and not the employee, that might motivate the employer to substitute labor by capital, reduce production and to re-allocate production in other countries with lower labor-costs (Šeparović, 2009, str. 472).

Further, it is considered that levies which are formally carried by the employer, which is contributions of the employer, have an extra negative effect on demand of labor-force. Namely, employees contributions decrease salary after tax, on which gross-salary can slowly react (in a sense of increasing them – meaning shifting the burden to the employer - or not), while increase of employers contributions directly increase the cost of labor-force (OECD, 2001, pg. 27, from [www.oecd.org/ctp/taxpolicystudies](http://www.oecd.org/ctp/taxpolicystudies)).

So both the exclusive burdening of the employer or the employee have negative impact, so there should be found a balance in burdening them. In favor of the thesis of high and growing pressure on labor, which makes it non-competitive compared with surrounding countries, goes the facts that gross salaries in the period from 2003 to 2009 grew by an annual rate of 9,14%, while net salaries in the same period grew by an average rate of 2,02%.

## **5. TAX-WEDGE AND UNEMPLOYMENT RATE**

Concerning level of tax-burden of labor, Croatia finds itself somewhere in the middle when compared to the OECD countries, but with a very high unemployment rate. The average tax-wedge of OECD countries is 36,3%, while in Croatia it is slightly above average, 41,2%, so we can conclude, that Croatia has a relatively high tax-wedge. Until now analysis (Šeparović, 2009, pg. 468) has shown a significant correlation between tax-wedge and unemployment rate, which is shown by the graph tax-wedge and unemployment, picture 5 and table 3.

*Table 3: Comparison of tax-wedge (average labor cost for average salary in OECD countries and Croatia and unemployment rate for 2009 (single, no children, average salary (OECD, Taxing Wages, Main Results 2009 ([http://www.oecd.org/document/6/0,3343,en\\_2649\\_34533\\_44993478\\_1\\_1\\_1\\_1,00.html#table\\_01](http://www.oecd.org/document/6/0,3343,en_2649_34533_44993478_1_1_1_1,00.html#table_01)) and OECD Main Economic Indicators - Country Comparison Tables ([http://www.oecd.org/statisticsdata/0,3381,en\\_2649\\_37443\\_1\\_119656\\_1\\_1\\_37443,00.html](http://www.oecd.org/statisticsdata/0,3381,en_2649_37443_1_119656_1_1_37443,00.html)), HZZ, monthly statistical bulletin 2 /2010*

<i>in %</i>	Tax-wedge	Registered unemployment rate
Australia	26,7	5,6
Austria	47,9	4,8
Belgium	55,2	7,9
Czech Republic	41,9	6,7
Denmark	39,4	6,0
Finland	42,4	8,2
France	49,2	9,5
Greece	41,5	9,5
Croatia	41,2	14,9
Ireland	28,6	11,9
Iceland	28,3	7,2
Italy	46,6	7,7
Japan	29,2	5,1
Canada	30,8	8,3
Korea	19,7	3,6
Luxembourg	34,0	5,4
Hungary	53,4	10,0
Mexico	15,3	5,5
Netherlands	38,0	3,4
Norway	37,4	3,1
New Zealand	18,4	6,1
Germany	50,9	7,5
Poland	34,0	8,2
Portugal	37,2	9,6
USA	29,4	9,3
Slovakia	37,6	12,0
Spain	38,2	18,0
Sweden	43,2	8,3
Switzerland	29,3	4,4
Turkey	37,5	12,6
United kingdom	32,5	9,3
OECD average	36,3	8,3
Average of highest seven	...	8,0
EU average	...	8,9
EU countries within OECD	41,0	9,2
Euro-zone	42,5	9,4

However, looking at the unemployment rate, the situation in Croatia is worrisome. Namely, the range of unemployment rate in OECD countries is from 3,1% (for Norway) to 18,0 % (for Spain); the average is 8%.

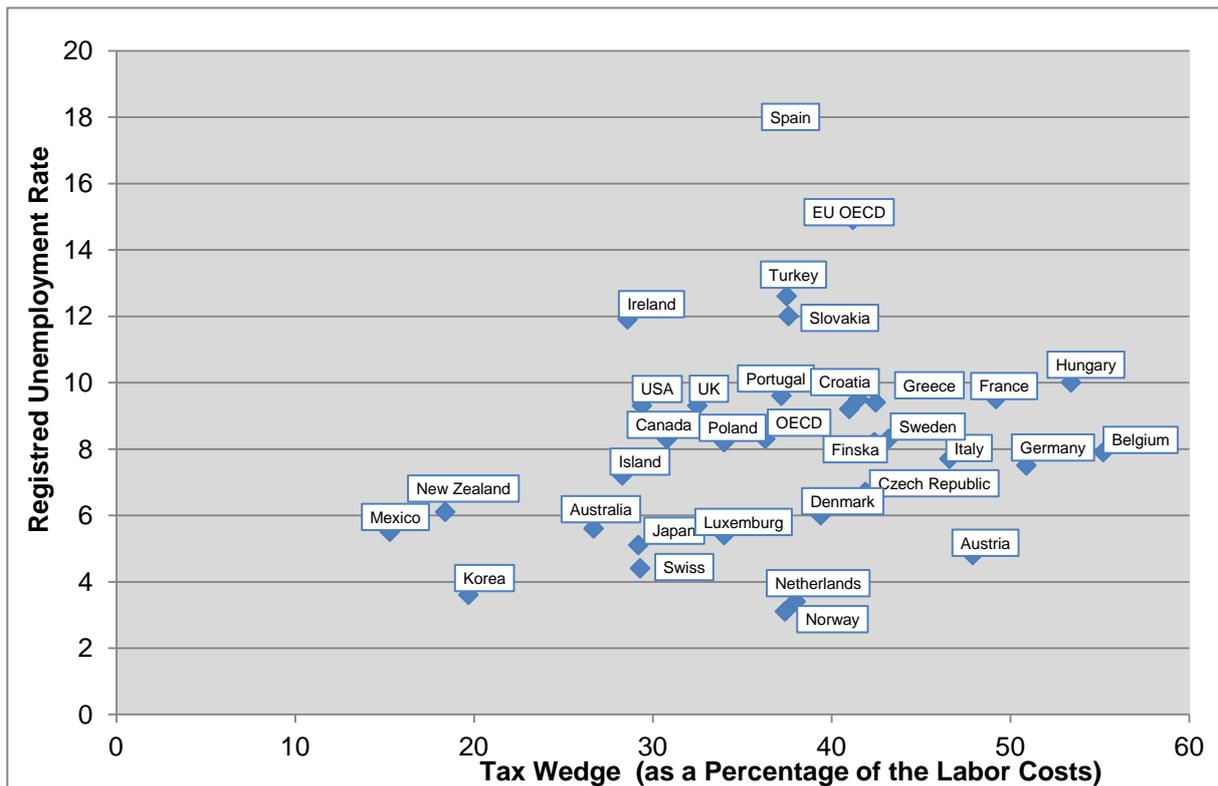


Figure 5.: Comparison of Tax-Wedge (Percentage of the Labor Cost for Average salary) in OECD Countries and Croatia and Unemployment Rates for 2009 (OECD (2010), Taxing Wages, Main Results 2009 (online) at [http://www.oecd.org/document/6/0,3343,en\\_2649\\_34533\\_44993478\\_1\\_1\\_1\\_1,00.html#table\\_01](http://www.oecd.org/document/6/0,3343,en_2649_34533_44993478_1_1_1_1,00.html#table_01) (28.5.2010) i OECD (2010) MainEconomicIndicators- CountryComparisonTables (online), at [http://www.oecd.org/statisticsdata/0,3h381,en\\_2649\\_37443\\_1\\_119656\\_1\\_1\\_37443,00.htm](http://www.oecd.org/statisticsdata/0,3h381,en_2649_37443_1_119656_1_1_37443,00.htm) ([http://www.oecd.org/statisticsdata/0,3h381,en\\_2649\\_37443\\_1\\_119656\\_1\\_1\\_37443,00.html](http://www.oecd.org/statisticsdata/0,3h381,en_2649_37443_1_119656_1_1_37443,00.html)) and HZZ Monthly Statistical Bulletin 2 / 2010 at [www.hzz.hr](http://www.hzz.hr))

The registered unemployment rate for 2009 (annual average) due to data from state-owned statistical Institute in Croatia was 14,9%, and only Spain, the that was hit most severely by recession in this group of countries, shows a higher rate than Croatia. So, although the tax-wedge in Croatia is slightly higher than the average, the unemployment rate is far higher than in OECD countries. Members of the EU, which are also members of OECD, have on average relatively higher tax-wedge than the total OECD average. Croatia has a slightly lower tax-wedge than the EU members. Research of the European Commission shows that the members of EU4 as from the year 2000 are working on decreasing the tax-wedge, which actually decreased until the year 2005, when the tax wedge stopped decreasing (according to data of European Commission from 2008). Further analysis by the same author has shown that Croatia with a tax-wedge of 41,1% and unemployment rate of 14,8% is most similar to Greece, Turkey and Slovakia. These are countries which have a bigger tax-wedge than Croatia (41,5; 37,5; 37,6), but a lower unemployment rate than Croatia (9,5; 12,6; 12,0). Although they have a lower unemployment rate than Croatia, these are countries with relatively higher unemployment rate than the average of OECD countries. On figure 5 we can see the deviation of Croatia in relation to other countries as per relationship of tax-wedge and unemployment rate, or the linear trend (Majić, p. 122).

## 6. CONCLUSIVE CONSIDERATION

Based on the performed research one can conclude that Croatia is a country with a high tax-wedge and a high unemployment rate. A fact that imposes himself as an obstacle to consider that conclusion as final, is the big difference between surveyed (DZS, 2009, at [www.dzs.hr](http://www.dzs.hr)) unemployment, which was 9,1% in 2009, and registered unemployment of 14,9%. Finally it is important that in Croatia the biggest part of the tax-wedge are the mandatory contributions for social insurance, while the share of income tax in the total labor cost is relatively low. From the aspect of labor cost, the tax burden is relatively high, and like that it is a negative factor in building competitiveness.

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## NATURAL RESOURCES MANAGEMENT AS A FACTOR OF UNDERDEVELOPMENT AND SOCIAL INEQUALITY IN THE GULF OF GUINEA REGION

**Petar Kurecic**

*University North, Varazdin, 104. brigade 3, Croatia  
petar.kurecic@unin.hr*

**Goran Kozina**

*University North, Varazdin, 104. brigade 3, Croatia  
goran.kozina@unin.hr*

### **ABSTRACT**

*The paper studies natural resources management as a factor of underdevelopment and high levels of social inequality in the Gulf of Guinea countries. It is a well-known fact that the Gulf of Guinea region comprises several states that are very significant producers of oil, a primary natural resource of the region, but also of the contemporary world. Therefore, oil extraction and exports represent a lifeline for many of the world's oil exporting countries. The main thesis of the paper is: long-term lagging behind in the development of most sectors of the economy, i.e. non-diversification of economy in the countries of the Gulf of Guinea is a product of overreliance on rents earned from the exports of natural resources, mainly oil. The afore-mentioned features of the Gulf of Guinea countries are the result of political decisions made by the regimes that keep themselves in power by means of rents obtained from the oil exports. These rents are mostly used for financing the state security apparatus loyal only to the regime, keeping the "internal peace" and the status quo in society through social care benefits. Economic growth indicators such as GDP and GDP per capita show that the Gulf of Guinea countries have experienced significant economic growth in the last decades. However, it seems that oil does not really benefit the economies and societies of the Gulf of Guinea countries. The region's reliance on oil exports represents the main factor preventing the diversification of economy in the oil exporting countries, thereby hindering the economic development and the improvement of living standard of the overwhelming majority of the population.*

**Keywords:** *Gulf of Guinea region, management, natural resources, social inequality, underdevelopment.*

### **1. INTRODUCTION**

*"Oil, more than any other commodity, illustrates both the importance and the mystification of natural resources in the modern world" (Coronil, 1997: 49).*

The above quote points to the real, and the other, imaginary, or rather, perceived importance and the value of control over exploitation, transport and export (causal actions that strongly depend on each other) of oil, as one of the crucial and probably the most important natural resource of the modern world. This paper investigates the natural resources management as a factor in the underdevelopment in the Gulf of Guinea countries, i.e. a region of Sub-Saharan Africa, the most underdeveloped part of the contemporary world.

Contrary to the quantitative studies of the correlation between dependence on natural resources and economic growth of resource exports dependent states (Alexeev, Conrad, 2009; Birdsall, Subramanian, 2004; Karl, Gary, 2003; Leite, Weidmann, 1999; McMillan, Rodrik,

2011; Sachs, Warner, 2001), this study investigates the relationship between natural resource dependence (primarily oil) and the indicators of underdevelopment<sup>11</sup> in one particular region. Why does dependence on oil exports, which clearly generates short and mid-term economic growth<sup>12</sup>, at the same time cause underdevelopment? It is a well-known fact that the oil producing countries always have the possibility to export oil to foreign markets. Natural resources, and especially oil, generate immense foreign-currency revenues (usually in US dollars), which are not a product of economic activity and development. The Gulf of Guinea region, as a case study region in this paper, comprises several countries that produce oil in substantial quantities. Oil is the primary natural resource of the region, but also of the contemporary world. Therefore, oil extraction and exports represent a lifeline for many of the world's oil exporting countries, and especially for the countries whose exports and GDP mostly rely on oil. This dependence causes the so-called "oil curse", a dependence on oil export rents, which hinders diversification of economies, thereby impeding economic development. It also has an adverse effect on democracy and political freedom in these societies, creating a paradox of a curse instead of real wealth<sup>13</sup>.

The challenges tied to the "oil curse" are influencing the Sub-Saharan Africa profoundly. The economic growth of certain Sub-Saharan African countries is mainly a consequence of the increase in natural resources exploitation and subsequently exports, as well the increase in natural resources prices. The oil money rents are increasingly flowing into the oil exporting countries. In addition, there are some improvements in macroeconomic policies, education and management. These improvements have decreased the propensity towards slower economic growth. However, the rents are not used in the way they should be (Page, 2009). Nevertheless, when discussing economic growth of African countries, we always have to remember that most of the world's countries that have the highest population growth are located in Africa. Estimates suggest that the continent will more than double its population by 2050 and reach 2.4 billion<sup>14</sup>. A large proportion of the economic growth of Africa in the last decade and a half is a result of recovery from the long period of economic stagnation, and not of the real economic growth. Changes in the determinants of economic growth, such as investments, diversification of industrial export products (and not only primary commodities) and productivity are not the factors that have pushed this economic growth.

The main thesis of the paper is that (bad) natural resources management that maintains overreliance on natural resources rents, besides other factors, causes a long-term lagging behind in the development (thereby sustaining underdevelopment) in most sectors of the economy, i.e. non-diversification of economy in the countries of the Gulf of Guinea region. The afore-mentioned features of the Gulf of Guinea countries are the result of political

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<sup>11</sup> Underdevelopment is usually characterized by a disarticulation mode of production, absence or low levels of proletarianization, over-marginalization of the peasantry, low productivity, high rates of unemployment and under-employment, chronic foreign debt and balance of trade problems, dependence on raw materials exports and industrial products imports, low living standards, absolute poverty, inadequate food supply and poor nutrition, low income, dictatorial and corrupt leaders etc.

See: Ajie, U. O. (2010). *Politics of Development and Underdevelopment*. Textbook, pp. 7-8.

<sup>12</sup> Although the afore-mentioned authors of studies exploring the influence of natural resource dependence do not agree about the long-term effects of dependence on natural resources and economic growth.

<sup>13</sup> More in:

Ross, M. (2012). *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations*. Princeton, NJ: Princeton University Press.

Kurečić, P., Hunjet, A., Perić, I. (2014). Effects of Dependence on Exports of Natural Resources: Common Features and Regional Differences between Highly Dependent States. *M-Sphere Conference Proceedings*. Retrieved 10.10.2014. from <http://www.m-sphere.com.hr/book-of-proceedings-2014>.

<sup>14</sup> <http://www.telegraph.co.uk/news/worldnews/africaandindianocean/10305000/Africas-population-to-double-to-2.4-billion-by-2050.html>.

decisions made by the regimes that keep themselves in power using oil exports rents. The rents are mostly used for financing the state security apparatus loyal only to the regime, keeping the “internal peace” and the status quo in the society through sparse social care benefits.

## **2. METHODOLOGY**

The paper represents a case study of one particular region with the focus on certain common aspects of politics and political economy in a defined geographical area, the Gulf of Guinea region<sup>15</sup>. It comprises five important oil producers and exporters: Nigeria, Angola, Gabon, Republic of the Congo, and Equatorial Guinea.

The study included the following parameters:

- 1) Percentage of rents from the natural resources exports in the total GDP;
- 2) GDP per capita (PPP);
- 3) Daily oil production (in order to see the economic and strategic importance of each country in the region);
- 4) Various poverty indicators (percentage of national income shared by those with highest and lowest 10% incomes in the society, and poverty gap at \$2 a day (PPP) (%));
- 5) GINI index.

The main methods used were statistical analysis, content analysis, and the comparison method. The biggest problem was insufficient available data about poverty indicators and GINI index for most of the countries of the region. Nevertheless, the data for the two biggest and most important countries, Nigeria and Angola, was available (however, only for one year, and it was not the same year).

## **3. NATURAL RESOURCES MANAGEMENT AS A FACTOR OF UNDERDEVELOPMENT IN THE GULF OF GUINEA COUNTRIES**

Whether by bourgeois or Marxist standards, underdevelopment defines a relative condition in which a society lacks autonomous capacity to control and mobilize socio-economic formation for a sustainable economic growth and development necessary to effect physical, mental, material and technological fulfilment without dependence on external stimuli (Offiong, 1980: 15). Underdevelopment therefore refers to a socio-economic structure, which is subjugated and dominated by another social formation. (Ajie, 2010: 7-8). The concept of underdevelopment for the Gulf of Guinea countries is clearly tied with the “dependence on raw materials exports” as Ajie (2010) states, other aspects of underdevelopment in the aforementioned region notwithstanding.

Natural resources create a “curse” because they create a dependence on rents and suppress or eliminate the possibility for other sectors of economy to develop. Natural resources hinder other, more valuable generators of economic growth, such as human capital and manufacturing (Basedau, 2005: 10). At the same time, natural resources stimulate irrational economic policies, such as imports substitution that prevents effective investing of natural resources rents and makes economy vulnerable to external shocks, caused by the decrease in prices of natural resources and in the volume of natural resources trading. This is especially accentuated during periods of recession. Countries highly dependent on oil exports suffer from higher level of social inequality. Other difficulties more noticeable in the countries

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<sup>15</sup> For the purpose of this paper, the Gulf of Guinea region was defined as the region comprising the following countries: Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Gabon, Republic of the Congo, Cabinda (Angola's exclave), Democratic Republic of the Congo, and Angola. The coasts themselves, their hinterland, as well as the Gulf of Guinea as a body of water, are strategically and economically the most important parts of the region.

dependent on oil exports are poor nutrition of the population (including even malnutrition); high mortality of children, including infant mortality; shorter life expectancy; lower level of literacy and smaller percentage of population that attends even primary education<sup>16</sup>.

For decades, the oil exporting countries of the region remained completely dependent on oil exports. In most of the countries, the population has been rising rapidly. Oil money is used for food and industrial product imports. Exploitation of oil does not demand a lot of workforce, so the positive effects of oil exploitation on unemployment, once the infrastructure is built, are almost negligible. Oil exploitation is an economic activity that creates only a few well-paid jobs. Therefore, it widens the rich-poor gap in the societies even further (Karl, Gary, 2003). Specialization in only a few economic activities tied to the primary sector (especially mining) does not create a large number of jobs, although it increases the economic growth (McMillan, Rodrik, 2011). However, the duration and intensity of that kind of an increase depend solely on quantities and current prices of natural resources.

Figure 1 shows that not all of the countries in the Gulf of Guinea have the same percentage of natural resources exports in their total GDP. The percentage of dependence on natural resources exports as a generator of GDP varies among the countries of the region from less than 10 % (Benin, Togo) to over 70 % (Republic of the Congo). All of the countries in the region that depend heavily on exports of natural resources (over 40 % of total GDP) are significant oil exporting countries (Angola, Republic of the Congo, Equatorial Guinea, Gabon). Nigeria has a population of over 170 million, and therefore the percentage of natural resources exports in Nigerian GDP is less than 20%. Nevertheless, natural resources (primarily oil) account for about 95% of total exports of goods from Nigeria.

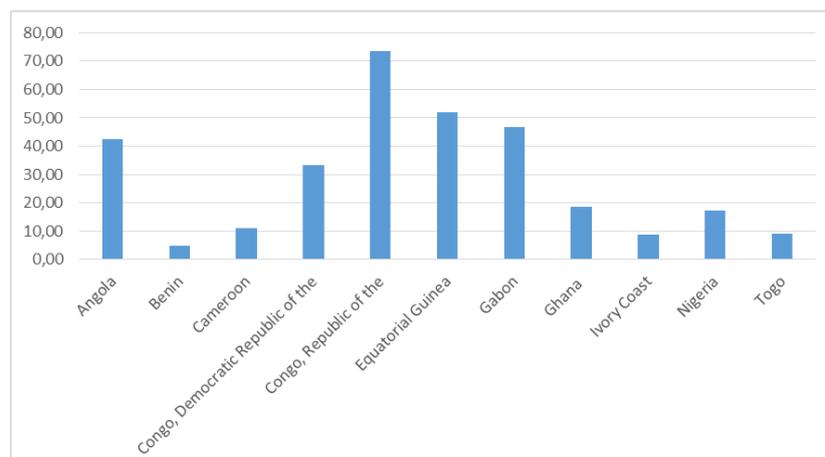


Figure 1: Percentage of rents from the natural resources exports in the total GDP, 2012  
(<http://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>)

Countries that depend heavily on natural resources exports tend to have a higher degree of social inequality. For instance, in Nigeria, the percentage of national income shared by the richest 10% in the society was 38.2% (2010), and in Angola, it was 32.4% (2009). Percentage of income shared by the 10% with the lowest income in Angola was 2.2% (2009), and in Nigeria, it was 1.8% (2010)<sup>17</sup>.

<sup>16</sup> The Curse of Oil: The Paradox of Plenty, *The Economist*, December 20, 2005, <http://www.economist.com/node/5323394>.

<sup>17</sup> <http://data.worldbank.org/indicator/SI.DST.10TH.10>;  
<http://data.worldbank.org/indicator/SI.DST.FRST.10>.

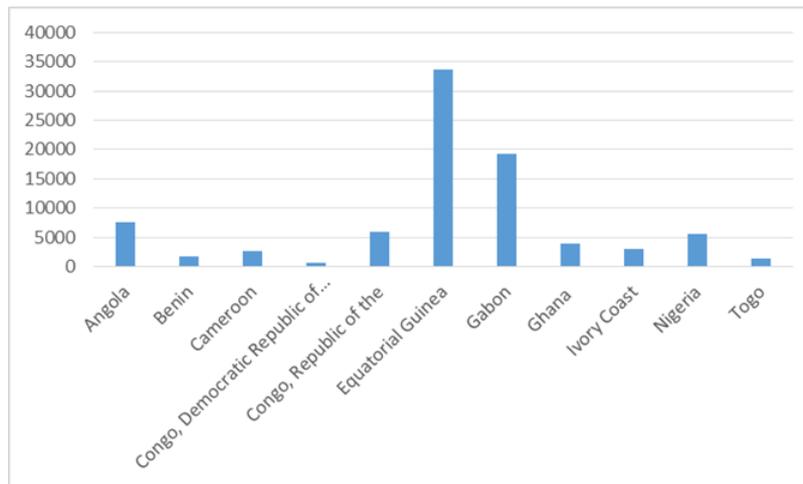


Figure 2: The Gulf of Guinea countries: GDP per capita in US\$ (PPP), 2013  
 (<http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>)

The data in Figure 2 give us a distorted picture of reality. The overwhelming majority of the population in Equatorial Guinea and Gabon are not better off than the majority of the population in other Gulf of Guinea countries. These countries have small populations (Equatorial Guinea 0.8 million, Gabon 1.6 million) and, in comparison to their small populations, still very abundant oil reserves<sup>18</sup>. Their oil reserves per capita are much more abundant than in the other countries of the region. Therefore, their GDP per capita is very high. However, most of the oil money never reaches even these small populations because of the high level of corruption.

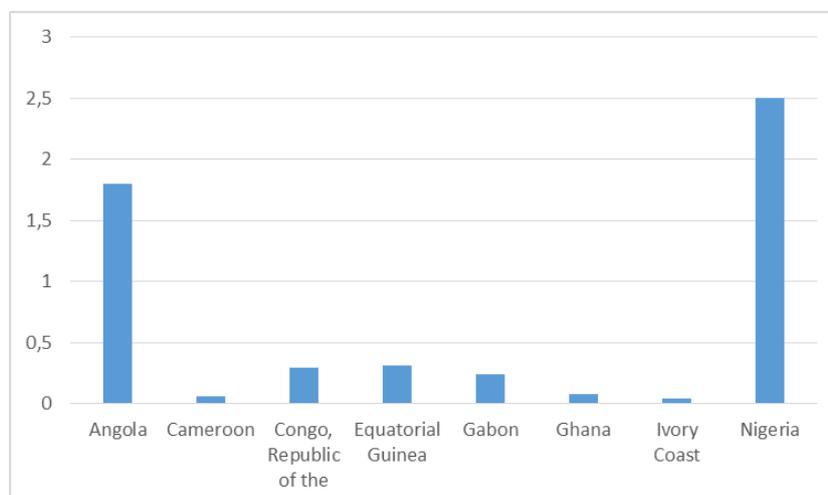


Figure 3: Daily production of oil in the Gulf of Guinea countries, millions of barrels, 2012  
 (<http://www.eia.gov/countries/index.cfm?view=production>)

The dependence on oil exports rents in the Gulf of Guinea region is tied to extreme poverty of the overwhelming majority of the population in the oil exporting countries. The Poverty headcount ratio at \$2 a day (PPP) (percentage of population) in Angola was 67.4% (2009), in

<sup>18</sup> Confirmed oil reserves of Equatorial Guinea in 2012 were about 1.1 billion barrels. In the same year, Gabon's confirmed oil reserves were about two billion barrels.

According to: <http://www.eia.gov/countries/index.cfm?view=reserves>.

Nigeria 84.5% (2010), and in Togo (which, interestingly, does not have any significant oil reserves), it was 52.7% (2011)<sup>19</sup>. Poverty gap at \$2 a day (PPP) (percentage)<sup>20</sup> in Angola in 2009 was 31.5%. In Nigeria it was 50.2 (2010), and in Togo 20.6% (2011).

The data about GINI index<sup>21</sup> for the countries in the region was available for Angola (42.7, 2009), Benin (43.5, 2012), Republic of the Congo (40.2, 2011), Nigeria (43.0, 2010), and Togo (46.0, 2012). Available GINI index data show a high level of social inequality, on the African continent equalled or surpassed only by countries of Sub-Saharan Africa<sup>22</sup>, also highly dependent on natural resources exploitation and exports. For other states of the region, the mentioned data about poverty and social inequality were unavailable. Nevertheless, the available data points to high deficiencies in the management of natural resources (oil) that cause underdevelopment and extreme poverty of the population. A very important factor that contributes to this situation is the ever-present corruption<sup>23</sup>.

The expectations of the population tied to the revenues from oil exports are in most of the cases quite different. Mostly they are tied to creating new jobs, higher level of health and social insurance, better and more available (geographically accessible and affordable) education, development of the infrastructure, such as construction of roads and water wells etc., and food subsidies. The reality in the Gulf of Guinea region is mostly quite different since oil has brought to majority of their populations nothing but greater social inequality, higher levels of corruption and environmental degradation and devastation. Countries without strong and independent institutions (all of the oil exporting countries from the region fall into that category) are destined to become the victims of the already explained “oil curse”.

Reliance on oil exports rents also causes a slowdown of the economic growth, even when initial higher starting revenues per capita (because of oil rents) are taken into account. This negative effect of oil rents on economic growth “eats up” between 0.6 (Leite, Weidmann, 1999) and 1 % of annual economic growth rate (Sachs, Warner, 2001). This fact is mostly a product of two concurrent effects: the increase in the corruption level (due to corruption a significant portion of the oil rents ends up in private hands (mostly of the elite of oil exporting

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<sup>19</sup> Population below \$2 a day is the percentage of the population living on less than \$2 a day at 2005 international prices.

According to: <http://data.worldbank.org/indicator/SI.POV.2DAY>.

<sup>20</sup> Poverty gap is the mean shortfall from the poverty line (counting the non-poor as having zero shortfall), expressed as a percentage of the poverty line. This measure reflects the depth of poverty as well as its incidence. According to: <http://data.worldbank.org/indicator/SI.POV.GAP2>.

<sup>21</sup> Gini index measures the extent to which the distribution of income or consumption expenditure among individuals or households within an economy deviates from an equal distribution. The Gini index measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. Thus, a Gini index of zero represents perfect equality, while an index of 100 implies perfect inequality.

According to: <http://data.worldbank.org/indicator/SI.POV.GINI>.

<sup>22</sup> Botswana 60.5 (2009), Chad 43.3 (2011), Lesotho 54.2 (2009), Madagascar 40.6 (2010), Malawi 46.2 (2010), Namibia 61.3 (2010), Rwanda 50.8 (2011), Senegal 40.3 (2011), South Africa 65.0 (2011), South Sudan 45.5 (2009), Swaziland 51.5 (2010), Uganda 44.6 (2013), Zambia 57.5 (2011).

See: <http://data.worldbank.org/indicator/SI.POV.GINI>.

The only other part of the World where GINI index shows such high degrees of social inequality is Latin America (especially Central America).

<sup>23</sup> Corruption Perceptions Index, an indicator that measures the perceived levels of public sector corruption, developed by Transparency International, in 2012 puts Angola in the 157th place (among 174 countries surveyed). Nigeria was in the 139th place. Of the other significant oil exporting countries in the region, Equatorial Guinea was in the 163rd place, Republic of the Congo in the 144th, and Gabon in the 102nd place. According to: <http://www.transparency.org/cpi2012/results>.

countries) and the inability to diversify the economy that usually remains highly dependent on the revenues from oil<sup>24</sup>.

When discussing the oil curse, the following questions also need to be raised: What about the long-term sustainability of oil export dependent economies? What if these economies do not diversify and become competitive on the international markets with products other than just commodities, i.e. oil? What will happen when oil revenues become so low or when oil reserves completely peter out? Countries that have abundant oil reserves and small populations are in a better position, but long-term, they also need to diversify their economies. The biggest country of the region, with the most abundant oil reserves, Nigeria, was taken as an example of the “resource curse” caused by poor resource management that keeps its dependence on oil exports high. The oil exports rents account for 80 % of all revenues and more than 95 % of all export revenues of Nigeria<sup>25</sup>. Nigeria is more than just an oil exporting country. Considering the fact that oil rents account for 95 % of all export revenues, Nigeria is literally a “mono economy”, completely dependent on oil exports. The degree of dependency on oil exports is much higher than it was in the British colonial era (Watts, 2004: 58). Nigeria is therefore highly vulnerable to economic shocks that are a product of the oil price fluctuations in the world market. A similar situation occurs in other highly oil export dependent countries of the region: Angola, Republic of the Congo, Equatorial Guinea, and Gabon.

In Nigeria, slower economic growth is not a product of ineffective natural resource exploitation. It is a product of policies practised by the ruling elite in the oil exporting countries in the region. Politicians make discretionary decisions on how to distribute the money from the oil rents (Englebort, 2000; Ron, 2005: 447). If independent institutions that control politicians and at the same time promote their accountability are non-existent (Robinson, 2005: 6), then the distribution of money from the oil rents is not effective and euphemistically said, not transparent. If the oil export rents were to be used for diversification of the economy and education of the population, the economic growth would, in the long run, be higher. The system of fiscal relations inside the central government structures represents a relevant proof of how voluntary political decisions determine the distribution and use of the oil rent money in Nigeria. This system also proves that the influence of political institutions on establishing the rational criteria for the use of the oil money is a precondition for responsible spending. This is a key factor that determines the outcome of natural resource exploitation (with oil being a crucial natural resource): responsible spending of rents and diversification of the economy or the “curse” (Olarinmoye, 2008: 21). In the case of Nigeria, oil is still a “curse”.

Nigeria, a “mono economy” based on oil exports is, despite the fact that it has a large and growing internal market, unable to diversify its economy to a degree that enables it to

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<sup>24</sup> Bornhorst, Gupta and Thornton (2008) cover 30 oil exporters over the period 1992-2005, a time when oil prices were mostly moderate or low in historical context. They estimate that revenues from hydrocarbons represented on average 16.2% of GDP or 49.1% of total fiscal revenue. For some regions, the average was higher: for 14 Middle East exporters, they were 20.0% and 57.2% respectively. However, GDP includes both the hydrocarbon sector and a range of other production activities directly or indirectly dependent on the oil sector, and many “non-oil” taxes (including import duties or corporate taxes) are themselves dependent on activities and flows that depend on the domestic spending and export revenue made possible by the oil sector. The true dependence of these economies on oil is therefore far larger than it appears. “Sowing the oil” to diversify the economy has been a longstanding goal for many mineral exporters. However, few have managed to break free of dependence on their dominant resource.

According to: Gelb, A. (2010), Economic Diversification in Resource Rich Countries, IMF paper, p. 2, [www.imf.org/external/np/seminars/eng/.../gelb2.pdf](http://www.imf.org/external/np/seminars/eng/.../gelb2.pdf).

<sup>25</sup> [http://www.africanoutlookonline.com/index.php?option=com\\_content&view=article&id=1916%3Anigerian-oil-production-corruption-and-its-effects-on-post-colonial-economy-of-nigerian&Itemid=54](http://www.africanoutlookonline.com/index.php?option=com_content&view=article&id=1916%3Anigerian-oil-production-corruption-and-its-effects-on-post-colonial-economy-of-nigerian&Itemid=54).

decrease its dependence on oil export. The oil reserves are far from inexhaustible. Estimates suggest that Nigerian oil reserves will run out in about 40 to 50 years from now<sup>26</sup>. Other estimates put Nigerian population in 2050 at 440.3 million<sup>27</sup> (173.5 million in 2013<sup>28</sup>).

#### 4. CONCLUSION

The key problem in the Gulf of Guinea countries that are highly dependent on natural resource exports, in addition to the all-pervasive corruption, is an almost complete lack of vision and prospects for the diversification of economies, which is also a consequence of poor resource management. Once the natural resources are exported and revenues earned, even the money that remains after the corrupt elite takes its part, is not used for economic development. If a country is unable to diversify its economy, its underdevelopment will persist, and so will the reliance on natural resources exports as the main generator of exports (and in some countries even of total GDP). Thus, the circle of dependence and underdevelopment continues. In order to reduce the dependence on natural resources (primarily oil) exports and create conditions for long-term economic development and not just short- and mid-term economic growth, the Gulf of Guinea region countries need to diversify their economies. The first step should be lowering the percentage of crude oil exports in the total exports of oil, followed by increasing the quantities of oil refined within those countries and exporting oil derivatives. In the second phase, these countries should start to develop consumer goods industries. Nigeria has the advantage here over the other countries in the region, since it has a very large population. However, political stability and the containment of corruption are prerequisites for any development.

We conclude that oil does not benefit the economies and societies of the Gulf of Guinea region. The region's overreliance on oil exports is the main factor preventing the diversification of economy in the oil exporting countries, which in turn hinders the economic development and the improvement of living standards of the overwhelming majority of the population.

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<sup>26</sup> <http://www.thenigerianvoice.com/news/35801/22/nigeria-at-50when-oil-runs-out.html>.

<sup>27</sup> [http://www.photius.com/rankings/world2050\\_rank.html](http://www.photius.com/rankings/world2050_rank.html);  
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## DOLLARIZATION AND THE MACROECONOMIC POLICIES

**Kiril Jovanovski**

*Faculty of Economics, Skopje, Macedonia  
kiril.jovanovski@eccf.ukim.edu.mk*

**Dimitar Jovevski**

*Faculty of Economics, Skopje, Macedonia  
djovevski@eccf.ukim.edu.mk*

**Atanasko Atanasovski**

*Faculty of Economics, Skopje, Macedonia  
atanasko@eccf.ukim.edu.mk*

**Marina Trpevska**

*Faculty of Economics, Skopje, Macedonia  
marinas@eccf.ukim.edu.mk*

**Angela Kuzmanova**

*Faculty of Economics, Skopje, Macedonia  
angela@eccf.ukim.edu.mk*

### **ABSTRACT**

*The goal of the research in this paper is the effects of the dollarization on a economy. These effects are elaborated in terms of fiscal and monetary policies. In the fiscal side, dollarization can improve fiscal consolidation by eliminating the debt monetization option. Together with that increased confidence in the future, due to the lower possibility of reversion of the dollarization, the dollarized economy can borrow at lower interest rate both on domestic and international markets. Today we can say that there is no economist in the world who does not know the reasons behind the big financial crisis in 2007. In this paper we will present the impact of dollarization to the reforms in the fiscal sector of a country. Namely, in the theoretical development of “dollarization impact” on an economy, it is analyzed the impact of this phenomenon on the elimination of inflation in one country. Additionally the paper deals with one neverending debate about which exchange rate mechanism is best for one country. As we have concluded, nevertheless the exchange rate regime country has adopted (de facto or de jure) it is very certain that the monetary policy primarily reacts on the movements on the exchange rate rather than on inflation rate movements.*

**Keywords:** *Dollarization, de facto vs. de jure, exchange rate regime, fiscal policy, fiscal consolidation, monetary policy.*

### **1. INTRODUCTION**

Today we can say that there is no economist in the world who does not know the reason for the big financial crisis in 2007. There are numerous papers and books that are dealing with this topic. From these different papers it can be concluded that there is a consensus around key several key factors that had influenced this crisis. This is particularly evident when discussing the European debt crisis. In Europe, during the eruption of the crisis in the period 2008-2012, it became clear that its roots should be sought in the conduct of fiscal policy (Buti and Carnot, 2013). Not only in this period but prior to the crisis, some economists warned of shortcomings

in the European Monetary Union (Wyplosz, 2005; Gali and Perotti, 2003; Pisani-Ferry, 2002; Buti and Noord, 2004).

"Today there is no doubt that in its first decade of existence, the euro zone has suffered from a lack of fiscal discipline. Thus, it is clear that the best times to achieve the sustainability of public finances are gone. This policy resulted in disorder of the rules for fiscal policy, which we can say that initially brought the confidence (Schuknechtetal, 2011). "

"Back in 1980, the european monetary system was conceived in response to the Mundell's trillema. It is argued that it is impossible for a country to have a free flow of capital, a stable exchange rate and independent monetary policy. Today, after twenty years of its existence, the euro faces new trillema between lack of shared responsibility for public debt, the existence of non-monetary financing rule for its clear distinction of the national character of the banking systems in the euro area countries (Pisani-Ferry 2012)."

The impossible trillema makes the euro zone very vulnerable. Say, a negative shock on the side of the solvency of a country member directly affects the solvency of the banking system in the union. This negative shock will have an even greater impact if we consider that in these countries the monetary authority is unable to credit the central government. Also just like in the old trillema, today the question is which of these three restrictions will be eliminated.

## 2. FISCAL POLICY

Recent negotiations of the macroeconomic policymakers within the euro zone are intensified in scope of giving an answer to the question of schock absobtion possiblites. In the academic circles, near consensus is achieved around three main recommendations<sup>29</sup>: (1) giving more authority and mandate of the European Central Bank, (2) establishing a banking federation within the euro zone and (3) providing a fiscal union, which would have unique debt instruments (bonds).

As we can see, the whole dilemma regarding the challenges faced by countries that share the single currency is generated by the level of integration of the economies in which they are members. As long as there are uncoordinated policies within a single currency zone, it is very certain that a financial crisis can explode.

Literature suggests that the dollarization impacts on encouraging reforms in the fiscal sector of a country. Namely, in the theoretical development of "dolarizzation impact" on an economy, it is analyzed the impact of this phenomenon on the elimination of inflation in one country. In it, among the rest, it is presented how dolarizzation can affect the reduction of interest rates on the international capital markets. These lower interest rates for a country would mean lower costs for debt service.

The next effect form dollarization is the enforcement of the fiscal authority to act much more responsibly, because they will no longer be able to use the inflation tax. This effect is crucial in when analyzing the effects of the dollarization. The inability of the central banks to monetize the debt of the member states will make fiscal authority to cut the budget deficit. Thus, in terms of dollarization, when there is no possibility of avoiding bankruptcy by irresponsible behavior, fiscal authority, who are aware of the financial cost of such a situation, the policy that thay will persuite ultimately will result in fiscal consolidation (Devries, Guajardo, Leigh and Pescatori, 2011; Guichard, Kennedy, Wurzel and Andre, 2007; Caselli, 2001; Perotti, 1996).

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29 On these three main recommendations numerous analyzes and suggestions were made. Most of them could be summarized in the following three processes: (1) making a plan for restoring the stability of the banking sector; (2) resolution of the debt crisis, which will include a review off the EU aid, and; (3) reducing the debt of Greece, in coordination with the strategy to increase competitiveness and growth, Darvas, Piasni-Ferry and Sapir (2011).

We would like to comment the possible scenarios for the behavior of the fiscal authorities in terms of dollarized economy. Due to the elimination of the inflation tax<sup>30</sup>, the fiscal authorities will have to raise other taxes to meet their budget plans. These increase in taxes will affect on the disruption of economic relations in the economy, making pressure on fiscal authorities to abandon the planned expenditures in the budget. This again is leading to fiscal consolidation<sup>31</sup>. In this way, dollarization supposed to be the solution to achieve so called intertemporal balanced budget<sup>32</sup>.

In other words, regardless of what exchange rate regime has country authorities it will have to find a way to "resist" the pressure for monetary expansion to finance government debt. Namely, even the most strict regime, in terms of the currency board, authorities in countries are able to revert to uncontrolled expenditures in their budget<sup>33</sup>. In such conditions, the literature provides several recommendations for successful implementation of this regime. First, "outsource" management board (Hanke, Jonung and Schuler, 1993), and, secondly, as an extreme, to write an article in country's constitution, which will guaranteed hundred percent coverage of the money supply. These recommendations can be met through dolarization.

### **3. MONETARY POLICI**

#### **3.1. Mundel's trillema**

The literature is certain that there is very strong connection between the two major macroeconomic policies. In that term the benefits of the dollarization on the fiscal policies gives credits for one researcher to try to find such benefits for the monetary policy as well. As we have seen on the case of fiscal policy the elimination of the inflation tax due to nonexistent possibility for monetizing the debt and lower interest rate on further borrowings leads to fiscal consolidation of the dollarized country.

In this part of the paper we would like to point out the benefits of dollarization on the monetary policy. In fact, the truth is that dollarized economy has left the monetary independence away, leaving the question of pros and cons form such decision. Finally, if we have in mind that the monetary policies mainly care about the exchange rate fluctuation, in this part we will elaborate whether the dollarization eases that concern.

Exchange rate is considered as the most important price in the small and open economies, (Kenen, 1994). In those terms, we can find very strong reasons for the economy and its trade position for the exchange rate to be either fixed or flexible. Therefore, the decisions that are connected to the choice of the future exchange rate regime must be logic and consistent. Macroeconomic policies have the opportunity to choose between numerous criteria for choosing the right one regime (Visser, 2000). Frankel et al. (1998) pointed out that the choice is mainly dependent on three factor: structural characteristics of the economy as a whole, the need of stronger confidence of monetary policy and existence of regional agreement for cooperation. On the other hand, Hallowood and MacDonald (2000) pointed out five factors that influence the choice of the exchange rate regime: how big is the country, degree of

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<sup>30</sup> This scenario is valid only if the inflation tax is an important source of budget financing. Only in a conditions of high inflation rates, dolarization will reduce government revenues. In countries that have or have low inflation, this effect is to be weak.

<sup>31</sup> Examples which prove that it can be found in Cook Islands case, in the paper of Burdekin (2008), Solomon Islands in the labor Ducan (2002), East Timor and the labor of IMF (2005).

<sup>32</sup> With this approach to the budget, the uncertainty and mistrust of government fiscal agents to the economy will decline.

<sup>33</sup> There are many examples, but the most important is the example of Argentina during the 90's of last century.

openness, degree of financial integration, inflation rate in comparison to the world inflation and its trade position.

The research theory on dollarization is most focused on its effects on the monetary policy. Whether such a regime influence the improvement of the structural characteristics of the economy, strengthen confidence in the monetary policy, deepens the degree of openness and financial integration and stabilizes the rate of inflation in the country? Anyway, in all episodes of financial crises that we know so far, one of the main issues that connects them together is the relationship between the internal imperfections of the exchange rate regime (fixed or flexible) and sudden aggregate shocks. This issue is intensively analyzed in the context of a growing global financial integration. Within that process, the debate about whether "hard" fixed exchange rates (currency board or dollarization) or fluctuating exchange rates brings more benefits for the countries. However, there is a consensus about:

„All exchange rates that are between rigid fixed exchange rates and flexible exchange rates are not sustainable in the long term“ (Levy-Yeyati and Sturzenegger, 2001).

The global economic crisis has again raised the forgotten issue about the structure of the international monetary system. In fact, the years of the past decade were accompanied with rapid globalization and financial integration. In such circumstances all countries benefited with high rates of economic growth, and did not have time to worry about the future trends. The question of whether the existing international monetary system is "good" in the past was raised only in circumstances where economies experienced negative growth rates. Such was the case with the abandonment of the Gold Standard and the Bretton Woods agreement; it is the case in the global financial crisis during the second decade of the 2000s, the last financial crises in the 2007-2008 and it will be in the future financial crises.

Today's question is: What is so specific at this moment (2010-2013), when the international monetary discussions gained momentum. One answer may be that the economic policy makers are hard to reconcile with the existence of the unpleasant dilemma that are facing when they are creating the structure of international finance. In fact, this dilemma is not new at all. The truth is that is subject to discussion in the economists forums in the last hundred years. However, strong economic growth and a lot of luck in the past decade made the chief operating decision makers to ignore its importance.

The basics of dilemma can be understood from the findings that came out in 1960 at the meeting of the BellagioGroup<sup>34</sup>. According to them, the choice of the international monetary system in the World should provide: adjustment (adjustment), trust (confidence) and liquidity (liquidity), (Figure 1.1., A). The essence behind this conclusion is connected to the demands form one country to establish macroeconomic policies that will be able to establish stabilization (countercyclical) measures. These policies also must have the ability to protect the exchange rate regime from possible speculative attacks, including large turbulence in terms of currency crises. Finally, because of the need for financing the trade the country must have short-term capital mobility.

As we can see on the picture it is the impossible trinity (Figure 1.1. B). This theory shows the possibilities that the countries have when choosing what exchange rate regime the will adopt. The trinity is impossible because economic forces do not allow countries simultaneously to have exchange rate stability (A or B), full financial integration (B or C) and monetary independence (A or B). After all, they will have to choose one of the three alternatives -

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<sup>34</sup> A group formed in the 1930-ies, also known as G-30 is a group formed by leading academic economists and financiers that seeks clarification of the conclusions and results of the macroeconomic policies. In their domain are exchange rates, currencies, international capital markets, international financial markets, central banks and supervision of financial services and the like.

trilemma. For example, a country that has a pure floating exchange rate can have an independent monetary policy and a high level of financial integration, but has accepted certain exchange rate volatility (as is the case with the United States). Also, a country that has established capital controls, manages to maintain a stable exchange rate and independent monetary policy, but is not integrated with the global financial and capital markets.

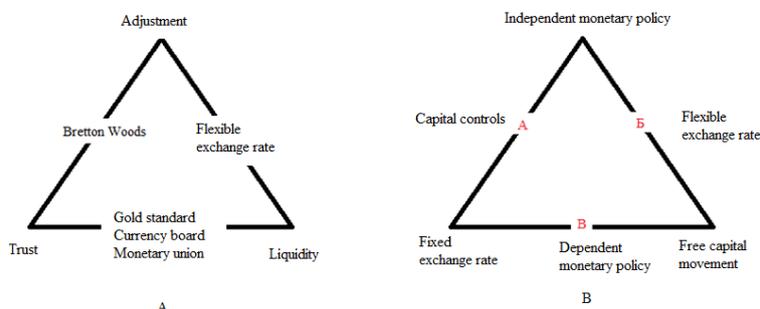


Figure 1: Impossible trinity

Source: Adapted from *International financial architecture*, Jeffrey A. Frankel, *BrookingsPolicy Briefno.51*, june 1999.

A quick glance through history shows that in the international monetary system it is difficult to have all three characteristics. Basically, it's true because of the existence of the threat of currency speculation. That's why, in terms of the World monetary system there is a limited choice of exchange rate regimes. Namely, for each selected mode there are many factors that limit the stability of that system.

As we can see in the Figure 1. A, in the past, all three combinations of features of the monetary system have been tried.

1. *Trust*. Suppose that a country cannot accept instable currency that will change its value according to the expectations of investors<sup>35</sup>. Therefore, it will be expected that the macroeconomic policies will establish a fixed exchange rate regime. However, if the country tires to establish *liquidity* throughout unlimited liquidity and capital mobility, the country risks to be subject to strong speculative attacks whenever economic agents expect a devaluation. That's why the country must decide: whether it would disable all options for future fluctuations in exchange rates, by introducing a currency board or joining a monetary union; or limit capital mobility. Throughout history there are numerous examples of these two alternatives. For example, in the interwar period, we find evidence that speculative attacks really lead to destabilization, breaking the gold standard and introducing the Bretton Woods-response to the requirements for trust, Eichengreen (1998). However, in post Keynes era, it is required additional adjustment. Therefore, in the early years Bretton Woods's agreement was based on capital controls. Later, we are seeing that these controls weakened, resulting in "rigidificaiton" of the system<sup>36</sup>.
2. *Adjustment*. In this case we assume that the priority of the of the country's government is to establish macroeconomic policies that will have the opportunity to act countercyclical. However, if such a determination is associated with high capital mobility, the country risks to experience large capital outflows/stopping when economic agents thing that monetary policy is to much expansive. Hence, a

<sup>35</sup> In recent years, changes in the value of currencies determine the decisions of hedge funds.

<sup>36</sup> In such system there were virtually no change in exchange rate parities.

government that insists on the possibility of adjustment of the economy should have to give up the trust and establish a flexible exchange rate, which can mean large fluctuations; or restrict capital mobility. Thus, in the 30s of last century, the governments that put a lot of effort to ease the recession and the consequences of the bank's collapse were forced to take down capital controls. There was a similar situation in the 70s of last century, when due to divergent macroeconomic policies Bretton Woods Agreement was terminated.

3. *Liquidity*. Similar to a combination of the previous two, this feature must be combined with some of them, while excluding one over the other. Namely, if the country chose free movement of capital, it must choose between "hard" peg (currency board or monetary union), or fluctuation of the same brand.

Today every country is between these alternatives. The group of major developed economies, like the US and the Eurozone countries, have chosen to follow a policy that will meet the criteria for adjustment and liquidity leaving the confidence, meaning that their priorities are not directed to the fluctuations that occur on the exchange rate. They can afford such behavior because they have degree of trade openness; insignificant amounts of debt denominated in foreign currency and enjoy credibility about their economic policies. There are examples of such policy at some smaller developed economies like that of G. Britain or Australia.

On the other hand, for the developing countries this combination is not suitable. The main reason of that is the existence of large amounts of debt denominated in foreign currency - financial dollarization. Namely, for small financial markets the flexibility of the exchange rate together with an independent monetary policy and free movement of capital could produce fluctuations that are hard to cope with. Moreover, because of large imbalances in the real exchange rate these economies face the risk of increasing rate of inflation. Thus, the existence of the financial dollarization makes the small economies to skip the combination of the triangle which includes the flexible exchange rate.

### **3.2. Fixed or flexible – does it matters when the inflation is in question**

The choice between fixed and flexible exchange rate is a key issue in the debate related to international finance (Collignon et al., 1999). This gained significance with emphasis on the difference between developed and developing countries. Although there are some recommendations that countries should follow, one thing is certain: "there is no single solution for all countries" (Mundell, 1961) and McKinnon, 1963).

There are authors who say that the optimal management of the exchange rate depends on the current socio-economic and institutional set, social and economic objectives of the policy makers, the sources of economic shocks, trade policy, international agreements on cooperation and financial structure of the economy (Rusidy and Islam, 2007; Frankel et al., 1991; Hallwood and MacDonald, 2000; Mussa et al., 2000; Arrow et al., 2003). They argue that the choice of exchange rate regime is the only socio-normative problem.

However, for the purposes of this paper, we will focus on the selection of one exchange rate that enables greater discipline on "loose" monetary policy and high budget expenditures. Hence, Krugman (1979) points out that the peg establishes a strong link between fiscal and monetary policy. Together with that, in the history there are examples in which countries that have accepted the peg experienced greater GDP growth, major expansion of production in non-tradable goods, contraction in the sector of the tradable goods, imbalances in the current account, growth in real wages, lower unemployment rate, appreciation of the relative price of non-tradables and expansion of the real estate market (Rebelo, 1997; Vegh, 1992).

Examples throughout the history suggest that most developing countries, regardless of the adopted regime, prefer stable movement of its exchange rate. In addition, they find it that it is

the easier way to achieve the objectives of the monetary policy. We know that the ultimate objective of any central bank is to keep inflation at a moderate level. However, there is a group of authors who argue whether the primacy of monetary policies in developing countries is stable (fixed) exchange rate or the rate of inflation.

These authors analyze the use of two instruments of monetary policy - interest rates and foreign exchange transactions - in the developing countries in order to maintain low inflation and eliminate the variations of the medium-term multilateral<sup>37</sup> - consistent value of the exchange rate. The goal of this analysis is to show whether a country is committed to the regime of a fixed exchange rate and is ready to defend it regardless of the economic conditions in it. Hence, we often can meet the arguments that the adoption of these two instruments can increase the confidence in the monetary policy.

Ignoring the exchange rate changes in favor of the level of inflation in an economy that has significant currency imbalances, strong transmission channel of exchange rate and inflation and limited intrasectoral factor mobility, on many examples have proved unjustified. In this context, in developing countries with limited integration of global financial markets and a small amount of assets denominated in the domestic currency, the need for interventions in the foreign exchange market is large (Ostry et al., 2012). These authors suggest that the large deviations of the real exchange rate from its expected value can be severe to the economy (for example, the Dutch disease, the effects of the balance sheet as a result of high rates of financial dollarization, etc.). In addition, we want to point out that each central bank of the developing countries has to worry about the stability of the exchange rate above the rate of inflation.

Namely, the last crises in 2007-2008, have shown that the monetary policy authorities had to manage the instruments that were available with, without inflation to be the biggest concern. They made efforts to ensure the stable growth of the economy, meaning that within the instruments available interest rates will not be the only one policy used. Hence, especially with the recent crisis, it became clear that developing countries that have significant balance sheet imbalances must not neglect the exchange rate changes.

There are various studies that test the role of monetary policy instruments in the countries. Some shows that while countries adopted a strategy of inflation targeting, the transmission mechanism of the interest rate (Taylor rule) includes the exchange rate too (Mohanty and Klau, 2005 and Aizenman et al., 2011).

Garcia et al. (2011) present a model of hybrid modes of inflation targeting. Their simulations support the conclusion that financially stable (developed) countries have modest benefits from the inclusion of the exchange rate in their interest rate reaction function. However, in countries that are financially unstable, developing countries, the inclusion of the exchange rate is more than helpful. Hence, the results of this research paper are expected. In fact, the central banks of developing countries react to changes in real exchange rates more than any impact on expected inflation (Ostry et al., 2012).

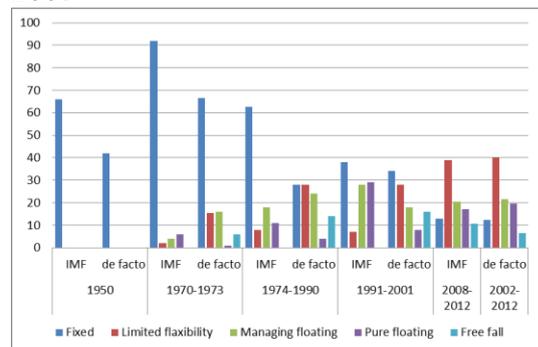
Analyzing the related studies we can summarize several conclusions. However, there is one we are interested in and related to the topic of this paper. Namely, these studies show that the flexibility offered by the active exchange rate policy is not without consequences. That possibility of neglecting its stability at the expense of inflation easily breaks the trust to such determination. Thus, because the central banks are committed to both policies, stable exchange rate and low inflation, economic agents might suspect in the commitment to the exchange rate regime stability.

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<sup>37</sup> Exchange rate of the domestic currency against the currencies of several other countries that are major trading partners - the nominal effective exchange rate.

In reality, few countries have a pure floating exchange rate. The rapid growth of capital markets contributed to a significant increase in the size of international capital flows. History has shown that these flows are very volatile. Volatility of capital flows in terms of flexible exchange rate means volatility of exchange rate too. These changes affect the relative prices in the economy that can be transferred to the real economic activity changes in the country.

1. Evolution of De jure and De facto Exchange rate regime, 1950-2012



2. Evolution of De jure and De facto individual movements, 2001-2007

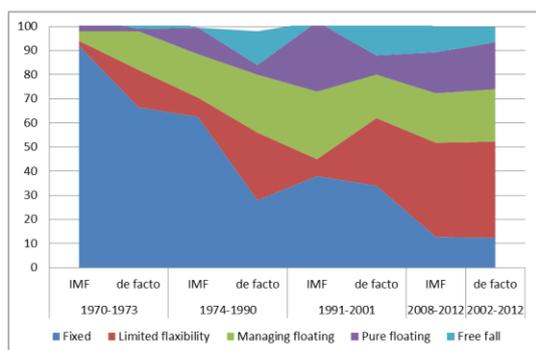
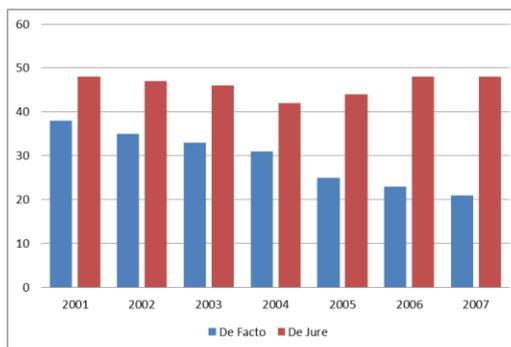


Figure 2: Evolution of exchange rate regimes, 1950-2012  
 Source: Staff reports and Annual Report on Exchange Arrangements and Exchange Restrictions database, IMF, various publications.

Calvo and Reinhart (2002) introduced new term describing the avoidance of market-based exchange rate of the countries and named it as "fear of fluctuation" (fear of floating). In their research, they point out that there are several factors that is affecting this fear. According to them, besides the previously mentioned we will display the following: level of debt denominated in foreign currency, significant correlation of inflation and exchange rates and the negative impact of the fluctuation in the exchange rate on the credit market in the country. In support of this assertion, they have made an empirical analysis with a comparison of the exchange rate regime that countries officially declared and the actual behavior of the exchange rate regime. This research shows that the floating exchange rate countries actually declare is in fact non-exciting.

In the literature there are two modes of displaying the exchange rates adopted by the countries. One includes the official "de jure" policies, and other "de facto" behavior. Official policies are included in reports published by the IMF, while the analysis of the actual behavior

of countries there are three approaches: Levy-Yeyati and Sturzenegger (2003), Reinhart and Rogoff (2004) and Shambaugh (2004).

As we can see in all three approaches of "de facto" behavior of the countries analysis have a common feature: "...de jure" classification are not respected by the policy makers during the entire period of analyzing the exchange rates...". Thus, most countries that have reported floating exchange rate regime in fact have been intervening, with one goal to stabilize the exchange rate movements. Such behavior was already explained by the phenomenon of "fear of fluctuation" (Calvo and Reinhart, 2002).

Further analysis shows that in the period after the collapse of the Bretton Woods system despite that the economies reported that they would not intervene in the foreign exchange market to influence the exchange rate; they "de facto" lead policy of managed-float. However, what we can conclude is that the numbers of countries that truly have fixed rates are decreasing. This case is especially evident in the period after 90 years of the last century, when the process of financial liberalization of the countries accelerated. However, the fact that very few countries allow full market freedom in the formation of parity exchange rate remains true.

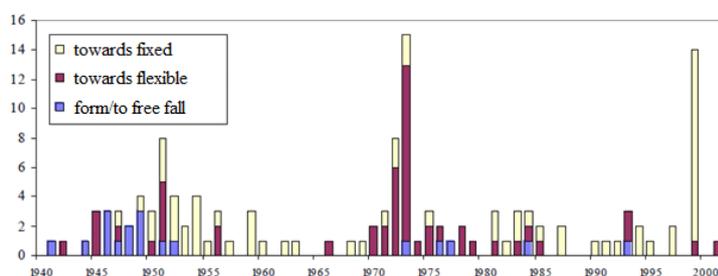


Figure 2: Changes of De facto exchange rate, 1941-2001

Source: Reinhart and Rogoff (2004) and IMF, various publications.

The reasons for this policy could be explained by two factors. First, because of the strong transmission channel between the exchange rate and inflation, exchange rate management becomes coordinator of price expectations. Therefore countries feel additional pressure to maintain a steady course. Second, pursuing a policy of stable exchange rate apparently reduces borrowing costs, and thereby increases the urge to take financial risks in the country. Participation of assets denominated in foreign currencies, further reinforces the fear of fluctuation. Additionally, in the defense of the exchange rate, countries end up with unstable exchange rate, which in fact was the basis of stability in the economy. The amount of assets denominated in foreign currencies, and currency in which they are indexed, determine what strategy will the central bank of a country adopt. Given that it the process of financial liberalization, countries like the US and the eurozone had the dominant role, one can easily predict that most countries will follow a policy of stable exchange rate of the national currency such as the currencies of the dominant countries (dollar and euro). The evidence found in the literature, such is the results of research of Baxter and Stockman (1989), shows that the lack of differences in business cycles between countries with different regimes of exchange rates is due to the fact that the official historical groupings on exchange rates regimes of countries is incorrect, Reinhart and Rogoff (2004). Therefore, if you have examined the movement of macroeconomic indicators in different groups of countries, one could observe that during the period of 2004-2009, in the countries that govern the exchange rate inflation is below average in terms of countries with flexible exchange rate.

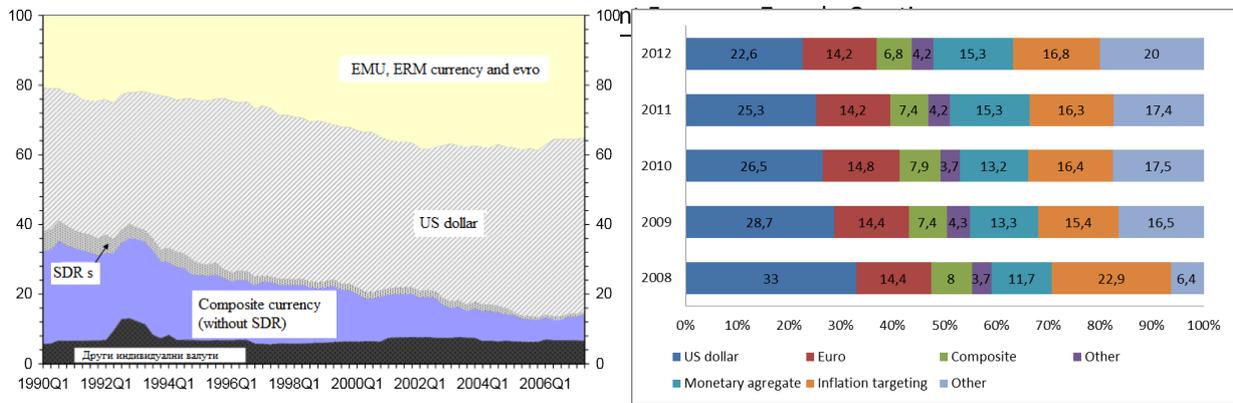


Figure 3: Monetary policy and the currency of the pegs, 1990-2012

Source: Staff reports and Annual Report on Exchange Arrangements and Exchange Restrictions database, IMF, various publications.

However, due to the existence of strong transmission channel between the exchange rate and domestic inflation, the dynamics of change in inflation is less noticeable than in other regimes. Unlike inflation, economic growth in countries with fixed exchange rate is less dynamic and more variable in relation to other countries.

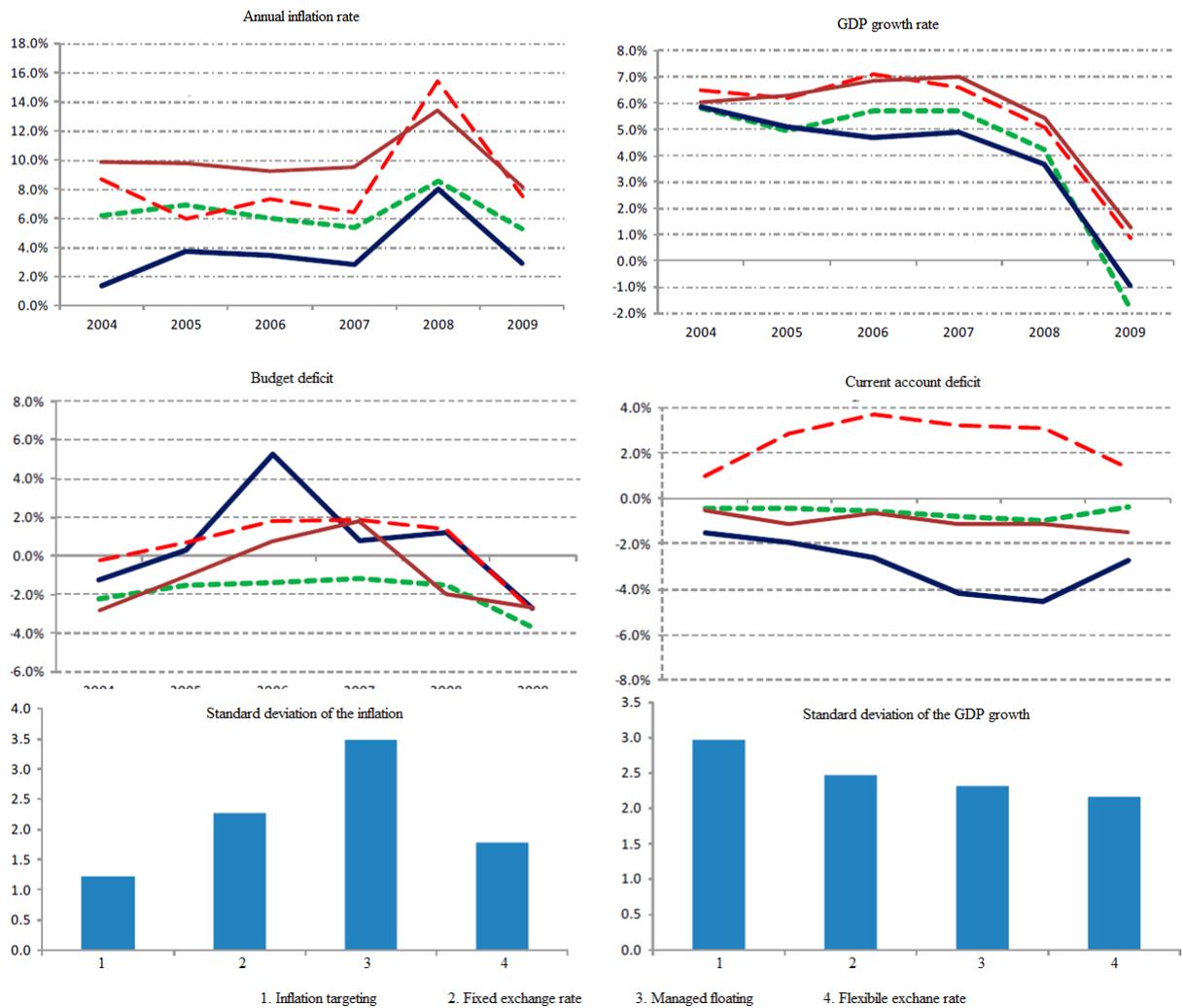


Figure 4: Movement and variability of selected macroeconomic variables, 2004-2009

Source: Staff reports and Annual Report on Exchange Arrangements and Exchange Restrictions database, MMΦ, various publications.

#### 4. CONCLUSION

As we can see in the paper analysis, there is no relationship between the adopted exchange rate and the real behavior of the monetary policy in the countries. Therefore, for the policymakers it is much more important to achieve stable exchange rates than it is the case for the inflation. The analysis shows that with no exclusion every country prefer to manage the fluctuations of the exchange rate over the fluctuations of inflation. This behavior is most connected to the strong transmitting mechanism of the exchange rate movements and the stability of the economic process in the country. Although in the peace (prosperity) times all developed countries report inflation stability as single monetary goal, they with no exclusions will easily forget that goal when major exchange rate fluctuations occur. The analysis in this paper shows that, contrary to expectations, in reality there are still economies that tend to keep the exchange rate stable (fixed) level. Considering the advantages of such an exchange rate regime, further elaboration should show whether the dollarization as a regime of fixed exchange rate, in fact, high lightens and maximizes the strengths of it. Also, through the elaboration of the effects of the dollarization, the research should highlight some of the disadvantages that the countries that prefer and adopts fixed exchange rates regime can be solved.

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## THE ROMANIAN EDUCATION SYSTEM AND ITS EFFECTS ON THE MIGRATION PHENOMENON

**Robert-Adrian Candoi-Savu**

*Academy of Economic Studies Bucharest, Institute for Doctoral Studies, Str.Tache Ionescu  
nr.11, 1<sup>st</sup> floor, 8102 office, 1<sup>st</sup> district, Bucharest, Romania  
robertzvs@yahoo.com*

### ABSTRACT

*The purpose of the present study is to analyze the complex issue of the education in Romania. This paper will outline the regional and territorial disparities regarding the Romanian educational system and it will focus especially on the Romanian rural area where we register the biggest rate of school abandonment. We will set out the causes and establish the effects of this phenomenon on short and medium term on national level and on European level. Also we will show the effect of the Romanian rural school abandonment on the migration phenomenon. The education system in Romania is at a crossroads. The main sector reforms initiated in the last 20 years, including changing curriculum, student assessment, teacher training, finance and administration, should improve educational outcomes. The restructuring of the national education system and new legal regulations in this area have led to the reorganization of the educational network units in Romania. The educational programs that are being developed in strategies targeting the secondary education in general and the development of education in rural areas in particular are oriented to improve the indicators of this system.*

*The study conclusions propose a set of measures regarding the financing and the development of the Romanian educational system in the rural area. Financing the education system still remains undersized in relation to the needs in education. The rural education should be a priority for the Romanian government and for all those people engaged in the system. The rural education is facing specific problems and requires specific solutions. Both require major investments and integrated solutions targeting both human and material resources, and the quality and content of education.*

**Keywords:** *educational system, rural area, migration, social consequences, regional disparities, European context.*

**Methodology:** *The research method used for this study was the quantitative research using specific methods of descriptive statistics. Regarding the source, we used data published by The National Institute of Statistics (INS) that gathers basically, but not exclusively, statistics parameters, information systematically collected from the entire population, not just based on a representative sample. For international comparisons we used the data provided by Eurostat.*

### 1. INTRODUCTION – GENERAL CONTEXT

The interest in studying the Romanian education issues, particularly the education in the rural area, as an effect on the quality of labor force starts from several questions. What are the socio-economic conditions of the population from the rural area by comparing it with the conditions provided in the urban area? What are the educational possibilities offered by the system in the rural area? Improving the education system in rural areas can influence the migration for educational purposes? Why do people migrate in the territory? Who or what is influencing the decision to migrate, how far and for how long? What will be the changes in

the personal life of the individuals and of the communities after the migration process? The educational level produces ambivalent effects on the migrational behavior:

- high educated individuals are more likely to find better paid jobs, including in countries that are less opened to receive foreign labor force;
- better educated young people, especially with a better material and social situation are more critical and selective in choosing the alternative of the labor migration abroad;
- young people with poor education and poor financial situation tend to migrate abroad for employment purposes, they are very difficult to be integrated on the local labor market.

## 2. LEGAL FRAMEWORK

In order to analyze the educational situation of young people in Romania it is important to know the legal and institutional framework which refers to them. This chapter aims to identify the main national regulations regarding the young people and the activities of the institutional actors that have a great impact on the young people, especially for those located in the rural area.

### 2.1. The Education Law

Since *The Romanian Revolution* from 1989 until now, the general framework for organizing, administrating and functioning of the Romanian educational system is regulated by the Romanian Constitution, the Education Law No. 84/1995 republished and with ulterior amendments, the republished Law 268/2003 that amends and completes the Education Law No. 84/1994 and the Law No. 1/2011 after 2011.

In order to function in legal terms, an elementary and middle school, which includes I-VIII grades, must meet the requirements set out in Table 1.

*Table 1: Differences between the two Laws of Education in Romania*

Education system	Regulation	Law No. 84/1995	Law No. 1/2011
The legal status of schools is given by the number of students (school / preschool) enrolled (indicators are not cumulated)	200 pupils or a minimum of 100 preschoolers	X	-
	minimum 300 pupils	-	X
	minimum 300 pupils, preschoolers and antepreschoolers	-	X
	minimum 150 preschoolers and antepreschoolers	-	X
	minimum 100 pupils and/or preschoolers, for special education units	-	X
	Exception: if the necessary number of pupils/preschoolers is not constituted, they follow the classes of the nearest school unit or school teachers can be delegated in that area	X	-
	Exception: if the necessary number of pupils/preschoolers is not constituted, they follow the classes of the nearest school unit. Delegation of school teachers in that area is not possible.	-	X

These legislative amendments have reduced the number of schools and their direct effect was merging pupils from schools that did not meet anymore the legal conditions for functioning. In rural areas this change had a negative effect considering the dispersion in the territory of the children who attend the elementary and middle school. Thus, in many villages where the legal requirement was not fulfilled (the minimum of 300 pupils/school), the school units were closed and pupils were forced to attend schools in the neighboring villages. Basically, this decision fenced the easy access to education for children from rural areas, considering that their parents have not the financial power to support the costs for transport. To meet these legal conditions is necessary to support students whose families are in economic difficulty. Otherwise, in the next few years, Romania will face an increase of drop-out school rates in rural areas. For the time being, the national allowance for studies for students up to 18 years

old is 42 lei/month. That means less than 10 euros/month, a very small amount that can't cover the monthly costs for transporting a student to the school in the neighboring village. In the next table, we will be able to observe the similarities and differences between the old Education Law from 1995 and the new one that was adopted in 2011, regarding the national system of school education in Romania.

*Table 2: The Education Law in Romania*

Education system	Education	Regulation	Law No. 84/1995	Law No. 1/2011	My opinion
<b>The national system of school education</b>	early education	(0-6 years), formed by the antepreschool level (0-3 years) and the preschool level (3-6 ani): kindergarten, nursery school	X	X	X
	primary education	includes Grade 0 and grades I-IV	-	X	X
		includes grades I-IV	X	-	-
	secondary education	1. lower secondary education or secondary education, which includes classes V-VIII and junior high school of arts and crafts or classes IX - X;	X	-	X
		2. upper secondary education or secondary education, including school classes IX-XII / XIII, with the following branches of study: theoretical, vocational and technological	X	-	X
		1. lower secondary education or secondary education, which includes classes V-IX;	-	X	-
		2. upper secondary education or secondary education, including school classes X-XII / XIII, with the following branches of study: theoretical, vocational and technological	-	X	-
	professional education	lasting 2 years (IX-X)	X	-	X
lasting between 6 months and 2 years		-	X	-	
non-university	tertiary education, including post-secondary education lasting 1-3 years	X	X	-	

Among the measures to support youth employability through the amendment of Law No. 84/1995 by Law 268/2003 and the adoption of Law No. 1/2011 (the new law of education) we exemplify:

- Starting with 2003, it was introduced a new regulation that had a big impact among the young people: the 10 classes compulsory education. According to the educational Law from 1995, Art. 6, the compulsory education was 9 classes. Compulsory school attendance of nine classes, daily classes, use to end at age 17. According to Law 268/2003 for the amendment and completion of Law 84/1995, Art. 6 was amended as follows: "compulsory education is 10 classes. Compulsory school attendance of 10 classes, daily classes, cease at age 18." According to Law 1/2011 of National Education, Art. 16, paragraph (1), "compulsory general education classes is 10 and includes primary and secondary education. Secondary education will become mandatory no later than 2020".
- Another regulation of National Education Law impacting youth is the financial support for youth access to school units. This regulation had to be implemented because the number of schools was diminished and classes were merged; pupils were compulsory transferred from one school to another, although the new school was not near their home residence. Thus, "in justified cases, pupils in compulsory school located in another town than their residence, they shall have, as appropriate, transport, dining and boarding" (Art. 85, paragraph (1), Law 1/2011).
- The Romanian State subsidizes all the costs of attending school or vocational school for students from rural areas or those from disadvantaged socio-economic groups.
- By the Law 1/2011, high school graduates from rural areas are included in the category of disadvantaged groups. For tertiary education, according to Art. 205, paragraph (6) "candidates with high socio-economic risk backgrounds or socially marginalized - Roma graduates of high schools in rural areas or in cities with less than 10,000 inhabitants - can benefit from a number of budget places guaranteed under the law. "

- For higher education level, students from low-income families in rural areas are fee exempt for bank loans necessary to sustain them in college. According to Law 1/2011, Art. 204, paragraph (2), "graduates who will practice a minimum of 5 years in rural areas will be exempted from payment of 75% of the loan, this part being taken over by the state, amounting to a maximum of 5.000 lei".

Compared with the previous provisions on compulsory graduation, moving to ten classes compulsory education represents a progress in several ways:

- provides access to the labor market for young people from 15 to 16 years;
- involves complementary measures of social protection, especially to broaden public education effort for poor rural youth at risk of school dropout;
- improves the basic educational level of young people, which increases their chances of being employed;
- reduces the pressure on the labor market and reduces costs for (re)integration by keeping the young people in education and professional training.

The suppression of the Schools of Arts and Crafts, starting with 2009-2010 school year, by transforming them into technological schools resulted in the exclusion from education and training of students with poor academic results at risk of exclusion from the labor market, first of all because of the lack of those occupations on the labor market. However, this shift had a negative impact on the Bacalaureate Exam passing as we will be able to observe from the information provided in this paper. However, we meet some serious issues here regarding the new rules. The Education Law No. 1/2011 regulations were not totally implemented. Leaving gaps between the adoption of the law and its implementation, remove the positive effects of switching to 10 years compulsory education outlined above.

## **2.2. The Labor Code**

The regulations included in the Labor Code (Law 53/2003, republished in 2011) refers to:

- safeguard measures against underaged employment of young people on the labor market. According to the Labour Code, Art. 13 paragraph (1) "individual becomes able to work at the age of 16 years". Up to 15 years, the employment of children is prohibited unless you have the consent of parents or legal guardians. After the age of 16, the consent of parents or legal representatives is not necessary anymore for signing an employment contract. They can fit only in activities that are less demanding, hard work being prohibited.
- probation period for "verification of employee skills (...) no more than 90 calendar days for executive positions and a maximum of 120 calendar days for management positions" (art. 31 par. 1);
- working time for young people under 18 years old is regulated to a maximum of 6 hours of work/day and 30 hours of work/week, without a salary reduction.
- according to the Labour Code, professional schools/high schools young graduates of least 16 years old, who were not employed in the job for which they have obtained diploma in accordance with Europas, receive unemployment benefits for 6 months its value being half of the minimum national agreement (around 55 Euro/month).

## **3. THE ROMANIAN EDUCATIONAL GROUND**

In the last 10 years, the romanian education system suffered a lots of changes that had a great impact on the total number of young people enrolled in the system and the total number of teachers over the entire country. Compared with the total population by age groups we have the following situation regarding the enrollement degree:

## THE SCHOOL POPULATION BY RESIDENCE BETWEEN 1995-2012

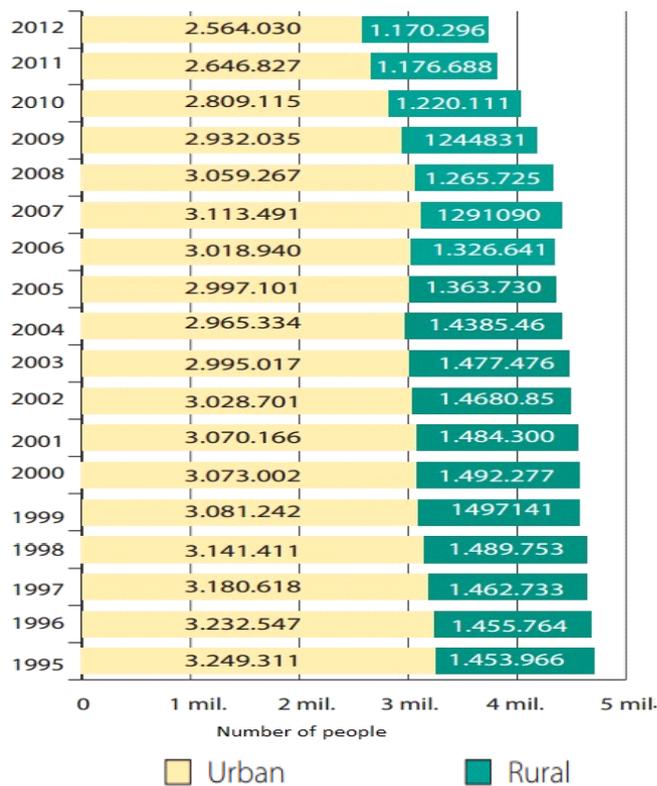


Chart 1: The school population by residence between 1995-2012, The National Institute of Statistics, Publications<sup>38</sup>

We can easily observe that there are big differences between the population of young people enrolled in the Romanian educational system in the urban area and the number of children enrolled in the rural area. The main cause of this situation is the migration phenomenon of young people for educational purposes. We know for sure that there are not enough high school units in the rural area and that is why those children who are able to continue their studies, without being constrained by poverty or other living problems, will follow the classes of a high school that is not in their area of residence. Participation and access to education and training system are determined by a number of factors such as individual, socio-economic and educational. The same factors that can generate location outside the education system due to limited enrollment and dropout are able to influence the access and the participation to education.

A strategic framework for European cooperation in education and training (known as ET 2020) was adopted in May 2009 and set out four strategic objectives for education and training in the EU:

- making lifelong learning and mobility a reality;
- improving the quality and efficiency of education and training;
- promoting equity, social cohesion and active citizenship;
- enhancing creativity and innovation at all levels of education and training.

<sup>38</sup> The National Institute of Statistics, pag. 6,  
[http://www.insse.ro/cms/files/publicatii/pliante%20statistice/Educatia\\_in\\_Romania\\_n.pdf](http://www.insse.ro/cms/files/publicatii/pliante%20statistice/Educatia_in_Romania_n.pdf)

To reach these objectives, ET 2020 set a number of benchmarks which are subject to regular statistical monitoring and reporting, including the following targets to be achieved by 2020, namely that:

- at least 95 % of children between the age of four and the age for starting compulsory primary education should participate in early childhood education;
- the share of 15-year-olds with insufficient abilities in reading, mathematics and science should be less than 15 %;
- the share of early leavers from education and training should be less than 10 %;
- the share of 30–34 year-olds with tertiary educational attainment should be at least 40%;
- an average of at least 15 % of adults aged 25–64 should participate in lifelong learning.<sup>39</sup>

The situation at national level regarding the conditions compliance is presented in Table 3.

Table 3: Enrolment rate for school aged population

Enrolment rate for school aged population (percentage)						
	2006 /2007	2007 /2008	2008 /2009	2009 /2010	2010/2011	2011/2012
<b>Total</b>	<b>77,3</b>	<b>79,7</b>	<b>79,6</b>	<b>78,7</b>	<b>77,6</b>	<b>76,0</b>
3 - 6 years	80,9	81,8	81,7	81,9	82,1	81,8
7 - 10 years	97,0	96,0	95,0	94,9	94,6	94,0
11 - 14 years	95,0	94,4	94,4	94,5	94,0	92,8
15 - 18 years	75,7	77,4	79,2	81,3	80,8	81,0
19 - 23 years and over	55,9	63,8	63,3	59,3	56,0	50,3

Source: [http://www.insse.ro/cms/files/Anuar%20statistic/08/8.%20Educatie\\_%20ro.pdf](http://www.insse.ro/cms/files/Anuar%20statistic/08/8.%20Educatie_%20ro.pdf)<sup>40</sup>

Between 2007 - 2011 school gross enrollment rates have decreased for almost all educational levels except pre-school and high school, being signaled the differences between regions and area of residence, more pronounced in the case of secondary education. Increasing enrollment in secondary education was accompanied by a reduction in the transition to secondary education and a decreasing trend of the high school graduation rate.

<sup>39</sup>Eurostat regional yearbook 2014 – *Education and training 2020 (ET 2020)*, pag. 74, [http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-HA-14-001-03/EN/KS-HA-14-001-03-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-HA-14-001-03/EN/KS-HA-14-001-03-EN.PDF)

<sup>40</sup>The National Institute of Statistics (INS) - <http://www.insse.ro/cms/ro/content/anuarul-statistic-2012>

**THE SCHOOL POPULATION DISTRIBUTION BY LEVEL OF EDUCATION FOR 1995-2012**

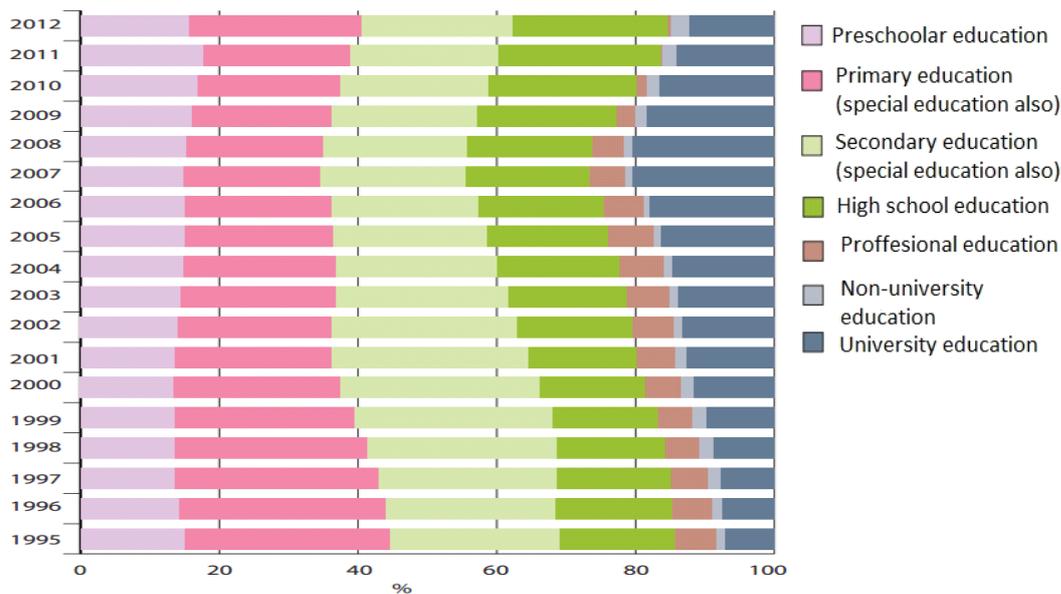


Chart 2: The school population distribution by level of education for 1995-2012, The National Institute of Statistics, Publications<sup>41</sup>

Here are the observations regarding the data shown in Chart No. 2:

- The report of all students enrolled in preschool education nationwide had an upward trend since 1995 to 2011. The decrease rate in 2012 is due to the application of the provisions of Law 1/2011 by creating grade 0 and incorporate them in primary education.
- The ratio of pupils enrolled in primary education had a decreasing trend due to the increased school dropout especially in rural areas. However, this ratio was artificially improved in 2012 by introducing grade 0 in response to the European community requests to achieve commitments regarding children's participation in primary education courses.
- In terms of secondary education we see a rate increase since 1995 to 2000. Since 2001 there has been a decrease in the rate of growth primarily due to drop-out rates from different causes. One reason, according to other studies, we can associate with the migration phenomenon parent, in some cases both parents to engage in other EU countries in the sense that the father remained in the country did not fulfill the duties of parental could regarding education is more concerned to ensure minimum income for daily living.
- In terms of high school students, the enrollement rate had increased since 2000. The increase registred starting with 2010 is very interesting, the explanation is passing transferring the students enrolled in proffesional education to high school education. This transformation had negative effects on education in that rate dropped Exam passing the baccalaureate. Professional education graduates did not have to thus support and sustain baccalaureate, they take the final examination according to their qualification. This qualification is enough to fill a job in the profession studied.

<sup>41</sup> The National Institute of Statistics, pag. 5, [http://www.insse.ro/cms/files/publicatii/pliante%20statistice/Educatia\\_in\\_Romania\\_n.pdf](http://www.insse.ro/cms/files/publicatii/pliante%20statistice/Educatia_in_Romania_n.pdf)

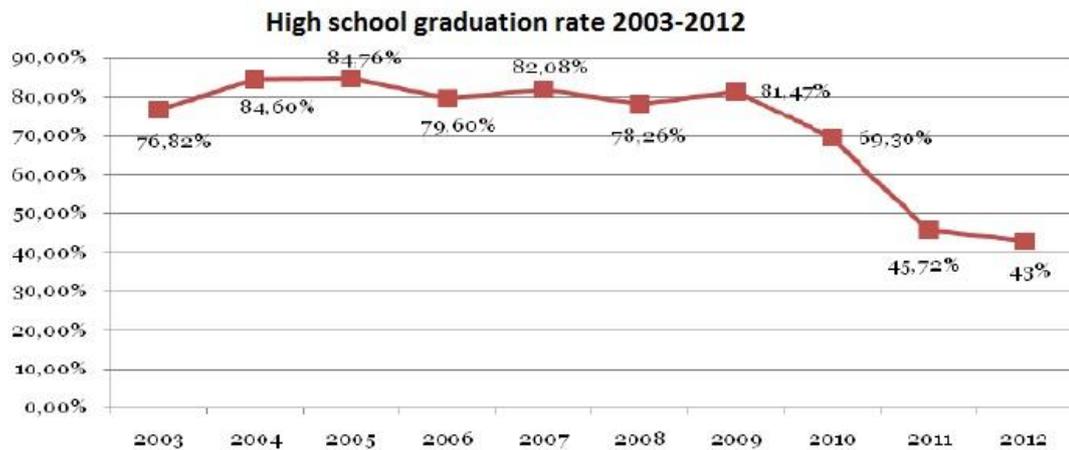


Chart 3: High school graduation rate 2003-2012, The National Institute of Statistics

- What is very interesting is the growth rate of students enrolled in higher education. This rate is an increasing trend since 1995 culminated to 2008 when it registered a value of over 20%. How was it possible? Very simple, due to increased population income remittances sent by people working abroad their families and their desire that their children have college, private colleges were established to absorb this increased demand "learning". This "occurrence of course" to have faculty had a negative effect on the quality of higher education, many students who had no chance of success to entrance exam due not prepared solid state universities have managed to be college graduates. Increasing the number of students has led to the increasing number of teachers, but very short guy who specializes caused a low level of teaching. Introducing rooms supervi baccalaureate, preventing fraud it has reduced the rate of students in the school population since 2010.

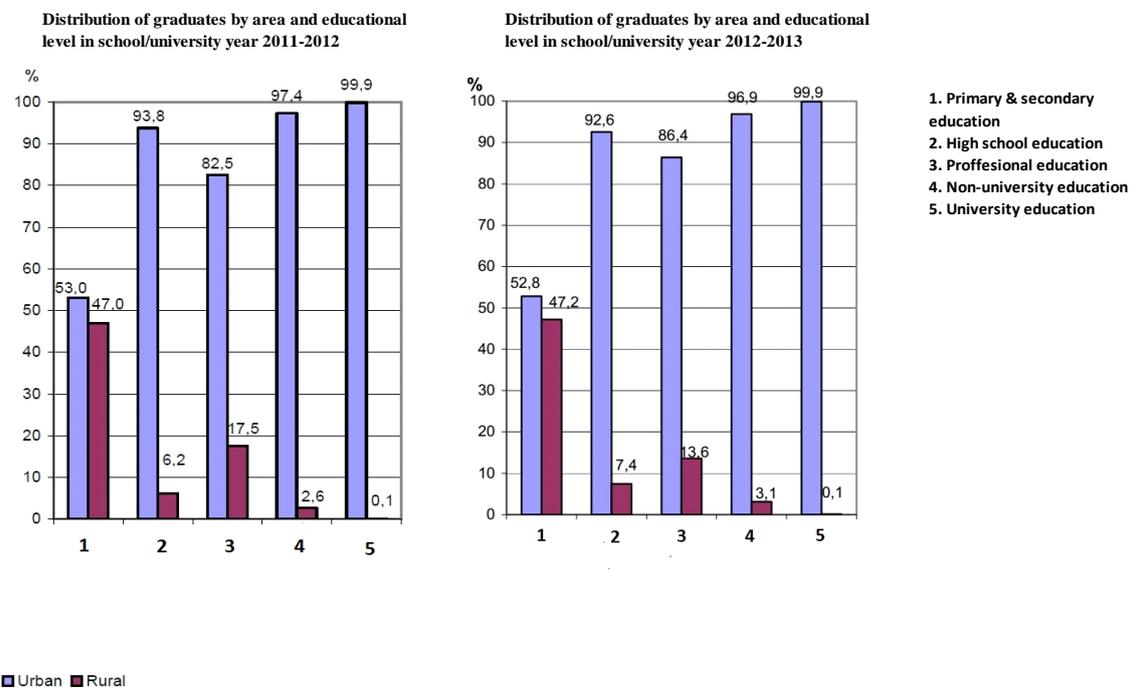
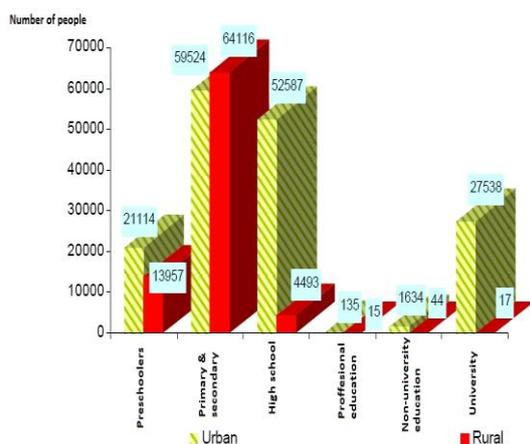


Chart 4: Distribution of graduates by area and educational level in school/university, Press Release No. 154/28.06.2013 and No. 282/20.11.2014 by The National Institute of Statistics

Teaching staff by level of education and area of residence in the school/university year 2012-2013



Teaching staff by level of education and area of residence in the school/university year 2013-2014

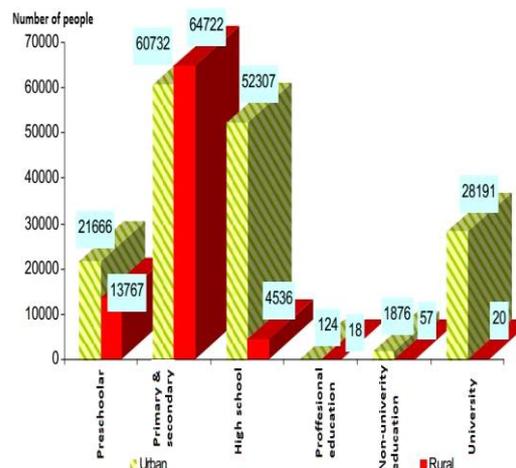


Chart 5: Teaching staff by level of education and area of residence in the school/university, Press Release No. 154/28.06.2013 and No. 282/20.11.2014 by The National Institute of Statistics

The data from Chart No. 4 and No. 5 clearly show that the Romanian educational system has deficiencies in terms of secondary education in rural areas. In rural areas there are very few schools, teachers implicitly compared with the number of secondary school graduates. Clearly, the migration of the young middle school graduate from rural to urban areas to the next level of education is required. Since they are very young, the Romanians are forced to leave their place of residence for educational purposes and this is reflected in the ease with which they emigrate to work in EU member states in particular. Leaving home from a very young age determine the present ease to migrate of the Romanian people.

#### 4. CONCLUSION

The standard of living of a nation is directly proportional to the level of education. The share of immigrants among the population with higher education is much lower than other categories. In order to understand the phenomenon of migration, we first have to analyze the status of education. Quality education is reflected in the professional quality of the emigrant. An educated and well professional trained person easily finds a job, regardless of the country of origin. Recommendations regarding the increase of the Romanian education level:

- Increasing the number of teaching staff while increasing the number of classes. At the present time an average class consists from 25 students (regardless of the educational level).
- Continuous specializations courses for teachers
- School curricula has to be adapted to real life, to the actual requirements of the society
- The motivating salary for teachers has to be directly related to their training and performance
- Motivate performant students
- Promoting the need to be educated among young people and also among their parents

#### Acknowledgement

This study was financed by the European Social Fund through Sectorial Operational Program Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/142115 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain”.

#### **LITERATURE**

1. The Romanian National Institute of Statistics (INS) – <http://www.insse.ro/cms/ro>
2. Eurostat – <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home>
3. The Romanian Education Ministry – [www.edu.ro](http://www.edu.ro)

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## **SHAREHOLDERS VALUE AND CATASTROPHE BONDS. AN EVENT STUDY ANALYSIS AT EUROPEAN LEVEL**

**Constantin Laura-Gabriela**

*The Bucharest University of Economic Studies, Romania  
constantinlauragabriela@gmail.com*

**Cernat-Gruici Bogdan**

*The Bucharest University of Economic Studies, Romania  
cernatbogdan@yahoo.com*

**Lupu Radu**

*The Bucharest University of Economic Studies, Romania  
radulupu.ase@gmail.com*

**Nadotti Loris Lino Maria**

*University of Perugia, Italy  
loris.nadotti@unipg.it*

### **ABSTRACT**

*Considering that the E.U. based (re)insurance companies are increasingly active within the segment of alternative risk transfer market, the aim of the present paper is to emphasize the impact of issuing cat bonds on the shareholders' value for highlighting the competitive advantages of the analysed (re)insurance companies while pursuing the consolidation of their resilience in a turbulent economic environment.*

*Eminently an applicative research, the analysis employs an event study methodology whereas adjusting the market model residuals with the aim of accounting for generalized autoregressive conditional heteroskedastic (GARCH) effects through advanced econometric procedures. To account for the shareholders' value, the research employs high frequency financial data (daily returns of stock-exchange listed (re)insurance companies) and the cat bonds' announcement dates as economic events.*

**Keywords:** *alternative risk transfer solutions, catastrophe bonds, competitive advantage, event study, GARCH model*

### **1. INTRODUCTION**

Sustainable economy and, implicitly, sustainable development are more and more influenced by the occurrence of large natural catastrophes as they pose important social and economic consequences both at the level of the society as a whole, and at the level of companies. Furthermore, there is a worldwide consensus that their impact, in terms of financial costs, is growing as the social and economic activity is developing towards areas more prone to catastrophe risks – a fact of great concern at E.U. level, especially in the context of the climate change concerns. As one of the most affected business regarding the natural disasters, the companies within the (re)insurance industry adapted their risk management strategies while accessing the capital markets' capacity through the development of sustainable financial tools and instruments. One of the most prominent examples is the case of the securitization of the disaster risks by issuing catastrophe bonds (cat bonds).

Considering the growing importance and potential of these innovative risk management instruments, the scope of the present paper is three fold:

- (1) to emphasize the impact of issuing cat bonds on the shareholders' value while employing a GARCH enhanced event study methodology
- (2) to analyse the market of the catastrophe bonds from a European perspective
- (3) to highlight several competitive advantages of the analysed (re)insurance companies while pursuing the consolidation of their resilience in a turbulent economic environment

## **2. LITERATURE REVIEW**

### **2.1. Event studies – selective literature**

Although the starting point of the event study methodology is acknowledged to be the research of Dolley (1933) that focuses on the price impact of stock splits (referenced by Cam, Ramiah, 2014, 171; Nageswara Rao, Sreejith, 2014, 41), there are the seminal works of Ball and Brown (1968) and Fama, Fisher Jensen, and Roll – FFJR (1969) that are considered to be the modern inception studies within this field (Bowman, 1983, 561; Corrado, 2011, 207).

Considering the two afore mentioned studies, the specialized literature acknowledges two well-identified typologies of event studies: (a) information impact event studies, as is the one developed by Ball and Brown (1968), in which there are investigated the effects particular events have on the company investors' wealth (b) market efficiency testing event studies, following that of FFJR (1969), where there is investigated the behaviour of the stock prices while adjusting to specific new information (Bowman, 1983, 562; Binder, 1998, 111).

Furthermore, Kothari and Warner (2007, 5), referring to the relevance of the event studies in financial economics, highlight that: (i) the short-horizon oriented event studies show importance of the policy decisions at corporate level while centring on the announcement impact around a particular event and (ii) the long-horizon oriented event studies are significant while testing market efficiency when analysing the persistence of abnormal returns following a specific event. Along with this typologies, Bowman (1983, 573-575) acknowledge a third and fourth typology: (a) model evaluation event studies, in which the core is the expectation model employed in inferring the information content and (b) metric explanation event studies, centered on finding "variables which explain the excess return metric observed in an information content or market efficiency test" (Bowman, 1983, 574).

#### **2.1.1. Outlining the basics of the event study methodology**

There are several studies that outline the design and steps of an event study (e.g. Bowman, 1983; MacKinlay, 1997; Kothari, Warner, 2007), defining, broadly, the following fundamental stages:

(1) *Defining the event and the event window.* As specified by Bowman (1983), the event specification impacts on the assumptions to be tested, while crucial aspects are also represented by the precision in establishing the occurrence timing or the presence of confounding events. With regard to the event window, this refers to the period of time established for investigating the assets' price behaviour induced by the analysed event. Prior to the event window, there is also established the so called estimation window which serves for examining the movements of the prices.

(2) *Companies sample selection.* With respect to this aspect, the specialized literature recommends establishing criteria for including companies within the analysed sample like listing criteria or industry membership (MacKinlay, 1997, 15).

(3) *Defining a reference process for the normal returns behaviour.* The normal or benchmark returns are those used to determine the abnormal returns through comparing with the assets returns. The most frequently used methods for computing normal returns are: (i) mean adjusted returns (ii) market adjusted returns and (iii) conditional (market and risk) adjusted returns (Brown, Warner, 1980, 207-208; Nageswara Rao, Sreejith, 2014, 45). Mean adjusted

returns are based on a benchmark determined as the average return over the estimation window (the pre-event window period). In a market adjusted returns approach, there is assumed that the companies included in the sample yield as the market over the event window. Conditional risk adjusted returns are based on regression models to determine the expected returns, while accounting for the stock return – stock market index nexus (a variety of the Capital Asset Pricing Model).

(4) *Determining and cumulating the abnormal returns.* In order to infer information on the stock price changes, the abnormal returns are aggregated across time and securities/companies (Henderson Jr., 1990, 285-286; MacKinlay, 1997, 21). Therefore, taking into account that there is an interest in the performance of the price both around the event and on longer periods of time around the event, the abnormal returns can be aggregated: across companies, in correspondence with each event period (AAR – average abnormal returns), across time (CAR – cumulative abnormal returns). MacKinlay, 1997, 21). Further, either AAR or CAR is aggregated to obtain cumulative abnormal average returns (CAAR) – inferring on the abnormal returns' aggregated impact. For example, in order to obtain CAAR, average abnormal returns could be cumulated over the days of the event window.

(5) *Employing statistical tests to investigate the significance of the results.* In this respect, Henderson Jr. (1990, 297-298) emphasizes that there are main concerns: the choice of a parametric or a nonparametric test and the choice of the test. Generally, the literature recommends the use of parametric tests and, more precisely the student t-test (Henderson Jr., 1990, 298)

### **2.1.2. Using GARCH models in event studies**

Since the inception of the seminal work of Fama et al. (1969), the literature of event studies proved to be prolific. However, as Kothari and Warner (2007, 8) point out, there have been only two pivotal variations from the methodological perspective: the prevalence of daily and intraday returns employment and the advancement in complexity of the abnormal returns' estimation and statistical significance testing.

As mentioned by Corhay and Tourani Rad (1996, 529), the specialized literature acknowledged that eluding the “time dependence in stock return series” can inflict both on the efficiency of the parameter estimates and on the predictability of the test statistics. Furthermore, Mills et al. (1996, 559) affirm that erroneously specified market models could conduct to flawed inferences regarding the effect of a specified event on the stock returns. Cam and Ramiah (2014), while comparing seven expected returns models (including GARCH and EGARCH) for studying the effects of catastrophic events (terrorist attacks and, also, the subprime crisis) on stock market returns, conclude that different asset pricing models conduct to different results in terms of the magnitude and sign of the effect.

Cosistent with the above findings, several research papers address the issue of autoregressive conditionally heteroskedastic effects (ARCH) of the residuals resulting from the market model by employing the generally acknowledged GARCH models originally developed by Bollerslev (1986).

For example, Brockett et al. (1999), while accounting for the well-known stylized facts regarding the stock returns (e.g. fat tails, autocorrelation in squared returns), improve the market model by employing AR(1) and GARCH(1,1) processes in order to examine the impact of the California's Proposition 103 on the insurance stocks returns.

Sabet et al. (2012) investigate the impact of two events (British Petroleum oil spill and the USA moratorium on exploration) on companies from the oil and gas sector through a GARCH(1,1) enhanced event study after identifying ARCH effects.

Thomann (2013) examines the effect of both the 9-11 attacks and natural catastrophes on insurance stocks volatility by employing multivariate GARCH models (a DCC-GARCH (1,1)) and infer that in order to obtain unbiased results while studying the impact of insured catastrophes with event studies there should be considered the nonstationarity of beta.

## **2.2. Stock returns reaction to cat bond activity – event studies insights**

Mueller (2002) centres on the impact of issuing catastrophe bonds on the stock returns of listed insurance and reinsurance companies. Considering a series hypothesis regarding the stock prices (H1: Issuing cat bonds is value enhancing – positive reaction, H2: Considering the spread of the cat bonds, prices will be negatively affected – negative reaction, and H3: Considering the spread of the cat bonds, prices will not be affected – neutrality) the author runs a market model for the normal returns, using both an aggregate and an individual approach regarding the cat bonds issues. As benchmarks, the author employs MSCI World, the MSCI World Insurance, and the FT All World Insurance index, while also determining an equally weighted price index that tracks the performance of the companies included in the sample. Both the private placement offering memorandum (for 16 issues) and the press/news alerts (for 12 issues) are used to infer the event date. The general conclusion supported hypothesis three, the cat bonds being revealed as a substitute for the reinsurance.

Bierley (2008) and Bierley et al. (2008), focusing on several hypothesis regarding the corporate demand for insurance, examine through both a multi-factor and a single-factor event study the response of the stock market returns to cat bonds issuance, complemented by a cross-sectional analysis. The sample comprises 44 transactions developed between 1997 and 2007 by 20 companies from three sectors: financial, energy, and entertainment. The benchmarks are local stock market indices as well as the MSCI World Index as a proxy of the world capital markets. The event study is structured to test the semi-strong form regarding the efficient market, while considering the immediate impact of the announcements on the stock returns. In order to test the statistical significance of the results, there are used three tests: two parametric (the Patell z Test and the Standardized Cross-sectional z Test) and one non-parametric (the Generalized z Test). The results regarding the impact of a series of factors on firm value indicate that the event date has a significant positive effect; firm size had a significant negative effect; industry/sector dummy variable (insurer versus non insurer) reflected a positive and significant impact for the non-insurer, while the trigger dummy variable reflected that investors favour modelled loss triggers.

Hagendorff et al. (2012), centring on a 80 cat bond sample issued by 25 companies up to May 2010, examine the wealth effects associated to the issuance and announcement dates of catastrophe securitization. The employed methodology generates market-adjusted abnormal returns, while the benchmark is an insurance index tracking, also, reinsurance companies' performance. In terms of the robustness of the results, the authors employ both parametric (two tailed t-test) and non-parametric (Mann-Whitney-Wilcoxon) tests. The authors, first, develop an univariate analysis through which there are investigated the wealth benefits of announcing the cat bonds issuance, concluding that issuing cat bond does not imply strong wealth increases for the stock investors of the cedent company. Further, the study accounts for value effects while analysing both the hedging benefits (with triggers and initial rating as proxies) and cost savings (with the loss ratio and the underwriting cycle as proxies). The results suggest there are no differences in the abnormal returns around announcements of cat bonds issue when including the trigger type, while lower loss uncertainty and soft market issued cat bonds generates higher abnormal returns. Therefore, the cost savings motivations overcome the hedging ones in terms of wealth effects. The research is complemented by a multivariate analysis that confirms the findings of the univariate one.

### 3. DEVELOPMENT OF THE EMPIRICAL ANALYSIS

#### 3.1. Data and methodology

Since the aim of the paper is to give a recent outlook on investor value concerning (re)insurance companies within the EU, we have selected all Cat bonds issued by companies with headquarters within EU Member States. As within the other insurance securitization event-studies (Mueller, 2002; Bierley, 2008; Bierley et al. 2008; Hagendorff et al., 2012), we considered within our research those bonds where coupons and/or principal payments are related to a specific set of risks associated property damage or casualties as a consequence of natural catastrophes. However, we excluded transactions that pertain to the life/mortality or to auto/credit insurance risks as we want to capture exclusively the effect of the cat bonds through which natural catastrophe risks are securitized. It is noteworthy to mention that the structure of the bonds is irrespective of the actual risks and, more importantly, there is no difference in the risk related markets. The considered cat bond deals were selected from the well-known [www.artemis.bm](http://www.artemis.bm) website.

All companies considered within the study are listed companies with widely available data, and, in this regard, we used daily frequency returns for all 8 major Cat bonds cedents/sponsors (Allianz SE, Hannover Re, Munich Re, AXA, SCOR, Assicurazioni Generali, Amlin and Catlin) from 03-Oct-2005 to 22-Aug-2014 gathered from Thomson Reuters Eikon<sup>42</sup>. Additionally, we used the Euro Stoxx 600 index as the market index for our forecasting model, evidently, using the same frequency and time interval. Minor adjustments were necessary since two companies are listed in Pound Sterling hence, the conversion was made in Euros using the European Central Bank rate<sup>43</sup>.

The highlight of our data gathering effort is materialised in our events sample which is comprised indiscriminately of Cat bond issue announcements for all considered companies within the reference time period. The data sample was compiled from three main sources consisting of AON<sup>44</sup>, Artemis<sup>45</sup>, and Alacrastore<sup>46</sup>. Additional confirmations concerning the announcement dates were also gathered from additional sources<sup>47</sup>. Overall, we have gathered 43 Cat bonds announcement dates which constitute themselves in our events sample.

Part of the reason why we selected multiple sources is the fact that currently available data presents a relative high degree of inconsistency which leaves room for discussion on the actual sample correctness. This uncertainty is currently generalised in the study of Cat bonds and its impact stretches beyond localised result quality. In this regard, it is important to mention the fact that the results of different similar event studies have a relatively lesser degree of comparability due to lack of a common set of announcement dates which induces a bias in results from one study to another. As suggested by Hagendorff, Hagendorff, and Keasey (2013), this issue would not be resolved however, by substituting announcement dates with issue dates due to the fact that Cat bonds are sold on a book-building basis which signifies that issuers already contact potential investors at the time of the issue. Part of the rationale of this behaviour is given by the fact that issuers need to assess investor reactions regarding the size and structure of potentially issued Cat bonds which signifies that investors already adjust their trading behaviour based on a company's intention to issue a Cat bond before the issue date. (Hagendorff, Hagendorff, and Keasey, 2013, 288) In the end, this

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<sup>42</sup> <https://thomsonreuterseikon.com>

<sup>43</sup> <https://www.ecb.europa.eu/stats/exchange/eurofxref/html/index.en.html>

<sup>44</sup> <http://www.aon.com/reinsurance/investment-banking.jsp>

<sup>45</sup> [http://www.artemis.bm/library/catastrophe\\_bond\\_ils\\_market\\_reports.html](http://www.artemis.bm/library/catastrophe_bond_ils_market_reports.html)

<sup>46</sup> <http://www.alacrastore.com>

<sup>47</sup> <http://www.insuranceinsider.com> and <http://www.trading-risk.com/>

signifies that announcement dates cannot be substituted with issue dates due to the uniqueness of carry-over information.

In this paper, the basic event study methodology will involve analysing stock market valuation effects as a consequence to a company's Cat bond issue announcement. This is primarily done by statistical significance testing (simple t-test) of market-model adjusted abnormal returns (AR) and cumulative abnormal returns (CAR) across days and firms. Abnormal returns and cumulative abnormal returns are computed for 20 days period before and after each event.

$$AR_{it} = r_{it} - r_{mt}$$

where:

$r_{it}$  is the return of company  $i$  on day  $t$  and

$r_{mt}$  is the return forecasted from an estimation (based on 100 intervals before) of a GARCHX model, where the mean equation uses the market index, and the variance equation is a standard GARCH(1,1) model, which, to our knowledge, stands for an innovative approach within the event studies regarding the effects of the cat bonds issuances on the stock returns as proxy for the wealth of the shareholders. The study was developed in MATLAB.

### 3.2. Hypothesis development

By using the event study methodology we test the abnormality hypothesis of returns from (re)insurance companies which issued Cat bonds starting from the market efficiency hypothesis that signifies that asset returns assimilate new information concerning current and future performance. In essence, if an event has any impact on the market or individual performance, its returns will vary as soon as the information was processed by the market. Cumulative abnormal returns which are statistically significant indicate a strong impact on the company or market while non-significant returns indicate their ability to recover from jolts.

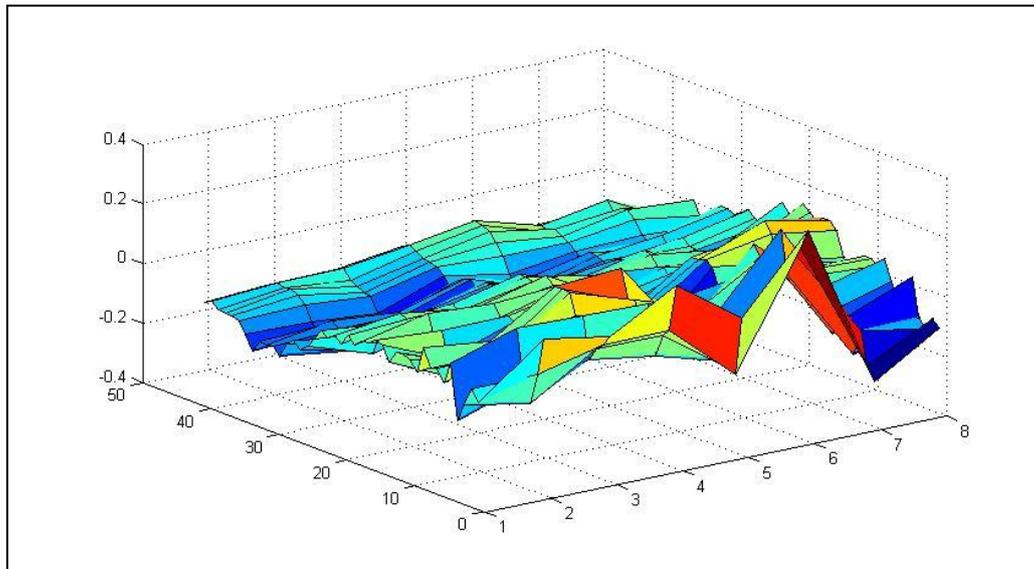
In this regard, we have formulated two work hypotheses:

1. At a market level, individual announcements of Cat bonds issues do not influence the performance of all other companies;
2. At a company level, individual announcements of Cat bonds issues do not influence the performance of the single issuing company

These two hypotheses ensure the fact we keep both an overall market focus and allow us to examine in more detail which of the 8 considered companies is more susceptible to changing investor perception around Cat bonds announcement dates.

### 3.3. Empirical findings

We first ran our event study to check for the overall market reaction to Cat bonds announcements. After computing our abnormal returns, cumulative abnormal returns and t-statistics we observed that there are no statistically significant cumulative abnormal returns. This signifies that individual Cat bonds issue announcement do not influence the overall market comprised of the 8 EU based (re)insurance companies. This does confirm our first hypothesis and signifies that the market captures in an efficient and unbiased manner information concerning these type of events irrespective of the time frame around the event. As the figure bellow illustrates, the close to 0 t-values leave no room for finding any statistically significant CAR.



Source: authors' contribution (developed in Matlab)

Figure 1. *t*-statistics for all 8 companies for the  $[t-20; t+20]$  event window

By further investigating individual company reactions to the events we came to the conclusion that for 6 out of 8 companies the individual CARs for their own Cat bond announcements were not statistically significant and consistent with our findings at a market level. However, for two of the companies we have identified three and respectively 6 statistically significant CARs. The tables below illustrate the days before or after the announcement in which the statistically significant CARs were identified, the actual computed CARs and associated *t*-stats and *p*-values.

Table 1. Value effects of Cat bond announcements on an individual company (AXA)

<i>Event window</i>	$[t-20; t+20]$		
	<b>CAR</b>	<b>t-stat</b>	<b>p-value</b>
t-20	-0,015**	-2,119	0,10
t-19	-0,018**	-2,628	0,06
t-18	-0,022**	-2,307	0,08
** statistically significant at 10%			
*** statistically significant at 5%			

Source: authors' contribution (developed in Matlab)

Table 2. value effects of Cat bond announcements on an individual company (Amlin)

<i>Event window</i>	$[t-20; t+20]$		
	<b>CAR</b>	<b>t-stat</b>	<b>p-value</b>
t+14	-0,102**	-3,942	0,059
t+15	-0,102***	-6,708	0,022
t+16	-0,103***	-30,885	0,001
t+18	-0,093***	-4,678	0,043
t+19	-0,099***	-6,493	0,023
t+20	-0,105***	-6,752	0,021
** statistically significant at 10%			
*** statistically significant at 5%			

Source: authors' contribution

Our findings indicate that for two companies in our sample, Cat bonds issue announcement do exert some influence on an individual level. This challenges our second hypothesis and signifies that for some companies the information comprising of Cat bond announcements is captured in a biased manner starting as soon as 20 to 18 days prior the announcement and 14 to 20 days after the announcement. One particularly noteworthy aspect is represented by the negative abnormal returns which implies negative valuation effects on a company level as a consequence to cat bond announcements. However, as one can noticed, in the case of the first company, the abnormal returns are registered before the announcement date and, though negative, have a rather small value. Furthermore, the identified and considered number of transactions is quite low. For the second company, the results, though significant, could be the outcome of a low number of developed transactions while also suggesting that shareholders might be reticent to the initial entry on a rather new alternative risk management market and the associated costs.

#### 4. CONCLUSION

In recent years, the amount and intensity of natural disasters have led insurance and reinsurance companies to deal with the very complex situation of seeking alternative risk transfer solutions. Cat bonds are regarded as an acceptable solution since these transfer catastrophe-related risks to capital markets and, in this regard, issuing Cat bonds should offer a number of potential benefits. However, current state-of-the-art mentions significant uncertainties on whether or not Cat bonds actually bring these benefits to issuing companies. It is this uncertainty which justifies our endeavour to empirically examine the shareholder wealth effects for a data set consisting of 8 EU based Cat bond issuers from 2005 to 2014.

Specifically, on an individual company level, some evidence of shareholder effects was registered, for two of the companies. Significant CARs were recorded respectively, before and after the events. Very interesting facts are the generalised negative impact of announcements and the overall clustering of statistically significant CARs of two companies. However, provided the relatively low number of Cat bond issues and the overall uncertainty of actual announcements, our results have to be interpreted with due caution and should be regarded as guidelines rather than recommendations. Considering these aspects, we do not interpret the results as conducting to shareholder's value destruction, but rather as a "novelty effect" considering the experience of the cedent/sponsor company on the cat bond market. This could also support the fact that Cat bond issuers should take the responsibility to communicate with investors prior to any issue announcement more seriously in order to give these a better understanding of these bonds. *Therefore, the second hypothesis was partially confirmed, suggesting that, generally, the stock returns of the more experienced companies on the cat bond market have a neutral reaction to the issuance of these financial products.*

On a market level, some interesting results of our study reveal that there is not sufficient evidence to support or disprove performance gains. In this regard, no statistically significant abnormal returns were registered by all 8 companies in relation to individual events. This supports evidence of efficient markets and leads to believe that Cat bond announcements do not generate biased investor reactions. Some conclusions may be drawn, in this regard, concerning the lack of localised contagion where the overall mass of companies is not affected by individually occurring announcements. *Therefore, the first hypothesis is confirmed indicating an unbiased response at the level of the sponsors' stock returns as these issue catastrophe bonds.*

In conclusion, our paper highlights some present shareholder value effects regarding the performance of E.U. headquartered (re)insurance companies that issue Cat bonds. While considering the present state of this market at E.U. level (e.g. the current coverage through

these instruments), the results seem to confirm that there is generally a neutral response to the securitization of natural catastrophe risks. Therefore, as in Mueller (2002), at the level of our sample, the results seem to suggest that for the moment the cat bonds stand for alternative to reinsurance. However, we would also add that, considering the resistance of these financial products, especially in turbulent times, nowadays, they stand for a viable alternative.

Therefore, in terms of competitive advantages, at this point, we could infer two statements: (1) Overall, the cat bond market at the level of E.U. based companies, seems to be in a state of equilibrium between costs and benefits of issuing cat bonds, as they are perceived by investors. This state of art, along with further liquidity and more transparency within the cat bond market, could lead to generate shareholders value.

(2) At individual level, companies that have a rather stable presence on the cat bond market, though are not currently recording positive stock returns to the cat bonds' issuance, seem to exhibit a better perception in this respect from their investors when compared with those companies that new or enter rarely on this market.

As further research, at the level of this sample, the research could be complemented by considering a series of improvements encountered in the specialized cat bond literature: accounting for other structural features of the deals while analysing the results of issuing cat bonds for the ceding companies or considering other types of effects (both in terms of financial performance and risk).

### **Acknowledgement**

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/159/1.5/S/142115 „Performance and excellence in doctoral and postdoctoral research in Romanian economics science domain”

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## BIG DATA – BIG OPPORTUNITIES?

**Cristian Isacoff**

*DAIMLER AG, Germany*

*Cristian.Isacoff@gmx.de*

### ABSTRACT

*Big Data is the next step after a series of logical stages of development in the Internet, such as the individualization of moving data to the cloud or the rapidly increasingly desire for digital mobility. It can be used in all departments of a company such as marketing, customer relationship management, finance and controlling. Advanced solutions offer opportunities for changes in the operational processes in organizations. Big Data is fundamentally ethically neutral. There are no views about right or wrong. However, this ethical neutrality does not apply to the use of such data.*

**Keywords:** *Big data, ethical issues, four V's.*

### 1. INTRODUCTION

The term Big Data is used primarily in the area of computer modeling and software or hardware development for large data sets in the fields of geography, engineering or linguistics. The data availability exploded with the establishing of social networks like Facebook, LinkedIn and Twitter. It combines different data sets with new data sets in order to detect any patterns in these cumulative data. This is done with very intelligent software programs which draw the right conclusions from the results. The gathered data can be evaluated for different purposes and for different actors. Mobile devices like tablets and smartphones have limited capacity, but scientific institutions and companies generate daily huge data sets. In 2011 1.8 Zettabyte were produced worldwide <sup>[1]</sup>. A Zettabyte corresponds to a sextillion bytes; this is a number with 21 zeroes:

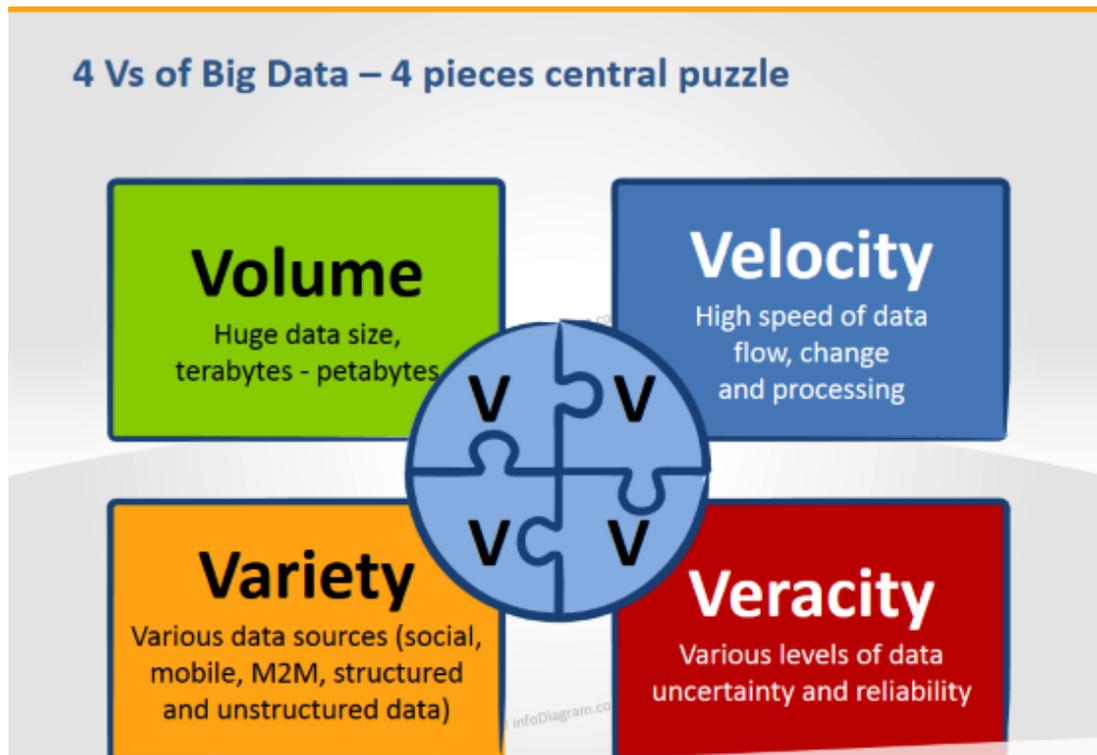
1.000.000.000.000.000.000.000

Unit	Equals
1 Bit	Binary Digit
8 Bits	1 Byte
1024 Bytes	1 Kilobyte
1024 Kilobytes	1 Megabyte
1024 Megabytes	1 Gigabyte
1024 Gigabytes	1 Terabyte
1024 Terabytes	1 Petabyte
1024 Petabytes	1 Exabyte -
1024 Exabytes	1 Zettabyte
1024 Zettabytes	1 Yottabyte
1024 Yottabytes	1 Brontobyte

*Fig. 1: Units for data sizes*

## 2. THE FOUR V'S OF BIG DATA

The major elements of big data are the four V's: volume, variety, velocity and veracity. We are saving huge amounts of data and when we seek the right information is like looking for a needle in a haystack <sup>[2]</sup>. This *volume* is generated mostly by companies such as master data, customer relations management data; by humans like social networks, pictures, videos and from intelligent machines – for example sensor data, data services, log data. Artificial intelligence generates and stores information like temperature, distance, length, velocity, weight and so on. Mobile devices save data about motion and light sensors, altitude meter, fingerprint, speech recognition, digital compass and proximity sensors. Smartphones register nowadays if someone looks at the phone and if this is the case, the display of the smartphone will be highlighted. Recognition and motion sensors tell us how many steps we walked in a day. Our pulse check can also be done with a smartphone. All this information is stored and we can access it if we want to. In the digital age the streams are flowing because of the variety of sensors and the fusion of communication technologies. The *velocity* of data make possible that we analyze the information in real time. The used term therefore is *real time data*. Information can be structured or unstructured data. This is the third V of the four major elements of Big Data, the *variety*. Structured data are for example customer master data (birth day, gender, and living town). Unstructured data are videos, pictures and audio files. The current challenge is to make from heterogeneous data formats with different data sources a homogenous data format in order to subsequently analyze, link and report the values. Particularly interesting are subjective expressions in text, word or video files. Every advertising agency is interested in interpreting opinions and emotional expressions on products and if possible, in real time. Therefore they need intelligent analysis tools and algorithms that make judgmental statements recognizable. The problem is that opinions expressed are inherently unpredictable. The situation is similar to seismic data or macroeconomic indicators. Such forecast data are elementary especially for complex calculations of scenarios in science. However, despite of the relevance of these data, the uncertainty can't be eliminated by any cleanup methods. This is what analysts define as the last V, *veracity*.



*Fig. 2: The Four V's of Big Data*

### **3. CHANCES AND RISKS OF BIG DATA**

Thousands of variations of products and services can be tested thanks to Big Data in a short time in order to examine the impact of changes on the cost, cycle, time and performance. Websites are customized often in real-time and adjusted depending on factors such as gender, nationality and search history of customers. The analysis of data in the supply chain can enhance efficiency, increase sales and ensure service availability. Big Data could also help the health sector to be more efficient. For comprehensive patient treatments results are compared with data to evaluate the effectiveness and the cost of the different interventions. The aim is to achieve the best possible outcome for the patients and to save costs by reducing the lack of treatment and over-treatment costs. Medical doctors could examine medical data in real time in order to get a comprehensive view of the treatments.

Big Data supports also innovation and development of products and services in organizations. Information from social media applications could be used to analyze the opinions, feelings of the customers and their geographical location and demographic groups. Offers that meets the wishes and needs of the target groups could be promptly created. Product innovations are for companies a critical success factor. However, the process of research, development and testing of new offerings are very resource-intensive. Big Data enables organizations to anticipate and test scenarios of the success of new products and services. Banks and retailers can use data from social media to identify new market trends.

Researchers have previously used preconceived models to the reality; additional data-driven observations in real time can be used with a much larger variety without great cost, in order to enrich forecasts with more information. In the IT security and financial sector, risk and compliance matters can be better assessed to stop credit card fraudsters.

Such a scenario would be imaginable: one could order in Internet a new pair of shoes; after a couple of hours the postman rings at the door. Amazon has patented such a service, they call it

*Anticipatory Shipping.* This business model is possible thanks to Big Data. Probabilities are derived from huge amounts of data with the help of complex mathematical functions. The ingredients for such a receipt are the traces that we leave on our Internet way; products and services can be precisely be aligned to the individual wishes of the customers in order to predict our future behavior. This is what scientists call *Predictive Analytics*. Amazon analyzes also how long the mouse pointer was on a product and if reviews of the product were read. We can predict from such an information how probable is that the customer orders the product. The product will be packed and send to a logistics center if a purchase decision is expected to be taken.

The retail group Walmart checks in the social media the contacts of its customers. On this basis, Walmart sends suggestions for birthday gifts to the friend circle of the customer. The music industry also profits from Big Data: based on the downloaded songs, *Spotify* sends record companies information about the towns, where their music is been played. This information is very valuable when planning a tour of a music band. The TV series *House of Cards* uses also predictive analysis, for its production were taken into account the popularity of individual actors as well as the thematic interest of the audience. The result of this analysis was a record audience rating.

The importance of Big Data is not only for retailers and music industry important; it plays also a major role for the police. In several towns in USA complex mathematical algorithms are used in order to calculate and predict where and when a crime will take place. The crime rate in Memphis fell by 30% thanks to *Predictive Policing*. One can locate where a human will be during the week with the GPS data from a smartphone. With this information coupled with data from the phone memory like last calls and contacts, one can predict with an accuracy of 3 meters where a person will be during the week.

There are also risks when we use the powerful information from Big Data. Today we need to talk about disproportionate surveillance projects and the vision of the transparent people. Unlike Orwell's "1984", it is not a dictatorial regime that dominates the world; the people participate voluntary, while in the background diverse interests of different actors like companies, science, secret services and NGOs want to know everything about us. The focus, however, is the quite understandable concern that citizens and consumers are increasingly becoming a toy of some actors or they are developing involuntarily to a glass human being.

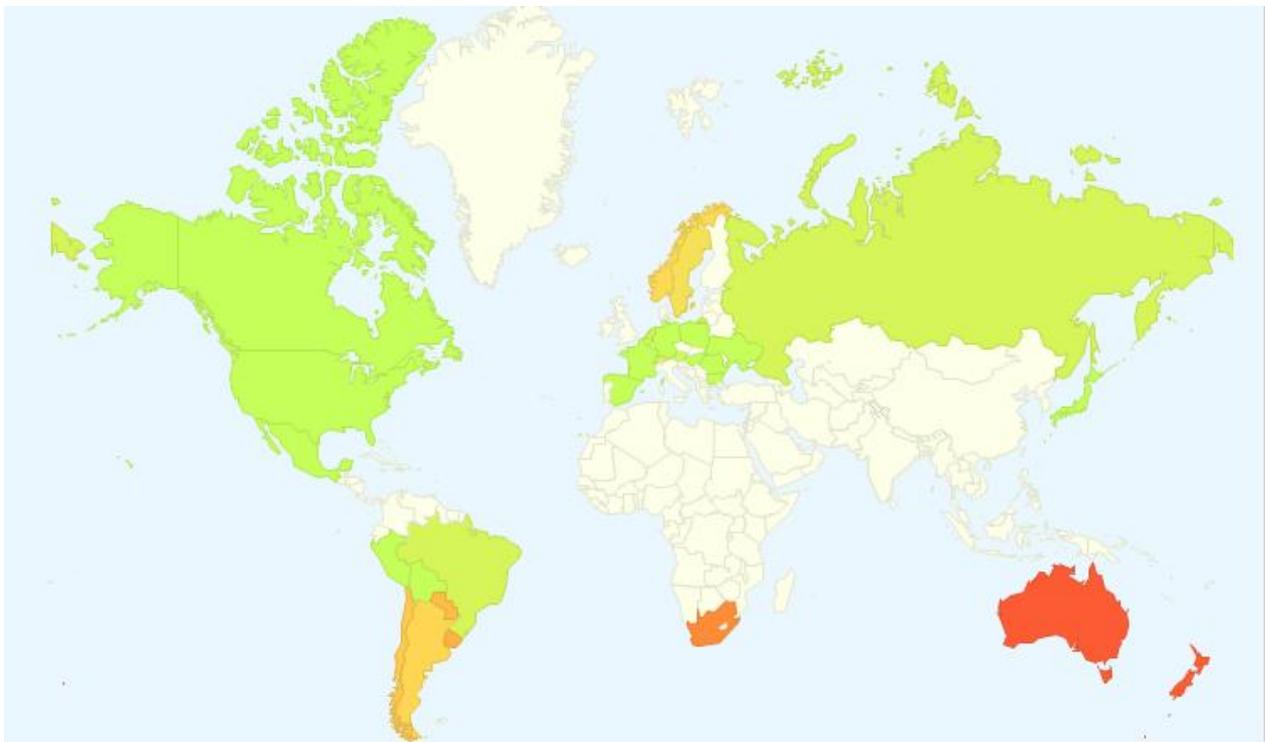
#### **4. BIG DATA IN PRACTICE**

New technologies and trends, such as social media and mobility, result in the need to process increased amounts of data, thereby strengthening the changes in an increasingly important Big Data management. Therefore, a Big Data management is a powerful trend that will influence developments in the IT and the business world<sup>[3]</sup>. IT departments will be confronted to derive detailed information about the inexorably growing amount and optimize them ideally in real time in order to generate new businesses and to get the market position strengthened. The challenge is to make the requirements of the departments affordable and to develop appropriate strategies for technology and processes. Without these strategies, it will be impossible to provide data on time and in good quality.

On the one hand, Big Data can help to find an effective solution for corporate control and to implement processes that were not possible due to technical barriers. On the other hand, decision makers from business and IT are equally skeptical if Big Data solutions are not overrated. One thing is certain; the technology that is necessary for Big Data management has made the leap from the laboratory and was prepared in a variety of projects ready for practice. Now it is time to implement the vision into action and take advantage of new technologies. However, we do not find ourselves in a time when the investment in the IT needed due to a

technical infatuation would be waved through. The operational benefits, the underlying business case is at the forefront of any investment. Therefore, if a financial benefit will not be clarified, there will be generally no investment.

The analysis of flu outbreaks had to be based on the number of notifiable disease cases but many people tend not to go straight at the first symptoms to the doctor and the duration of the transmission process of the official notification of diseases cases is relatively high. Health authorities usually can react only with a substantial delay of 1 to 2 weeks to the outbreak of disease waves. A Big Data project from Google can end the situation; since the end of 2008, there are now more than 25 countries which use the tool *Google Flu Trends*. An early warning system based on data about influenza outbreaks can be used for the different health authorities as a supplement to traditional flu surveillance mechanisms in order to active more preventive. Google researchers developed an algorithm which determines the daily most frequently searched flu related terms. Search volume analysis – also made with tools from Google – reveals a pattern of the actual disease figures.



*Fig. 3: Google Flu Trends*

## **5. BIG DATA = BIG BROTHER? ETHICAL ISSUES OF BIG DATA**

One important ethical issue with Big Data and data mining is the invisible information gathering <sup>[4]</sup>. This is the case when someone is not aware that the information is being collected or of how it will be used. The person has no opportunity to consent for its collection and use. A Web site log data is such an example, users actions are there registered and this data is not publicly available. Ethical reasons can also be responsible for ensuring that the potential of Big Data is not exhausted. Ethics plays a role when organizations recognize the value of information and want to use it for new or better products. Actions and decisions of companies could have consequences with effects on quality, customer relations and sales.

Thus, due to Big Data, a company should take new considerations about the ethical values of the organization. Change operational activities and the increase of the amount of the information raises ethical issues as well. Organizations that not evaluate the ethical implications of the collected data of its customers risk degrading the quality of their customer relationships and expose themselves to the risk of legal consequences.

Big Data is fundamentally ethically neutral. This means that it exist no views about right or wrong. However, this ethical neutrality does not apply to the use of such data. Through the daily management of the business, Big Data technologies have been increasingly involved in our daily business. This increases the risks, nature, severity and impact and is becoming more difficult to estimate in advance. When a person holds information about his identity intentionally secret, should the ethical question be what right has another person to publish information about the person in case? The company has no benefit from the information if this information is anonymous. Furthermore, there will be tensions between data providers and data collectors. Spatial data and health information are in terms of property rights considered to be critical. The biggest change by Big Data is the exponentially larger and geographical more spacious number of persons, which may affect the reputation. The management and maintenance of an online reputation withdraw more and more the control of the individual.

Moreover, it is difficult to introduce universal values and guidelines in a large organization and across organizational and national boundaries. The availability of larger data sets and the ability to process the query from anywhere makes it attractive for organizations to exchange data and establish a relationship. Different ethical backgrounds make the guarantee of ethical principles in this situation particularly difficult. Big Data can be used in a constructive, positive way to improve the lives of many people. The data volume of Big Data will be comprehensible only to large corporations and governments. It is unlikely that information will be used ethically. Probably every person will be senseless spied due to security concerns. From the ethical perspective is the difference between sale of data and data acquisition controversial. The legal system punishes the seller of data more than the buyer. In any case, the logical consequence is that sufficient data vendors exist, as many organizations currently acquire information from third parties. Many organizations state in their privacy policies that anonymized data will not be protected. Whether a record is classified as anonymous depends on what other information can be accessed about this individual in order to “re-identify”.

## 6. CONCLUSION

The growth of data volumes and data types is exponentially. Everyday activities take place in the Internet and generate a variety of data. Information about the behavior of people around the world is daily collected. Every activity of Internet users such as a review of a book or typing in a search engine leaves traces in the form of data. With the help of Big Data, companies can report in real time huge amount of information. With emphasis on data confidence, organizations need to ensure security measures due to the possibility that information can be used for one sided interests and only for a minority of the population. This would have negative consequences.

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## **SLOVENIA'S TRADE IN GOODS WITH THE WESTERN BALKAN COUNTRIES**

**Dejan Romih**

*University of Maribor, Faculty of Economics and Business, Department of International  
Economics and Business, Slovenia  
dejan.romih@uni-mb.si*

**Zan Jan Oplotnik**

*University of Maribor, Faculty of Economics and Business, Department of International  
Economics and Business, Slovenia  
zan.oplotnik@uni-mb.si*

### **ABSTRACT**

*In this paper, the authors deal with Slovenia's trade in goods with the Western Balkan countries, Slovenia's important trade partners that together account for more than ten per cent of the value of Slovenia's total trade in goods. There are several reasons for this, such as ease of trade between Slovenia and the Western Balkan countries (excluding Albania) due to similar culture, language, etc. This is particularly true for Croatia, which is one of Slovenia's four neighbouring countries and one of its most important trade partners, accounting for more than five per cent of the value of Slovenia's total trade in goods and almost 50 per cent of the value of Slovenia's trade with the Western Balkan countries. In 2012, the value of Slovenia's trade in goods with Croatia amounted to €2 300.2 million, a decrease of 2.2 per cent over the previous year. This decrease was mainly due to a lower demand for goods in both countries as a result of the financial and economic crisis.*

**Keywords:** *trade, trade relations, Slovenia, Western Balkan countries.*

### **1. INTRODUCTION**

Slovenia is, like many other countries, especially small ones, dependent on the export and import of goods and services. There are several reasons for this, such as lack of resources, especially natural ones (e.g., fossil fuels). In 2012, the value of Slovenia's total trade in goods amounted to €43 138.4 million, 119.8 per cent of the value of Slovenia's gross domestic product (GDP)<sup>48</sup> and a decrease of one per cent over the previous year. In the same year, the value of Slovenia's total exports of goods amounted to €21 060.7 million, 58.5 per cent of the value of Slovenia's GDP and an increase of 0.3 per cent over the previous year, while the value of Slovenia's total imports of goods amounted to €22 077.7 million, 61.3 per cent of the value of Slovenia's GDP and a decrease of 2.1 per cent over the previous year.

If Slovenia wants to increase the value of its total trade in goods both in the short and in the long term, it should increase its competitiveness, which is low in comparison to the competitiveness of some other European countries (see, for example, the World Economic Forum, 2014).

### **2. SLOVENIA'S TRADE IN GOODS WITH EUROPEAN COUNTRIES**

In this chapter, the authors deal with Slovenia's trade in goods with European countries, which are Slovenia's most important export partners (see Table 1). There are various reasons for this, including geographical and historical ones. In 2012, the value of Slovenia's exports of

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<sup>48</sup> In 2012, the value of Slovenia's GDP amounted to €36 006 million (see, for example, the Statistical Office of the Republic of Slovenia, 2014).

goods to European countries amounted to €18 914.9 million, 89.8 per cent of the value of Slovenia's total exports of goods and a decrease of 0.7 per cent over the previous year.

*Table 1: Slovenia's exports of goods by country groups, 2012.*

	Million €	Per cent
African countries	425.5	2.0
American countries	562.0	2.7
Asian countries	1 078.3	5.1
European countries	18 914.9	89.8
Other countries	69.6	0.3
Unclassified trade with EU non-member countries	10.4	0.0
Total	21 060.7	100.0

*Source: Statistical Office of the Republic of Slovenia (2014).*

European countries are also Slovenia's most important import partners (see Table 2). In 2012, the value of Slovenia's imports of goods from these countries amounted to €19 114.1 million, 86.6 per cent of the value of Slovenia's total imports of goods and a decrease of 2.5 per cent over the previous year.

*Table 2: Slovenia's imports of goods by country groups, 2012.*

	Million €	Per cent
African countries	202.6	0.9
American countries	591.1	2.7
Asian countries	1 874.0	8.5
European countries	19 114.1	86.6
Other countries	4.7	0.0
Unclassified trade with EU non-member countries	291.2	1.3
Total	22 077.7	100.0%

*Source: Statistical Office of the Republic of Slovenia (2014).*

In 2012, the value of Slovenia's net trade in goods amounted to €-1 017.0 million, -2.4 per cent of the value of Slovenia's total trade in goods (see Table 3). In the same year, the value of Slovenia's net trade in goods with African countries amounted to €222.8 million, 35.5 per cent of the value of Slovenia's trade in goods with these countries. Also in the same year, the value of Slovenia's net trade in goods with other countries amounted to €64.9 million, 87.5 per cent of the value of Slovenia's trade in goods with these countries. In the same year, the value of Slovenia's net trade with American, Asian and European countries amounted to €-1 023.9 million, -2.4 per cent of the value of Slovenia's trade with these countries.

In 2012, Germany was Slovenia's most important export partner among European countries, followed by Italy, Austria and other European countries (see Table 4). In the same year, the value of Slovenia's exports of goods to Germany amounted to €4 456.3 million, 23.6 per cent of the value of Slovenia's exports of goods to European countries and an increase of 1.5 per cent over the previous year.

*Table 3: Slovenia's net trade in goods by country groups, 2012.*

	Million €	Per cent
African countries	222.8	35.5
American countries	-29.1	-2.5
Asian countries	-795.7	-27.0
European countries	-199.1	-0.5
Other countries	64.9	87.5
Unclassified trade with EU non-member countries	-280.8	-93.1
Total	-1 017.0	-2.4

*Source: Statistical Office of the Republic of Slovenia (2014).*

*Table 4: Slovenia's exports of goods by European countries, 2012.*

	Million €	Per cent
Germany	4 456.3	23.6
Italy	2 380.3	12.6
Austria	1 731.8	9.2
Croatia	1 356.7	7.2
France	1 159.1	6.1
Russian Federation	942.7	5.0
Serbia	654.6	3.5
Poland	627.3	3.3
Czech Republic	583.7	3.1
Bosnia and Herzegovina	583.5	3.1
Other European countries	4 438.8	23.5
Total	18 914.9	100.0

*Source: Statistical Office of the Republic of Slovenia (2014).*

In 2012, Italy was Slovenia's most important import partner among European countries, followed by Germany, Austria and other European countries (see Table 5). In the same year, the value of Slovenia's imports of goods from Italy amounted to €4 108.1 million, 21.2 per cent of the value of Slovenia's imports of goods from European countries and a decrease of 3.2 per cent over the previous year.

*Table 5: Slovenia's imports of goods by European countries, 2012.*

	Million €	Per cent
Italy	4 108.1	21.5
Germany	4 056.4	21.2
Austria	2 585.8	13.5
Hungary	999.9	5.2
France	947.9	5.0
Croatia	943.5	4.9
Netherlands	675.6	3.5
Czech Republic	559.1	2.9
Poland	476.7	2.5
Belgium	437.9	2.3
Other European countries	3 323.1	17.4
Total	19 114.1	100.0

*Source: Statistical Office of the Republic of Slovenia (2014).*

### **3. CHARACTERISTICS OF EXPORTERS AND IMPORTERS OF GOODS IN SLOVENIA**

In this chapter, the authors deal with the characteristics of exporters and importers of goods in Slovenia. In 2012, there were 19 714 exporters of goods in Slovenia, which was an increase of 12.2 per cent over the previous year.

Of these, 66.6 per cent had from zero to nine employees, 13.2 per cent from 10 to 49 employees, 3.9 per cent from 50 to 249 employees, one per cent had 250 or more employees and the rest were unknown.

In the same year, the average value of exports of goods per exporter amounted to €1.1 million, a decrease of 9.9 per cent over the previous year. Also in the same year, the top 50 exporters of goods in Slovenia together accounted for 48 per cent of the value of Slovenia's total exports of goods.

In 2012, there were 43 846 importers of goods in Slovenia, which was an increase of 1.6 per cent over the previous year. Of these, 68 per cent had from zero to nine employees, 9.2 per cent from 10 to 49 employees, 2.6 per cent from 50 to 249 employees, 0.7 per cent had 250 or more employees and the rest were unknown. In the same year, the average value of imports of goods per importer amounted to €0.5 million, a decrease of 3.3 per cent over the previous year. Also in the same year, the top 50 importers of goods in Slovenia together accounted for almost 40 per cent of the value of Slovenia's total imports of goods.

### **4. SLOVENIA'S TRADE IN GOODS WITH THE WESTERN BALKAN COUNTRIES: AN OVERVIEW**

In this chapter, the authors deal with Slovenia's trade in goods with the Western Balkan countries, which are Slovenia's important trade partners. This is particularly true for Bosnia and Herzegovina, Croatia and Serbia (see Table 6).

After all, these are the three largest Western Balkan economies by GDP.<sup>49</sup> In 2012, the value of Slovenia's trade in goods with the Western Balkan countries amounted to €4 696.8 million, 12.3 per cent of the value of Slovenia's trade in goods with European countries and a decrease of 2.8 per cent over the previous year.

In the same year, Slovenia's exports of goods to the Western Balkan countries amounted to €2 961.5 million (see Table 6), 15.7 per cent of the value of Slovenia's exports of goods to

<sup>49</sup> See, for example, the World Bank (2014).

European countries and a decrease of two per cent over the previous year, while the value of Slovenia's imports of good from the Western Balkan countries amounted to €1 735.3 million, 9.1 per cent of the value of Slovenia's imports of goods from European countries and a decrease of 4.3 per cent over the previous year.

*Table 6: Slovenia's trade in goods with the Western Balkan countries, 2012.*

	Exports		Imports		Net trade	
	Million €	Per cent	Million €	Per cent	Million €	Per cent
Albania	37.6	1.3	0.6	0.0	37.0	97.0
Bosnia and Herzegovina	583.5	19.7	364.8	21.0	218.7	23.1
Montenegro	85.3	2.9	25.7	1.5	59.5	53.6
Croatia	1 356.7	45.8	943.5	54.4	413.2	18.0
Kosovo	88.7	3.0	1.6	0.1	87.1	96.5
Macedonia	155.1	5.2	35.1	2.0	119.9	63.1
Serbia	654.6	22.1	364.0	21.0	290.6	28.5
Total	2 961.5	100.0	1 735.3	100.0	1 226.2	26.1

*Source: Statistical Office of the Republic of Slovenia (2014).*

In 2012, the value of Slovenia's net trade in goods with the Western Balkan countries amounted to €1 226.2 million, 26.1 per cent of the value of Slovenia's trade in goods with these countries (see Table 6). In the same year, the value of Slovenia's net trade in goods with Croatia, which is Slovenia's most important trade partner among the Western Balkan countries, amounted to €413.2 million, 18 per cent of the value of Slovenia's trade in goods with this country.

In 2012, Croatia was Slovenia's fourth most important export partner, following Germany, Italy and Austria – Slovenia's sixth most important import partner following Italy, Germany, Austria, Hungary and France. There were various reasons for this, including the fact that Croatia borders Slovenia, which has a positive effect on trade in goods between these two countries.

In 2012, there were 4 705 exporters of goods from Slovenia to Croatia, an increase of 3.4 per cent over the previous year. In the same year, the average value of their exports of goods to Croatia amounted to €0.3 million, a decrease of 6.5 per cent over the previous year.

In 2012, there were 3 016 importers of goods from Croatia to Slovenia, a decrease of 3.7 per cent over the previous year. In the same year, the average value of their imports of goods from Croatia amounted to €0.3 million, an increase of 7.2 per cent over the previous year.

If Slovenia wants to further increase the value of its trade in goods with Croatia and other Western Balkan countries, including the smallest ones (i.e., Albania, Kosovo, Macedonia and Montenegro), it should take a number of measures to do so, including the following:

- increase its cooperation in various fields with the Western Balkan countries;
- increase cooperation in various fields between enterprises from Slovenia and the Western Balkan countries;
- increase cooperation in various fields between entrepreneurs from Slovenia and the Western Balkan countries;
- decrease the number of trade barriers between Slovenia and the Western Balkan countries;
- increase the number of exporters of goods from Slovenia to the Western Balkan countries;

- increase the number of importers of goods from the Western Balkan countries to Slovenia;
- increase the number, quantity and quality of goods exported from Slovenia to the Western Balkan countries;
- increase the number and quantity of goods imported from the Western Balkan countries to Slovenia;
- increase the added value of goods exported from Slovenia to the Western Balkan countries;
- increase the supply and the number of suppliers of trade and trade-related services in Slovenia.

## 5. CONCLUSION

In 2012, the value of Slovenia's trade in goods with the Western Balkan countries amounted to €4 696.8 million, only €412.6 million less than the value of Slovenia's trade in goods with non-European countries, which in the same year amounted to €5 109.4 million. This shows that the Western Balkan countries, especially Bosnia and Herzegovina, Croatia and Serbia, the three largest Western Balkan economies by GDP, are Slovenia's important trade partners. Nevertheless, there are still many opportunities for increasing the value of Slovenia's trade in goods with the Western Balkan countries, especially with Albania, Kosovo, Macedonia and Montenegro, both in the near and in the distant future.

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## EASTERN AND CENTRAL EUROPEAN STATES IN GLOBAL PRODUCTION LINKAGES

**Ewa Cieslik**

*Poznan University of Economics, Poland*  
*ewa.cieslik@ue.poznan.pl*

### **ABSTRACT**

*Democratization, integration with the European Union (EU), the development of bilateral and multilateral relations, and the economic and political transformation of financial systems of post-communist European states have resulted in changes in production process across borders. This article aims to present the positions of post-communist states in terms of the cross-border production linkages. The analysis takes advantage of both the conventional methods of comprehensive study of value chains and the advanced methods and measures examining the role of Central and Eastern Europe in global value chains in general and sectoral terms.*

**Keywords:** *Central and Eastern Europe, foreign trade, global value chains*

### **1. INTRODUCTION**

Since the early 1990s, post-communist European countries have achieved similar development goals. Democratization, integration with the European Union (EU), the development of bilateral and multilateral relations, and the economic and political transformation of financial systems, particularly banking, were the most popular achievements of long-term development strategies of the analyzed countries.

However, these objectives were achieved by different methods and measures (Bilenko, 2013). One of the transformation priorities was the reorientation of foreign trade to Western Europe. The liberalization of foreign trade in the analyzed countries has allowed a relatively rapid formation of new trade rules in Central and Eastern Europe.

Trade between the post-communist countries moving from the Council for Mutual Economic Assistance (Comecon) bloc to the EU allowed for accelerated integration of economies. Although the liberalization of foreign trade does not have to be a factor that accelerates the pace of social and economic development in developing countries, in the case of European post-communist countries, the intensification of foreign trade has helped to boost economic growth and development.

This article presents the transformation of foreign trade in the post-communist countries that have become new members of the EU<sup>50</sup> with special focus on the role of these countries in global value chains (GVCs) as a result of the liberalization process and integration with the EU. The article evaluates the position of these countries in global vertical specialization. The paper adopts a highly selective methodology to locate each country in global value chains (upstream or downstream segment/market) and to compare them to the selected countries. The analysis covers the period from 2000 to 2009.

In order to ensure uniformity of results, the study was based on data compiled by international organisations. The termination of the study in 2009 is a result of lack of relevant data. Trade in value added statistics are collected by OECD-WTO tables and the World Input-Output Database. Both databases provide information till 2009. The article consists of two sections, an introduction and conclusions. Firstly, it discusses the role of post-communist European states in GVCs using simple and conventional assessment methods.

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<sup>50</sup> Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia.

The second section adopts a more advanced approach in order to place each country in global vertical specialization. The paper concludes with several remarks on foreign economic policy implications for the future.

## **2. THE POSITION OF POST-COMMUNIST EUROPEAN STATES IN GLOBAL VALUE CHAINS: A SIMPLE ASSESSMENT**

Economic transformation and gradual integration of post-communist European countries with the European Union market have resulted in joining and participating in GVCs. The region has become one of the most important links in the European production model (Dicken, et al., 2011). The omnipresent delocalisation and fragmentation of production have not left this region unaffected. These phenomena have created foreign trade structure and geographical directions of trade exchange in the analyzed countries (IMF, 2013). Foreign trade and capital flows liberalization among old members of the European Union (EU-15) and the new ones from Eastern and Central Europe, and the increasing role in GVCs of the latter have significantly influenced the international economic relations in the region.

Two decades of political, economic and social *transformations in Eastern and Central Europe* have resulted in a process in which foreign enterprises from the EU decide to profit from the region's comparative advantages. Investing in post-communist states has made it possible to decrease the production costs of foreign investors (*efficiency-seeking investment*), especially labor costs (Proksch, 2003). Although, in comparison to the EU-15, the United States, Japan or Australia, workforce productivity in Eastern and Central Europe states is much lower<sup>51</sup>, the wages per hour are also much lower than the average set by developed countries from the European Union<sup>52</sup>. The cost factor, diversified economy, integration process with the EU, development strategies that put stress on innovative sectors of the economy (Giedraitis & Rastenienė, 2009), lower risk of conducting business, and a relatively well developed infrastructure, as well as very advanced liberalisation, have resulted in increased interest among foreign investors in investing their capital in Eastern and Central Europe. Only after the wave of privatisation of state-owned enterprises had passed, did the foreign investment begin to flow. The most popular were 'greenfield' investments. As a result, the analyzed countries have become the region where many foreign corporations from Western Europe shifted first parts of their production (e.g. assembly) and then the whole factories and manufactures. Also corporations outside the European market (Asian and American companies) were interested in investing in post-communist states. They perceived them as a great opportunity to enter the advanced Western European market (Cieślak, 2012). The leaders of the investment goals of foreign companies were Poland, the Czech Republic, and Hungary<sup>53</sup>. Eventually, the flow of FDI to Eastern and Central Europe regions resulted in internationalization of their production, joining the GVCs and the new international division of labor.

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<sup>51</sup> For example, in 2010 productivity in Poland was 26 percent of the average productivity in the EU-15, in the Czech Republic 66 percent of the productivity of the average employee in the EU-15, in Hungary 61 percent, in Bulgaria only 32 percent of EU-15 productivity. In 2012 these productivities rose slightly, and a Polish average employee amounted to 67 percent of the average employee in the EU-15, a Czech employee 67 percent, a Hungarian employee 65 percent, and Bulgarian 43 percent (Eurostat, 2014).

<sup>52</sup> For example, in 2012 in the EU-15 countries the average hourly earnings were €38.6, in Poland €10.4, in the Czech Republic €13.3, in Hungary €11.4, and in Bulgaria €5.0. The most expensive from the analyzed countries was Slovenia, where the average hourly earnings were €20.1 (Eurostat, 2014).

<sup>53</sup> By the end of 2012, more than 29 percent of cumulative foreign investments of all regions of Eastern and Central Europe had flown to Poland, almost 16 percent to the Czech Republic, more than 14 percent to Hungary, and more than 11 percent to Romania (UNCTAD, 2013).

Leaving aside the influence of the redistribution of income between countries with different levels of development, which has already been discussed on numerous occasions in academic literature on the results of globalization, the introduction of international fragmentation of production has made it possible to boost selected branches of the post-communist countries' economy in which there already had been comparative advantage or at least a fair chance for increasing international competitiveness (Feenstra, 1998). Even though the analyzed countries joined globalization rapidly, they still hold lower positions in competitiveness rankings. In 2012 the leader among European post-communist countries in the World Economic Forum was Estonia (34). Poland was 41<sup>st</sup>, after the Czech Republic (World Economic Forum, 2013). The EU remains the most important trading partner of the analyzed countries. On average, over 70 percent of trade of these countries is carried out within the EU (table 1). The most important trading partner for most of the post-communist states is Germany. Only in the cases of Latvia and Lithuania Germany was not the most important export market in 2012. Germany remains also one of the leading import partners for all analyzed countries. Accordingly, trade relations with countries outside Europe are limited. Due to global crisis, the foreign trade of post-communist European countries has suffered as a result of the weakening of domestic demand in the EU states. Nevertheless, the analyzed states have not decided to re-direct trade flows towards emerging economies, e.g. Asian or African developing countries. The most important commercial contractor from outside the EU is Russia. In the cases of Lithuania and Latvia, Russia is a leading trading partner. However, it should be noted that the Russian market for all post-communist states is more important as a source of energy commodities than a target for export of goods and services.

Country	Export	Import
Bulgaria	58.4	60.6
Czech Republic	80.9	75.1
Estonia	66.0	80.0
Lithuania	60.5	56.8
Latvia	63.5	78.1
Poland	75.7	74.7
Romania	70.2	73.5
Slovakia	83.9	74.0
Slovenia	68.8	67.2
Hungary	75.8	70.2

*Table 1. Share of trade turnover with the EU of post-communist states in 2012 (percent)  
 (author's own study on the basis of (Eurostat, 2014)).*

It should be noted that there are serious methodological difficulties with determining the place of a given country in value networks. One of the reasons for these problems is the lack of a unified method of value-added measurement and the lack of latest data concerning value-added flow in international exchange. When attempting to determine the place of post-communist European states in GVCs, we should analyse their values added in foreign trade. The first symptom indicating that a country has joined the GVCs can be the decrease in the share of domestic value added in gross exports. This automatically implies an increase in foreign value added and stronger links with the GVCs. For the analyzed countries, it is hard to present a uniform trend in this respect. Generally, all new EU members' share of domestic value added embodied in their gross export was lower than the EU's average. Closest to the EU's average are Poland, Latvia, and Romania, what may indicate that most of their export is self-subsisting. Nevertheless, this assumption is exaggerated, because high share of domestic value added may also indicate low linkages to global production networks. Between 2000 and

2009, we observed a decrease in the relation of domestic value added to gross export only in four countries (Czech Republic, Latvia, Lithuania, and Poland) (Figure 1). However, this highly simplified analysis does not solve the problem of determining the position of the state in GVCs.

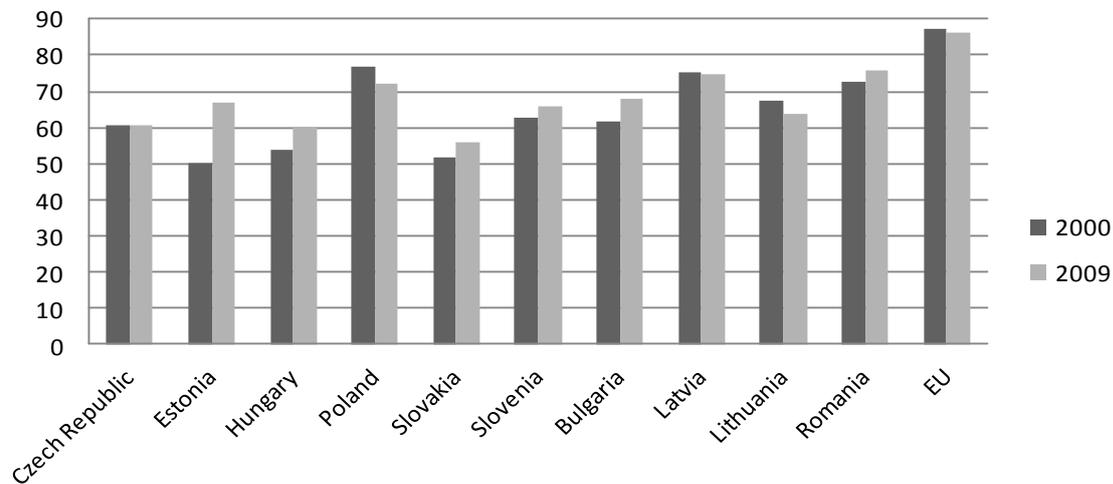


Figure 1. Domestic value added in gross export of European post-communist countries and the EU in 2000 and 2009 (percent) (author's own study on the basis of (OECD, 2014)).

The actual changes in Eastern and Central European states' value added in exports should be examined in the relation to individual sectors of the economies or commodity groups. For example, the automobile industry in Hungary and the Czech Republic has been the aim of FDI recently. This sector has been the leader among all branches in terms of foreign capital flows. This proves a strong internationalization of automobile sectors in the analyzed two countries and their integration with global production. However, this tendency does not correspond to changes of domestic and foreign value added. In both states the domestic value added embodied in gross export of automobile industries increased between 2000 and 2009 (OECD, 2014). When we examine the share of foreign value added included in the products exported by European post-communist states, we can see that the dominating element is the value added from highly developed countries, especially from EU-15. It means that a large part of Eastern and Central European countries' export is integrated into European Union's value chains. This phenomenon can be observed especially in Slovakia, the Czech Republic, and Hungary. In those three states more than 40 percent of foreign value added embodied in total export originates from countries of EU-15. In the case of the Baltic States, especially Lithuania, the links in the European chains are not as strong as in other countries. Lithuania's export is more connected to the Russian Federation and Asian markets (OECD, 2014). An important indication of participation in GVCs is the share of imports used (directly and indirectly) for the current production of goods and services for export (so-called re-exported intermediates), as it provides us with the information on the position of the analyzed countries in GVCs. In 2009, re-exported intermediates by Eastern and Central European states constituted between 32 percent (Romania) and 67 percent (Slovakia) of total intermediate imports. Lithuania's share of re-exported intermediates in 2009 was also high - more than 60 percent. This percentage is quite significant compared to the United States or Japan (approximately 20 percent), but it is still below the values achieved by Luxembourg, Singapore or Taiwan (approximately 70–80 percent), which are largely based on imported parts, which are then assembled and exported as final products. Developed countries with expanded domestic markets such as the United States or Japan rely more than developing

countries on their own assembled parts, what explains the gap in the share of re-exported intermediates between developed economies and post-communist states. Between 2000 and 2009, re-exported intermediates by European post-communist states as a percentage of total intermediate imports increased slightly, which implies a deterioration of the region's position in the level of advancement of production as compared to 2000 (Feenstra & Hanson, 1999) (OECD, 2014) (Figure 2).

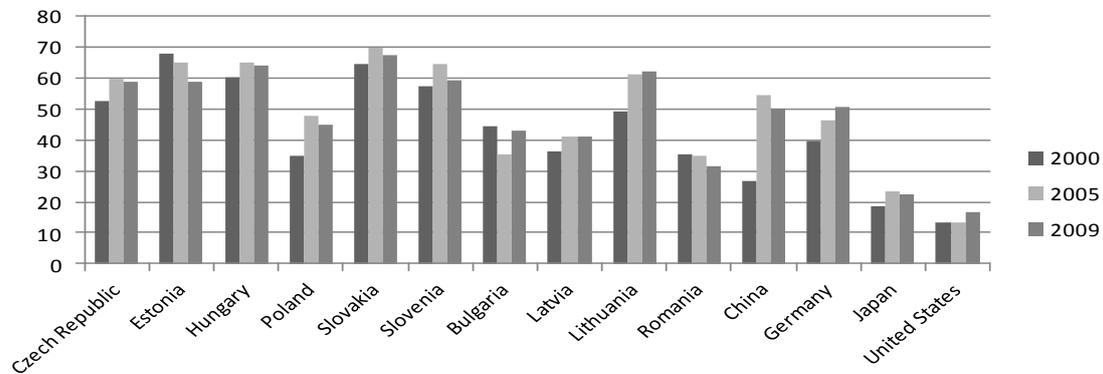


Figure 2. Share of re-exported intermediaries in total intermediate imports of selected countries in 2000, 2005 and 2009 (author's own study on the basis of (OECD, 2014)).

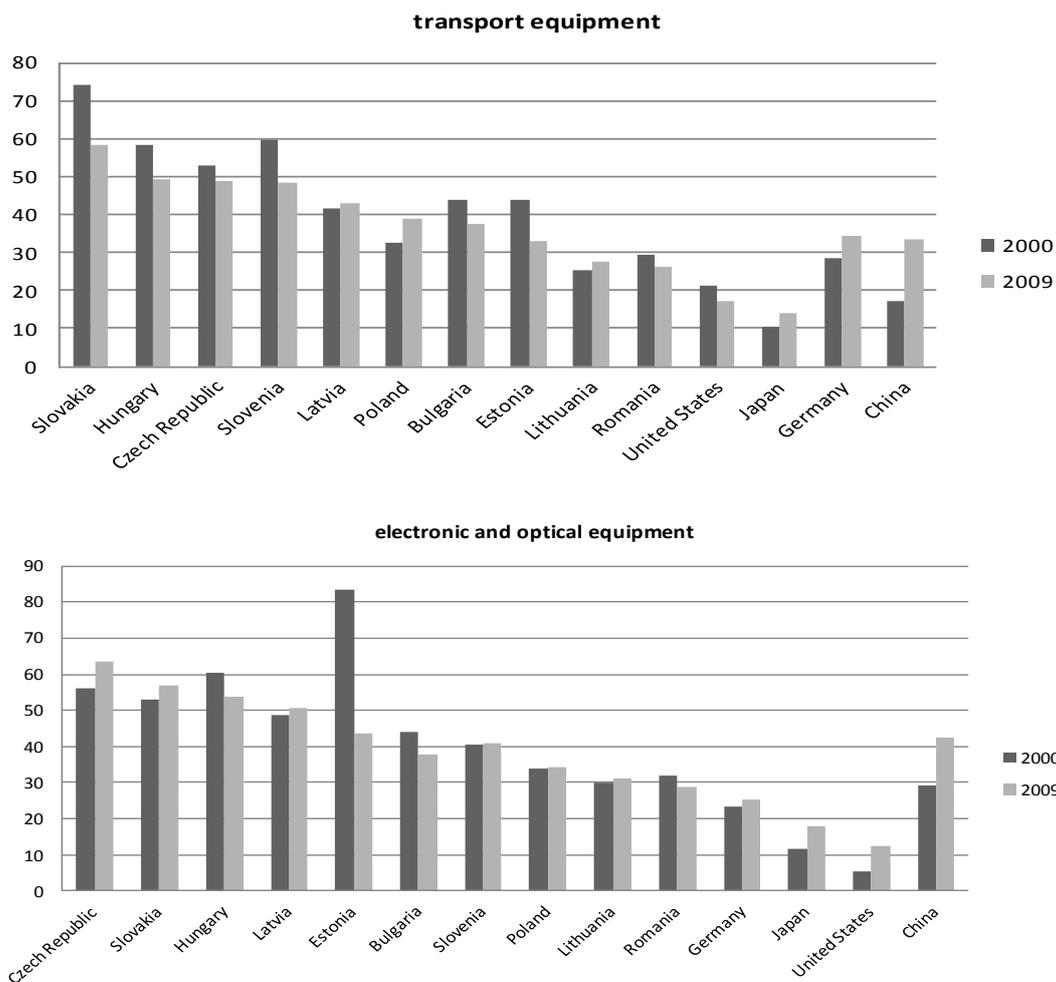


Figure 3. Percentage share of foreign value added in post-communist states' individual sectors in 1995 and 2009 (author's own study on the basis of (OECD, 2014)).

Due to the fact that transport equipment (especially automobile industry) and electronic and optical equipment are characterised by the highest level of foreign value added embodied in many European post-communist countries' exports, it is worth analyzing the changes in the share of value-added in these two sectors. These branches are also considered very attractive to foreign investors, especially in Slovakia, the Czech Republic, Hungary, and Poland. Transport equipment holds an important position in export structure of most of the analyzed countries in terms of revealed comparative advantages<sup>54</sup>. In turn, the group 'electronic and optical equipment' has been improving its position in terms of revealed comparative advantages recent years. Considering transport equipment industry, the largest foreign value added was in Slovakia, Hungary, the Czech Republic, and Slovenia in 2009. The largest world automobile corporations have located their factories in those countries. The same countries, except Slovenia, are characterized by a great share of foreign value added embodied in exports of electronic and optical equipment. The analyzed countries were also characterised by a higher index of the number of production stages than other states in analyzed sectors. This signifies considerable internationalization of these two branches and dependence on foreign components and, consequently, strong links within GVCs (OECD, 2014) (figure 3).

### **3. THE ROLE OF EUROPEAN POST-COMMUNIST COUNTRIES IN GLOBAL VALUE CHAINS: AN ADVANCED APPROACH**

A more complex method of measuring European post-communist states' participation in GVCs is a decomposition of the value added in gross exports followed by determining foreign value added in total gross domestic exports and domestic value added in the exports of the trade partners of the analyzed country. The adopted methodology is based on the approach elaborated by researchers from the National Bureau of Economic Research. According to the NBER methodology, total exports consist of four components: each country's domestic value-added embodied in exports of final goods and services that become part of direct import; a country domestic value-added embodied in exports of intermediate inputs used by the direct importer to produce final goods and services for its domestic market; a country domestic value-added embodied in intermediate exports used by the direct importer to produce goods and services for export to third countries (including Central and Eastern European countries); value-added from trade partners embodied in the post-communist country's total exports (Koopman, et al., 2010). These methods describe the position of the country in downstream and upstream relations in GVCs. A higher value of domestic value added in the exports of trade partners indicates a more advanced position of the country in GVCs that is the country's movement towards upstream segments. With an increasing value of the share of foreign value added embodied in total domestic exports, we should expect the country's position in GVCs to deteriorate, that is to move towards downstream markets. In this section the decomposition of the value added in the analyzed states and selected sectors was carried out. Due to length limits of the publication, the analysis presents only the results of calculations.

The analysis of the decomposition of value added includes, apart from the post-communist states, also the EU-27, Germany, the United States, Japan, and China as important links in GVCs. The results of the study show that the shares of value added from trade partners embodied in country total exports are very diverse. The largest share of foreign value added embodied in total domestic exports in 2009 was in Slovakia (more than 44 percent), while the lowest share of this type of value added was in Romania (24 percent). It means that in these

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<sup>54</sup> In order to express the relative comparative advantage of a given commodity group in exports, it is most appropriate to calculate the international specialization index. For this purpose, we have used the revealed comparative advantage index (Balassa, 1965). Generally, countries export primarily those products in which they have a comparative advantage.

states a considerable part of exports relies on foreign value added. These shares may be compared to the EU-27, the United States or Japan, where the value added from trade partners embodied in country total exports is relatively low, but we should be cautious about these comparisons. Developed countries with extended domestic markets and large economies are more self-sufficient, which results in a lower share of foreign value added embodied in their exports. A positive trend is observed in the share of domestic value added contained in exports of European post-communist states' trade partners. Most of the analyzed countries exceeded the EU-27 average; however, these shares were still below the level achieved by the United States or Japan which may be treated as model. An especially high "value added from country embodied in trade partners' total exports" characterized Latvia and the Czech Republic in 2009, 29.8 percent and 22.2 percent respectively. Even Poland exceeded the EU average and Lithuania was very close to this average value. We observe a high degree of participation in GVCs in the analyzed countries and great importance of participation in GVCs for national economy (table 3).

In fact, the results of the study show bidirectional links of the analyzed states in vertical specialization, although with a stronger tendency to hold lower positions in GVCs than developed countries, especially in the more technologically advanced sectors of the economy. The greater prominence of downstream relations is proven by the indicator of the relative position in GVCs. The higher the value of the indicator is, the higher the country's position within GVCs (upstream segment) should be. The borderline value between segments is 1. As a result, European post-communist states are positioned much lower in GVCs than the United States, Japan, and even the EU average. The indicators of these countries' relative positions in GVCs are in rank from 0.40 for Lithuania to 0.96 for Romania. It is an alarming fact that many of the European post-communist states' positions in GVCs have been rapidly deteriorating in recent years. Only the Czech Republic, Estonia, Hungary, and Romania improved their positions slightly. This indicates that the whole region's role as a link in the chain of production of the global economy is decreasing. It is worth mentioning too that in 2000 Latvia was the only country that crossed the borderline and entered upstream markets. However, Poland was placed exactly at the borderline that year (table 2, figure 4).

On the one hand, we observe a great share of European post-communist states in downstream segments in relation to well-developed countries. It means that the region of Central and Eastern Europe is an importer of foreign value added. On the other hand, moving toward the EU average of domestic value added embodied in trade partners exports testifies to the fact that the region is entering the upstream in the cross-border production process.

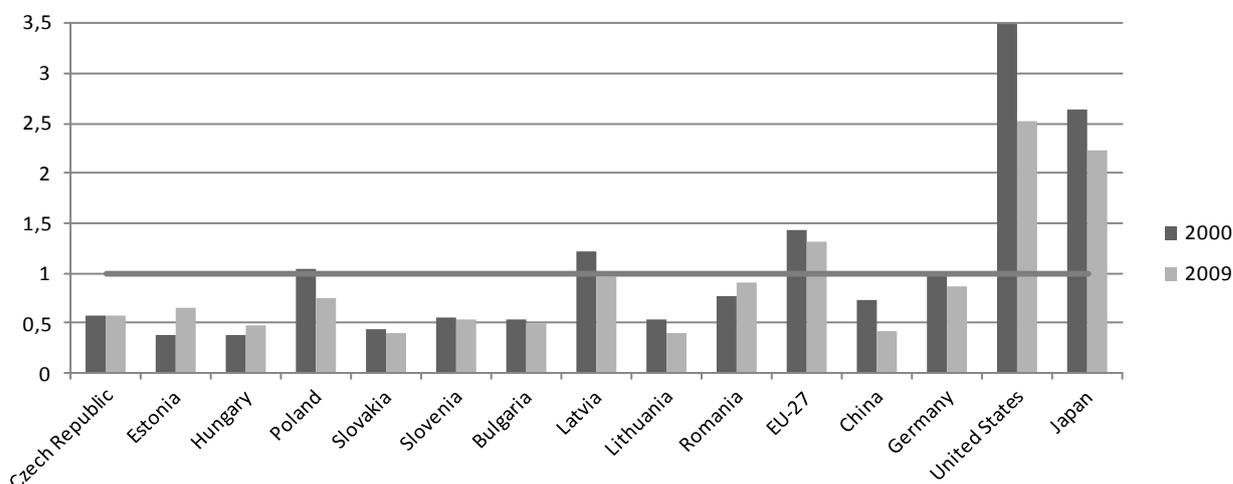
	Value added from trade partners embodied in country total exports (in % of country total exports)		Value added from country embodied in trade partners total exports (in % of country total exports)		Degree of participation in GVCs (in % of country total exports)		Importance of participation in GVCs for the national economy (in % of country GDP)
	2000	2009	2000	2009	2000	2009	
<b>Czech Republic</b>	39.18	39.39	22.2	23.0	61.38	62.39	25.80
<b>Estonia</b>	50.06	33.22	18.7	21.3	68.76	54.52	24.85
<b>Hungary</b>	46.19	39.91	17.2	18.7	63.39	58.61	25.40
<b>Poland</b>	23.33	27.89	24.1	20.5	47.43	48.39	10.84
<b>Slovakia</b>	48.26	44.35	21.2	17.9	69.46	62.25	30.77
<b>Slovenia</b>	37.52	34.40	20.6	18.2	58.12	52.60	26.15
<b>Bulgaria</b>	38.13	32.14	20.2	15.7	58.33	47.84	15.35
<b>Latvia</b>	24.62	25.18	29.8	24.3	54.42	49.48	10.69
<b>Lithuania</b>	32.56	36.05	17.7	14.1	50.26	50.15	26.00
<b>Romania</b>	27.39	24.18	20.8	21.9	48.19	46.08	13.32
<b>EU-27</b>	12.63	13.62	18.0	17.8	30.63	31.42	4.29
<b>China</b>	18.81	32.63	13.8	13.4	32.61	46.03	11.84
<b>Germany</b>	24.40	26.64	24.4	22.8	48.80	49.44	17.34
<b>United States</b>	8.88	11.29	31.1	28.5	39.98	39.79	4.02
<b>Japan</b>	9.91	14.79	26.1	33.0	36.01	47.79	5.87

Value added from trade partners embodied in country total exports = backward indices x gross export

Value added from country embodied in trade partners total exports = forward indices x gross export

Degree of participation in GVCs – to what extent are countries participating in GVCs; the GVC participation index adds the foreign value-added in exports and the share of domestic value-added in exports of intermediate inputs used for exports in third-countries.

Table 2. The degree of participation of selected countries in GVCs in 2000 and 2009 (author's own calculations on the basis of (OECD, 2014)).



Relative position in GVCs was calculated on the basis of the relation between value added from a country embodied in trade partners' total exports and value added from trade partners embodied in a country's total exports. The higher the value of the index, the more upstream the country exporters are situated in GVCs

Figure 4. Relative position of European post-communist states and selected countries in GVCs in 2000 and 2009 (author's own calculations on the basis of (OECD, 2014)).

At this point, it is also worth looking closer into the situation of Germany. It has a relatively high percentage of foreign value added contained in exports, GVCs are of great significance in its national economy, and the share of imports for current production in its exports is much

higher than in other developed countries. The primary reason for this is the specific role played by Germany as a middleman in the trade of intermediate goods, mainly with the countries of Central and Eastern Europe. A particularly pronounced vertical integration between the post-communist countries and Germany can be observed in more advanced products. These strong relations between the countries are the consequence of differences in labour costs and workforce qualifications, as well as of sectoral and cultural similarity and geographical proximity (IMF, 2013).

We could also try to identify the position of European post-communist states depending on the place they occupy in each sector. Two most internationalized branches have been selected for this analysis: transport equipment and electrical and optical equipment. Theoretically, according to OECD classification these sectors belong to medium and high-technology industries. However, it should be noted that in practice these branches in the analyzed states focus more on assembling imported parts than on manufacturing from the scratch. In the production of transport equipment five of ten post-communist countries ranked in upstream production chain (Czech Republic, Romania, Hungary, Slovakia, and Poland). The automotive industry is the domain of the states of Central and Eastern Europe, which are in the lead of the supply network. In recent years, it has become the driving force behind exports and has attracted considerable foreign investments to these countries. The transport industry in the Baltic States, Slovenia, and Bulgaria does not have such a long tradition, as a result of which these countries are positioned low in GVCs. The commodity group of 'electrical and optical equipment', in turn, has traditionally been the domain of the "Asian Tigers" and many years will pass before the European post-communist states' economy achieves a comparable level of technological advancement. Hungary and the Czech Republic held the highest positions in this industry in 2009, unfortunately far behind the developed Asian countries (table 4).

#### **4. CONCLUSION**

The study leads to the following conclusions. First, the degree of post-communist states' participation in GVCs is diverse. More integrated are countries with greater connections to Western European countries, especially Germany. Second, a large share of exported goods from the post-communist states passes through GVCs in Western Europe. Third, exporters from Central and Eastern Europe are usually located more in downstream segments of production than in upstream markets. Fourth, the presented study has some limitations deriving from data accessibility. Attempting to examine changes in value added of international trade the author referred to the available data. Since 2009 trade trends have been unfavorable for most of the EU countries so this analysis should be broadened by this period. Applying these years to the study might change the results. The conclusions consider only the first of the catastrophic years and the results of the survey need to be treated with precaution.

To sum up, despite this negative aspect of the dependency and the exposure to shocks from EU-15 markets, the analyzed countries are expected to continue the model of integration with the EU economy in the future, especially in terms of GVCs. However, the processes of integration in foreign trade and the cross-border production process will likely proceed with varying intensity.

	<b>Transport equipment</b>	<b>Electrical and optical equipment</b>
Upstream	<ul style="list-style-type: none"> <li>• Japan (14)</li> <li>• United States (5.9)</li> <li>• <b>Czech Republic (5.6)</b></li> <li>• <b>Romania (3.9)</b></li> <li>• <b>Hunagry (3.8)</b></li> <li>• Germany (3.7)</li> <li>• South Korea (3.4)</li> <li>• <b>Slovakia (3.1)</b></li> <li>• <b>Poland (2.8)</b></li> <li>• Italy (2.7)</li> <li>• .....</li> </ul>	<ul style="list-style-type: none"> <li>• Taiwan (21.3)</li> <li>• .....</li> <li>• Singapore (19.9)</li> <li>• South Korea (12.7)</li> <li>• .....</li> <li>• Japan (5.8)</li> <li>• .....</li> <li>• China (4.7)</li> <li>• <b>Hungary (4.1)</b></li> <li>• <b>Czech Republic (3.7)</b></li> <li>• .....</li> <li>• <b>Romania (3.4)</b></li> <li>• <b>Estonia (3.0)</b></li> <li>• .....</li> <li>• Germany (1.9)</li> <li>• .....</li> <li>• <b>Slovenia (1.7)</b></li> <li>• .....</li> <li>• <b>Poland (1.2)</b></li> <li>• .....</li> <li>• <b>Slovakia (1.1)</b></li> </ul>
Downstream	<ul style="list-style-type: none"> <li>• China (0.9)</li> <li>• .....</li> <li>• <b>Slovenia (0.6)</b></li> <li>• .....</li> <li>• <b>Estonia (0.3)</b></li> <li>• .....</li> <li>• <b>Latvia (0.2)</b></li> <li>• .....</li> <li>• <b>Lithuania (0.06)</b></li> <li>• .....</li> <li>• <b>Bulgaria (0.01)</b></li> <li>• .....</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Bulgaria (0.7)</b></li> <li>• .....</li> <li>• <b>Lithuania (0.5)</b></li> <li>• .....</li> <li>• <b>Latvia (0.4)</b></li> <li>• .....</li> <li>• Argentina (0.3)</li> <li>• .....</li> </ul>

Research covers the countries available in OECD Statistics database. The bases for creation of GVCs were the relative positions of chosen states in the industry

*Table 3. European post-communist states and selected countries in GVCs regarding the production of transport equipment as well as electrical and optical equipment (data of 2009) (author's own calculations on the basis of (OECD, 2014)).*

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## USING DIGITAL FREQUENCIES TO DETECT ANOMALIES IN RECEIVABLES AND PAYABLES: AN ANALYSIS OF THE ITALIAN UNIVERSITIES

**Fabio Ciaponi**

*Department of Industrial and Information Engineering and Economics  
University of L'Aquila –Italy  
fabio.ciaponi@univaq.it*

**Francesca Mandanici**

*Department of Industrial and Information Engineering and Economics  
University of L'Aquila – Italy  
francesca.mandanici@univaq.it*

### ABSTRACT

**Motivation:** *The research aims at evaluating the anomalies and unusual patterns of accounting numbers reported by Italian universities.*

*Prior literature and evidence on local authorities suggest that failing institutions may engage in fraudulent financial reporting to conceal their distress and avoid regulatory intervention. They manipulate accounting values within the scope of the generally accepted accounting principles, using estimates and adjustments for achieving a desired result. Often, they overestimate the receivables and underestimate the payables in order to present a higher level of surplus or a minor deficit.*

*Therefore, the research examines the receivables and payables values contained in the financial reports of Italian universities during the years 2004-2012, hypothesizing that a gradual reduction of the ordinary funding from the Ministry, and the difficulty of attracting private resources, caused financial stress and led management to accounting manipulations.*

**Object and methodology:** *We apply a mathematical law, known as Benford's Law, to the receivables and payables reported values, obtained from the Statistical Office of the Ministry of Higher Education, for identifying the existence of manipulated numbers.*

*Benford's Law implies that, in a naturally occurring set of numbers, the leading digits of the numbers are discrete exponentially distributed rather than uniformly distributed, meaning that the numbers 1 through 9 do not have equal probability of occurring. In particular, the number 1 occurs as the leading digit about 30% of the time, while the number 9 occurs as the first digit less than 5% of the time. As Benford's Law shows that there is some predictability in the distribution of the first digit in a series of data, it can be used to indicate the presence of fictitious or artificially manipulated numbers.*

**Results:** *Surprisingly, the statistical tests show a large degree of compliance between the observed and the expected distributions. The conformity is clear and persistent over all the 9 years.*

**Keywords:** *Benford's Law, Italian universities, receivables and payables manipulations.*

### 1. THE INSTITUTIONAL CONTEXT OF ITALIAN UNIVERSITIES

The art. 33 of the Italian Constitution entrusts to the law the power to lay down the general rules for education and to establish public schools for all orders and degrees. The same article recognizes the private's right to establish schools and educational institutions, and states that they can adopt their own regulations within the limits set by the laws. Therefore, Italian education is a public good and a public responsibility, and universities, state and non-state

they are, develop a public function serving the community. They are endowed with legal status and they have greater teaching, scientific, organizational, financial and accounting autonomy. In accordance to the New Public Management move, the conditions they have to respect derive from the role of the Ministry of Higher Education (MIUR) as a monitor of the universities' efficiency and effectiveness as well as the functionality of the whole higher education sector (Mandanici, 2011, pp. 5-30). The expansion of university autonomy has been taking place since the Law n. 168/1989. The major change refers on the amount and modalities by which resources flow from national government to universities. Particularly, the Law n. 537/1993 provided a new funding formula, partially associated with results: each university receives a global lump-sum budget (called *Fondo di Finanziamento Ordinario*, briefly FFO), without previous stringent restrictions on internal allocations, shaped in accordance to both the educational and research performance. During the years, this system has been reinforced by the Law n. 244/2007 and the Legislative Decree n. 19/2012, according to which MIUR selects and rewards with additional funds those universities that had the ability to achieve their planned objectives. The rise of public debt and the general crisis have contributed to accelerate the implementation of the financial autonomy. This phenomenon is common to other EU and OECD countries. Italy was among the countries that have set the main cut to the university sector: about 20% of the FFO from 2008 to 2013. This choice has appeared critical for the following reasons. First, public funding represents, on average, close to 75% and 84% of, respectively, EU and OECD universities' financial structures (EUA 2011, p. 80; OECD 2013, p. 200), and in Italy the percentage rises to 90%. Second, Italy traditionally invests in tertiary education a value consistently lower than the average of other countries. For example, in 2010 Italy has invested 1% of its GDP, while the EU and the OECD, respectively, 1,4% and 1,6%. Splitting the percentage between public and private funding, it appears more difficult for Italian universities to attract private resources than other countries: expenditure covered by individuals and business, in percentage of GDP, ranges from an average of 0,2% in Italy to 0,3% in EU and 0,5% in OECD countries. Third, students contributions, or fees, potentially constitute the most directly available financial source. The amount of fees charged to students is however a choice that pertains to the national government, being related to the design of the fiscal policy of each country. In Italy, universities determine the level of tuition fees under a strait ceiling set by law: the art. 5 of the Decree of the President of the Republic n. 306/1997 states that the students contributions cannot exceed 20% of the annual FFO. Consequently, the cut in the public funding will also have the effect of diminishing the universities income from tuition fees. These considerations show that Italian universities rely heavily on public funding. This means that any change can potentially have the highest impact on their stability and durability. In the same period, the massification of higher education and the new societal demands on universities have increased costs they are confronted with. The widening funding gap has put universities finances and financial reports even more under pressure. In order to conceal distress and avoid regulatory intervention, university managers may have been engaged in accounting manipulations. Therefore, this study aims at evaluating the anomalies and unusual patterns of accounting numbers reported by Italian universities in their financial reports. The next section presents the characteristics of the financial report made by Italian universities, and explains why we chose to analyze the receivables and payables accounting numbers. The section 3 describes the methodology and introduces the mathematics relating to the Benford's Law used for the empirical investigation. Results are presented in the section 4, and the section 5 provides the conclusions.

## 2. THE ACCOUNTING SYSTEM OF ITALIAN UNIVERSITIES

The current accounting system of Italian universities is a cash accounting system, intended to register and control the revenues and expenses, measuring the change of the financial wealth over time.

Management operations are authorized through the budget approved by the Board of Directors. On the revenue side, the accounting records verify the right to collect the money, and the time of the money collection. On the expenditure side, the accounting entries verify the occurrence of the debt, then its liquidation, which certifies the execution of the service, and, finally, the payment. At the end of the year, the receivables are all the rights expected to collect in cash from third entities during next years, while the payables are obligations not paid yet to creditors. In one year, therefore, revenues may refer to the right to collect money verified in the current year, and to the right of the previous one or more years, that is receivables. Similarly, in the same year, payments can be linked to the debt occurred in the current year, and to the debt of the previous one or more years, that is the payables.

The financial report derives from the sequence of these operations, highlighting the balance between revenues and expenditures. If the result is positive, the surplus can be used during the next years to cover new spending and to make new investments; if negative, the deficit will have to be repaid with a policy aimed at reducing expenditures or increase revenues. The remedies have to be made within a time limit related to the amount of monetary stock: when it runs out, there will be a lack of liquidity, which will lead to financial crisis.

It might seem that a university whose report shows a surplus should not face a financial risk. However, the literature and empirical studies on the failure of local authorities (Gori et al., 2013; Manes Rossi, 2010; Cimbolini and Moriconi, 2009; Tenuta, 2008) demonstrate that the surplus does not always indicate the good performance of the institution. Particularly, the Italian Court of Auditors (2012) noted that, in the year preceding the declaration of insolvency, only a minority of the failed local authorities recorded a deficit. Obviously, these institutions reached a surplus thanks to the manipulation of receivables and payables accounting numbers.

In a survey carried out by the Italian Ministry of Economy and Finance (MEF) (2009, p. 55), the receivables are considered among the most critical factors influencing the financial risk of the local authorities. Even the Court (2011, p. 412) indicates the presence of receivables as one of the most common causes of financial distress. Specially, the Court says that it is dangerous to keep in the financial report all the receivables overvalued, antiquated and bad, or at least those of difficult and doubtful collectability.

Indeed, according to the art. 228 of the Legislative Decree n. 267/2000 (known briefly as TUEL), the local authority has to review the reasons for maintaining all or part of the receivables in the financial report: it is not allowed to keep receivables that are difficult to turn into cash resources, since it involves an undue expansion of the surplus, or an erroneous deficit reduction. Similarly, it is necessary to eliminate payables related to debts taken out to finance works that have proved to be successful. This would free up resources no longer needed to fund expenses, transferring economies to the surplus.

The opposite behavior creates an accounting irregularity, and it hinders the clear and accurate representation of management operations.

However, the number of declarations of insolvency has decreased over time (Gori and Fissi, 2013, pp. 328-329), and it is less than the number of local authorities in financial distress (MEF, 2008, p. 60). This means that many administrators hide the deficit with unreal receivables, condemning their institution to remain or even increase the instability.

Many authors observe that public managers may engage in accounting manipulations to avoid the declaration of insolvency and the external compulsory administration. The current

legislation states that local authorities should provide independently to its rehabilitation, without any financial help from the central government. This can lead the managers to dislike the declaration of insolvency, since the reorganization affects directly and totally on the local community. According to the previous regulation (the Legislative Decree n. 166/1989), the national government contributed to the financing of past debts of the local authorities. After the Constitutional Law n. 3/2001, the State can no longer help any entities with extraordinary contributions: all financial resources must be found through the sale of real estate assets, the cost savings, the services reduction, and the taxation. Therefore, today the local authority uses the declaration of insolvency only when management is undermined by the executive actions of creditors, and when, especially after inspections, there is a need to bring the budgets within the limits of the accounting and financial legitimacy, damaged by accounting manipulation. Even university managers may engage in accounting manipulations to avoid the declaration of insolvency and the external compulsory administration. These tools are introduced by the Legislative Decree n. 199/2011, and they are in line with the current legislation on local authorities. Further, the decree defines a set of parameters that the board of auditors of each university has to apply to the financial report for assessing the state of insolvency (Villa, 2012). The subsequent Legislative Decree n. 49/2012 indicates the red flag level of these parameters and the conditions leading to the external compulsory administration. We might assume that the university managers use estimates and adjustments to avoid the red flag level of the parameters. Specifically, they may overestimate the receivables and underestimate the payables in order to report a higher amount of surplus or a minor deficit, influencing the level of financial performance. Consequently, in the next section we examine the receivables and payables numbers contained in the financial reports of Italian universities, after a brief discussion on the meaning of accounting manipulation in a cash-based accounting system.

### **2.1. The accounting manipulations in a cash based accounting system**

The concept of accounting manipulation arises in the private sector, and has become an issue of critical importance when the Enron, WorldCom and Tyco financial statement frauds rocked the financial community. Despite the growing literature on the subject, there is no common definition of the phenomenon, either it has been applied to the public sector.

In most cases, researchers argue that accounting manipulation tied to a profit aim, being a technique or a set of actions deliberately employed by managers to achieve a desired level of reported earning. Healy and Wahlen (1999, p. 368) consider it occurs «when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on the reported accounting numbers».

There are many ways that managers can exercise judgments in financial reporting, and the range of manipulation can vary within the context of legal and illegal actions. In Italy, the law and the accepted accounting principles allow for a certain degree of interpretation and choices. To be legal, the interpretation has to be in keeping with their spirit. In general, accounting manipulation refers to a deliberated action that operates within the letter of the law and the accounting standards, but it is clearly against their spirit.

Practically, profit oriented entities may engage in accounting manipulations through, for example, the extension of the useful life of a depreciable asset or the change of inventory evaluation method from FIFO to LIFO.

Universities are public entities, and they do not have a profit aim. Consequently, they cannot manage the earning, but the financial aspect of their operations, determining the surplus or the deficit in the financial report. Therefore, on the revenue side, they can anticipate the

accounting entries, or they can overvalue the receivables, or maintain those receivables which are difficult and doubtful to collect. On the expenditure side, they can postpone an accounting entries or a liquidation of a service already received.

Alternatively, managers may engage in fraudulent financial reporting techniques, such as falsification of documents and alteration of accounting records. These are clearly not within the standards.

Whatever is the technique, the intensity and the motivation for accounting manipulations, two research designs are commonly used in the literature to detect frauds and irregularities.

The first approach uses the existence and amount of accruals as a proxy of earning management, hypothesizing that increased discretionary accruals indicate the opportunistic manipulations of financial reporting numbers. This approach can be used in the private sector, where the accounting system is accrual-based (Jones, 1991; Beneish, 1999).

The second approach tests the presence of accounting manipulation by examining the distributions of numbers in large sample of data. The abnormal digit frequencies indicate a manipulation of data sets. This approach is known as digit analysis, and we apply it because universities have used so far a cash accounting system.

### 3. METHODOLOGY

In an article published in the American Journal of Mathematics in 1881, the astronomer Simon Newcomb described a pattern, which was seemingly inexplicable, regarding the numbers. He (1881) observed: «That the ten digits do not occur with equal frequency must be evident to any one making much use of logarithmic tables, and noticing how much faster the first pages wear out than the last ones. The first significant figure is oftener 1 than any other digit, and the frequency diminishes up to 9».

Based on the above observation, Newcomb came to the conclusion that if we consider a sequence of positive real numbers and assuming that the mantissas of their logarithms are equally probable, then it is possible to determine the percentage of the numbers whose first digit is 1 up to 9. Similarly, it is possible to determine the percentages of the second digit (from 0 to 9), and so on up to n-th digit. He went so far as to sketch out the formula he expected the first digit to follow.

In particular, the probability of observing the digit  $d_1$  as the first significant digit ( $D_1$ ) of the number is computed as follows [1]:

$$Prob(D_1 = d_1) = \log_{10} \left( 1 + \frac{1}{d_1} \right) \quad d_1 \in \{1, 2, \dots, 9\} \quad [1]$$

The probability of the digit  $d_2$  appearing as the second significant digit ( $D_2$ ) is given by [2]:

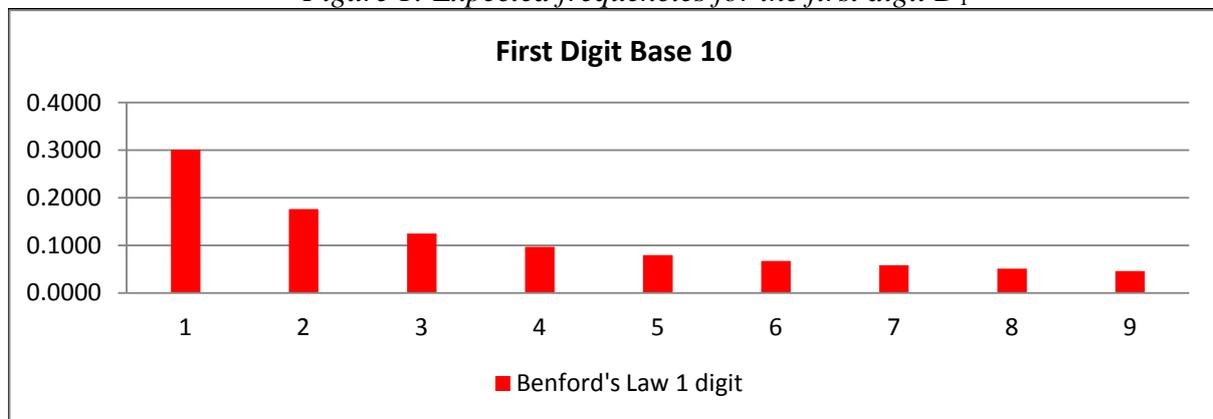
$$Prob(D_2 = d_2) = \sum_{d_1=1}^9 \log_{10} \left( 1 + \frac{1}{d_1 d_2} \right) \quad d_2 \in \{0, 1, \dots, 9\} \quad [2]$$

The table 1 shows the expected frequencies for the first digit ( $D_1$ ) and the second digit ( $D_2$ ) of a number. The frequencies of the first digits are heavily skewed with a probability of 30,1% for the digit 1, and only 4,58% for the digit 9. This is more evident in the Figure 1, which graphically shows the expected frequencies for the first digit ( $D_1$ ). The second digit frequencies are less skewed, with a probability of 11,97% for the digit 0, and 8,50% for the digit 9 (Figure 2).

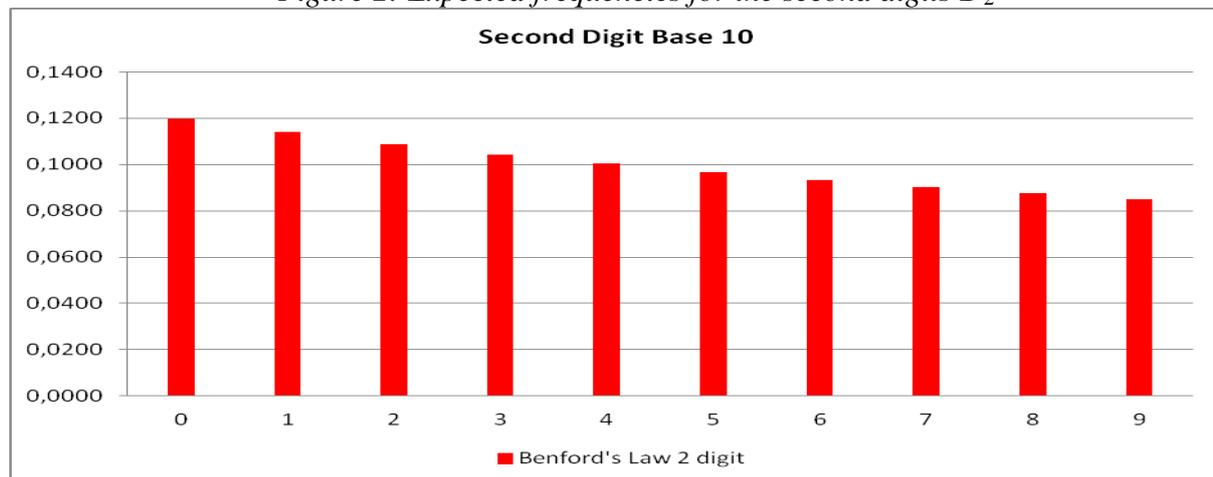
*Table 1: Expected digital frequencies  $D_1$  and  $D_2$*

d1/d2	0	1	2	3	4	5	6	7	8	9	p(d1)
1	0,0414	0,0378	0,0348	0,0322	0,0300	0,0280	0,0263	0,0248	0,0235	0,0223	<b>0,3010</b>
2	0,0212	0,0202	0,0193	0,0185	0,0177	0,0170	0,0164	0,0158	0,0152	0,0147	<b>0,1761</b>
3	0,0142	0,0138	0,0134	0,0130	0,0126	0,0122	0,0119	0,0116	0,0113	0,0110	<b>0,1249</b>
4	0,0107	0,0105	0,0102	0,0100	0,0098	0,0095	0,0093	0,0091	0,0090	0,0088	<b>0,0969</b>
5	0,0086	0,0084	0,0083	0,0081	0,0080	0,0078	0,0077	0,0076	0,0074	0,0073	<b>0,0792</b>
6	0,0072	0,0071	0,0069	0,0068	0,0067	0,0066	0,0065	0,0064	0,0063	0,0062	<b>0,0669</b>
7	0,0062	0,0061	0,0060	0,0059	0,0058	0,0058	0,0057	0,0056	0,0055	0,0055	<b>0,0580</b>
8	0,0054	0,0053	0,0053	0,0052	0,0051	0,0051	0,0050	0,0050	0,0049	0,0049	<b>0,0512</b>
9	0,0048	0,0047	0,0047	0,0046	0,0046	0,0045	0,0045	0,0045	0,0044	0,0044	<b>0,0458</b>
p(d2)	<b>0,1197</b>	<b>0,1139</b>	<b>0,1088</b>	<b>0,1043</b>	<b>0,1003</b>	<b>0,0967</b>	<b>0,0934</b>	<b>0,0904</b>	<b>0,0876</b>	<b>0,0850</b>	<b>1,0000</b>

*Figure 1: Expected frequencies for the first digit  $D_1$*



*Figure 2: Expected frequencies for the second digits  $D_2$*



Many years later, the physicist at General Electric laboratories, Frank Benford, presented in a publication (1938) various numerical sequences (length of the rivers, populations sizes, physical constants, etc...) that showed a surprisingly great adaptation to this logarithmic law. Since then, the law has been referred to as Benford's Law.

The fact that a series of random numbers respected Benford's Law has suggested using it to detect fraudulent data in applications as diverse as election campaign finance (Tam Cho and

Gaines, 2007) and toxic gas emission (De Marchi and Hamilton, 2006). Among the fields of Benford's Law application, there are also accounting and financial statements (Ciaponi and Mandanici, 2014; Quick and Wolz, 2005; Durtschi et al., 2004; Skousen et al., 2004; Van Caneghem, 2002; Burgstahler and Dichev, 1997; Thomas, 1989; Carslaw, 1988), tax auditing (Watrin et al., 2008; Niskanen and Keloharju, 2000; Nigrini, 1996), and auditing procedures (Guan et al., 2006; Jackson and Pitman, 2001; Nigrini and Mittermainer, 1997). Generally, many studies addressed the earnings management issues through the use of Benford distribution. This is the first time it is applied to the cash-based accounting system adopted by universities.

Specifically, the research hypothesis are as follows:

H1: the observed distribution of receivables and payables numbers does not conform to the expected Benford's Law distribution, evidencing intentional manipulations.

H2: the degree of accounting manipulation grows when the ministerial funding decreases.

We expect that the result is consistent with the results of a recent survey conducted on the financial risk of the Italian state universities. Mandanici and Pace (2014) define and translate the financial risk factors in a series of 12 warning indicators of crisis, and they calculate a synthetic financial risk indicator as the sum of the scores recorded by each of them, for the years from 2009 to 2012. They found that the medium sized universities are riskier than small, large and very large universities. For many universities defined riskier, the results are matching to the facts reported in the major national newspapers, as for the University of Siena and the University of Pesaro-Urbino.

We can hypothesize that the riskier universities manipulate their reported values more frequently than the other universities. Therefore, in order to allow comparison, we can operate a stratification of the data in 4 macro classes, following the same dimensional criteria adopted in the cited survey.

### **3.1. Data collection**

The analysis was conducted on the financial reports of the Italian universities provided by the Statistical Office of the MIUR. This ensures the consistency of the data collected. We excluded universities that have adopted the accrual-based accounting as well as universities whose data are lacking in one or more years from 2004 to 2012. The first column of the tables in the Appendix lists all the 61 analysed universities.

We can apply the Benford's Law to their receivables and payables reported numbers because they satisfy the following conditions (Nigrini, 2012):

- all the numbers are recorded in the same unit of measurement;
- the numbers do not have an arbitrary maximum and/or minimum cut-off point;
- the numbers are not assigned, such as personal identification numbers, invoice numbers and postal codes;
- the numbers are not influenced by human thought, such as psychological supermarket prices (which often have 9 as a last digit, like 1,99 €);
- the numbers do not have a wide dispersion (Raimi, 1976).

### **3.2. Testing methodology**

We identify receivables and payables manipulations by searching for abnormal first digits and second digits frequencies in numbers recorded by each university in their 2004-2012 financial report. The degree of deviation from the Benford distribution is assessed by the Chi-squared test.

The most common tests are the Z-statistic and the Chi-square. The first test measures the significance of the deviation from the expected digit distribution for each digit separately. It is

a digit-by-digit analysis that shows whether a single digit occurs more or less often than it is expected according to Benford's Law.

Our objective is to signal suspicious of receivables and payables manipulation during the years, and not what figures in the number are more or less frequently used.

Consequently, this research uses the Chi-square test, a test-by-test analysis, which compares the expected distribution over all digits with the observed distribution, indicating whether the observed distribution significantly differs from the expected one. The literature (Cleary and Thibodeau, 2005) also suggests the use of test-by-test analysis to catch data sets, which are under suspicion of having been manipulated, and the use of digit-by-digit analysis for an in-depth investigation regarding the causes behind the abnormality.

The Chi-square test is determined through the following equation [3]:

$$Chi - square = \sum_{i=1}^K \frac{(AC - EC)^2}{EC} \quad [3]$$

where AC is the observed digit frequency, EC is the expected digit frequency according to Benford's Law, and K is the number of possible digits *I* in the first position in numbers (K = 9). The numerator is the residual of the compared distributions, squared in order to get rid of negative values. It is divided by the expected observations, to normalize bigger and smaller counts.

The conformity of the whole distribution is tested choosing an alpha level of significance. Generally, the alpha level varies according to the size of the sample observed from 0,05 to 0,01 or 0,001. We choose the level 0,05.

The appendix provides the results of the computed Chi-squared test of the first and the second digit of receivables and payables numbers. The test shows that the observed data are clearly correspondent with the Benford's distribution, during all the years 2004-2012. In other word, there is statistically no difference between the distribution of receivables and payables numbers and the distribution expected from Benford's Law. The conformity is clear and persistent over all the 9 years. Therefore, the two hypothesis are rejected, and any dimensional stratification does not involve changes to the results.

#### 4. RESULTS AND FINDINGS

The results provide empirical evidence that:

- the receivables and payables values conform to Benford's Law;
- during financial distress, universities did not carry out intentional manipulations.

The first result was expected, not the second. We tried the reasons and we have identified the following:

- the lack of legislation on financial distress of universities during the analysed years 2004-2011;
- the freedom to allocate public funding and private resources to different budget lines, independently from the MIUR.

The declaration of insolvency was introduced in the Italian universities only with the mentioned decrees in 2011 and 2012. Clearly, they can have a negative impact on key stakeholders, penalizing the financial and organizational autonomy, as well as the credibility of both the training and research conducted by the university. During the investigated period, universities have not been forced to heavy accounting manipulations by such a punitive legislation. Manipulations could be undertaken to achieve a balance between revenues and expenditure in financial reporting. Probably, universities will engage more frequently in accounting manipulations when this legislation comes into force. Such a behavior would be in

line with that taken by local authorities as a result of the Constitutional Law n. 3/2001. In the absence of a state extraordinary contributions, all financial resources must be found within the university. Consequently, we expect that universities will resort to receivables and payables manipulation in order to avoid the declaration of insolvency.

We also expect a greater use of manipulations into the universities which cannot allocate their funds, independently from the MIUR, to the different budget lines. Therefore, the line-item funding systems may represent an incitement to manipulations in respect to the block-grant systems. The majority of the EU countries uses the block grant formula. The sum is split into broad categories and there are no or limited possibilities to move funds between these. This is the case of France, Portugal and Sweden. In Italy, like other EU countries such as UK, Norway, The Netherlands and Spain, in addition to the block grant funding formula, there are no restrictions on the internal allocation of funds, and, moreover, the surplus can be kept by universities without any external approval or amount limitation. This reduces the use of accounting manipulation among the different budget lines, because the liquidity is already employed by the single university for expenses considered strategically appropriated.

## 5. CONCLUSION

During the last years, there has been a general tendency of reforming traditional cash accounting of public entities towards business-like accrual accounting. In particular, through a long process started with the Legislative Decree n. 240/2010, the MIUR is reforming the university sector, putting on the same level the economic and financial conditions, and introducing, among other documents, the accrual accounting and the balance sheet. The main reason is that the cash accounting is perceived as being too much focused on a legislative control mechanism of public funds, without providing management information. On the contrary, the new accounting system aims at measuring academic assets and liabilities, and at improving performance management and long term sustainability.

Therefore, future researches will have the opportunity to apply the Benford's Law to a long list of discretionary accruals, and not only to the receivables and payables numbers.

The novelty in the use of Benford's Law is that managers (and auditors) analyse the relationships between the elements of a data set of accruals to determine whether they are reasonable, focusing on the consistency of the data set as a whole rather than on the single value. More specifically, they could assume that the reported accruals follow Benford's Law, assigning an expected frequency to each number of a list. They could carry out a statistical analysis, and they should focus on the significant deviations of numbers from their expected values or their uncommon variation over particular periods: deviations might signal irregularities and might refer to numbers that have been deliberately manipulated.

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*Appendix: Chi-squared test on receivables and payables numbers from 2012 to 2004*

YEARS 2012	Receivables 1° digit	Number of observations	Receivables 2° digit	Number of observations	Payables 1° digit	Number of observations	Payables 2° digit	Number of observations
Polytechnic MARCHE	0,52	41	0,44	41	0,04	96	0,66	96
BARI	0,84	35	0,48	35	0,70	135	0,93	135
BOLOGNA	0,02	65	0,27	64	0,27	102	0,50	102
CAGLIARI	0,12	49	0,38	48	0,84	76	0,74	76
CASSINO	0,87	31	0,38	31	0,87	64	0,20	64
CATANIA	0,84	38	0,12	38	0,55	138	0,07	135
FERRARA	0,29	45	0,63	44	0,78	113	0,36	113
FIRENZE	0,05	34	0,22	34	0,93	123	0,27	123
GENOVA	0,39	56	0,35	56	0,07	95	0,59	95
SALENTO	0,93	36	0,94	36	0,41	107	0,83	107
MACERATA	0,40	35	0,08	34	0,64	80	0,34	80
MESSINA	0,83	36	0,51	35	0,91	128	0,98	128
MILANO	0,07	44	0,36	44	0,58	98	0,71	98
Polytechnic MILANO	0,11	35	0,82	34	0,38	97	0,96	97
MODENA and REGGIO EMILIA	0,04	50	0,39	50	0,75	122	0,07	121
NAPOLI Federico II	0,68	62	0,49	62	0,71	119	0,04	119
PADOVA	0,04	45	0,71	45	0,54	85	0,71	84
PALERMO	0,24	44	0,14	44	0,61	124	0,06	124
PARMA	0,68	17	0,38	16	0,68	76	0,73	74
PAVIA	0,25	57	0,40	57	0,72	114	0,90	111
PERUGIA	0,02	55	0,14	55	0,54	103	0,67	103
PISA	0,24	46	0,15	46	0,87	113	0,43	113
ROMA La Sapienza	0,88	52	0,47	52	0,24	121	0,50	120
ROMA Tor Vergata	0,15	42	0,04	42	0,69	88	0,39	88

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SALERNO	0,98	50	0,17	50	0,80	123	0,57	123
SASSARI	0,54	50	0,11	50	0,06	112	0,52	112
SIENA	0,43	21	0,50	21	0,12	113	0,82	113
TORINO	0,49	75	0,25	75	0,15	106	0,60	106
VITERBO	1,00	48	0,31	48	0,28	107	0,47	107
VENEZIA Ca' Foscari	0,27	39	0,33	39	0,38	102	0,78	102
VENEZIA I.U.A.V.	0,48	30	0,37	30	0,72	85	0,25	85
BASILICATA	0,55	37	0,34	37	0,95	102	0,20	101
MOLISE	0,61	36	0,05	36	0,47	55	0,45	55
VERONA	0,46	32	0,28	32	0,34	102	0,54	100
NAPOLI Parthenope	0,56	32	0,80	32	0,27	106	0,39	106
NAPOLI L'Orientale	0,00	36	0,91	35	0,02	82	0,15	80
PISA Normale	0,47	19	0,55	19	0,43	70	0,30	70
PISA Sant'Anna	0,84	31	0,63	31	0,57	57	0,70	57
TRIESTE S.I.S.S.A.	0,30	24	0,08	24	0,67	87	0,12	86
BRESCIA	0,49	39	0,66	39	0,67	118	0,67	118
REGGIO CALABRIA	0,60	31	0,51	31	0,02	85	0,40	84
Polytechnic BARI	0,23	47	0,40	46	0,30	104	0,31	103
NAPOLI Seconda Università	0,19	40	0,72	40	0,06	99	0,05	98
BERGAMO	0,59	28	0,86	28	0,69	85	0,84	85
CHIETI-PESCARA	0,15	32	0,92	32	0,08	93	0,72	90
L'AQUILA	0,05	24	0,64	24	0,84	67	0,24	67
URBINO	0,09	26	0,24	25	0,32	89	0,26	88
University for Foreigners of SIENA	0,43	18	0,62	18	0,64	83	0,89	82
University for Foreigners of PERUGIA	0,14	24	0,61	24	0,08	56	0,99	56
ROMA TRE	0,63	30	0,68	30	0,55	73	0,32	72
TERAMO	0,77	27	0,19	27	0,07	88	0,75	88
ROMA Foro Italico	0,54	20	0,62	20	1,00	74	0,76	73
BENEVENTO	0,56	29	0,48	29	0,33	75	0,57	74
CATANZARO	0,12	34	0,30	34	0,68	75	0,45	74
MILANO Bicocca	0,11	43	0,38	40	0,61	101	0,91	101
INSUBRIA	0,61	40	0,32	40	0,91	81	0,62	80
PIEMONTE ORIENTALE	0,63	51	0,76	51	0,36	79	0,87	79
FOGGIA	0,84	33	0,12	33	0,29	104	0,83	103
PAVIA I.U.S.S.	0,82	17	0,48	17	0,71	62	0,50	61
LUCCA I.M.T.	0,83	18	0,73	18	0,52	76	0,75	76
FIRENZE S.U.M.	0,50	11	0,29	11	0,44	47	0,86	47

YEARS 2011	Receivables 1° digit	Number of observations	Receivables 2° digit	Number of observations	Payables 1° digit	Number of observations	Payables 2° digit	Number of observations
Polytechnic MARCHE	0,12	45	0,61	45	0,73	75	0,60	75
BARI	0,31	32	0,24	32	0,19	112	0,38	110
BOLOGNA	0,54	68	0,79	67	0,95	91	0,82	91
CAGLIARI	0,81	47	0,94	47	0,92	99	0,90	98
CASSINO	0,78	31	0,33	31	0,03	52	0,27	52
CATANIA	0,15	34	0,52	34	0,61	96	0,60	96
FERRARA	0,56	48	0,40	48	0,28	101	0,31	101
FIRENZE	0,26	35	0,08	35	0,64	112	0,97	112
GENOVA	0,91	57	0,73	60	0,33	98	0,75	98
SALENTO	0,49	41	0,87	41	0,95	107	0,45	107
MACERATA	0,59	33	0,30	33	0,58	80	0,79	80
MESSINA	0,85	31	0,87	31	0,03	128	0,92	128
MILANO	0,20	44	0,65	44	0,75	98	0,24	98
Polytechnic MILANO	0,85	40	0,55	40	0,21	97	0,17	97
MODENA and REGGIO EMILIA	0,18	49	0,18	49	0,80	122	0,40	122
NAPOLI Federico II	0,74	60	0,65	60	0,65	119	0,19	119
PADOVA	0,10	43	0,38	43	0,49	85	0,90	85

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PALERMO	0,15	44	0,56	44	0,89	124	0,68	124
PARMA	0,57	18	0,82	18	0,36	76	0,08	76
PAVIA	0,06	54	0,10	54	0,90	114	0,24	114
PERUGIA	0,15	61	0,21	61	0,75	103	0,20	103
PISA	0,61	48	0,56	48	0,68	113	0,76	113
ROMA La Sapienza	0,76	50	0,09	50	0,75	121	0,21	121
ROMA Tor Vergata	0,10	41	0,66	41	0,28	88	0,42	88
SALERNO	0,79	53	0,58	53	0,17	123	0,50	123
SASSARI	0,63	50	0,11	50	0,78	112	0,28	112
SIENA	0,06	23	0,20	23	0,53	113	0,51	113
TORINO	0,62	78	0,80	78	0,69	106	0,61	106
VITERBO	0,45	46	0,35	46	0,38	107	0,52	107
VENEZIA Ca' Foscari	0,64	50	0,46	50	0,66	102	0,55	102
VENEZIA I.U.A.V.	0,46	29	0,02	29	0,24	85	0,12	85
BASILICATA	0,71	38	0,20	38	0,69	102	0,19	102
MOLISE	0,69	44	0,11	44	0,26	55	0,11	55
VERONA	0,73	34	0,06	34	0,14	102	0,21	102
NAPOLI Parthenope	0,44	32	0,59	32	0,49	106	0,89	106
NAPOLI L'Orientale	0,45	34	0,16	33	0,49	82	0,64	82
PISA Normale	0,41	22	0,69	22	0,58	70	0,38	70
PISA Sant'Anna	0,95	40	0,03	40	0,39	57	0,14	57
TRIESTE S.I.S.S.A.	0,00	27	0,59	27	0,70	87	0,25	87
BRESCIA	0,40	38	0,59	38	0,61	118	0,27	118
REGGIO CALABRIA	0,92	34	0,88	34	0,34	85	0,68	85
Polytechnic BARI	0,51	49	0,93	48	0,46	104	0,17	104
NAPOLI Seconda Università	0,12	37	0,28	37	0,49	99	0,24	99
BERGAMO	0,18	27	0,10	27	0,81	85	0,46	85
CHIETI-PESCARA	0,39	32	0,12	32	0,70	93	0,37	93
L'AQUILA	0,47	25	0,42	25	0,88	67	0,81	67
URBINO	0,58	30	0,01	30	0,71	89	0,52	89
University for Foreigners of SIENA	0,08	23	0,65	23	0,19	83	0,78	83
University for Foreigners of PERUGIA	0,00	20	0,12	19	0,21	56	0,80	56
ROMA TRE	0,61	26	0,02	26	0,10	73	0,42	73
TERAMO	0,76	27	0,31	27	0,70	88	0,24	88
ROMA Foro Italico	0,40	26	0,52	26	0,44	74	0,29	74
BENEVENTO	0,85	30	0,81	30	0,42	75	0,72	75
CATANZARO	0,20	34	0,04	32	0,31	75	0,23	75
MILANO Bicocca	0,26	45	0,26	43	0,55	101	0,81	101
INSUBRIA	0,26	45	0,26	43	0,71	81	0,45	81
PIEMONTE ORIENTALE	0,67	59	0,62	59	0,10	79	0,87	79
FOGGIA	0,76	35	0,42	35	0,26	104	0,40	104
PAVIA I.U.S.S.	0,66	14	0,39	14	0,78	62	0,67	62
LUCCA I.M.T.	0,22	16	0,50	16	0,70	76	0,23	76
FIRENZE S.U.M.	0,17	12	0,97	12	0,54	47	0,22	47

YEARS 2010	Receivables 1° digit	Number of observations	Receivables 2° digit	Number of observations	Payables 1° digit	Number of observations	Payables 2° digit	Number of observations
Polytechnic MARCHE	0,55	42	0,56	42	0,70	77	0,20	77
BARI	0,86	31	0,24	31	0,19	114	0,38	114
BOLOGNA	0,48	70	0,79	70	0,95	94	0,82	94
CAGLIARI	0,74	44	0,94	44	0,92	99	0,90	99
CASSINO	0,29	30	0,33	30	0,03	51	0,27	51
CATANIA	0,25	37	0,52	37	0,61	97	0,60	97
FERRARA	0,17	48	0,40	48	0,28	101	0,31	101
FIRENZE	0,67	33	0,08	33	0,64	113	0,97	113
GENOVA	0,91	58	0,73	58	0,57	99	0,50	99
SALENTO	0,61	40	0,87	40	0,28	110	0,62	110
MACERATA	0,47	32	0,30	32	0,98	79	0,21	79

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MESSINA	0,62	29	0,87	29	0,51	128	0,09	128
MILANO	0,13	42	0,65	42	0,92	100	0,33	100
Polytechnic MILANO	0,41	38	0,55	38	0,79	98	0,84	98
MODENA and REGGIO EMILIA	0,24	47	0,18	47	0,92	125	0,67	125
NAPOLI Federico II	0,7	57	0,65	57	0,80	121	0,48	121
PADOVA	0,88	45	0,38	45	0,58	86	0,54	86
PALERMO	0,21	45	0,56	45	0,21	121	0,63	121
PARMA	0,37	18	0,82	18	0,20	76	0,71	76
PAVIA	0,19	53	0,10	53	0,45	115	0,30	115
PERUGIA	0,61	64	0,21	64	0,79	102	0,44	102
PISA	0,63	48	0,56	48	0,21	112	0,23	112
ROMA La Sapienza	0,24	53	0,09	53	0,28	123	0,32	123
ROMA Tor Vergata	0,68	40	0,66	40	0,09	89	0,85	89
SALERNO	0,65	54	0,58	54	0,24	124	0,79	124
SASSARI	0,29	49	0,11	49	0,92	110	0,30	110
SIENA	0,12	24	0,20	24	0,57	115	0,78	115
TORINO	0,74	79	0,80	79	0,33	109	0,54	109
VITERBO	0,21	45	0,35	45	0,15	105	0,31	105
VENEZIA Ca' Foscari	0,36	53	0,46	53	0,09	99	0,19	99
VENEZIA I.U.A.V.	0,73	26	0,02	26	0,63	84	0,31	84
BASILICATA	0,86	37	0,20	37	0,30	102	0,38	102
MOLISE	0,27	43	0,11	43	0,83	54	0,12	54
VERONA	0,54	32	0,06	32	0,46	103	0,16	103
NAPOLI Parthenope	0,81	33	0,59	33	0,37	106	0,76	106
NAPOLI L'Orientale	0,44	32	0,16	32	0,33	84	0,60	84
PISA Normale	0,11	24	0,69	24	0,42	67	0,14	67
PISA Sant'Anna	0,1	39	0,03	39	0,35	57	0,19	57
TRIESTE S.I.S.S.A.	0,89	25	0,59	25	0,83	89	0,83	89
BRESCIA	0,79	40	0,59	40	0,15	121	0,18	121
REGGIO CALABRIA	0,81	37	0,88	37	0,90	88	0,20	88
Polytechnic BARI	0,35	48	0,93	48	0,10	101	0,36	101
NAPOLI Seconda Università	0,62	40	0,28	40	0,92	100	0,78	100
BERGAMO	0,26	30	0,10	30	0,30	82	0,76	82
CHIETI-PESCARA	0,73	34	0,12	34	0,65	96	0,84	96
L'AQUILA	0,89	25	0,42	25	0,10	64	0,54	64
URBINO	0,66	32	0,01	32	0,22	86	0,58	86
University for Foreigners of SIENA	0,54	20	0,65	20	0,47	84	0,59	84
University for Foreigners of PERUGIA	0,25	21	0,12	21	0,16	56	0,34	56
ROMA TRE	0,39	24	0,02	24	0,21	70	0,73	70
TERAMO	0,5	27	0,31	27	0,27	91	0,82	91
ROMA Foro Italico	0,36	23	0,52	23	0,28	76	0,74	76
BENEVENTO	0,36	29	0,81	29	0,38	78	0,64	78
CATANZARO	0,45	31	0,04	31	0,28	76	0,11	76
MILANO Bicocca	0,67	43	0,26	43	0,16	100	0,73	100
INSUBRIA	0,86	48	0,26	48	0,21	78	0,23	78
PIEMONTE ORIENTALE	0,21	62	0,62	62	0,65	78	0,83	78
FOGGIA	0,59	37	0,42	37	0,84	101	0,70	101
PAVIA I.U.S.S.	0,64	16	0,39	16	0,19	62	0,21	62
LUCCA I.M.T.	0,11	19	0,50	19	0,45	79	0,53	79
FIRENZE S.U.M.	0,56	14	0,97	14	0,35	45	0,15	45

YEARS 2009	Receivables 1° digit	Number of observations	Receivables 2° digit	Number of observations	Payables 1° digit	Number of observations	Payables 2° digit	Number of observations
Polytechnic MARCHE	0,25	44	0,62	44	0,72	76	0,48	76
BARI	0,23	33	0,24	33	0,19	114	0,38	114
BOLOGNA	0,52	69	0,79	69	0,95	92	0,82	92
CAGLIARI	0,55	45	0,94	45	0,92	96	0,90	96

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CASSINO	0,09	27	0,33	27	0,03	50	0,27	50
CATANIA	0,63	37	0,52	37	0,61	100	0,60	100
FERRARA	0,37	46	0,40	46	0,28	101	0,31	101
FIRENZE	0,89	33	0,08	33	0,64	111	0,97	111
GENOVA	0,3	57	0,73	57	0,57	97	0,50	97
SALENTO	0,5	41	0,87	41	0,28	108	0,62	108
MACERATA	0,61	29	0,30	29	0,98	79	0,21	79
MESSINA	0,15	30	0,87	30	0,51	131	0,09	131
MILANO	0,16	41	0,65	41	0,92	100	0,33	100
Polytechnic MILANO	0,82	39	0,55	39	0,79	100	0,84	100
MODENA and REGGIO EMILIA	0,66	45	0,18	45	0,92	123	0,67	123
NAPOLI Federico II	0,15	58	0,65	58	0,80	122	0,48	122
PADOVA	0,35	48	0,38	48	0,58	88	0,54	88
PALERMO	0,44	42	0,56	42	0,21	122	0,63	122
PARMA	0,73	17	0,82	17	0,20	77	0,71	77
PAVIA	0,58	50	0,10	50	0,45	115	0,30	115
PERUGIA	0,24	61	0,21	61	0,79	105	0,44	105
PISA	0,64	47	0,56	47	0,21	112	0,23	112
ROMA La Sapienza	0,09	50	0,09	50	0,28	120	0,32	120
ROMA Tor Vergata	0,59	37	0,66	37	0,09	91	0,85	91
SALERNO	0,31	56	0,58	56	0,24	126	0,79	126
SASSARI	0,23	48	0,11	48	0,92	112	0,30	112
SIENA	0,73	27	0,20	27	0,57	113	0,78	113
TORINO	0,76	82	0,80	82	0,33	112	0,54	112
VITERBO	0,52	45	0,35	45	0,15	104	0,31	104
VENEZIA Ca' Foscari	0,76	55	0,46	55	0,09	96	0,19	96
VENEZIA I.U.A.V.	0,45	28	0,02	28	0,63	83	0,31	83
BASILICATA	0,86	40	0,20	40	0,30	99	0,38	99
MOLISE	0,28	43	0,11	43	0,83	52	0,12	52
VERONA	0,83	30	0,06	30	0,46	106	0,16	106
NAPOLI Parthenope	0,81	35	0,59	35	0,37	105	0,76	105
NAPOLI L'Orientale	0,51	34	0,16	34	0,33	87	0,60	87
PISA Normale	0,36	25	0,69	25	0,42	67	0,14	67
PISA Sant'Anna	0,63	41	0,03	41	0,35	57	0,19	57
TRIESTE S.I.S.S.A.	0,22	23	0,59	23	0,83	86	0,83	86
BRESCIA	0,69	42	0,59	42	0,15	119	0,18	119
REGGIO CALABRIA	0,62	35	0,88	35	0,90	87	0,20	87
Polytechnic BARI	0,39	47	0,93	47	0,10	102	0,36	102
NAPOLI Seconda Università	0,34	39	0,28	39	0,92	97	0,78	97
BERGAMO	0,78	30	0,10	30	0,30	80	0,76	80
CHIETI-PESCARA	0,28	31	0,12	31	0,65	95	0,84	95
L'AQUILA	0,56	23	0,42	23	0,10	65	0,54	65
URBINO	0,08	35	0,01	35	0,22	84	0,58	84
University for Foreigners of SIENA	0,56	17	0,65	17	0,47	81	0,59	81
University for Foreigners of PERÚGIA	0,55	19	0,12	19	0,16	59	0,34	59
ROMA TRE	0,38	27	0,02	27	0,21	73	0,73	73
TERAMO	0,91	27	0,31	27	0,27	90	0,82	90
ROMA Foro Italico	0,52	23	0,52	23	0,28	76	0,74	76
BENEVENTO	0,15	27	0,81	27	0,38	79	0,64	79
CATANZARO	0,62	32	0,04	32	0,28	73	0,11	73
MILANO Bicocca	0,56	42	0,26	42	0,16	103	0,73	103
INSUBRIA	0,2	47	0,26	47	0,21	78	0,23	78
PIEMONTE ORIENTALE	0,47	64	0,62	64	0,65	75	0,83	75
FOGGIA	0,67	37	0,42	37	0,84	104	0,70	104
PAVIA I.U.S.S.	0,63	19	0,39	19	0,19	63	0,21	63
LUCCA I.M.T.	0,34	17	0,50	17	0,45	80	0,53	80
FIRENZE S.U.M.	0,73	13	0,97	13	0,35	45	0,15	45

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YEARS 2008	Receivables 1° digit	Number of observations	Receivables 2° digit	Number of observations	Payables 1° digit	Number of observations	Payables 2° digit	Number of observations
Polytechnic MARCHE	0,55	46	0,12	46	0,56	78	0,23	78
BARI	0,92	31	0,24	31	0,19	115	0,38	115
BOLOGNA	0,77	66	0,79	66	0,95	92	0,82	92
CAGLIARI	0,41	48	0,94	48	0,92	93	0,90	93
CASSINO	0,43	30	0,33	30	0,03	48	0,27	48
CATANIA	0,25	40	0,52	40	0,61	102	0,60	102
FERRARA	0,56	44	0,40	44	0,28	99	0,31	99
FIRENZE	0,82	36	0,08	36	0,64	110	0,97	110
GENOVA	0,40	59	0,73	59	0,57	98	0,50	98
SALENTO	0,34	40	0,87	40	0,28	111	0,62	111
MACERATA	0,25	26	0,30	26	0,98	77	0,21	77
MESSINA	0,53	30	0,87	30	0,51	129	0,09	129
MILANO	0,24	41	0,65	41	0,92	101	0,33	101
Polytechnic MILANO	0,50	40	0,55	40	0,79	97	0,84	97
MODENA and REGGIO EMILIA	0,20	46	0,18	46	0,92	120	0,67	120
NAPOLI Federico II	0,70	60	0,65	60	0,80	123	0,48	123
PADOVA	0,83	46	0,38	46	0,58	89	0,54	89
PALERMO	0,52	44	0,56	44	0,21	125	0,63	125
PARMA	0,55	15	0,82	15	0,20	74	0,71	74
PAVIA	0,56	53	0,10	53	0,45	118	0,30	118
PERUGIA	0,87	63	0,21	63	0,79	104	0,44	104
PISA	0,17	45	0,56	45	0,21	109	0,23	109
ROMA La Sapienza	0,71	50	0,09	50	0,28	121	0,32	121
ROMA Tor Vergata	0,16	39	0,66	39	0,09	94	0,85	94
SALERNO	0,53	53	0,58	53	0,24	127	0,79	127
SASSARI	0,78	47	0,11	47	0,92	115	0,30	115
SIENA	0,54	25	0,20	25	0,57	115	0,78	115
TORINO	0,50	83	0,80	83	0,33	112	0,54	112
VITERBO	0,36	42	0,35	42	0,15	106	0,31	106
VENEZIA Ca' Foscari	0,20	58	0,46	58	0,09	97	0,19	97
VENEZIA I.U.A.V.	0,75	27	0,02	27	0,63	82	0,31	82
BASILICATA	0,29	40	0,20	40	0,30	99	0,38	99
MOLISE	0,20	46	0,11	46	0,83	50	0,12	50
VERONA	0,45	32	0,06	32	0,46	107	0,16	107
NAPOLI Parthenope	0,08	37	0,59	37	0,37	103	0,76	103
NAPOLI L'Orientale	0,70	33	0,16	33	0,33	90	0,60	90
PISA Normale	0,17	25	0,69	25	0,42	64	0,14	64
PISA Sant'Anna	0,42	40	0,03	40	0,35	55	0,19	55
TRIESTE S.I.S.S.A.	0,36	22	0,59	22	0,83	88	0,83	88
BRESCIA	0,09	39	0,59	39	0,15	122	0,18	122
REGGIO CALABRIA	0,76	34	0,88	34	0,90	86	0,20	86
Polytechnic BARI	0,38	49	0,93	49	0,10	105	0,36	105
NAPOLI Seconda Università	0,22	39	0,28	39	0,92	98	0,78	98
BERGAMO	0,69	33	0,10	33	0,30	81	0,76	81
CHIETI-PESCARA	0,20	32	0,12	32	0,65	97	0,84	97
L'AQUILA	0,89	26	0,42	26	0,10	66	0,54	66
URBINO	0,52	32	0,01	32	0,22	81	0,58	81
University for Foreigners of SIENA	0,78	16	0,65	16	0,47	84	0,59	84
University for Foreigners of PERUGIA	0,56	20	0,12	20	0,16	60	0,34	60
ROMA TRE	0,63	28	0,02	28	0,21	72	0,73	72
TERAMO	0,85	30	0,31	30	0,27	91	0,82	91
ROMA Foro Italico	0,44	24	0,52	24	0,28	77	0,74	77
BENEVENTO	0,14	26	0,81	26	0,38	76	0,64	76
CATANZARO	0,80	35	0,04	35	0,28	71	0,11	71
MILANO Bicocca	0,87	43	0,26	43	0,16	100	0,73	100

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INSUBRIA	0,18	46	0,26	46	0,21	75	0,23	75
PIEMONTE ORIENTALE	0,21	65	0,62	65	0,65	73	0,83	73
FOGGIA	0,44	39	0,42	39	0,84	107	0,70	107
PAVIA I.U.S.S.	0,24	22	0,39	22	0,19	62	0,21	62
LUCCA I.M.T.	0,13	20	0,50	20	0,45	79	0,53	79
FIRENZE S.U.M.	0,33	13	0,97	13	0,35	45	0,15	45

YEARS 2007	Receivables 1° digit	Number of observations	Receivables 2° digit	Number of observations	Payables 1° digit	Number of observations	Payables 2° digit	Number of observations
Polytechnic MARCHE	0,65	47	0,13	47	0,61	79	0,80	79
BARI	0,30	31	0,24	31	0,19	116	0,38	116
BOLOGNA	0,46	63	0,79	63	0,95	89	0,82	89
CAGLIARI	0,20	46	0,94	46	0,92	91	0,90	91
CASSINO	0,15	29	0,33	29	0,03	48	0,27	48
CATANIA	0,22	39	0,52	39	0,61	103	0,60	103
FERRARA	0,33	44	0,40	44	0,28	102	0,31	102
FIRENZE	0,10	37	0,08	37	0,64	113	0,97	113
GENOVA	0,38	56	0,73	56	0,57	96	0,50	96
SALENTO	0,40	39	0,87	39	0,28	114	0,62	114
MACERATA	0,67	24	0,30	24	0,98	80	0,21	80
MESSINA	0,24	28	0,87	28	0,51	129	0,09	129
MILANO	0,42	44	0,65	44	0,92	103	0,33	103
Polytechnic MILANO	0,11	40	0,55	40	0,79	96	0,84	96
MODENA and REGGIO EMILIA	0,22	48	0,18	48	0,92	121	0,67	121
NAPOLI Federico II	0,25	57	0,65	57	0,80	124	0,48	124
PADOVA	0,16	44	0,38	44	0,58	91	0,54	91
PALERMO	0,69	47	0,56	47	0,21	124	0,63	124
PARMA	0,77	17	0,82	17	0,20	71	0,71	71
PAVIA	0,76	51	0,10	51	0,45	119	0,30	119
PERUGIA	0,39	64	0,21	64	0,79	107	0,44	107
PISA	0,63	48	0,56	48	0,21	106	0,23	106
ROMA La Sapienza	0,08	51	0,09	51	0,28	120	0,32	120
ROMA Tor Vergata	0,19	36	0,66	36	0,09	97	0,85	97
SALERNO	0,84	56	0,58	56	0,24	129	0,79	129
SASSARI	0,78	50	0,11	50	0,92	115	0,30	115
SIENA	0,78	26	0,20	26	0,57	115	0,78	115
TORINO	0,32	81	0,80	81	0,33	112	0,54	112
VITERBO	0,90	45	0,35	45	0,15	105	0,31	105
VENEZIA Ca' Foscari	0,90	61	0,46	61	0,09	94	0,19	94
VENEZIA I.U.A.V.	0,72	25	0,02	25	0,63	81	0,31	81
BASILICATA	0,60	38	0,20	38	0,30	100	0,38	100
MOLISE	0,38	48	0,11	48	0,83	50	0,12	50
VERONA	0,65	29	0,06	29	0,46	110	0,16	110
NAPOLI Parthenope	0,59	37	0,59	37	0,37	105	0,76	105
NAPOLI L'Orientale	0,90	34	0,16	34	0,33	89	0,60	89
PISA Normale	0,78	25	0,69	25	0,42	66	0,14	66
PISA Sant'Anna	0,54	41	0,03	41	0,35	53	0,19	53
TRIESTE S.I.S.S.A.	0,13	25	0,59	25	0,83	87	0,83	87
BRESCIA	0,26	42	0,59	42	0,15	120	0,18	120
REGGIO CALABRIA	0,30	34	0,88	34	0,90	85	0,20	85
Polytechnic BARI	0,64	49	0,93	49	0,10	106	0,36	106
NAPOLI Seconda Università	0,47	36	0,28	36	0,92	97	0,78	97
BERGAMO	0,41	32	0,10	32	0,30	79	0,76	79
CHIETI-PESCARA	0,70	31	0,12	31	0,65	94	0,84	94
L'AQUILA	0,34	23	0,42	23	0,10	66	0,54	66
URBINO	0,44	30	0,01	30	0,22	84	0,58	84
University for Foreigners of SIENA	0,63	15	0,65	15	0,47	84	0,59	84
University for Foreigners of	0,61	17	0,12	17	0,16	62	0,34	62

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PERUGIA								
ROMA TRE	0,48	27	0,02	27	0,21	75	0,73	75
TERAMO	0,13	33	0,31	33	0,27	91	0,82	91
ROMA Foro Italico	0,24	27	0,52	27	0,28	76	0,74	76
BENEVENTO	0,70	25	0,81	25	0,38	73	0,64	73
CATANZARO	0,67	35	0,04	35	0,28	68	0,11	68
MILANO Bicocca	0,79	46	0,26	46	0,16	100	0,73	100
INSUBRIA	0,72	48	0,26	48	0,21	73	0,23	73
PIEMONTE ORIENTALE	0,53	64	0,62	64	0,65	72	0,83	72
FOGGIA	0,34	40	0,42	40	0,84	104	0,70	104
PAVIA I.U.S.S.	0,33	24	0,39	24	0,19	64	0,21	64
LUCCA I.M.T.	0,30	19	0,50	19	0,45	78	0,53	78
FIRENZE S.U.M.	0,11	12	0,97	12	0,35	45	0,15	45

<b>YEARS 2006</b>	<b>Receivables 1° digit</b>	<b>Number of observations</b>	<b>Receivables 2° digit</b>	<b>Number of observations</b>	<b>Payables 1° digit</b>	<b>Number of observations</b>	<b>Payables 2° digit</b>	<b>Number of observations</b>
Polytechnic MARCHE	0,29	45	0,68	45	0,22	77	0,38	77
BARI	0,56	31	0,24	31	0,19	119	0,38	119
BOLOGNA	0,28	65	0,79	65	0,95	86	0,82	86
CAGLIARI	0,60	43	0,94	43	0,92	91	0,90	91
CASSINO	0,53	27	0,33	27	0,03	49	0,27	49
CATANIA	0,63	38	0,52	38	0,61	105	0,60	105
FERRARA	0,80	46	0,40	46	0,28	99	0,31	99
FIRENZE	0,77	35	0,08	35	0,64	111	0,97	111
GENOVA	0,74	53	0,73	53	0,57	97	0,50	97
SALENTO	0,18	36	0,87	36	0,28	112	0,62	112
MACERATA	0,74	25	0,30	25	0,98	83	0,21	83
MESSINA	0,83	25	0,87	25	0,51	130	0,09	130
MILANO	0,76	41	0,65	41	0,92	101	0,33	101
Polytechnic MILANO	0,39	43	0,55	43	0,79	93	0,84	93
MODENA and REGGIO EMILIA	0,25	51	0,18	51	0,92	118	0,67	118
NAPOLI Federico II	0,69	56	0,65	56	0,80	121	0,48	121
PADOVA	0,44	43	0,38	43	0,58	93	0,54	93
PALERMO	0,38	49	0,56	49	0,21	122	0,63	122
PARMA	0,20	17	0,82	17	0,20	68	0,71	68
PAVIA	0,72	53	0,10	53	0,45	118	0,30	118
PERUGIA	0,46	61	0,21	61	0,79	106	0,44	106
PISA	0,92	49	0,56	49	0,21	109	0,23	109
ROMA La Sapienza	0,32	52	0,09	52	0,28	123	0,32	123
ROMA Tor Vergata	0,53	38	0,66	38	0,09	97	0,85	97
SALERNO	0,49	55	0,58	55	0,24	126	0,79	126
SASSARI	0,16	53	0,11	53	0,92	118	0,30	118
SIENA	0,35	24	0,20	24	0,57	115	0,78	115
TORINO	0,85	80	0,80	80	0,33	113	0,54	113
VITERBO	0,40	44	0,35	44	0,15	107	0,31	107
VENEZIA Ca' Foscari	0,21	59	0,46	59	0,09	91	0,19	91
VENEZIA I.U.A.V.	0,41	23	0,02	23	0,63	81	0,31	81
BASILICATA	0,50	38	0,20	38	0,30	99	0,38	99
MOLISE	0,45	51	0,11	51	0,83	52	0,12	52
VERONA	0,47	28	0,06	28	0,46	111	0,16	111
NAPOLI Parthenope	0,70	39	0,59	39	0,37	108	0,76	108
NAPOLI L'Orientale	0,87	31	0,16	31	0,33	92	0,60	92
PISA Normale	0,46	23	0,69	23	0,42	69	0,14	69
PISA Sant'Anna	0,33	39	0,03	39	0,35	51	0,19	51
TRIESTE S.I.S.S.A.	0,44	24	0,59	24	0,83	86	0,83	86
BRESCIA	0,77	40	0,59	40	0,15	121	0,18	121
REGGIO CALABRIA	0,75	36	0,88	36	0,90	87	0,20	87
Polytechnic BARI	0,13	48	0,93	48	0,10	105	0,36	105
NAPOLI Seconda Università	0,31	37	0,28	37	0,92	95	0,78	95

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BERGAMO	0,92	30	0,10	30	0,30	78	0,76	78
CHIETI-PESCARA	0,85	34	0,12	34	0,65	93	0,84	93
L'AQUILA	0,65	21	0,42	21	0,10	67	0,54	67
URBINO	0,32	30	0,01	30	0,22	86	0,58	86
University for Foreigners of SIENA	0,21	14	0,65	14	0,47	82	0,59	82
University for Foreigners of PERUGIA	0,46	17	0,12	17	0,16	65	0,34	65
ROMA TRE	0,28	26	0,02	26	0,21	78	0,73	78
TERAMO	0,16	36	0,31	36	0,27	92	0,82	92
ROMA Foro Italico	0,81	25	0,52	25	0,28	76	0,74	76
BENEVENTO	0,35	28	0,81	28	0,38	76	0,64	76
CATANZARO	0,73	37	0,04	37	0,28	71	0,11	71
MILANO Bicocca	0,86	48	0,26	48	0,16	100	0,73	100
INSUBRIA	0,33	45	0,26	45	0,21	76	0,23	76
PIEMONTE ORIENTALE	0,50	64	0,62	64	0,65	72	0,83	72
FOGGIA	0,09	43	0,42	43	0,84	102	0,70	102
PAVIA I.U.S.S.	0,42	25	0,39	25	0,19	61	0,21	61
LUCCA I.M.T.	0,34	17	0,50	17	0,45	76	0,53	76
FIRENZE S.U.M.	0,80	9	0,97	9	0,35	46	0,15	46

<b>YEARS 2005</b>	<b>Receivables 1° digit</b>	<b>Number of observations</b>	<b>Receivables 2° digit</b>	<b>Number of observations</b>	<b>Payables 1° digit</b>	<b>Number of observations</b>	<b>Payables 2° digit</b>	<b>Number of observations</b>
Polytechnic MARCHE	0,15	44	0,22	44	0,62	74	0,09	74
BARI	0,40	31	0,24	31	0,19	117	0,38	117
BOLOGNA	0,76	68	0,79	68	0,95	85	0,82	85
CAGLIARI	0,49	42	0,94	42	0,92	94	0,90	94
CASSINO	0,63	24	0,33	24	0,03	46	0,27	46
CATANIA	0,29	41	0,52	41	0,61	106	0,60	106
FERRARA	0,80	45	0,40	45	0,28	99	0,31	99
FIRENZE	0,42	36	0,08	36	0,64	108	0,97	108
GENOVA	0,15	51	0,73	51	0,57	97	0,50	97
SALENTO	0,62	34	0,87	34	0,28	115	0,62	115
MACERATA	0,14	25	0,30	25	0,98	85	0,21	85
MESSINA	0,76	24	0,87	24	0,51	127	0,09	127
MILANO	0,54	43	0,65	43	0,92	104	0,33	104
Polytechnic MILANO	0,78	46	0,55	46	0,79	90	0,84	90
MODENA and REGGIO EMILIA	0,62	51	0,18	51	0,92	117	0,67	117
NAPOLI Federico II	0,61	58	0,65	58	0,80	120	0,48	120
PADOVA	0,16	46	0,38	46	0,58	93	0,54	93
PALERMO	0,84	50	0,56	50	0,21	124	0,63	124
PARMA	0,81	18	0,82	18	0,20	71	0,71	71
PAVIA	0,42	50	0,10	50	0,45	121	0,30	121
PERUGIA	0,38	61	0,21	61	0,79	107	0,44	107
PISA	0,31	49	0,56	49	0,21	111	0,23	111
ROMA La Sapienza	0,43	55	0,09	55	0,28	120	0,32	120
ROMA Tor Vergata	0,87	41	0,66	41	0,09	95	0,85	95
SALERNO	0,54	54	0,58	54	0,24	128	0,79	128
SASSARI	0,68	51	0,11	51	0,92	121	0,30	121
SIENA	0,68	21	0,20	21	0,57	114	0,78	114
TORINO	0,61	83	0,80	83	0,33	116	0,54	116
VITERBO	0,77	46	0,35	46	0,15	104	0,31	104
VENEZIA Ca' Foscari	0,24	62	0,46	62	0,09	93	0,19	93
VENEZIA I.U.A.V.	0,47	25	0,02	25	0,63	80	0,31	80
BASILICATA	0,34	40	0,20	40	0,30	99	0,38	99
MOLISE	0,37	50	0,11	50	0,83	53	0,12	53
VERONA	0,72	31	0,06	31	0,46	108	0,16	108
NAPOLI Parthenope	0,28	39	0,59	39	0,37	107	0,76	107
NAPOLI L'Orientale	0,45	30	0,16	30	0,33	93	0,60	93
PISA Normale	0,25	24	0,69	24	0,42	66	0,14	66

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PISA Sant'Anna	0,81	36	0,03	36	0,35	50	0,19	50
TRIESTE S.I.S.S.A.	0,52	22	0,59	22	0,83	87	0,83	87
BRESCIA	0,24	39	0,59	39	0,15	121	0,18	121
REGGIO CALABRIA	0,77	34	0,88	34	0,90	87	0,20	87
Polytechnic BARI	0,72	48	0,93	48	0,10	107	0,36	107
NAPOLI Seconda Università	0,83	38	0,28	38	0,92	97	0,78	97
BERGAMO	0,27	31	0,10	31	0,30	81	0,76	81
CHIETI-PESCARA	0,53	31	0,12	31	0,65	90	0,84	90
L'AQUILA	0,31	22	0,42	22	0,10	68	0,54	68
URBINO	0,35	28	0,01	28	0,22	84	0,58	84
University for Foreigners of SIENA	0,89	11	0,65	11	0,47	79	0,59	79
University for Foreigners of PERUGIA	0,87	20	0,12	20	0,16	66	0,34	66
ROMA TRE	0,08	26	0,02	26	0,21	81	0,73	81
TERAMO	0,19	35	0,31	35	0,27	89	0,82	89
ROMA Foro Italico	0,22	22	0,52	22	0,28	75	0,74	75
BENEVENTO	0,09	29	0,81	29	0,38	77	0,64	77
CATANZARO	0,38	40	0,04	40	0,28	74	0,11	74
MILANO Bicocca	0,47	49	0,26	49	0,16	97	0,73	97
INSUBRIA	0,57	48	0,26	48	0,21	79	0,23	79
PIEMONTE ORIENTALE	0,52	61	0,62	61	0,65	74	0,83	74
FOGGIA	0,60	41	0,42	41	0,84	103	0,70	103
PAVIA I.U.S.S.	0,22	22	0,39	22	0,19	63	0,21	63
LUCCA I.M.T.	0,64	17	0,50	17	0,45	79	0,53	79
FIRENZE S.U.M.	0,92	7	0,97	7	0,35	43	0,15	43

YEARS 2004	Receivables 1° digit	Number of observations	Receivables 2° digit	Number of observations	Payables 1° digit	Number of observations	Payables 2° digit	Number of observations
Polytechnic MARCHE	0,12	43	0,11	43	0,51	75	0,73	75
BARI	0,11	28	0,24	28	0,19	115	0,38	115
BOLOGNA	0,17	69	0,79	69	0,95	84	0,82	84
CAGLIARI	0,56	41	0,94	41	0,92	91	0,90	91
CASSINO	0,60	21	0,33	21	0,03	47	0,27	47
CATANIA	0,44	44	0,52	44	0,61	107	0,60	107
FERRARA	0,92	44	0,40	44	0,28	100	0,31	100
FIRENZE	0,74	36	0,08	36	0,64	110	0,97	110
GENOVA	0,75	49	0,73	49	0,57	99	0,50	99
SALENTO	0,38	36	0,87	36	0,28	116	0,62	116
MACERATA	0,27	28	0,30	28	0,98	84	0,21	84
MESSINA	0,50	26	0,87	26	0,51	127	0,09	127
MILANO	0,50	45	0,65	45	0,92	104	0,33	104
Polytechnic MILANO	0,92	45	0,55	45	0,79	92	0,84	92
MODENA and REGGIO EMILIA	0,09	52	0,18	52	0,92	114	0,67	114
NAPOLI Federico II	0,37	59	0,65	59	0,80	117	0,48	117
PADOVA	0,86	46	0,38	46	0,58	95	0,54	95
PALERMO	0,78	53	0,56	53	0,21	125	0,63	125
PARMA	0,85	16	0,82	16	0,20	72	0,71	72
PAVIA	0,45	53	0,10	53	0,45	124	0,30	124
PERUGIA	0,37	62	0,21	62	0,79	107	0,44	107
PISA	0,46	47	0,56	47	0,21	110	0,23	110
ROMA La Sapienza	0,60	55	0,09	55	0,28	119	0,32	119
ROMA Tor Vergata	0,75	44	0,66	44	0,09	97	0,85	97
SALERNO	0,46	56	0,58	56	0,24	129	0,79	129
SASSARI	0,60	51	0,11	51	0,92	121	0,30	121
SIENA	0,36	22	0,20	22	0,57	112	0,78	112
TORINO	0,24	85	0,80	85	0,33	116	0,54	116
VITERBO	0,10	49	0,35	49	0,15	102	0,31	102

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VENEZIA Ca' Foscari	0,78	64	0,46	64	0,09	91	0,19	91
VENEZIA I.U.A.V.	0,35	24	0,02	24	0,63	77	0,31	77
BASILICATA	0,41	42	0,20	42	0,30	102	0,38	102
MOLISE	0,31	52	0,11	52	0,83	52	0,12	52
VERONA	0,76	31	0,06	31	0,46	107	0,16	107
NAPOLI Parthenope	0,79	41	0,59	41	0,37	104	0,76	104
NAPOLI L'Orientale	0,32	32	0,16	32	0,33	96	0,60	96
PISA Normale	0,52	22	0,69	22	0,42	63	0,14	63
PISA Sant'Anna	0,08	36	0,03	36	0,35	48	0,19	48
TRIESTE S.I.S.S.A.	0,24	21	0,59	21	0,83	86	0,83	86
BRESCIA	0,44	40	0,59	40	0,15	123	0,18	123
REGGIO CALABRIA	0,17	33	0,88	33	0,90	84	0,20	84
Polytechnic BARI	0,90	51	0,93	51	0,10	110	0,36	110
NAPOLI Seconda Università	0,89	36	0,28	36	0,92	96	0,78	96
BERGAMO	0,43	28	0,10	28	0,30	84	0,76	84
CHIETI-PESCARA	0,52	34	0,12	34	0,65	90	0,84	90
L'AQUILA	0,84	20	0,42	20	0,10	66	0,54	66
URBINO	0,46	29	0,01	29	0,22	82	0,58	82
University for Foreigners of SIENA	0,36	12	0,65	12	0,47	77	0,59	77
University for Foreigners of PERUGIA	0,88	22	0,12	22	0,16	67	0,34	67
ROMA TRE	0,73	28	0,02	28	0,21	82	0,73	82
TERAMO	0,23	38	0,31	38	0,27	91	0,82	91
ROMA Foro Italico	0,13	22	0,52	22	0,28	77	0,74	77
BENEVENTO	0,43	26	0,81	26	0,38	75	0,64	75
CATANZARO	0,83	42	0,04	42	0,28	71	0,11	71
MILANO Bicocca	0,78	51	0,26	51	0,16	98	0,73	98
INSUBRIA	0,59	46	0,26	46	0,21	81	0,23	81
PIEMONTE ORIENTALE	0,10	59	0,62	59	0,65	76	0,83	76
FOGGIA	0,79	43	0,42	43	0,84	104	0,70	104
PAVIA I.U.S.S.	0,59	20	0,39	20	0,19	65	0,21	65
LUCCA I.M.T.	0,92	15	0,50	15	0,45	78	0,53	78

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## **CORRUPTION AND ECONOMICS GROWTH: A GREASE OR SAND SYNDROME?**

**Hatidza Jahic**

*Sarajevo School of Economic and Business, Bosnia and Herzegovina  
hatidza.jahic@efsa.unsa.ba*

**Merima Cinjarevic**

*Sarajevo School of Economic and Business, Bosnia and Herzegovina  
merima.cinjarevic@efsa.unsa.ba*

### **ABSTRACT**

*Corruption, commonly defined as the abuse of public power for private gain, is a widespread phenomenon in many countries of the world and particularly in transition economies where its consequences have serious problems. Although the corruption is not a new issue in the field of Economics, research focusing on the link between corruption and economic growth has grown rapidly in recent years. However, theoretical and empirical debate on the impact of corruption on the economic growth remains unclear. The purpose of this paper is to investigate the impact of corruption and other institutional factors on economic growth in some selected European countries for the period of 2000 – 2012. Specifically, the study attempts to: (1) assess whether corruption has any impact on the growth of the sample countries; (2) examine whether simultaneous policy reform focusing on accountability, political stability, government effectiveness, regulatory quality and rule of law impact positively on growth of these economies; and (3) investigate whether corruption in these countries exhibit the grease or sand-the-wheel syndrome. Further, the present study reinvestigates the impact of corruption on economic growth by incorporating the country-level foreign direct investments and market trade openness. The current study focuses on the use of dynamic panel data model of 13 European Union members that have joined the union during 2004 and 2013 along with six Western Balkan countries (Albania, Bosnia and Herzegovina, Former Yugoslav Republic of Macedonia, Montenegro, Serbia and Kosovo). By providing some insights about the channels through which corruption affect economic growth, this paper seeks to entrench the concept of good governance and anti-corruption initiatives as key determinants of economic development and social progress.*

**Keywords:** *Corruption, Economic growth, Institutions, Transition economies*

### **1. INTRODUCTION AND BACKGROUND OF THE STUDY**

Probability of transition economy registering higher levels of corruption compared to developed countries is higher due to existent levels of weak rule of law, poverty, political and economical insecurity and inequality.

Corruption commonly defined as abuse of entrusted power for private benefit is persistently present in these economies.

Main objective of this study is to examine the impact of corruption on economic growth on selected two sets of countries for the period of 2000 – 2013 and providing recommendations for necessary anti – corruptive policies.

Literature discussing general ties between corruption and economic growth such as Mauro (1995) found that corruption negatively impacts growth of GDP and investments. This view was later supported by Knack and Keefer (1995) and Wei (1997).

Negative effects of corruption on economic growth in Mauro (1995) are analysed through reduction of investments, inefficient allocation of resources and education at macro level,

while similar studies have been conducted at firm's level showing the effects of corruption on export activities in Kimuyu (2007). Studies that followed Mauro's study have questioned the robustness of his research and this has led to switch of research to determinants of corruption and more observations on micro (household) level.

This includes studies such as study on crime and corruption by Chatterjee and Ray (2014) and Mocan (2008). Negative social issues connected with corruption have been also studied, i.e. increase of conflicts, inequality, divisions, lack of motivation for participation in politics and social engagements.

On the other side the grease hypothesis refers to positive effect of corruption in sense that it will enhance and stimulate economic growth through informal payments (bribery) of government officials by firms to complete the necessary procedures. This hypothesis was proposed by Leff (1964) and Huntigton (1968).

Authors Mobolaji and Omotoso (2009) argue the case of countries such as Vietnam and Hungary that have liberalised their economies prior to 1990s and the collapse of the former Soviet Union in 1991 are developing faster and are more stable compared to the countries that have opened their economies later.

This is discussed in literature that supports the view that other factors such as general economic recession in the 1990s in Hodgson (2006) and other country specifics have affected the growth of these economies rather than corruption. This paper is organised as follows. Section 2 provides and discusses methodology and data sources used in previous and this study followed by Section 3 which presents econometric model used in the analysis with discussion. Final section summarises the principal results of the study and concludes the paper.

## **2. METHODOLOGY AND DATA SOURCES OF THE STUDY**

The main purpose of the present study is to examine how corruption and the quality of governance affect the economic growth. Hence, two sets of explanatory variables are considered. A first set of variables refers to the Corruption Perception Index (hereafter CPI) while the second set includes five indicators reflecting several aspects of „good governance“. The economic variables that have been typically used to explain macro-economic relationships in the literature (e.g. market openness to trade, school enrolment, and population) are also incorporated into the model.

Data set for this study was obtained from secondary sources, specifically from the World Bank's World Development Indicators and Global Insight Business Conditions and Risk Indicators. The data set covers 13 countries that joined EU within the Eastern enlargements (2004, 2007 and 2013) as well as 5 Western Balkan countries, over the periods of 2000 to 2013. Following table gives overview of most recent studies and data used.

*Table 1: Previous studies*

Authors	Data set	Indicators
Freckleton, Wright and Craigwell (2012)	28 developed and 42 developing economies Period:1998 – 2008	IMF and World Bank statistics GDP pc; FDI; domestic investments; school enrolment; labour force; corruption index
Mobolaji and Omoteso (2009)	Sample: Russia, Slovakia, Mogolia, Czech Republic, China, Hungary and Vietnam Period: 1990 – 2004	GDP growth rates pc (Penn World) Ethnic tensions; Military in politics; Corruption;
Drury, Kriekhaus and Lusztiig (2006)	100 countries Period: 1982 – 1997	CPI; GDP growth World Bank Development Indicators and International Country Risk Guide
McAdam and Rummel (2004)	40 countries Period :1995 – 2002	CPI Real GDP growth rate
Goorha (2000)	68 countries 17 economies in transiton 10 STE (Soviet type economies)	Transparency International CPI GDP pc ppp Economic Freedom Index Government share of GDP Revenue raised from privatization of state firms Bureaucratic quality; Democratic Accountability and Rule of law (International Country Risk Guide)

In examining the relationship between corruption and economic growth GDP per capita growth rate was used as a proxy for economic growth. Market trade openness was measured as a share of GDP is the sum of merchandise exports and imports divided by the value of GDP. The enrolment rate at the tertiary level of education was used as a proxy for human capital while the quality of governance was measured by five variables reflecting several aspects of „good governance“. The overall choice of macroeconomic and governance variables is driven by the existing empirical literature on the determinants of economic growth, as well as data availability considerations.

The data set is summarized in Table 2 which provides the definition of each variable, summary statistics, sample period and countries for which defined variables are available. It should be noted that the time series dimension is not complete for a number of the countries in the data set and therefore the panel data are unbalanced. To reduce the influence of extreme values, logarithm function,  $\log(x)$ , was used to transform rightskewed variable POP into the new variable – lnPOP.

Table 2: Summary of used data set (annual date 2000 – 2013)

Variable	Definition of variable	Mean	St. Dev.	Min	Max
GDPRT	Real GDP per capita growth rate	2.99	3.35	-16.59	13.27
ACCT	Voice and accountability	0.78	0.14	0.42	0.96
POL	Political stability and absence of violence	0.81	0.16	0.31	1.00
GOVE	Government effectiveness	0.68	0.15	0.31	0.88
REGQ	Regulatory Quality	0.65	0.11	0.20	0.90
LAW	Rule of Law	0.68	0.16	0.25	0.94
CPI	The Corruption Perception Index	4.43	1.17	1.30	6.80
HC	The enrolment rate at the tertiary level	49.14	18.51	13.76	88.47
MTO	Market trade openness	91.02	31.43	36.56	174.33
POP	Population divided by 1.000	6901.89	9049.16	381.36	38535.87
lnPOP	logarithmic variable POP	8.20	1.14	5.94	10.56

Note: Countries: Albania, Bosnia and Herzegovina, Croatia, Cyprus, Czech Republic, Estonia, Former Yugoslav Republic of Macedonia, Hungary, Latvia, Lithuania, Malta, Montenegro, Poland, Serbia, Slovakia, Slovenia, Bulgaria, Romania

The correlation matrix between variables is provided in Table 3. The correlation coefficient between CPI and real economic growth is negative 0.217, showing an inverse or negative relationship between growth and corruption in the countries.

Table 3: Correlation matrix, 2000 – 2013

	GDPRT	ACCT	POL	GOVE	REGQ	LAW	CPI	HC	MTO	ln POP
GDPRT	1.000									
ACCT	-0.067	1.000								
POL	-0.076	0.822	1.000							
GOVE	-0.121	0.907	0.857	1.000						
REGQ	0.022	0.498	0.353	0.467	1.000					
LAW	0.198	0.815	0.838	0.859	0.329	1.000				
CPI	-0.217	0.759	0.659	0.797	0.427	0.724	1.000			
HC	-0.039	0.524	0.495	0.506	0.345	0.425	0.507	1.000		
MTO	0.056	0.405	0.425	0.413	0.441	0.468	0.437	0.373	1.000	
lnPOP	0.109	-0.067	-0.111	-0.131	-0.096	-0.138	-0.331	0.237	-0.070	1.000

Contrary to our proposition, the degree of association between ACCT, POL, GOVE and economic growth was found to be negative. A similar trend is observed for human capital, suggesting a negative relationship with economic growth. The relationship between rule of law and economic growth is positive 0.198, suggesting the higher the enforcement of law and order the higher the rate of economic growth in these countries. The correlation coefficient between regulation quality and economic growth is positive, suggesting that quality of regulation would enhance the economic growth in the countries. The very strong relationship between the independent variables (ACCT, POL, GOVE and LAW) indicated a potential multicollinearity problem. Therefore, a composite index – *Governance Index* (GI) was created as the unweighted average of the four indicators of good governance for further econometric analysis.

### 3. ECONOMETRIC ANALYSIS

The relation estimated in this analysis has the following form:

$$GDPRT_{it} = c + \beta_1 \times GI_{it} + \beta_2 \times REGQ_{it} + \beta_3 \times CPI_{it} + \beta_4 \times \ln POP_{it} + \beta_5 \times HC_{it} + \beta_6 \times MTO_{it} + u_i + \varepsilon_{it}$$

where:

- GI<sub>it</sub> – Governance index for country *i* in year *t*;
- REGQ<sub>it</sub> – Regulation quality for country *i* in year *t*;
- CPI<sub>it</sub> – Corruption Perception Index for country *i* in year *t*;
- lnPOP<sub>it</sub> – the natural logarithm of population for country *i* in year *t*;
- HC<sub>it</sub> – human capital for country *i* in year *t*;
- MTO<sub>it</sub> – market trade openness for country *i* in year *t*;
- c - the constant;
- u<sub>i</sub> – individual effects;
- ε<sub>it</sub> - the error of the model.

The first step when working with panel data is to test whether the data series can be estimated through a panel data model or through a pooled OLS (Baltagi, 2008). The results initially obtained in STATA suggest the rejection of the null hypothesis that all *u<sub>i</sub>* are zero. This implies the presence of the individual effects and therefore panel data estimation is better than a pooled OLS. In the next step, a Hausman test was performed in order to decide whether a Fixed Effect (hereafter FE) model or a Random Effect (hereafter RE) model is more appropriate. The chi-square and its p-value in the Hausman test are 50.31 and 0.0001, respectively, which suggested that a FE model is better than its RE counterpart. Although the Hausman test suggests the use of the FE model for this data set, both type of models (FE and RE model) were estimated. Furthermore, to ensure the validity of the results, the FE regression with Driscoll and Kraay standard errors (error structure is assumed to be heteroskedastic, autocorrelated up to some lag and possibly correlated between the groups) was performed.

*Table IV. Economic growth regressions, 2000 - 2013*

Dependent Variable = GDP per capita growth rate				
Independent variable	Coefficient Estimates			
	OLS Regression	RE Regression	FE Regression	FE Regression Robust
GI	4.4888649	4.7628315	21.47855	21.47855
REGQ	3.2765916	2.9989582	5.5430042	5.5430042
CPI	-1.705116**	-1.6923153**	-1.4207956	-1.4207956*
lnPOP	-.13685582	30.182859*	30.182859*	30.182859
HC	.00143047	-.22793497***	-.22793497***	-.22793497***
MTO	.0219173	.12595706***	.12595706***	.12595706**
CONSTANT	4.5395145	4.3396291	-260.74287*	-260.74287
R <sup>2</sup>	.08734027	.08734027	.23294453	.23294453
R <sup>2</sup> adjusted	.05691828	.05691828	.12470971	.12470971

Note: \* p<0.05; \*\* p<0.01; \*\*\* p<0.001

As can be seen from Table 4, the parameter estimate for CPI is negatively related to GDP per capita growth rate at 5% level. In addition, the R<sup>2</sup> of 0.23294 implies that 23 percent of the variation in economic growth is explained by joined influence of independent variables. Thus, 77 percent of variation in economic growth can be explained by other variables that are not captured in the model.

Considering the FE regression robust model (Table 5), it seems that economic growth is explained by three variables which are corruption perception index, human capital and market trade openness. The coefficients of these variables are all significant at level of 5%.

*Table 5. FE Regression Robust, 2000 – 2013*

	Coeff.	Robust Std. Error	t	P> t
GI	21.47855	10.93358	1.96	0.066
REGQ	5.543004	9.410102	0.59	0.564
CPI	-1.420796	.6153724	-2.31	0.034
lnPOP	30.18286	19.17526	1.57	0.134
HC	-.227935	.0530005	-4.30	0.000
MTO	.1259571	.0369691	-3.41	0.003
CONSTANT	-260.7429	166.0357	-1.57	0.135
sigma_u	34.673042			
sigma_ε	4.0069397			
rho	.98682107 (fraction of variance due to $u_i$ )			

Regarding the effect of governance indicators on economic growth, results of the present study showed that the quality of governance does not affect economic growth. These results are not in the line with past studies (e.g. Kaufmann, Kraay and Matruzzi, 2003; Mauro, 1995; Evans and Rauch, 1999) which argue that quality of governance is significant predictor of long-term rates of growth in GDP. In terms of market openness to trade, findings suggest that there is a positive significant relationship between openness to trade and economic growth. More precisely, it was obtained that a one-percent increase in market trade openness is associated with a 0.125 percent increase in the GDP per capita growth rate. Our results are in line with a large number of researchers who found a no significant or negative relationship between human capital (measured as the enrolment rate at the tertiary level of education) and economic growth (Barro, 1999; Pritchett, 2001). Findings of the present study suggest that a one-percent increase in the enrolment rate at the tertiary level of education will decrease the GDP per capita growth rate by 0.22 percent. This negative relationship between human capital and economic growth can be explained by the fact that we did not account the employment in rent seeking activities or emigration of educated people (Gyimah-Brempong, Paddison and Mitiku, 2009). The corruption perception index exhibit the expected negative sign and have a significant effect on economic growth. If the values of CPI decreases by 1, then for the 18 countries included in the data set, real GDP per capita growth rate will rise by 1.42 percent. However, it should be noted that Rho value, indicating the proportion of residual variance attributable to individual effects, rises over 98%. In other words, over 98 percent of the variance in economic growth is due to unobserved heterogeneity across countries.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

This study sheds some light on importance of corruption and quality of governance in stimulating economic growth by examining the relation between selected corruption, governance and macroeconomic variables in the context of new member countries of the EU and five Western Balkan countries. Findings of this study provide substantial statistical support that corruption tends to slow economic growth in transition countries suggesting that these countries should engage more in the development and implementation of anti-corruption programs. However, our study did not provide enough empirical evidence that quality of governance tends to be growth-enhancing in the EU newly members and Western Balkan countries. Furthermore, findings suggest that economic growth is highly influenced by country of origin indicating that various country-specific processes, such as being at different

stages of economic and social development, transition process and the different speed of its reforms in particular countries. This research as well as previous one have raised the question of endogeneity in researching corruption and institutions, since institutions and with them good governance practices are evolving with the levels of corruption. Some authors as it was suggested earlier, have combined macro and micro level data to eliminate possibility of endogeneity in the model. Recommendations in fighting corruption are formed in direction of necessary and continuous institutional framework improvement, promotion of rule of law and anti – corruptive policy measures which will furthermore strengthen policy efforts and accountability.

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## INVESTOR RELATIONS IN CROATIAN COMPANIES – PRESENT CONDITION AND FUTURE TRENDS

**Ivana Gazic**

*University J. J. Strossmayer, Osijek, Croatia  
Doctoral Studies of Communicology  
PhD Candidate  
ivana.gazic@zse.hr*

**Zvonimir Grgas**

*University J. J. Strossmayer, Osijek, Croatia  
Doctoral Studies of Communicology  
PhD Candidate  
grgas.zvonimir@gmail.com*

### **ABSTRACT**

*Investor relations function becomes increasingly important within organizations, as top management intensively communicates with investors, shareholders, analysts and bankers. Although it is usual that company communicates with all sorts of different parts of public – under the umbrella of public relations, communicating with investment public is especially demanding and can add or subtract value from the company easily.*

*Inflow of fresh capital into the company, as well as into the economy, is key success factor in growth, development, innovation and new value creation.*

*Communication with investors includes all usual communication channels of public relations, but always taking into account strict regulatory frame that covers this area, especially connected to publishing of price sensitive information. Besides the content, organizational aspect of this function is also very important. Right positioning within the organization enables better perception, communication but also enables avoiding potential conflict of interest between management and investor relations specialists.*

*In Croatia, investor relations meet many obstacles: lack of practice, literature, education, management awareness, weak usage of modern technologies and potential conflict of interest. One of the benefits of privatization processes in Croatia was transfer of Investor Relations practice from big international players to local companies. Still, many of the companies listed on local capital market – Zagreb Stock Exchange, lack necessary skills to perform this important management function within the company. Croatia also lacks independent professionals in this area. Using such outsourced specialists, is proven to add value to the company in terms of market price.*

*New developments in investor relations: technology impact and need for investment brand creation - will bring even more pressure to Croatian companies to remain competitive on opened global financial market.*

**Keywords:** *Croatian companies, investment brand, investor relations, technology*

### **1. INTRODUCTION**

Public relations communicate with the group, indeterminately called „public“, which consists of various people, and their individual needs depend on the view of the person that observes or classifies them. Public relations need to take into the consideration the fact that there are many groups and they are overlapping each other. So, if public relations expert wants to reach any group, naturally divided into subgroups, he/she needs to use many different sorts of

appeals (Bernays, 2013., p. 98.). One of the groups that public relations will need to address is shareholders or potential investors, and their representatives<sup>55</sup>.

In modern theoretical discussion on public relations two positions are being confronted. On one side there are public relations as persuasion, and on other side it is ethically flawless behaviour, based on mutual understanding (Kunczik, 2006., p. 29.). Authors consider part of the public relations that deals with investors, heavily relying on latter position, since elements of persuasion are less acceptable in communication between owners and management of the company.

When talking about companies listed on the stock exchange, manner and time in which price sensitive information is published can have strong impact on price formation, therefore this function is often heavily regulated, by local and international regulation and laws. In Croatia, legislation of European Union is fully adopted, and this process is underway since 2007. This legal change has brought many additional requests on companies in terms of transparency, corporate governance and communication towards investors. Company can bear penalties, including money fines, and loss of reputation, if it does not hold up to the legal requirements of reporting.

Companies help investors develop realistic expectations by providing accurate information for analysing results and making forecasts. Investors and analysts prefer companies that have predictable performance and provide reliable information. Once communication establishes the company's credibility, investor confidence in management grows. A strong relationship with investors can help in flat or down quarters. Investors accept explanations, are more patient, and may be more inclined to hold the stock (Goodman, 2004., p. 213.).

Due to all mentioned reasons, it is clear why investor relations are integral and very important part of public relations.

Purpose of this paper is to give basic theoretical concepts of one of the public relations functions, investor relations, and give short overview of the current practice in Croatia, since this area was not researched repeatedly in last couple of years, although the changes to environment in which companies listed on stock exchange are operating were substantial.

## **2. PHILOSOPHIES OF INVESTOR RELATIONS**

Investor relations are strategic function of corporate management, that combines disciplines of marketing, finance and communications, in order to insure current and potential investors exact picture of achievements and prospects of the company. Communication with shareholders becomes more and more popular as specialized area within public relations. As its integral part, investor relations have the goal to ensure access to the information to all interested parties, regardless the purpose for which information will be used, via transparent procedure that ensures information is easy found and reached (IFC, 2011, p. 352.).

Following four principles represent in simplest and most practical way what good announcements (in investor relations sense) are: 1. regular and timely, 2. easy and widely accessible, 3. accurate and comprehensive, and 4. consistent, relevant and documented (IFC, 2011., p. 353.). Companies can take different positions towards publishing, especially taken into account these principles – from extensive and often, to short and seldom. Corporate culture, derived from ownership structure of the company, determines approach in investor relations within the company.

As their strategic goal, investor relations can define creation of investment brand, within national economy, industry or globally.

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<sup>55</sup> Information to shareholders are often being distributed via specialized newspaper, financial analysts, investment bankers, advisors, brokers etc.

Some examples are:

- a) On national level: Croatian Telecom, most liquid share on Zagreb Stock Exchange, that has image of company with stabile business results and continuous dividend pay-out each year,
- b) On industry level: Pliva, as leading producer of generic drugs,
- c) Globally: Coca Cola, Mc Donalds, Goldman Sachs, Hilton, Citibank etc. each with its own, globally recognizable characteristics.

Professionals dealing with investor relations can be, according to Tench and Yeomans placed within three simple categories:

- a. within organization (in-house) – work for the organization, no matter if the organization is public or private;
- b. consultancy firm – agency where professionals work on contract basis for one or more different clients;
- c. Free lancers – individuals that work for themselves, hired by corporations or agencies based on short term contracts for individual project or as support to permanent staff in times of increased demand (Tench and Yeomans, 2009., p. 48.).

Investor relations, as part of public relations, can be organized in all three mentioned ways. Companies want to achieve different goals through different forms of communication. Investor relations communication can be sublimed in one word: trust. Building trust between management of the company and investors, using investor relations function, is key success factor for management to fulfil its long term goals.

In terms of communication, investor mistrust and increasing regulation are leading to a greater transparency of the financial accounts of a company. The challenge to rebuild investor trust means that companies not only have to be more open than at any other time but also have to be able to meet, even beat, investor expectation without failure (Clarke, 2004., p. 215.).

Dilanscher names key success factors and work principles in investor relations:

- Articulate a clear corporate value proposition.
- Create core messages that can be utilized throughout all of the company's external and internal communications.
- Prepare to respond to macroeconomic factors that are radically changing and will continue to change IR and the role and job of the IRO.
- Make the IR mission to establish and execute the brand message.
- Know that companies can and must control the message.
- Follow the Three Cs for communications: compelling, conversational, candid.
- Deconstruct what the competition and breakthrough organizations are doing. Do better than that. Keep doing better than that (Dilenschneider, 2010., p. 156.).

## **2.1. Investor Relations in Croatian Companies**

In Croatia, common practice is keeping function of investor relations within the organization, and often out of the public relations department, within several different functions, such as finance, legal department and other. Short questionnaire in only five companies listed on Zagreb Stock Exchange are representing this state well<sup>56</sup>. Lack of organizational importance,

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<sup>56</sup> Authors have conducted this questionnaire in March 2014, with Croatian Telecom, Ericsson Nikola Tesla, Atlantic, Ledo and Podravka being in the sample

lack of personnel allocated for this important function and lack of shareholders' importance in general, are all causes for low awareness of Croatian companies how beneficial good communication with investors can be. Another way used in Croatia is hiring a consultant, but this is rarely used and usually in extreme situations. One of the issues is lack of trained and experienced advisors in this area, mainly due to the fact that expert needs to know local particularities of the market and key players on economic and political arena. Big four companies do not provide this scope of services in Croatia. One of the examples was when during the initial crisis with MOL (Hungarian Oil and Gas Public Limited Company) attempt to take over INA (Croatian Oil and Gas Company) with public tender, management of MOL has sent in-house PR specialist to handle communication with public in Croatia. This person has done number of mistakes that have resulted with almost one full year suspension of trading with the share on Zagreb Stock Exchange. Blocking trading of shares for such a long period is unprecedented in international capital markets practice. Reason for such reaction of regulator was mainly the fact that a person, maybe very experienced and well accepted in some other legal environment, did not have sufficient understanding of local situation, and in only couple of days has created substantial damage for future negotiations with other partners in INA<sup>57</sup>. Third way to organize investor relations is in a person of freelancer, i.e. person that independently gives advice in field of investor relations, is not currently being used in Croatia. Main reason for this lies in the fact that there are no experienced experts in this area locally that run an independent advisory business. Internationally, such practitioners are common and are not handling public relations generally, but investor relations specifically and there are even studies showing that such experts can affect value of the company. Results of these studies have proved that hiring professional outside expert for investor relations increases media coverage of the company, transparency and number of the financial analysts following the company. Also, companies have, in this way, increased percentage of institutional investors in their ownership structures, and finally, in year following appointment of such expert have increased the value of the company, measured through price to book value (price to Book ratio i.e. P/B, price of the share divided by shareholder's equity per share) and return on equity (Bushee and Miller, 2007., p. 1.). It is important to mention that one of the direct benefits of privatization processes can be seen in area of investor relations in transitional economies, and in Croatia as well. Companies that have majority owners in a form of foreign international players (examples being Deutsche Telekom owning Croatian Telecom or Unicredit owning Zagrebačka banka d.d.) showed substantial improvement in the level of investment relations culture purely due to the fact that their mother companies are publicly listed and have to impose corporate governance and investment relations culture within all their subsidiaries. Transfer of knowledge in this cases brought substantial benefits to Croatian economy in terms of investor relations competitiveness that is rarely mentioned when privatization processes are being discussed. All mentioned results can also be used as key performance indicators for company's management, and it is definitely fact that investor relations are not treated as important part of the company's activity for all stakeholders: shareholders, customers, employees and management. If there is activity that can ensure results demonstrated in increase of P/B and P/E ratios, it is key that as a scope of public relations managers, and in narrower sense, investor relations managers, are positioned close to management boards, so that they can derive maximum results from such closeness.

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<sup>57</sup> Spokesperson of MOL has organized a press conference just across the street from seat office of Croatian Financial Regulatory Agency, on which he has very openly criticized behaviour of the regulator. See more on: <http://www.monitor.hr/vijesti/glasnogovornik-mol-igra-posteno-ne-kao-drugi/158881/>, retrieved 12.05.2014.

However, in Croatia, investor relations are considered to be more of a financial function, and their positioning within the organisation often represents attempts of the company to present investor relations as pure financial reporting, while investment brand creation by different communication means and techniques is neglected. However, combination of public and investor relations seems to be winning formula. According to Penning in “Value of public relations in Investor relations” blending of public relations and finance professionals in the work of investor relations has had several consequences. One is that public relations professionals have had to work to gain recognition in the investor relations arena. CEOs mostly do not perceive investor relations as a public relations function, and when they do, they see it more as a technical activity than a managerial function (Penning, 2011.) Secondly, and perhaps because of this perception, investor relations has received scant scholarly attention. Investor relations as a concept has been mostly overlooked by communication journals. Existing studies of investor relations focus mostly on financial and accounting concepts. Although one could argue that direct reporting to CEO tells about importance of this function within the company, if we take into account potential conflict of interest in which investor relations specialist might end up in, it is evident that positioning within public relations might be better solution.

## **2.2. Investor relations and conflict of interest**

Conflict of interest is one of the key issues to be dealt with in investor relations, since different ties exist between shareholders, management and creditors. Conflict of interest, in simplest words, is a situation in which interest of one key group (such as shareholders), are not in line with interest of another key group. As an example, let's look at the situation when management board's term is at its expiry, and company is in a position to announce some negative news that can influence share price. It is in the interest of management to postpone such announcement after the reappointment, although in the interest of the company or in the interest of the shareholders might be timely publication. Michael C. Jensen, one of the biggest contributors to corporate theory, has written “A Theory of the Firm” – in which he identifies different forms of conflict of interest between shareholders and management (Jensen, 2003., p. 83.). He also describes several measures how this conflict can be avoided, especially in the form of share options bonus schemes for top management. This instrument is also rarely used in Croatia. Once managers become owners, they are in both roles and they need to somehow reconcile these roles (Jensen, 2003., p. 140.).

There are number of measures imposed by laws, regulator and stock exchange that try to make issue of conflict of interest smallest possible, however, improvements in this area are slow and there are many additional actions that need to be taken in order to eliminate threat of conflict of interest from investor's perception.

## **2.3. Creating investment brand using modern communication technologies**

One of the key questions for investor relations is building identity and image of the company in investment society/public. Different methods are being used, however, all aimed at the same goal: create image of reliability and sustainability with shareholders and other interested parties. Besides classic communication channels such and newspaper, financial analysts following the company and shareholders meetings, there is a growing influence of new technologies on investor relations, such as: webcast, internet pages, quarterly conference calls for investors, platforms for investor relations, usage of social media etc (Dilenschneider, 2010., p. 149.).

By constant and long term usage of right communication means from forming company brand, we can come to building company reputation. Reputation in investment community is ultimate goal of investor relations function within company. Some authors claim that investor relations will be source of value creation and its growth in the 21<sup>st</sup> century, turning company into investment brand (Dilenschneider, 2010., p. 151.). However, situation in Croatia is far from what investors do expect in EU country. Many of the listed companies are lacking basic communication channels such as web page in English, possibility to communicate with company through conference calls, webcasts etc. In fact, there are several companies that do not even use web pages of the Stock Exchange as possible communication channels. When there are investor conferences organized in Croatia, many of the issuers avoid contact with their shareholders as they do not want to answer “ugly” questions, elaborate their strategy, and in some cases, even speak in English. Investment brand concept is rarely recognized in Croatia, and the concept only needs to be explained and promoted.

### **3. CONCLUSION**

In economies with long tradition of financial markets and strong reliance on private funding, awareness of investor relations importance is very high developed. Companies are focused on this function, as it represents a bridge between company and its stakeholders, enabling management to create additional value through right communication. Increased value enables companies to hold long term management and create its strategic goals.

There are many factors responsible for the present positioning of investor relations function within public companies in Croatia. Lack of education and literature in this area, has contributed to the fact that importance of investor relations is rarely recognized. In public, private owners, being domestic and even more international, are considered as threat to job security and prosperity of the company. In fact, players in our economy want to see things unchanged, non-transparent and closed toward new owners. This is result not only of reluctance to change, but also deep fear of and resistance to privatization.

Experience of Zagreb Stock Exchange, as single regulated market in Croatia, shows weak interest of most listed companies, to communicate with their shareholders in consistent and professional way. Since Croatia has become part of the single European financial market mid of 2013, continuous new requests in terms of transparency and investor protection are coming into place. When we add up the fact of weak starting point and new requests, we can see that field of investor relations is going to be one of the most demanding to develop within corporations in new couple of years. It is also necessary to add that majority of Croatian companies are not listed on stock exchange, making situation in this companies even more difficult for their owners to execute their rights.

In the future, there are going to be two major changes affecting function of investor relations: development of technology and investment brand creation. Technology has significantly affected dynamics of relationship between company and shareholders, flow of information became much faster, and special platforms for investor relations can be purchased. Communication is more and more in sphere of digital and traces of such communication are practically permanent, which makes room for mistakes very small, since everything stays in public sphere. Investment brand creation forces investor relations not only to report, but to be creative in telling compelling investment story, present strengths of the company and its management. In the world of many opportunities to invest, investment into particular company needs to be presented as more compelling to present and potential investors, than any other similar company, anywhere in the world (Dilenschneider, 2010., p. 145.).

Investment brand of the company can be supported by the investment brand of the country. State needs to define its key attraction points for investors and market them continuously

through all available channels. Formulating and communicating investment brand of the state is long term strategy, but moves on the ladder of investment competitiveness can be swift, if state correctly identifies it's key competitive advantages, and communicates them using modern technology. Importance of this lies in the fact that substantial part of state investment brand can spill over into particular brands of the companies and perception of the investors about the whole economic system of one country.

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## **DEVELOPMENT OF BUSINESSES – EVIDENCE AND IMPLICATIONS OF REGIONAL DIFFERENTIATION IN THE CZECH REPUBLIC**

**Andrea Capkovicova**

*Institute of Agricultural Economics and Information, Department of Territorial Development  
of Agriculture and Rural Areas, Mánesova 1453/75, 120 00 Prague, Czech Republic  
Capkovicova.Andrea@uzei.cz*

**Frantisek Nohel**

*Institute of Agricultural Economics and Information, Department of Human Resources in  
Agriculture and Rural Areas, Kotlářská 902/53, 602 00 Brno, Czech Republic  
Nohel.Frantisek@uzei.cz*

### **ABSTRACT**

*The paper deals with the issue of business development in a regional perspective. The main concern is firstly on the size and industry structure of businesses and their change within the period 2001-2011 that characterizes the year (2001) prior to the EU accession and the year (2011) after the 7-year EU membership of the Czech Republic in the EU. Secondly, we identify fertile business areas by assessing the relativeness of total number of businesses to regional labour force. All analyses are being made on the level of LAU 1 regions. Their differentiation is being made both on their degree of rurality as well as the development performance. The study comprises the most emerging issues related to recent regional development policy planning process – the question of developing the strategies on the base of regions, and the identification of regionally differentiated business structure.*

**Keywords:** *business structure, fertile business areas, regional development, regional differentiation*

### **1. INTRODUCTION**

The business development is considered to be a strong economic driver in regional development. In fact, fertile business areas provide wide range of opportunities for regional viability – provide employment, improve the overall regional competitiveness by improving business networks, and/or creating business clusters of which certain benefits are derived, and last but not least, provide the incentives to support population development in positive terms (especially via in-migration of economically active population).

In our study we focus on LAU1 regions of the Czech Republic and their respective categories according to the degree of rurality while adopting the demographic approach (Murray, 2008) and operationalizing the OECD classification (predominantly rural, intermediate, predominantly urban) (OECD, 2010). Next regional differentiation is being made on the regional development performance when we specifically identify the groups of leading, average and lagging regions (Esposti et al., 2000).

The organization of the paper is as follows: Section 2 briefly discusses the development and the existence of regional differentiation, Section 3 formulates the objectives related to the presented issue, Section 4 describes the methodological approach in accordance with the defined objectives, Section 5 presents the results by covering the issues of size and industry class structure of businesses in categories of regions, accompanied with the identification of fertile business areas of respective categories and ends up with the visualization of the annual change of number of businesses relative to regional labour force. Section 6 draw conclusions on achieved results.

## **2. DISCUSSION ON THE EXISTENCE AND DEVELOPMENT OF REGIONAL DIFFERENTIATION**

The original idea to focus on the structures of businesses and its regional differentiation originates from emerging changes of recent decades that affect (hamper or improve) their development, either in social and/or economic terms. The origins of these changes relate to globalization and technological development (Woods, 2005, OECD, 2006) as well as the cultural turn (Murray, 2008). Due to regionally differentiated resource base, social and human capital endowments and economic evolution paths, drivers of change may result in qualitatively and quantitatively different outcomes.

As a point of departure, it is important to mention that the specifics of transformation process prior to the EU accession played very important role in the development of regions of the Central Europe (in our example the Czech Republic). It was not smoothing, not even equal on the territorial base. So called pick-up-the-winner strategy applied and it resulted in focusing on macroeconomic problems in the first place, being represented by the development of big cities (Baum et al., 2004). Consequently, it reinforced problems of divergence on the regional level (Davis and Pearce, 2001). In other words, processes of convergence at the level of countries resulted in an unbalanced spatial development, mainly leading to the enhancement of traditional dichotomies rural-urban, centre-periphery, West-East (Abrahám, 2011).

While assessing the regional development process of businesses, we need to acknowledge that the local economic conditions are the outcome of both local and non-local processes (Ward, 2006), according to Porter et al. (2004) characterized as inherited and external. Therefore, we may expect functioning of differentiating factors related for example to the proximity to economic centres, position of the region within the regional structures and its geographical location as well as to the performance of adjacent regions. In fact, dealing with the issue of regional development of businesses is rather a complex issue.

## **3. OBJECTIVES**

By reflecting the existing literature findings on regional differentiation and the recognition of the role of businesses in the regional development, we specifically aim to:

- 1) Assess the business creation dynamics by:
  - comparing size and industry class of businesses in chosen categories of regions in 2001 and 2011
- 2) Identify fertile business areas by:
  - computing the relativeness of total number of businesses in operation to the regional labour force in chosen categories of regions during the period 2001-2011
- 3) Assess the annual change of number of businesses relative to labour force

## **4. METHODOLOGICAL APPROACH**

### **4.1. Categorization of regions**

The term “region” (either in its singular or plural form) refers to district(s) (okresy in Czech) and represents Local Administrative Units 1 (LAU 1) according to Eurostat. The reasoning for the choice of districts is that of its representative size with respect to size of regional labour market areas (OECD, 1996).

The classification of regions is twofold: firstly we differentiate categories of regions based on the degree of rurality and then based on the development performance. In order to be able to distinguish between urban and rural regions, we apply the OECD typology (2010) that uses two-step classification approach. As the first step, we classify basic settlement units (villages) on the base of their population density either as rural (less than 150 inhabitants per km<sup>2</sup>) or

urban. As the second step, we assess every region (district) according to the share of population living in rural settlements within the regional boundaries. By doing so, we end up with the regional typology that characterizes regions according to their degree of rurality:

- *predominantly rural (PR)* – more than 50% of population live in rural settlements – we will use these while referring to “rural” in our analyses,
- *intermediate (IN)* – more than 15% and less than 50% of population live in rural settlements,
- *predominantly urban (PU)* – less than 15% of population live in rural settlements.<sup>58</sup>

The second differentiation of regions is based on their development performance. In this categorization we apply the methodology proposed by Esposti et al. (2000). It allows us to differentiate regions into leading, average and lagging according to the performance of non-agricultural employment growth within the chosen period of time. A leading region is characterized by the growth rate of non-agricultural employment that is above the national growth rate at least by some percentage points (subject to choice). Similarly, a lagging region is considered to have the growth rate of non-agricultural employment lower than national growth rate at least by some percentage points. The regions with non-agricultural employment growth in within two chosen points are considered to have an average growth rate.

#### 4.2. Data

For the purposes of development assessment we choose the period of last two censuses (2001, 2011) that allows us to take into account the time prior to the accession into the EU, stabilizing period under the EU membership (from 2004) as well as the period of regeneration from recent economic crisis.

Main data sources used for the purposes of intended analyses are provided by the Czech Statistical Office (CZSO). The division of regions into OECD categories according to the settlement and regional degree of rurality is being made on the base of Malý lexikon obcí 2011 providing latest available data of 2010. The data on employment in respective regions of the Czech Republic are being derived from databases of two last censuses (2001, 2011). In order to be able to assess business structure development, we make use of Registr ekonomických subjektů (RES, Register of economic entities) that covers broad characteristics of individual businesses (size, industry class, legal form, etc.). When we calculate the relativeness of business creation to the labour force, the data for this variable come from the regional database on regions, also provided by the CZSO.

#### 4.3. Analytical approach

According to the objectives set in the Section 3, we firstly map the size<sup>59</sup> and industry<sup>60</sup> structure of businesses, both in categories of OECD regions as well as of differentiated development performance. This gives us some overview on the business structure within the

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<sup>58</sup> In the case of Czech LAU 1 regions, the special category of suburban (SUB) is being subtracted from respective PU and IN category due to the development performance of these regions significantly different from the rest of the category (regions neighbouring the capital Prague)

<sup>59</sup> The size intervals of businesses are as follows: micro (1-9 employees), small (10-49 employees), medium (50-249 employees) and large (250+ employees).

<sup>3</sup> The industry class division groups businesses in categories Agriculture, Manufacturing, Construction, Other and Services while utilizing the service categories defined by CZSO (n.d.) – low knowledge-intensive and knowledge-intensive

regional categories and describes the entrepreneurial environment of respective regions. The second part is focused on the identification of fertile businesses areas. We do this by assessing the relativeness of total number of businesses in operation to the regional labour force. In this case, each member of the labour market is considered to be the potential business founder. Finally, we intend to visualize the annual change of number of businesses (absolute numbers) relative to regional labour force.

The study comprises the most emerging issues related to recent regional development policy planning process – the question of developing the strategies on the base of regions, and the identification of regionally differentiated business structure.

## 5. RESULTS

### 5.1. Size structure of businesses in regional context

Size structure of businesses of respective regional categories is being displayed on Figures 1-4. In all cases, the dominance of businesses with no employees and microbusinesses is obvious. We may say that in the example of PR and lagging regions, these forms of businesses seem to be quite logical as usually the local market is small. Therefore, the demand for products is small and the cost of hiring larger number of employees would be relatively high to expected and achieved returns. At the same time, with no positive investment environment (weak business networks, lower quality of infrastructure, lower level of skills and education of labour force), the incidence of external investors coming to the region is relatively low, and therefore in order to avoid the status of being unemployed, an establishment of a new small-scale business seems to be an option. In the example of less rural regions and more developed ones (especially leading), the higher share of business with no employees and microbusinesses may be the result of overall orientation of these economies towards the service sector, and more importantly to knowledge economy. Therefore, relatively high number of specialized businesses is demanded (e.g. IT, financial advisory services, etc.) that would further support the operation of larger businesses either of national or international origin and may not necessarily be of large scale.

Additionally, the character of industries that dominates different types of OECD regions or the development categories of regions to some extent creates the pre-requisites on in which direction the development goes (towards stronger regional economy, more competitive or self-sustaining community with not many relation to wider economic environment, etc.). Therefore, the next sub-section discusses the results of industry class differentiation within the categories of regions.

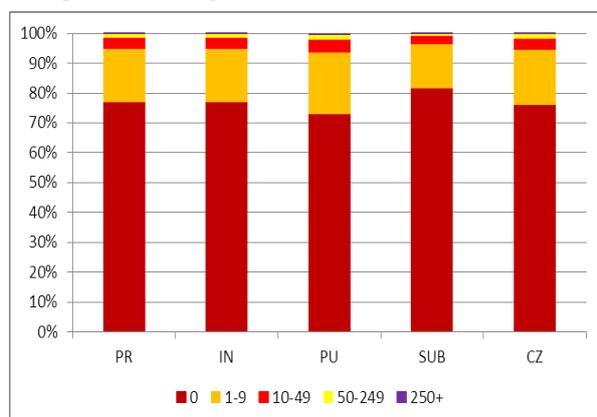


Figure 1: Size structure of businesses in OECD categories of regions, 2001  
 (own composition based on RES database)

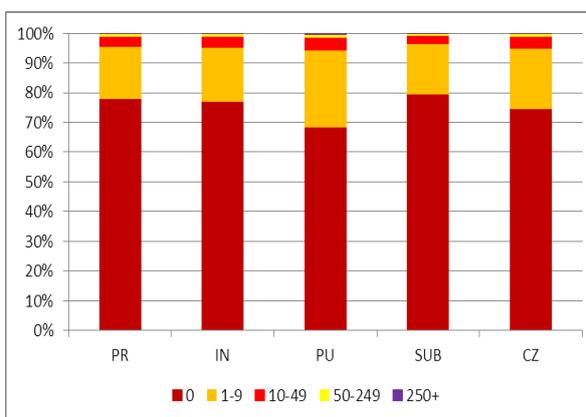


Figure 2: Size structure of businesses in OECD categories of regions, 2011  
 (own composition based on RES database)

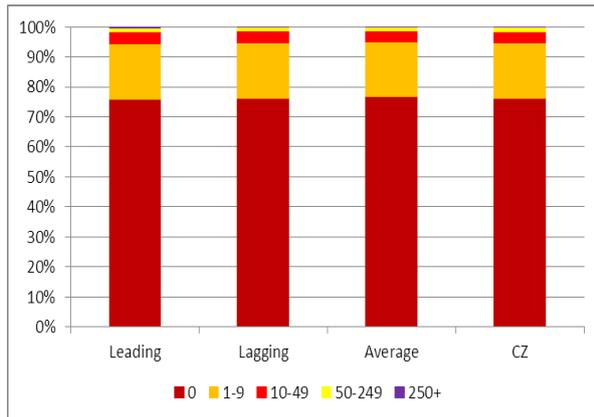


Figure 3: Size structure of businesses in categories of regions of different development performance, 2001 (own composition based on RES database)

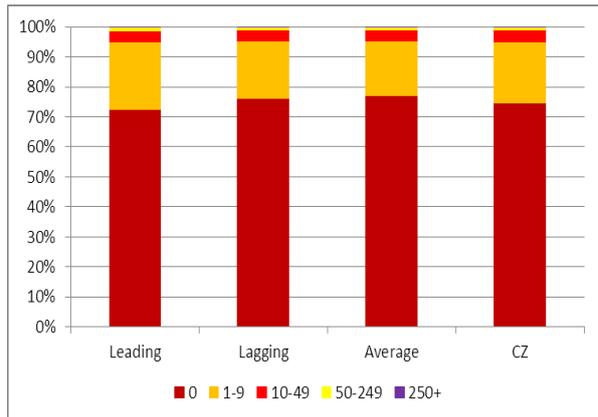


Figure 4: Size structure of businesses in categories of regions of different development performance, 2011 (own composition based on RES database)

### 5.2. Industry class structure of businesses in regional context

The industry class structure is being displayed on Figures 5-8. The initial look leads us into the conclusion that in all categories of regions (OECD, development) and in both years (2001, 2011), the majority of businesses belongs to the category of low knowledge-intensive services (CZSO, n.d.). They are characterized by the low cost of entry and relatively lower demand for higher education. In this group we may find services such as hairdressers, carpenters, painters, etc. On the other hand, knowledge-intensive services require some specific skills and knowledge for proper work operations. Also the sophistication of business operations is higher, and not surprisingly, the wages are also higher.

While looking at the OECD types of regions and respective share of businesses by industry class (Figure 5-6), we observe that by comparing 2001 and 2011, the industry class structure of respective regions is moving further to services. As it may be expected, higher share of knowledge-intensive services is in more urbanized regions (PU, SUB). On the other hand, what differs the business structure in less urbanized regions from that in more urbanized regions is the higher share of agricultural, manufacturing and construction businesses. In fact, this situation relates pretty close to the quality of labour force (in the sense of its education), and respected requirements on provided jobs demanded by specific sectors (manual workers vs. engineers, builders vs. architects or designers, etc.).

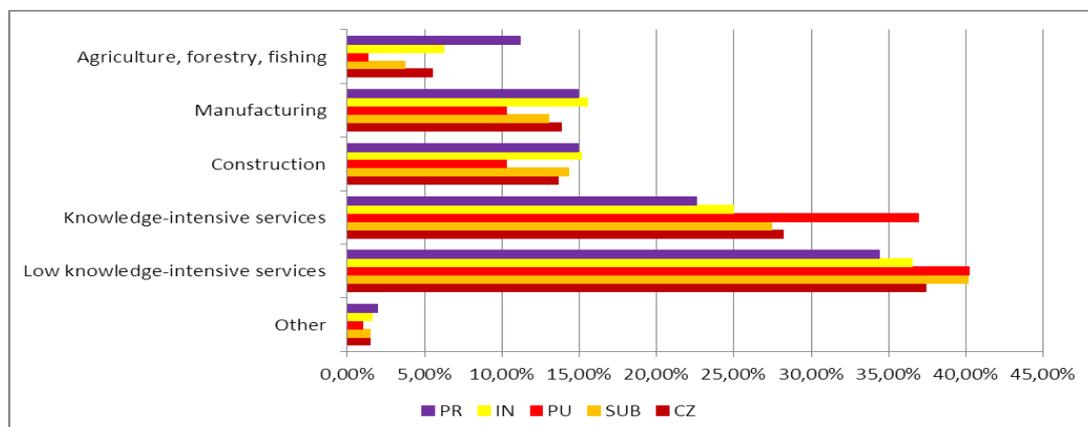


Figure 5: Share of businesses by industry classes in OECD categories of regions, 2001 (own composition based on RES database)

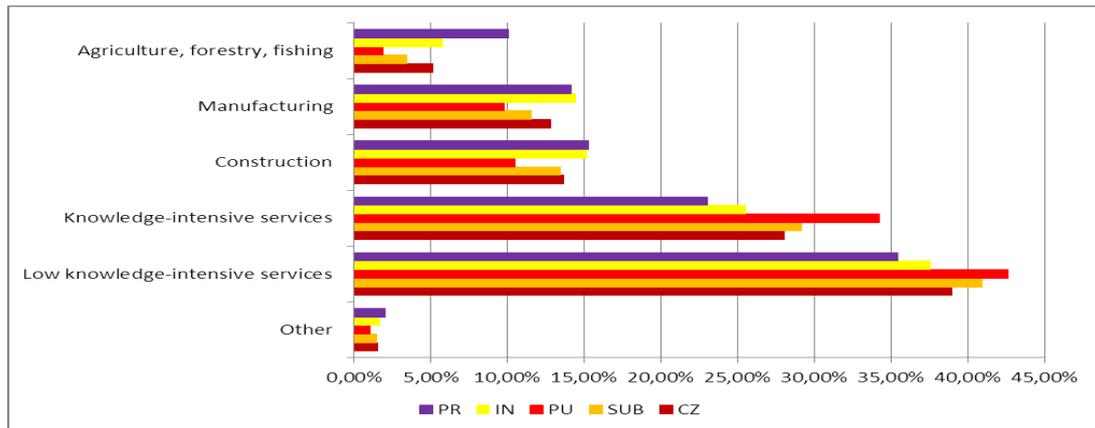


Figure 6: Share of businesses by industry classes in OECD categories of regions, 2011 (own composition based on RES database)

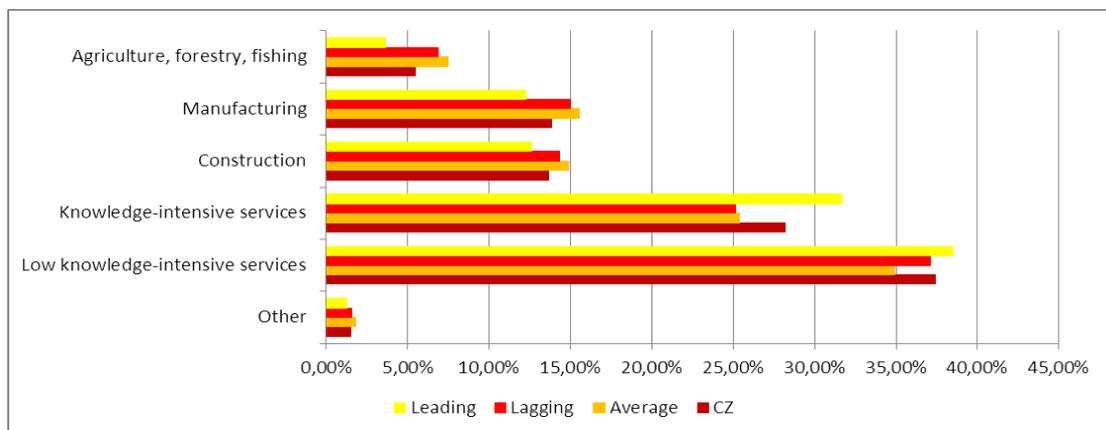


Figure 7: Share of businesses by industry classes in categories of regions of different development performance, 2001 (own composition based on RES database)

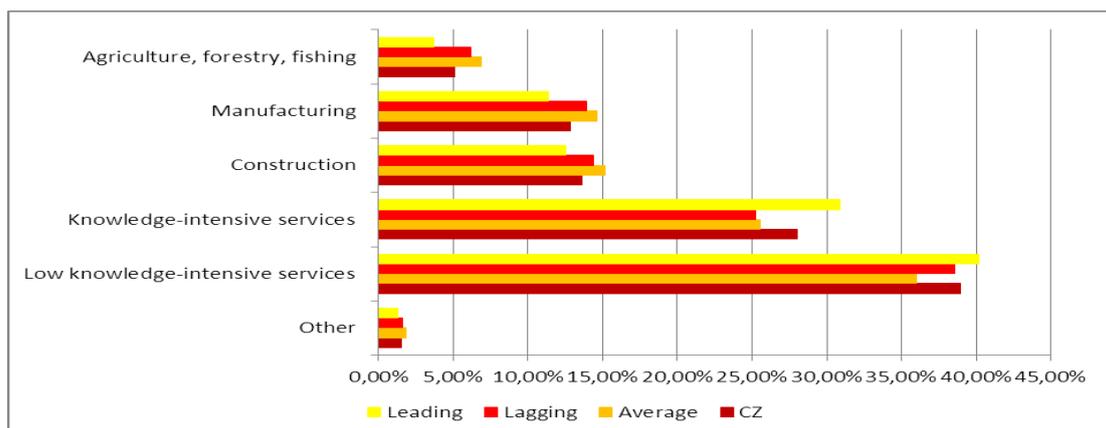


Figure 8: Share of businesses by industry classes in categories of regions of different development performance, 2011 (own composition based on RES database)

Shares of businesses by industry class in regions of different development performance and in selected years are being showed in Figures 7-8. The highest difference between the development categories of regions is being noticed in the example of knowledge-intensive industries, where the leading regions overcome by more than 5 percentual points their lagging counterparts. The performance of leading regions is closely related to the structure of businesses that are being settled and operated within these regions. Not surprisingly, different industry classes provide differently valued outcomes in different environments. At the same time, businesses of different industry class may be characterized by different character of networks what further enhances/hinder overall regional economic competitiveness. Another aspect of this differentiation between leading and lagging regions is to some extent also the division made on the base of core-periphery model. According to this, the core associates besides other all governing functions, headquarters of big companies and then the periphery suffers from the dependency on the core and the weak internal power over its own economic development.

### 5.3. Growth of businesses relative to labour force development

The size and industry class of businesses describe the business structure of respective regions. However, our interest lies also in the identification of fertile business areas which we understand to be the regions in which the number of businesses grows over the time. The special interest is being on those areas that have the absolutely highest and over time relatively stable growth (with no big fluctuations). The absolute numbers of this growth may be misleading to some extent as it is hard to compare the regions of different size in between. As a result, we relativize the absolute number of businesses in respective categories of regions to the labour force. We do this because the labour force may be considered to represent the pool of potential business founders - individuals from economically active population who may choose the entrepreneurship as a form of economic activity and the way of making living.

Regional classification	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
<b>OECD category</b>											
<i>PU</i>	356,5	372,8	393,0	411,5	422,0	440,0	463,0	484,0	497,3	523,5	565,7
<i>IN</i>	280,1	289,7	302,3	310,8	321,3	328,8	341,4	354,5	368,0	386,2	402,8
<i>PR</i>	261,8	272,7	288,6	296,7	302,1	312,0	323,0	337,1	353,0	368,2	385,3
<i>SUB</i>	518,4	524,7	526,8	512,4	521,8	510,2	501,6	488,7	485,6	508,9	507,2
<i>Difference between the most and the least fertile</i>	256,6	252,0	238,2	215,7	219,7	198,1	178,6	151,6	132,6	140,7	121,9
<b>Development category</b>											
<i>Leading</i>	356,2	369,9	387,7	401,7	409,6	420,0	435,9	449,5	462,5	486,8	516,2
<i>Lagging</i>	264,3	273,5	286,6	295,4	307,3	316,1	329,9	346,8	361,5	378,7	393,8
<i>Average</i>	270,5	282,8	295,9	303,6	310,0	322,0	334,1	344,7	357,8	374,5	397,6
<b>Total</b>	<b>301,3</b>	<b>312,7</b>	<b>327,6</b>	<b>338,1</b>	<b>348,0</b>	<b>358,3</b>	<b>372,9</b>	<b>387,9</b>	<b>402,0</b>	<b>422,1</b>	<b>444,3</b>

Table 1: Total number of businesses relative to labour force by categories of regions (OECD, development performance), by 31.12. (own composition based on the CZSO)

The results (Table 1) show us that the higher concentration of businesses is in the more densely populated areas (esp. PU and SUB). The difference between the most fertile areas (SUB) and the ones with the lowest fertility (PR) is from about 256,6 in 2001 to 121,9 in 2011. During the period under the observation (2001 to 2011), we may also notice the lower differentiation in the relativeness of number of businesses to labour force. According to development categories of regions, the performance of leading regions overcomes the other two categories. In the example of lagging regions, from 2008 on, the relativeness of number of businesses to labour force is higher than in average regions (till 2010). Annual change of number of businesses relative to labour force is being displayed on Figure 9 and Figure 10. The year 2001 is chosen as the base year and the respective annual changes are calculated relative to this. According to Figure 9, the number of businesses relative to labour force is increasing over time in the Czech Republic. The growth even preserved in between 2009-2010 despite the outbreak of economic crisis. From the Figure 9 it is also obvious that the growth performance of PU is above the national level and the annual difference is even increasing year by year. On the other hand, the growth performance of IN and SUB is below the national one and even below the 2001 level in the category of SUB in 2004 and within the period 2006-2011. The growth performance of rural regions to some extent copies the national development line, with several ups and downs. The highest peak of growth of rural regions outperforming the national one was noticed in 2009.

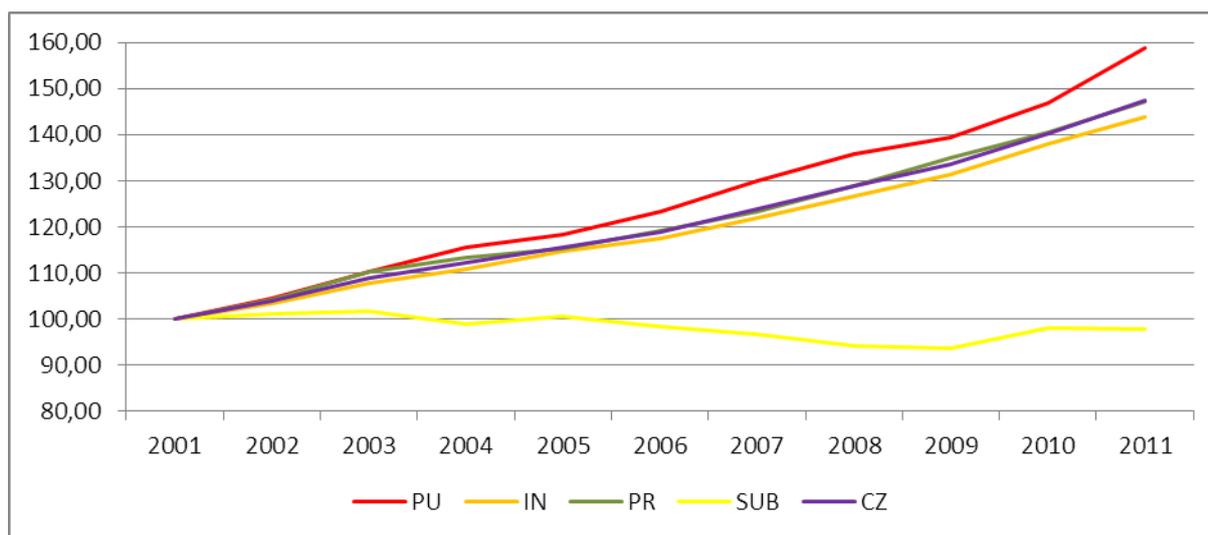


Figure 9: Annual change of the number of businesses relative to labour force (in thousands) by OECD categories of regions, 2001-2011 (own composition based on the CZSO)

The same change is being displayed according to development categories of regions (Figure 10). The growth performance of leading regions is below the national level from 2005. On the other hand, the growth performance of lagging regions is higher than the national one continuously from 2005. From 2007 we may notice the increasing differentiation in growth performance between lagging and leading regions when it is the biggest in 2009.

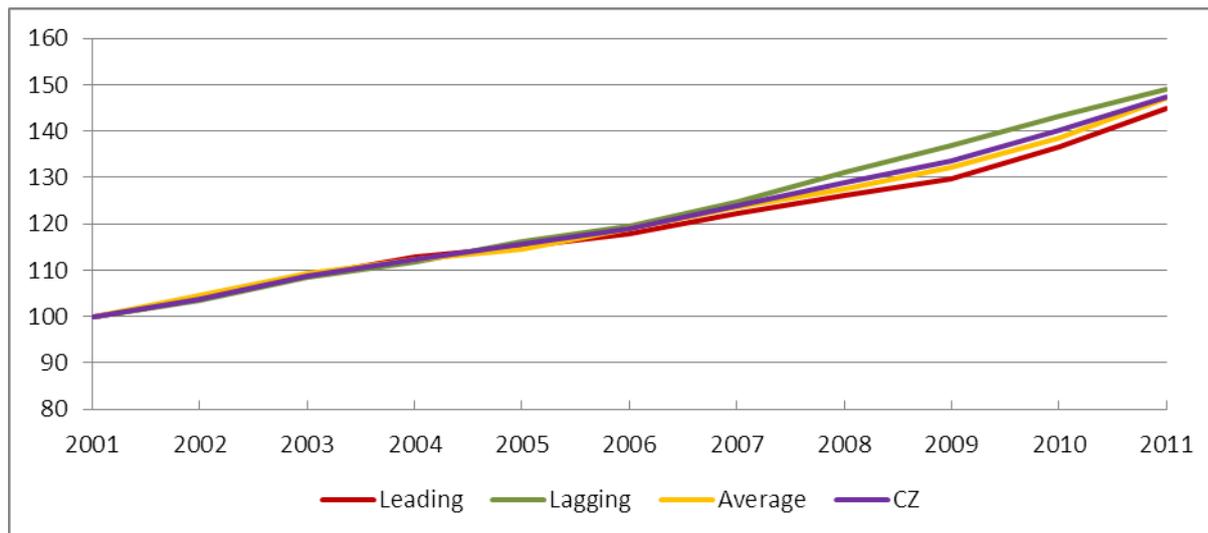


Figure 10: Annual change of the number of businesses relative to labour force (in thousands) by OECD categories of regions, 2001-2011 (own composition based on the CZSO)

## 6. CONSLUSION

According to the size structure of businesses, there is not much difference between the respective OECD and development categories of regions. In all cases, the business with no employees dominates together with microbusinesses (more than 90%). However, what differentiated regions is the industry class of businesses. The higher share of knowledge-intensive services is in more urbanized regions. On the other hand, less urbanized regions have in comparison with them slightly higher share of agricultural, manufacturing and constructing businesses. This situation relates pretty close to the quality of labour force (mainly its education, skills, working habits), and job requirements demanded by specific sectors (manual workers vs. engineers, builders vs. architects or designers, etc.). In the example of rural regions it is clear that over the years we may observe slight move from traditional agricultural and industrial business base towards more globally adjusted service economy.

The number of businesses relative to labour force is increasing over time in the Czech Republic. The growth even preserved in between 2009-2010 despite the outbreak of economic crisis. The most fertile business areas are considered to be PU and SUB with respect to the number of business per labour force. In the category of PU we may also observe a preserving tendency of increasing number of businesses per labour force. On the other hand, in the category of SUB, the annual change of number of businesses per labour force is not so positive (and even lower than in 2001). During the observed period the maximum difference of the ratio (between the highest and the lowest number of businesses per labour force) within the categories of OECD regions decreased (from 256,6 in 2001 to 121,9 in 2011). Intuitively, the highest difference is between the category of PR and SUB. According to development categories of regions, the performance of leading regions as fertile business areas (in the number of businesses per labour force) overcomes the other two categories. In the example of lagging regions, from 2007 on, the relativeness of number of businesses to labour force is higher than in average regions till 2010. However, from 2004 we may notice continuously increasing difference in growth performance between lagging and leading regions when it is the biggest in 2009 and in favour of lagging regions.

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**Acknowledgement:** The paper was prepared within the project of the Institute of Agricultural Economics and Information, IVP no. 1285.

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## THE ROLE OF KNOWLEDGE IN RESOLVING CONTEMPORARY ECONOMIC PROBLEMS

**Anica Hunjet**

University North, 104. brigade 3, 42000 Varazdin, Croatia  
anica.hunjet@unin.hr

**Goran Kozina**

University North, 104. brigade 3, 42000 Varazdin, Croatia  
goran.kozina@unin.hr

**Ana Mulovic**

University North, Trg dr. Zarka Dolinara 1, 48000 Koprivnica, Croatia  
ana.mulovic@unin.hr

### ABSTRACT

*Knowledge, which is based on information, and coupled with cultural and spiritual values, has become a force in itself and a key driver of social, economic, technological and cultural change. Experience in fast-growing economies highlights education as one of the key factors in adopting and successful exploitation of knowledge-based economy. The growth of intellectual capital will create a competitive environment of the new economy in which knowledge is the main product. The importance of knowledge is recognized in business management, thus it is possible to speak of knowledge management as a significant business function. Investing in knowledge, its accessibility, dissemination and use have become a key factor in promoting economic growth, job creation, competitiveness and social dimension of society. In today's globalized economy, dominated by information and communication technologies (ICT), society as a whole has no chance of becoming successful and competitive unless it adopts and implements all the principles of knowledge-based economy. Economic activities related to production and the use of ICT and knowledge have become main drivers of economic growth in developed market economies. Systematic gathering and use of knowledge aimed at generating new ideas can be achieved by setting up an adequate environment in which the latest ICT facilitate such tasks. Employee knowledge, their work experience, ideas, innovations, motivation, and team spirit enrich organisational culture and enhance the processes within the organisation. Contemporary business operations are so dynamic that some managers remain mere bystanders, as they cannot keep up with the latest trends. The principles of new economy are based on knowledge acquisition and on learning how to exploit and manage knowledge.*

*The present research aims to establish student perceptions on the Croatian higher education system, how they assess knowledge and competencies gained during their studies at polytechnics, and the level of ICT application. The results will point to the advantages and disadvantages of knowledge and skills acquired at polytechnics, thus helping to shape future strategies for the development of a competitive economy.*

**Keywords:** *knowledge, higher education, economy, competitiveness*

## **1. INTRODUCTION**

The higher education and research system in the Republic of Croatia is faced with big challenges in the form of global and national shifts in economy, requests for applied knowledge and fast acquisition of knowledge and skills needed by the present-day labour market, and generally, in the form of rapid changes in both economy and society. Such social challenges require an accessible, flexible education and research system that facilitates vertical student mobility and continuously adjusts to the needs of the economy, which is socially sensitive and based on the life-long learning principle. The requirements for establishing a sustainable system of this kind are manifold: substantial funding and competent human resources within a country, as well as a stimulating environment for innovation, research and technology-based activities, which are aimed at acquiring and developing competencies necessary for competitive markets, individuals and societies.

The acquired competencies allow people to enter the labour market or to continue their education. As new technologies are developed, the education system has to keep changing, so that its "products" can adapt more easily to the labour market. The role of education in economic development can be seen in the latest initiatives and cooperation programmes of the European Union. The European strategy for smart, sustainable and inclusive growth, Europe 2020, puts education and training at the centre of plans for development and increased competitiveness. Relating education and labour market needs is based on establishing the required competencies for each profession, and analysing employers' needs in accordance with the current global, European, national, regional and sectoral development documents and strategies. In today's globalized economy, dominated by the information and communication technologies (ICT), the Croatian society, and especially export-oriented companies, cannot be competitive or successful until knowledge-based principles are generally accepted and applied. The growing informatization and accelerating technological development relies on the fact that modern economy is based on knowledge. In such an economy, key roles are played by those people who can generate ICT-based knowledge, i.e. knowledge based on scientific research.

## **2. DEVELOPMENT STRATEGY OF THE HIGHER EDUCATION SYSTEM**

The idea behind the Bologna process was to ensure that higher education institutions in the Republic of Croatia have all the resources necessary to enable personal development of every student, to maintain and develop advanced knowledge bases, to foster creativity and adaptability, and to promote equal access to higher education. As they pass through the higher education system, individuals can attain a high quality intellectual capital, which can be used to produce various ideas and innovations. Intellectual capital is also the group of people with knowledge, skills, abilities and qualities, which they use to generate new ideas and projects, and thus achieve advancement by using human potential. (Pulić, Sundać, 2001, 24)

In today's business conditions, it is necessary to strive for a knowledge society, in order to compete even with one's immediate neighbours, not to mention the developed countries of the world. The whole world has recognized the importance of knowledge as a resource, which, if used efficiently, can ensure an individual's productivity, and therefore of the entire economy. High quality knowledge allows individuals and communities not only to continuously improve, but also to become distinct, to differentiate themselves from the others. Knowledge needs to be systematized, organized and continuously combined so that it can generate solutions for future market needs. This knowledge must be turned into concrete measures and become a source of competitiveness, thus ensuring success and advancement. (Sikavica, 2011, 540)

The role of knowledge in the modern world is marked and defined by the intensive development and implementation of information and communication technologies. These technologies have a decisive impact on the economic development and prosperity of a country; moreover, they determine the pace at which knowledge society will develop. When combined, knowledge, modern technologies and innovations lead to increased knowledge capacity. Innovation and creativity can help in attaining the knowledge society and in promoting its importance in order to satisfy society's needs. (Žugaj, Šehanović, Cingula, 2004, 159)

Economic growth and development, as well as innovations, are based on intellectual capital, which is an intangible asset. It is no longer just an assumption that knowledge is the fundamental resource of economic growth and development. People who are prepared to learn and develop their own intellectual capital can more easily evolve in the direction required by the contemporary economy and the labour market. Modern economies realize it is in their interest to increase investments in education, and thus to have at their disposal more highly educated people, who will become their main competitive advantage. (Kozina, 2011)

In a globalized economy, the importance of intangible values and activities such as education, and the interrelated concept of knowledge, gains in importance. The need for knowledge is increasingly apparent, both in the area of high technologies and in the application of knowledge in order to gain a better position on the labour market. In a way, knowledge has taken over the role of labour force on this market. It is crucial to recognize the importance of knowledge sharing and expansion, as the increasing globalization of business puts higher demands on concrete, specific knowledge throughout society. (Žugaj, Šehanović, Cingula, 2004, 623)

With fast changes and volatile environments all around, the most important thing is to know how to learn and to invest in knowledge, since this is the only way for individuals to succeed and to be competitive in today's conditions, as they will be more able to adapt to any new circumstances and ways of doing business. People who intensively invest in their knowledge and who later know how to apply it will certainly become the market and global winners, whereas those who disregard the importance of knowledge as intellectual capital will lag behind. It is not surprising that the most developed economies are based on knowledge and are striving to create the knowledge society. (Kozina, 2011)

### **2.1. Competencies as the basis of competitiveness on the labour market**

The Croatian Qualifications Framework (CROQF) is the instrument that will allow clear definition of competencies achieved throughout the education system, thus facilitating employability and personal development of individuals, which will help in building social cohesion. This unified system allows for learning outcomes to be measured and compared, resulting in high quality links between the needs of the labour market and the implementation of educational programmes, and in validation of all learning outcomes. The CROQF sets clear quality criteria for competences that a learner can expect to possess after completing education for a qualification of a certain reference level and volume. The CROQF is based on the Croatian educational tradition, taking into account the current conditions in the Croatian education system, the needs of the economy, individual and society as a whole. It also incorporates the provisions of the European Qualifications Framework (EQF), EU guidelines, and international regulations. The purpose of changes in the higher education system is to create better links between high quality education system and the labour market, building a competitive economy and better social inclusion. It is essential for individuals to recognize the importance of investing into their own education, i.e. to understand the advantages provided by higher education, starting from their competitiveness on the labour market, employability,

and finally to acquiring competencies that will make them internationally competitive. (HKO, 2013)

One of the goals of learning, i.e. knowledge acquisition, is the possibility to have an impact on economic growth and development, efficiency and effectiveness in any kind of operations, as well as on one's own material well-being. Education and acquiring adequate knowledge can be viewed as improving the quality of life. Through competencies, individuals can generate and supplement their knowledge, thus opening up new markets for themselves. When they become specialists in such competencies, it is very difficult to follow in their footsteps. Such competencies are every individual's competitive advantage on the labour market. (Čižmešija, <http://iu.foi.hr/> 2011)

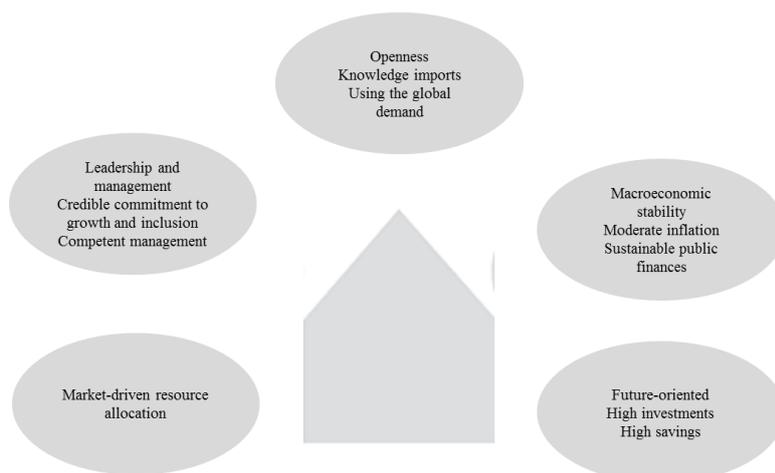
## **2.2. The importance of investing into knowledge as a driver of the economy**

According to Kolaković, knowledge economy made it possible to change the definition of a company's resources. Modern companies are becoming knowledge-intensive rather than capital-intensive, with intellectual assets coming to the foreground. Successful entrepreneurs have fewer tangible assets than larger competitors, but possess intellectual capital (Kolaković, 2006, 170). Stewart defines intellectual capital as “knowledge, skills and abilities of employees; from the research team to manual workers who have developed an array of ways to improve their company’s efficiency. Intellectual capital is collaboration; joint learning of a company and its clients, creating a firm relationship between them and ensuring long-term successful cooperation”. Intellectual capital is a sum of all knowledge within a company, including organizational structures, patents, licences, brands, trademarks, know-how, corporate culture, as well as relationships with clients, consumers and suppliers (Kolaković, 2006, 171, Pulić/Sundać, 2001, 57).

The business world is changing with the development of information, telecommunication and communication technologies, and it can safely be asserted that information technology has been conducive to entrepreneurship. The result of contemporary advancement of science and technology is intellectualization of production processes, marked by biotechnology, genetic engineering, optoelectronics etc. (Sundać, 2002, 113). Any entrepreneur’s competitiveness is related to information and communication technologies, which open up numerous new business opportunities (Kolaković, 2006, 202).

The unfolding and consequences of the global economic crisis, as a key driver of serious changes in the existing economic structures, have pointed to the untenability of market fundamentalism (Benolić, 2012, 119).

When analyzing the education levels of the population over the last thirty years, the number of people with tertiary education has obviously increased, however, not sufficiently to call the Republic of Croatia a knowledge society. The emphasis is on knowledge imports in the form of green technologies, sustainable economy and databases. (Hunjet, Kozina, 2014, 28)



*Figure 1. Common characteristics of high and sustainable growth*  
*Source: Vedriš, Šimić, 2008, 12*

Given the sudden and prolonged crisis of the global economic system, the centuries-long dispute on the relationship between market and state has returned to the focus of interest (Vedriš, Šimić, 2008, 9). The authors point out that the increasingly interconnected global economy, both in territorial and structural terms, has become susceptible to sudden disruptions. Viewed in a wider context, the role, influence and responsibility of state with accompanying institutions and procedures have become a key determinant not only of future growth, but also of viability of current relations. The reason for this is quite simple, namely, the environment has ceased to function on the principle of maintaining the *status quo* (Vedriš, Šimić, 2008, 9).

To use knowledge means to use information in a quality, productive and efficient manner. The state needs to acknowledge the importance of additional investment into education, research and development. All the relevant factors of the government and economic system have to be involved in knowledge society creation. Once the Republic of Croatia and its citizens recognize the significance of intellectual capital, it will become easier to reduce the current gap and to truly enter the global labour market. (Kozina, 2011)

As noted by Cvrtila (1997, 31), the state is still the crucial institution of the modern world, which has at its disposal different means to reduce or even eliminate the problems and threats of today, such as: economic collapse, political repression, poverty, ethnic conflicts, uncontrolled population growth, devastation of the environment, terrorism, crime and diseases, which all have a direct impact on security.

According to Vedriš and Šimić (2008, 13), since 1990, the objective position of the Republic of Croatia and its citizens' capabilities and motivations have oriented them towards several basic aims of political, social and economic development. An important milestone for Croatia was the accession to the European Union on 1 July 2013, to be followed by joining the Schengen agreement (planned for 2015). These two events will open up further processes of liberalization and integration. For these reasons, it is imperative to define clearly the issues hampering the growth of the national economy, and encourage a change to a more positive direction (Benolić, 2012, 121).

Vedriš and Šimić (2008, 16) conclude that the latest geopolitical and economic events clearly indicate the twofold pattern: on one hand, fast-paced unification brought about by new technologies and processes in all areas (IT, internet, global finances, integral logistics, etc.), and on the other, increasingly active seeking and devising of national, tailor-made solutions,

regardless of a country's size or belonging to different regional alliances. Everybody is looking for the proper response to growing food, raw materials and energy prices, how to increase one's competitiveness on the national and global markets, how to enhance the quality, reach and adequacy of education, the national physical and total infrastructure. Simply put, many states realize that more initiative in seeking new solutions is their ultimate responsibility (Vedriš, Šimić, 2008, 16).

In a research conducted by Benolić (2012, 132), two thirds of the surveyed students agreed partially with the claim that the Croatian higher education is of adequate quality. Benolić noted that only 13.3% students agreed fully with that claim, which raises many further questions. It would be appropriate to investigate the exact reasons for these views, as the capital of the future is knowledge rather than money (Benolić, 2012, 132).

Benolić (2012, 135) concludes that knowledge, as the capital of the future, indicates the importance of innovation and education as key components in the development of local economies. The author believes that successful, export-oriented economy must be based on innovativeness, which requires special mechanism for stimulating innovation activities, but also high-quality education system. To achieve this, more resources need to be put into education, improving the education structure, modernization of teaching methods, and monitoring the results. For any education system reform it is necessary to rely on a specific, concrete strategic development framework, in which a state needs to balance the investment and development concept on one hand, and the education system on the other. To achieve this, it is crucial to coordinate supply and demand on the labour market, but also to foster life-long learning (Benolić, 2012, 135)

### **3. AIMS OF THE RESEARCH**

Starting from the role of polytechnics in the Croatian higher education system, the aims of this research were as follows:

- to determine the main characteristics of Croatian higher education, in particular the contribution and position of polytechnics;
- to explore the students' opinions and how they rate knowledge and skills they have acquired at polytechnics;
- to determine how polytechnic students assess the conditions of studying at polytechnics.

Two hypotheses were posed in this paper. They are as follows:

**H1:** Students give a positive assessment of polytechnics and their role in the process of transferring knowledge and skills.

**H2:** There are statistically significant differences in the attitudes of defined groups of polytechnic students with regard to specific issues.

The data were analysed using the statistical method, and by calculating the indicators of descriptive statistics.

### **4. RESULTS**

There were 124 participants in the survey, all students enrolled in two adjacent polytechnics: the one in Varaždin, and the Polytechnic of Međimurje in Čakovec. The results presented here refer to ICT equipment and competencies of Croatian polytechnic students, their attitudes with regard to Croatian higher education system, as well as attitudes related to knowledge implementation and study conditions at polytechnics.

#### 4.1. ICT equipment and competencies of polytechnic students

Table 1 shows the breakdown of respondents according to whether or not they own a computer, and what type of computer they predominantly use.

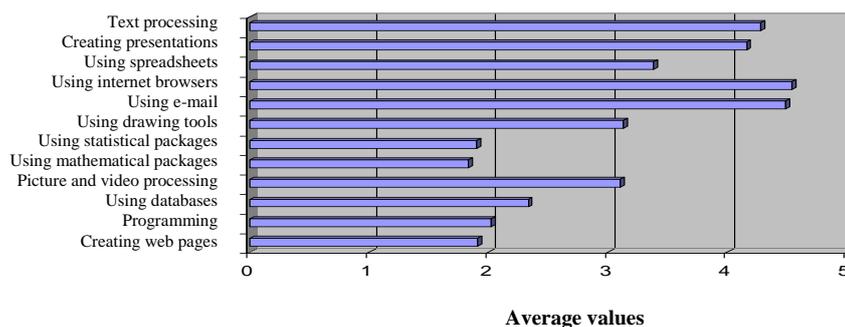
*Table 1. Breakdown of students according to computer ownership and type*

	Number of respondents	Percentage
Computer		
Yes	123	99.14
No	1	0.86
Total	124	100.00
Computer type		
Desktop	60	48.95
Laptop	64	51.05
Total	124	100.00

The research results show a good level of ICT equipment with Croatian polytechnic students. Out of 124 surveyed students, 123 (99.14%) stated that they owned a computer. The percentage of laptops was slightly higher than the share of desktop computers.

The responses given by the surveyed students were measured on a 5-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = regularly).

The highest average rating was given by students to their knowledge and skills in using internet browsers, whereas e-mail usage was rated only slightly lower. It was only for these two variables that the median was 5. Two more variables scored an average rating higher than 4, namely, knowledge and skills in word processing and in creating presentations. The lowest average ratings were recorded when students assessed their knowledge and skills in using mathematical and statistical packages, creating web pages, and programming. Knowledge and skills in creating web pages was the only variable where the median had the value 1. On the basis of calculated variation coefficients it can be concluded that the analyzed variables are mostly characterized by a wide dispersion of data.



*Figure 2. Students' ICT knowledge and skills*

In the part of the questionnaire referring to ICT equipment and student competencies respondents were asked to assess their general computer literacy, as well as knowledge on computer usage acquired during their studies at a polytechnic. In this case, a 5-point Likert scale was again used, ranging from 1 (insufficient) to 5 (excellent). Table 2 contains a choice of descriptive statistics indicators which were calculated for the two research variables stated above.

*Table 2. Descriptive statistics indicators referring to the rating of own general computer literacy and knowledge on computer usage acquired during studies*

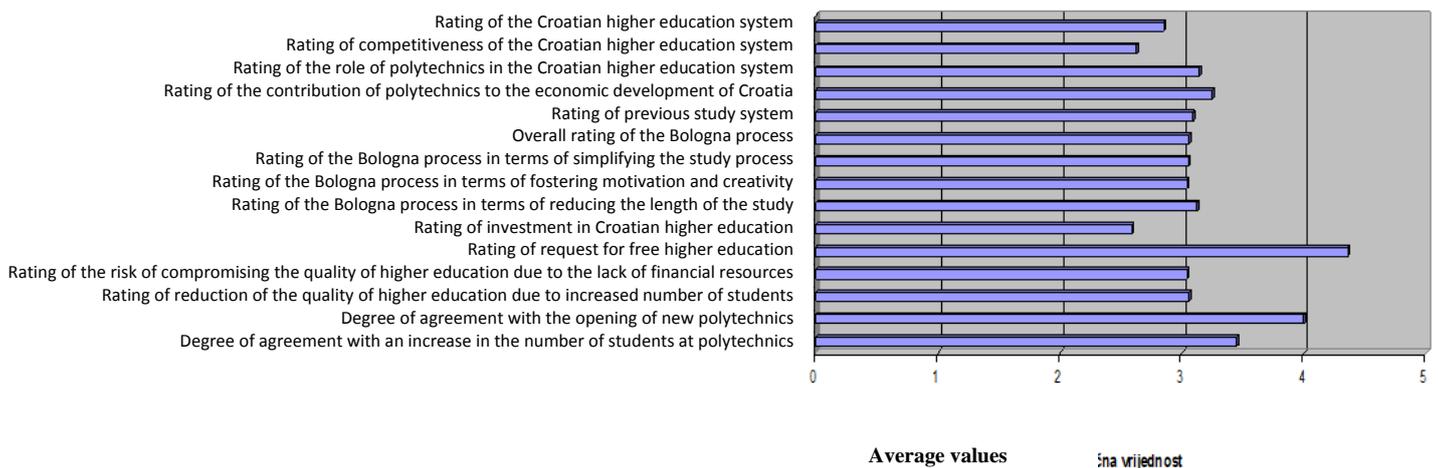
Rating	Mean	Median	Standard deviation	Coefficient of variation
General computer literacy	3.88	4.00	0.87	22.43
Knowledge on computer usage acquired at a polytechnic	3.09	3.00	0.99	32.10

Among the surveyed students, the average rating of their own general computer literacy was 3.88, whereas knowledge on computer usage acquired during studies received the average rating 3.09. The average rating of ICT knowledge acquired at polytechnics indicates how essential it is to update the informatics and computer science curricula. Furthermore, it might be advisable to consider assigning more contact hours to courses covering this area.

#### 4.2. Student attitudes on the Croatian higher education system

In this part, the respondents gave their answers on a 5-point Likert scale, ranging from 1 (the lowest rating) to 5 (the highest rating).

The lowest average rating was given to investment in Croatian higher education, and only slightly higher rating was given to competitiveness of the Croatian higher education system in comparison to such a system in developed countries, and the Croatian higher education system by itself. For these three variables the mean is lower than 3. The role of polytechnics in the Croatian higher education system was rated by students with the average rating of 3.14, whereas the contribution of polytechnics to the economic development of Croatia (in terms of educating the required professionals) received the average rating 3.25. The calculated variation coefficients indicate a wide dispersion of data in all divisions.



*Figure 3. Student attitudes on the Croatian higher education system*

## 5. DISCUSSION

One group of questions referred to ICT equipment and competencies of Croatian polytechnic students. Out of 124 students who were surveyed, 99.14% stated that they own a computer. The research has shown that on average students use a computer slightly more than four hours a day, of which 1.77 hours are spent for education purposes.

In our questionnaire, the largest number of students agreed with the need to bring in professionals who work outside the higher education system, which would enhance the quality of teaching at polytechnics, and with the importance of practical experience, i.e. internships in companies. Our respondents rated the polytechnic that they actually attend with the average rating 3.33, whereas knowledge acquired during studies at polytechnics received the average rating 3.55. Students believe that polytechnics are more focused on imparting theoretical rather than practical knowledge. The lowest mean was recorded for connection of polytechnics with the business world, and slightly higher for accessibility of teaching and reference materials, i.e. the extent to which polytechnic libraries are well equipped with appropriate resources.

Students expressed the highest degree of agreement with the request for free higher education. The degree of agreement with the opening of new polytechnics, especially in smaller towns, was expressed with the average rating 4. Most items in the questionnaire received the average rating 3. The lowest average rating was awarded to investment in Croatian higher education. Slightly more positive ratings were given to the competitiveness of the Croatian higher education system and to the Croatian higher education in itself. The role of polytechnics in the Croatian higher education system received the average rating 3.14, while the contribution of polytechnics to the economic development of Croatia (in terms of educating the required professionals) was awarded the average rating 3.25.

## 6. CONCLUSION

Knowledge based on information, which is supported by cultural and spiritual values, has become a force in itself and a key driver of social, economic, technological and cultural transformation. Experience in fast-growing economies highlights education as one of the key factors in adopting and successful exploitation of knowledge-based economy. Croatia's accession to the European Union has created favourable circumstances for increasing investments in research and knowledge and encouraged stronger connections between education system and business entities, which is paving the road for new technologies and innovation, and thus making our economy more competitive on the world market.

In view of the average ratings of ICT knowledge acquired during studies at polytechnics, the survey results indicate the need to update the informatics and computer science curricula and to consider assigning more contact hours to courses covering this area. Furthermore, students expressed the highest degree of agreement with the request for free higher education in the Republic of Croatia, whereas the lowest average ratings were given to investment in the Croatian higher education, competitiveness of the Croatian higher education and the Croatian higher education in itself. These results indicate that polytechnic students are generally not satisfied with the Croatian higher education system. It is recommended to conduct similar surveys in the future also as an awareness-raising activity, as they can promote positive attitudes towards entrepreneurship and one's role in economic and social development.

The development of new skills and capabilities, as well as their application and efficient transfer to new generations, will result in a high-ranking knowledge society acting as a driving force behind economic growth and giving everybody a chance to prosper and become competitive on the labour market.

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## SOCIAL INCLUSION AS INNOVATION

**Alessandra Morgado Ramiro de Lima**

*Federal University of Rio de Janeiro, Business Administration, Brazil  
alessandramrlima@hotmail.com*

**Gabriella Morgado Ramiro de Lima**

*Federal University of State of the Rio de Janeiro, Public Administration, Brazil  
gabi.ramiro@hotmail.com*

**Angelo Maia Cister**

*Federal University of Rio de Janeiro, Business Administration, Brazil  
cister@facc.ufrj.br*

### ABSTRACT

*The construction of this paper part of some reflections on the role and the power transformer and innovative that information associated with social and digital networks configuration feature and who are developing in setting this new society. Allied to these reflections, the insight to the wire came to watch a video of the closing party of the 2010 Brazilian Championship, promoted by the Confederação Brasileira de Futebol-CBF, which contained the tribute paid to one of the great players of the recent past, the athlete Marcos Evangelista de Moraes, consecrated under the name of Cafu and assigned captain of the Brazilian team penta-champion of the 2002 FIFA World Cup in Japan and South Korea. During the tribute, was passed an institutional video that showed that he regarded his Magnum Opus – Cafu Foundation to support children in need, with the motto "there is no price in this world that can pay the smile on a child's face. Every child has the right to dream, and you can help make that dream come true. " On presentation of your project, Cafu defined a Social inclusion project. The aim of this study is to analyze the Social innovation in the perspective of social inclusion. This article is an exploratory study, conducted through a descriptive research that purport to discuss the proposed topic with the analytical support both texts quoted above. The first work of André and Abreu, when dealing with the role of social innovation in territorial development, develops a series of concepts and dimensions, in addition to bringing to our consideration, indicators for our study, involving the dimensions of social inclusion and the plasticity of the medium where it acts. The second, Mulgan, a vision of the English subject based on the author's experience.*

**Keywords:** *Brazil, Descriptive Research, Exploratory Study, Social Inclusion, Social Innovation.*

### 1. INTRODUCTION

The construction of this paper stems from thoughts on the role and the transformative and innovative power that information, associated with the development of social and digital networks, has, and is developing in building this new society we have been living in. Along with such thoughts, the insight to this line of thinking manifested while watching a video of the closing ceremony of the Brazilian Football Championship in 2010, promoted by the Brazilian Football Confederation - CBF, which paid an homage to one of the greatest players of recent time, athlete Marcos Evangelista de Moraes, known as Cafu and as an outstanding captain of the five-time-champion Brazilian football team - winner of the 2002 World Cup held in Japan and South Korea. During the homage, an institutional video was played showing what he considers to be his greatest achievement - the Cafu Foundation, aimed at supporting

children in need, with the motto "No money in the world can afford the smile on a child's face. Every child has the right to dream, and you can help make this dream come true." In his presentation, Cafu defined his project as a Social Inclusion Project.

The aim of this study is to analyze Social Innovation within the perspective of social inclusion from the points of view of the two following papers: "Dimensões e Espaços da Inovação Social", written by the Portuguese professors from Lisbon University - Isabel André and Alexandre Abreu in 2006 and "The Process of Social Innovation", by Geoff Mulgan - Visiting Professor at the London School of Economics, also in 2006. This analysis has in its backdrop Project "Ação Cidadã" - Cafu Foundation", with the aim of designating the features that define it as such. It should be noted that similar social inclusion projects were also analyzed: one of the Gol de Letra Foundation, recognized by UNESCO and toward Integral Education of children and youth, and the other, called "Pracatum", toward community development involving music.

This is an exploratory study conducted by means of a descriptive research aimed at discussing the proposed subject using the two texts mentioned above for analytical support. The first paper, by André and Abreu, by addressing the role of social innovation in the development of the territory, develops a series of concepts and dimensions, and brings indicators for our study to our consideration, involving the dimensions of social inclusion and the plasticity of the medium in which it operates. The second paper, by Mulgan, a British view of the subject based on the author's experience as a member of the British government, where he addresses topics that complement the first study, since it regards social innovation, discussing the development of this process, including issues associated with success and failure.

## **2. DEVELOPMENT**

### **2.1. Inclusion + Innovation = Social – AWAKENING**

We begin with the concept of Social Inclusion. André and Abreu (2006, p. 124) state that

*"Social inclusion is a new and socially recognized response, which aims at and generates social change simultaneously connecting three attributes: the satisfaction of human needs unmet through the market; the promotion of social inclusion and training agents or actors subject, potentially or effectively, to processes of social exclusion and/or marginalization, triggering, that way, a more or less intense change of power relations. "*

The Cafu Foundation Project does not seek profit, therefore it is not connected to the market, and was installed in Jardim Irene, a poor community on the outskirts of the city of São Paulo, Cafu's birthplace, who had humble beginnings and struggled to get ahead and become the reference he is today. This is his retribution to what he received from society in order to socially rise. It has public recognition, since it was inserted in an event of national and international impact - the national Football Championship award, now considered the largest in the world. In respect of the training to carry out change in agents or actors subject to exclusion processes, the District where Vila Irene is located had a 242,368 inhabitant population, according to the 2002 census, and whose social vulnerability map includes situations of high deprivation for youth and adults. The Cafu Foundation has a Library, Playroom, Visual Arts Room and Workshop, Computer Rooms, Dental Care Office, Cafeteria, Kitchen and Pantry, in addition to a Multi-Purpose Sports Court within its facilities. Its portfolio states that its mission is to conduct and maintain in place programs that encourage social inclusion in the community, guiding peers to pursue their rights, becoming agents of their own reality.

The consolidation of these ideas is reinforced by the analysis of the other two examples mentioned in the introduction. The Gol de Letra Foundation is very similar to the Cafu Foundation. Also created by other two world-champion football players, internationally recognized for their successful careers, Leonardo in Italy and Raí in France, has dignity, fraternity, solidarity and perseverance as main values. As a nonprofit organization of public character, recognized by UNESCO, it develops integral education programs for over 1,200 children and adolescents in the range of 7 to 24 years of age, with a pedagogical proposal associated with social assistance, while also promoting service to families and community strengthening.

The other example differs from the previous ones and is quite unique. It regards the Pracatum Social Action Association. Created in Candeal neighborhood in Salvador, Bahia, by singer Carlinhos Brown, who was born there, it seeks to consolidate music as a lifestyle alternative, creating employment opportunities for young people of that community, who are mostly black, training them for a music career. The Pracatum website reports that the process of partnership with public and private institutions with the involvement of the population provides social change in national underserved communities, highlighting, for instance, the transformation of Candeal neighborhood, which gained national and international recognition as a model of community development to be followed. As well as Cafu, Carlinhos Brown retributes his social rise to society, driving his popularity, leadership and role model toward the community he was born in. His Association aims to develop work reasoned on the tripod of education and culture, social mobilization and urbanization that characterize his concern with issues of social responsibility and the integration of young people from his community in the labor market and the world.

The view of Geoff Mulgan (2006, p. 146) on Social Innovation is that it "refers to innovative activities and services motivated to meet a social need, predominantly disseminated through an organization with social goals." This definition characterizes the three cases presented, since they are clearly innovative services characteristic of nonprofit Non - Governmental Organizations.

Regarding André and Abreu (2006, p. 125), when they ask "what is social innovation?", we can note their theory affirms it concerns "institutions whose conception focuses on employment, qualification, social security, and since it has different focuses, it has convergent intentions," as is the case with Pracatum compared to the other two. All of them have "non-commercial nature, collective character and intention toward the transformation of social relations"; "they all seek a qualitative change establishing a break with traditional processes, showing the desire assumed by an avant-garde minority. "The note of these authors is also pertinent when they point out the crucial role for the regional development of local networks of cooperation, as facilitators of balance between cooperation/competition, allowing the optimization of resources and continuous learning with the reduction of information exchange costs. In this sense, it is observed that these local networks are represented by favored communities that cooperate with the projects, which in turn, favor the development of the regions.

## **2.2. Inclusion + Innovation = Social - UNDERSTANDING**

Why is social innovation produced? When comparing the latter with technological innovation it is observed that the technological one is leveraged by the market and the social one by the need to overcome adversity. The structural changes that enable local development involve individual and collective training in order to find solutions to the problem.

By analyzing the three examples presented, we can see that they can be frameworked both in the issue of territoriality, in the local meaning of the matter, as well as we can assume that

each of these NGOs, participating in the Service Society that pervades our time, act with potentially innovative proposals, even considering the risks of alienation and manipulation. When questioning how social innovation is produced, one can deduce relational capital as a key resource. All those responsible have that quality, which facilitates their march toward established goals. The ways such capital presents itself, the existing ties within the community and the relations with the outside world and with other communities, where identical profligacy is also found. The question of the location chosen for the projects and the bonds of trust and interpersonal cooperation as important centrifugal forces, facts equally featured in the examples.

In the continuation of this dimensioning, the quest to identify those who produce, it is concluded that being a product of civil society, social innovation lies within the third sector. We have already stated that the foundations analyzed in this paper are NGOs, therefore, they lie within the vision presented by Mulgan and André and Abreu. And regarding such thought, we found that most of the capital used for its operations derives from civil society.

The last dimension analyzed concerns the medium where the innovation is produced. André and Abreu (2006, p. 130-131) state that "the medium can be a place characterized by a community or territory, but it can also be a space - network, constituted by us or by flows, material or immaterial. "In the studied cases, it more strongly emphasizes the community as a medium where innovation occurs, but depending on the relational capital of its entrepreneurs, the space - network is also noted, either by using the internet, either by us, that this relationship enables production, especially in the media, and are both material, and immaterial.

For Mulgan (2006, p. 148), the definition of those responsible for social innovation, "is made by a small number of heroic individuals who remake the world convincing and persuading the timid and lazy majority", whereas, our innovators fit this description. It further emphasizes that "individuals are carriers of ideas and not their authors"; "the movements resulting from these ideas grow in light of discontent". It may be noted that, particularly, the experiences abroad were the breeding ground for the implementation of these ideas, whose comparison with experiences in developed communities resulted in the discontent that gave rise to their entrepreneurial activities.

### **3. CONCLUSION**

The three models presented are relatively new and will depend on positive factors to reach their goals, become independent from their entrepreneurs and take on a life of their own.

The large parameter is formed by vectors combining courage and determination, detachment from profit with a social vision toward a fraternal attitude with those excluded, the perception of a relational capital to be employed not for its own benefit, stripped of vanities, used with intelligence and insight.

Those responsible for this new idea are mostly people who emerged from the lower classes of society and reached a high level on their own merits. They are laying the foundations for a new Social Welfare State, based on a service economy and sustained by civil society, which is being generated territorially in the small community, but will expand across networks toward the large global community. It is a new idea that needs to be further studied, better discussed, better understood. It is part of the New Age, which is widely talked about and expected. The seeds of universal brotherhood lie in its origins, a utopia today, but a hope for tomorrow.

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Section 2  
**Enterprise in Turbulent Environment**

## TECHNICAL EFFICIENCY OF ORGANIC DURIAN FARMS IN THAILAND

**Wirat Krasachat**

*King Mongkut's Institute of technology Ladkrabang, Thailand  
kkwirat@kmitl.ac.th*

### ABSTRACT

*The primary purpose of this study is to measure and investigate factors affecting technical efficiency of organic durian farms in Thailand. The data envelopment analysis approach is applied to the 2011 farm-level cross-sectional survey data of durian farms. In addition, in order to examine the effect of farm-specific socio-economic and management factors on farm efficiency, Tobit estimation is used in this study. The empirical results suggest three important findings. First, there is confirmation that producer's education and variability of fertiliser types influenced the overall technical and scale inefficiency of durian farms. Second, the application of organic farm system and soil improvement practices do not have different impacts on the technical inefficiency in durian production in different farms. Finally, the results also indicated that farm size influenced the inefficiency of durian farms in Thailand.*

**Keywords:** *data development analysis, organic durian farms, sustainable supply chain management, technical efficiency*

### 1. INTRODUCTION

Durian has become increasingly important to the Thai agriculture. In 2013, 102,599 hectares were planted to durian and 569,238 tonnes were produced. Around 98 per cent of total annual output of durian was domestically consumed (calculated from Ministry of Agriculture and Cooperatives, 2008, 2014) while the rest was exported to Hong Kong, Singapore, Taiwan and China. Although both the volume and value of Thai durian exports have increased continuously (due to the government promotion for durian as a strategic export fruit), to sustain the demand and supply chain of exported durian, its production improvement is the main concern of this sector.

As indicated in Krasachat (2012), there are at least three causes for worry concerning the future development of durian production in Thailand. First, durian is normally cultivated by small farms. Second, as mentioned above, durian has been mostly sold in domestic consumption and the rest for export market. Finally, the Thai government has significantly influenced Thai agriculture through a variety of policies over the past several decades. These could cause imperfect competition in those inputs and in output markets. Because of the above factors, economists and policy makers have raised the question of the technical efficiency of durian production and farm practices in Thailand, especially at farm level.

The primary purpose of this study is to measure and investigate factors influencing Thai durian farms' technical efficiency including its pure technical and scale efficiencies. The study was an application of a data envelopment analysis approach in order to estimate technical efficiency and its components of durian farms in the Eastern Region of Thailand and also to investigate the determinants of the efficiencies among different factors. Previous studies have investigated technical efficiency and its components at both the farm and aggregate levels in Thai agriculture. Previous studies have investigated economic efficiency and its components at both the farm and aggregate levels in Thai agriculture (e.g., Krasachat, 2000, 2001a, 2001b, 2004a, 2004b, 2008, 2009, 2010, 2012). However, this study, to the best of our knowledge, has been the first application of data envelopment analysis approach in order to measure and explain technical inefficiency of durian farms in Thailand. This enables

more detailed understanding of the nature of technical efficiency in durian production in Thailand. The empirical results of technical efficiency and influencing factors are necessary for policy makers to enable them to choose the appropriate direction of development planning to increase productivity and, thus, to sustain the demand and supply chain of organic durian in Thailand.

This paper is organized into five sections. Following this introduction, the analytical framework is explained. Next, data are described. The last two sections cover the empirical results of this study, and conclusion.

## 2. ANALYTICAL FRAMEWORK

Coelli (1995), among many others, indicated that the DEA approach has two main advantages in estimating efficiency scores. First, it does not require the assumption of a functional form to specify the relationship between inputs and outputs. This implies that one can avoid unnecessary restrictions about functional form that can affect the analysis and distort efficiency measures, as mentioned in Fraser, & Cordina (1999). Second, it does not require the distributional assumption of the inefficiency term.

According to Coelli, Rao, O'Donnell, & Battese (2005), the constant returns to scale (CRS) DEA model is only appropriate when the firm is operating at an optimal scale. Some factors such as imperfect competition, constraints on finance, etc. may cause the firm to be not operating at an optimal level in practice. To allow for this possibility, Banker, Charnes, & Cooper (1984) introduced the variable returns to scale (VRS) DEA model. Due to the consequence of the heavy intervention by the government in Thai agriculture, the farms may well have been prevented from operating at the optimal level in farm operation. Therefore, technical efficiency in this study is calculated using the variable returns to scale (VRS) DEA model. Following Fare, Grosskopf, & Lovell (1985), Sharma, Leung, & Zaleski (1999), Coelli, Rao, O'Donnell, & Battese (2005) and Nikolla, Meco, Dib (Lekocaj), Belegu, Qinami, Dulja and Kadiu (2013), the input-oriented VRS model is discussed below.

Let us assume there is data available on  $K$  inputs and  $M$  outputs in each of the  $N$  decision units (i.e., farms). Input and output vectors are represented by the vectors  $x_i$  and  $y_i$ , respectively for the  $i$ -th farm. The data for all farms may be denoted by the  $K \times N$  input matrix ( $X$ ) and  $M \times N$  output matrix ( $Y$ ). The envelopment form of the input-oriented VRS DEA model is specified as:

$$\begin{aligned}
 & \min_{\theta, \lambda} \theta, \\
 \text{st} \quad & -y_i + Y\lambda \geq 0, \\
 & \theta x_i - X\lambda \geq 0, \\
 & N1'\lambda = 1 \\
 & \lambda \geq 0,
 \end{aligned} \tag{1}$$

where  $\theta$  is the input technical efficiency (TE) score having a value  $0 \leq \theta \leq 1$ . If the  $\theta$  value is equal to one, indicating the farm is on the frontier, the vector  $\lambda$  is a  $N \times 1$  vector of weights which defines the linear combination of the peers of the  $i$ -th farm. Thus, the linear programming problem needs to be solved  $N$  times and a value of  $\theta$  is provided for each farm in the sample.

Because the VRS DEA is more flexible and envelops the data in a tighter way than the CRS DEA, the VRS TE score is equal to or greater than the CRS or 'overall' TE score. The relationship can be used to measure scale efficiency (SE) of the  $i$ -th farm as:

$$SE_i = \frac{TE_{i,CRS}}{TE_{i,VRS}} \quad (2)$$

where  $SE = 1$  implies scale efficiency or CRS and  $SE < 1$  indicates scale inefficiency. However, scale inefficiency can be due to the existence of either increasing or decreasing returns to scale. This may be determined by calculating an additional DEA problem with non-increasing returns to scale (NIRS) imposed. This can be conducted by changing the DEA model in equation (1) by replacing the  $N1'\lambda = 1$  restriction with  $N1'\lambda \leq 1$ . The NIRS DEA model is specified as:

$$\begin{aligned} & \min_{\theta, \lambda} \theta, \\ \text{st} \quad & -y_i + Y\lambda \geq 0, \\ & \theta x_i - X\lambda \geq 0, \\ & N1'\lambda \leq 1 \\ & \lambda \geq 0, \end{aligned} \quad (3)$$

If the NIRS TE score is unequal to the VRS TE score, it indicates that increasing returns to scale exist for that farm. If they are equal, then decreasing returns to scale apply.

Note that efficiency scores in this study are estimated using the computer program, **DEAP** Version 2.1 described in Coelli (1996).

In order to examine the effects of the government policy and farm-specific factors on farm efficiency, a regression model is estimated where the level of inefficiency from DEA is expressed as a function of these factors. However, as indicated in Dhungana, Nuthall, & Nartea (2004), among many others, the inefficiency scores from DEA are limited to values between 0 and 1. That is, farms which achieved Pareto efficiency always have an inefficiency score of 0. Thus, the dependent variable in the regression equation cannot be expected to have a normal distribution. This suggests that the ordinary least squares regression is not appropriate. Because of this, Tobit estimation, as mentioned in Long (1997), is used in this study.

### 3. DATA

The data used in this study is based on a direct interview survey of 103 randomly selected durian farm households in seven districts of Chanthaburi Provinces in the Eastern Region of Thailand. The selected districts were Lam Sing, Tha Mai, Khlong, Na Yai Arm, Prong Nam Ron, Muang and Ma Kham which are predominantly durian producing areas in the Eastern Region of Thailand. The data were for 2011. The farms selected were owner operated and had faced a similar economic and marketing environment for inputs and outputs.

One output and three inputs are used in the empirical application of this study. The three inputs groups are land, labour and "other inputs". Several farm-specific factors are analysed to assess their influence on productive efficiency. The farmer's education is derived from a farmer's years of schooling while dummy variables are introduced as proxy for the differences in types of farm practices and fertilisers used in different farms.

The input and output variables are defined in Table 1 whilst the variables selected for use to investigate factors affecting technical efficiency of organic durian farms in Thailand and the summary statistics of data sample of all variables are in Tables 2 and 3, respectively.

*Table 1: Variable definitions and measurement*

Variables	Units	Definitions
Durian output	Kilogram	Quantity of durian produced per farm
Land	rai	Cultivated area per farm (1 rai = 0.16 hectare)
Labour	Man-days	Quantity of labour used
Other inputs	THB	Total costs incurred for using all variable expenses, except the above inputs (THB 30 = USD 1)

*Table 2: Variable definitions for inefficiency effects*

Variables	Definitions
OFARM	Dummy variable proxied for a producer who applied organic farm practices and zero otherwise
SOIL	Dummy variable with a value of one if producer used soil improvement practices and zero otherwise
OFER	Dummy variable with a value of one if producer used organic fertiliser and zero otherwise
CFER	Dummy variable with a value of one if producer used chemical fertiliser and zero otherwise
EDU	Producer's years of schooling

*Table 3: Summary statistics of data sample*

Variables	Minimum	Maximum	Mean	Std. Deviation
Durian output	1,960	227,240	36,653.710	42,251.193
Land	2	192	30.481	30.036
Labour	321	15,870	2,740.107	2,622.913
Other inputs	7,860	3,374,130	183,672.400	390,372.521
OFARM	0	1	0.170	0.373
SOIL	0	1	0.710	0.457
OFER	0	1	0.750	0.437
CFER	0	1	0.930	0.253
EDU	6	16	7.320	3.018

#### 4. EMPIRICAL RESULTS

Technical and scale efficiency scores of Thai durian farms were calculated using Eqs. (1) & (2) at the sample means. Table 4 indicates that the mean values of overall technical, pure technical and scale efficiency are 0.519, 0.772 and 0.674, respectively. Note that the overall technical efficiency of a durian farm is the product of its pure technical efficiency and its scale efficiency. These empirical results suggest two important findings. First, there are significant possibilities to increase efficiency levels in Thai durian farms. The average overall technical inefficiency could be reduced by 48 per cent, on average, by operating at optimal scales and by eliminating pure technical inefficiencies via the adoption of the best practices of efficient durian farms. Second, the results also indicate that scale inefficiency for Thai durian farms makes a greater contribution to overall inefficiency.

*Table 4: Technical efficiency scores of organic durian farms in Thailand*

	Overall technical efficiency	Pure technical efficiency	Scale efficiency
Average	0.519	0.772	0.674
Std. deviation	0.258	0.248	0.262
Minimum	0.029	0.274	0.050
No. of efficient farms	7	44	7

The scale efficiency results are summarized in Figure 1. The DEA results suggest that, of 103 observations, 7 per cent operated at their optimal scale, 11 per cent operated above their optimal scale and 82 per cent operated below their optimal scale. This indicates that the largest increase in overall technical efficiency could be achieved by eliminating the problem of increasing returns to scale; thus eliminating the problem of decreasing returns to scale would increase overall technical efficiency to a lesser extent. This implies, from an agricultural policy viewpoint, that if operation efficiency of the Thai durian farms is to be improved, increasing firm size would be better than decreasing the size of farms.

Although the analytical results in general indicate that there exist advantages in increasing firm size, it would be better to use them to focus on efficiency improvement at the level of individual durian farms. Jaforullah and Whiteman (1999) indicated that there is a positive relationship between the availability of extension services and farm technical efficiency. An increase in the rate of diffusion of technology and optimal firm management practices, encouraged by extension services, should increase the technical efficiencies of the inefficient durian farms in Thailand.

Tobit regression models are estimated to investigate the impacts of the farm-specific factors on technical inefficiency and its components. Inefficiency measures are first obtained by subtracting the level of efficiency calculated in the first stage from 1. Then, each inefficiency measure is regressed on the farm-specific factors.

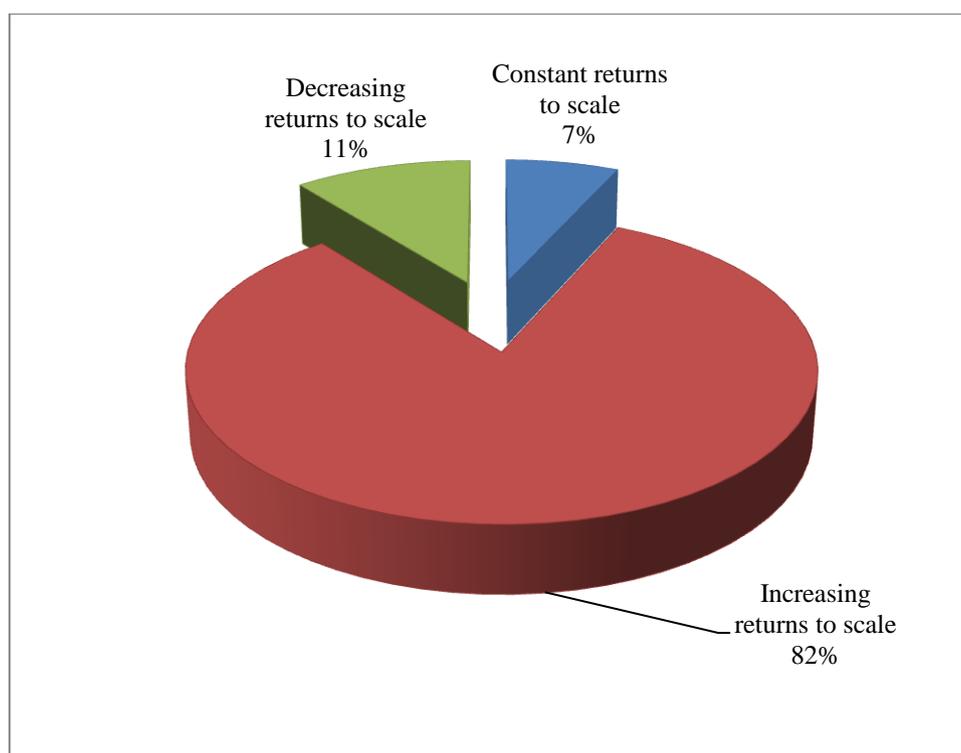


Figure 1: The scale efficiency of organic durian farms in Thailand

The estimates of overall technical, pure technical and scale inefficiency equations are reported in Tables 5 to 7. The empirical results indicate that the EDU variable has a negative effect on overall technical and scale inefficiencies as indicated in Tables 5 and 7. This implies that producers with more years of schooling achieved higher levels of technical efficiency. In other words, producers with the higher education are likely to get higher levels of technical efficiency in their farm management which is consistent with Krasachat (2012).

There is evidence that there is no relationship between the application of organic farm system and soil improvement practices and the inefficiency of durian farms. This implies that organic farm system and soil improvement practices adopted by a farmer had no impact on the efficiency of durian farms in Thailand.

Table 5: Estimation results of overall technical inefficiency model

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Constant	0.529	0.138	3.835	0.000
OFARM	0.105	0.075	1.402	0.160
SOIL	-0.064	0.057	-1.108	0.267
OFER	0.145	0.061	2.351	0.018
CFER	0.004	0.107	0.039	0.968
EDU	-0.018	0.009	-1.937	0.052
R-squared	0.107		Log likelihood	-15.386

The empirical results also indicate that the application of organic fertiliser (the OFER variable) have a positive effect on overall technical and scale inefficiency as indicated in Tables 5 and 7. This suggests that farmers who applied organic fertiliser achieved lower levels of technical efficiency which is unexpected. This may possibly be because the application of organic fertiliser need better skills and farm planning which stemmed more from farm practices than from formal education.

*Table 6: Estimation results of pure technical inefficiency model*

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Constant	0.088	0.226	0.390	0.696
OFARM	0.143	0.117	1.215	0.224
SOIL	-0.101	0.091	-1.102	0.270
OFER	-0.038	0.097	-0.398	0.690
CFER	0.124	0.175	0.712	0.476
EDU	-0.002	0.015	-0.143	0.885
R-squared	0.033		Log likelihood	-62.444

*Table 7: Estimation results of scale inefficiency model*

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Constant	0.419	0.139	3.018	0.002
OFARM	0.037	0.075	0.496	0.619
SOIL	-0.018	0.058	-0.323	0.746
OFER	0.174	0.062	2.808	0.005
CFER	-0.070	0.107	-0.653	0.513
EDU	-0.020	0.009	-2.195	0.028
R-squared	0.121		Log likelihood	-14.515

## 5. CONCLUSION

An input-oriented VRS DEA model was used for estimating overall technical, pure technical and scale efficiencies in the durian farms of Thailand.

The empirical results indicate that there are significant possibilities to increase efficiency levels in Thai durian farms. The average overall technical inefficiency could be reduced by 48 per cent, on average, by operating at optimal scales and by eliminating pure technical inefficiencies through the application of the best practices of efficient durian farms. In addition, the results also indicate that scale inefficiency for Thai durian farms provides a greater contribution to overall inefficiency.

The results indicate advantages in increasing farmsize and farmer's years of schooling in Thai durian farms. Therefore, development policies of the above areas should be used to increase the technical efficiencies of these inefficient farms in Thailand. That is, the policies on encouraging farmers to increase continuing education and suggesting the farmers to increase their farm size are recommended to increase technical efficiency in durian production in Thailand.

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## **E-LEADERSHIP SKILLS FOR SMEs – CHALLENGES TO THE UNIVERSITIES**

**Valentina Ivanova**

*New Bulgarian University, Bulgaria  
v.ivanova@nbu.bg*

**Alvaro Arenas**

*IE Business School, IE University, Spain  
alvaro.arenas@ie.edu*

### **ABSTRACT**

*'LEAD - e-Leadership Skills: for Small and Medium Sized Enterprises' develops targeted actions for start-ups and fast growing SMEs to provide them with relevant e-leadership skills. The focus of this initiative supported by the European Commission is on e-leadership, defined as leadership which both relies on information and communication technologies (ICT) and aims to accomplish goals that involve ICT. Effective organizations are demanding e-leaders who are both business and ICT-savvy. e-Leadership skills enable people with very strong ICT skills to lead qualified staff from ICT and other disciplines towards identifying and designing business models and exploiting key innovation opportunities. e-Leadership is successful where an organization is making best use of new developments in ICT, where leading edge ICT is driving innovation and delivering value to their organizations.*

*In this article a brief overview of the LEAD initiative is presented as contributing to the "Grand Coalition for Digital Jobs" and to the follow up of the European Commission's Communication on "e-Skills for the 21st Century" which presents an European Union long term e-skills agenda, of "The Digital Agenda for Europe" and of the Communication "Towards a Job-rich Recovery". Recent research on SMEs' demand of e-Leadership knowledge and skills is presented. A method to evaluate ICT courses, modules and programs by mapping the curricula to e-CF competences is suggested. An e-CF profile of a sample program is compared to CEN ICT profiles and to e-Leadership profiles. Curricula improvement opportunities are identified and discussed. Challenges to the universities offering e-Leadership content are described.*

**Keywords:** *e-Leadership, ICT education, SMEs (Small and Medium Sized Enterprises)*

### **1. INTRODUCTION**

'LEAD - e-Leadership Skills: for Small and Medium Sized Enterprises' develops targeted actions for start-ups and fast growing SMEs to provide them with relevant e-leadership skills. The focus of this initiative supported by the European Commission is on e-leadership, defined as leadership which both relies on information and communication technologies (ICT) and aims to accomplish goals that involve ICT [1]. Effective organizations are demanding e-leaders who are both business and ICT-savvy. e-Leadership skills enable people with very strong ICT skills to lead qualified staff from ICT and other disciplines towards identifying and designing business models and exploiting key innovation opportunities. e-Leadership is successful where an organization is making best use of new developments in ICT, where leading edge ICT is driving innovation and delivering value to their organizations.

### **2. E-SKILLS FOR THE 21ST CENTURY**

The term "e-skills" encompasses a broad set of skills necessary in the modern workplace and digital economy. Successful innovation in ICT requires cross-disciplinary, cognitive and

problem-solving skills as well as an understanding of the fundamentals of business and communication skills, including competence in foreign languages. They should be seen in the wider context of a core set of competences equipping all European citizens for a knowledge-based society. These key competences should be provided in a lifelong learning context.

The European e-Skills Forum proposed the following definitions:

- **ICT Practitioner Skills:** These are the capabilities required for researching, developing, designing, strategic planning, managing, producing, consulting, marketing, selling, integrating, installing, administering, maintaining, supporting and servicing ICT systems.
- **ICT User Skills:** These represent the capabilities required for the effective application of ICT systems and devices by the individual. ICT users apply systems as tools in support of their own work. User skills cover the use of common software tools and of specialised tools supporting business functions within industry. At the general level, they cover "digital literacy": the skills required for the confident and critical use of ICT for work, leisure, learning and communication.
- **e-Leadership Skills:** These correspond to the capabilities needed to exploit opportunities provided by ICT, notably the Internet; to ensure more efficient and effective performance of different types of organizations; to explore possibilities for new ways of conducting business/administrative and organizational processes; and/or to establish new businesses.

In the scope of efforts to promote ICT Professionalism, it has been proposed that **ICT professionals** should:

- Possess a comprehensive and up-to-date knowledge, accommodating a common ICT body of knowledge, and pertinent specialist knowledge and skills;
- Demonstrate on-going commitment to professional development, via an appropriate combination of qualifications, certifications, work experience, non-formal and informal learning;
- Deliver high quality products and services, and value for stakeholders;
- Adhere to applicable regulatory practices and/or a code of ethics/conduct.

It has also been proposed to further define **e-Leadership** as the accomplishment of a goal that relies on ICT through the direction of human resources and uses of ICT. Effective organizations are demanding e-leaders with a T-shaped portfolio of skills, representing expertise in both using ICT and developing organizations. Very simply, having a T-shaped portfolio of skills, means that a leader is both business and ICT-savvy. It means that a leader has the following skills:

- A vertical set of skills that represent expertise or "deep knowledge" in a specific area (e.g. science; engineering; ICT; social sciences);
- A horizontal set of skills that represent "transversal skills" (e.g. negotiation; critical thinking; design and systems thinking, business and entrepreneurship etc.) that enable collaboration across a variety of boundaries.
- Both vertical and horizontal sets of skills require a basic level of ICT user skills, as defined by the European e-Skills Forum. [2]

### **3. DEMAND FOR E-LEADERSHIP**

The ICT workforce in Europe in 2011 amounted to 6.67 million which is 3.1% of the overall workforce. It has been growing over the past decades and will continue to grow in the future. From 2000 to 2010 the ICT workforce grew at an average annual rate of 4.26%. Even at the

times of the economic and financial crisis which Europe is undergoing since late 2008, growth remained at 2.65%.

The demand appears to be significant for e-leaders. Of the approximately 255,000 vacancies for the EU-27 in 2012, we find 76,000 vacancies for “ICT management and business architecture” skills. Furthermore, the gap is disproportionately affecting small and medium-size enterprise: 70% of vacancies can be found in SMEs which demand ICT skills in much greater numbers than large enterprises. [3]

During 2012, empirica, IDC and INSEAD worked together on a study for the European Commission’s Directorate General Enterprise and Industry. The objective of the study, titled “e-Skills for Competitiveness and Innovation: Vision, Roadmap and Foresight Scenarios,” was to develop a vision for Europe’s e-skills for competitiveness and innovation, and to examine ways to face current and future challenges. A particular focus of the study was on e-leadership skills. The resulting analysis, roadmap and scenarios focus on how Europe can seize opportunities in innovation, new technologies and emerging forms of organization and production, while maintaining its priority on inclusive growth. To estimate the demand of e-leaders, the research team assumed that some organizations need more e-leaders than others, depending on two dimension

- The size of organization: In terms of number of full-time equivalents (FTEs), large (250-99 FTEs) or very large firm (1000+ FTEs) will have a greater need and capacity to distribute key responsibilities across more individuals than a micro firm (1-9 FTEs) or a small firm (10-49 FTEs).
- The ICT-Intensity of a sector: This is the degree to which organizations rely on technology for their business operations, innovations and the provisioning of their services and products. The demand for e-leaders is greater for organizations in the ICT sector than for organizations in non-ICT sectors, because the ICT sector needs e-leaders for internal operations, innovation and for external provision of services. Within non-ICT, there are high ICT intensity sectors and low ICT intensity sectors

Based on these factors, organizations were assigned into one of three different groups, differentiated by different colour in the table below. Within each of the three groups, demand was estimated. [4]

*Table 1: Summary of estimated e-leadership demand*

Type of Firm & Sector	Size of firm	Estimated demand of e-leaders per enterprise	Number of enterprises	Estimated TOTAL demand for e-leaders by firm type
ICT sector	high growth SMEs	1	15,000	15,000
	medium	4	6,500	26,000
	large & very large	8	1,400	11,000
High ICT intensity sectors	high growth SMEs	1	30,000	30,000
	medium	2	60,000	120,000
	large & very large	5	29,000	145,000
Low ICT intensity sectors	high growth SMEs	1	25,000	25,000
	medium	1	227,000	227,000
	large & very large	2	42,000	84,000
<b>TOTAL ESTIMATED DEMAND OF e-LEADERS</b>			<b>436,000</b>	<b>680,000</b>

'LEAD - e-Leadership Skills: for Small and Medium Sized Enterprises' study builds on previous work for the European Commission on supply. A particular focus of the study are Small and Medium Sized Enterprises. Results from exploratory interviews with SMEs in five European countries and an online survey of SMEs and entrepreneurs on their specific requirements for e-leadership skills confirmed the predicted specifics of the e-leadership demands of small and medium business. These activities have been conducted over the past months as the basis and starting point for the development of e-leadership course profiles and courses fully aligned with the requirements of SMEs and entrepreneurs.

#### **4. EVALUATION OF ICT EDUCATIONAL OFFER**

Demand is growing throughout European industry to improve the quality of e-leadership, covering organization leadership in ICT innovation to deliver business value. Recent research has confirmed that the shortage of e-leadership skills across Europe is significant, calling for action. Different approaches for evaluation of ICT and e-Leadership educational offers could be applied.

##### **4.1. National Accreditation**

European and national legislation proscribe National Accreditation Procedures. The European Association for Quality Assurance in Higher Education (ENQA) is an umbrella organization which represents quality assurance organizations from the European Higher Education Area (EHEA) member states. ENQA promotes European co-operation in the field of quality assurance in higher education and disseminates information and expertise among its members and towards stakeholders in order to develop and share good practice and to foster the European dimension of quality assurance [5]. Bulgarian National Evaluation and Accreditation Agency is a statutory body for evaluation, accreditation and monitoring of the quality in higher education institutions and scientific organizations in Bulgaria aiming at the enhancement of their teaching and research, as well as of their development as scientific, cultural, and innovative organizations. The Agency monitors the ability of institutions, their main units and branches to provide good quality of education and scientific research through an internal quality assurance system. Their mission is to encourage higher education institutions in assuring and enhancing the quality of education they offer by sustaining high academic standards and good education traditions in Bulgaria [6]. All e-Leadership educational programmes should be accredited by the national accreditation institutions.

##### **4.2. Mapping courses to e-CF competences and programmes to e-CF profiles**

The European e-Competence Framework (e-CF) provides a reference of 40 competences as required and applied at the Information and Communication Technology (ICT) workplace, using a common language for competences, skills and proficiency levels that can be understood across Europe. As the first sector-specific implementation of the European Qualifications Framework (EQF), the e-CF fits for application by ICT service, demand and supply organizations, companies, for managers and HR departments, for education institutions and training bodies, including higher education, for market watchers and policy makers, public and private sectors. [7]

Figure 1. European e-Competence Framework Overview

Dimension 1 5 e-CF areas (A–E)	Dimension 2 40 e-Competences identified	Dimension 3 e-Competence proficiency levels e-1 to e-5, related to EQF levels 3–8				
		e-1	e-2	e-3	e-4	e-5
A. PLAN	A.1. IS and Business Strategy Alignment					
	A.2. Service Level Management					
	A.3. Business Plan Development					
	A.4. Product/Service Planning					
	A.5. Architecture Design					
	A.6. Application Design					
	A.7. Technology Trend Monitoring					
	A.8. Sustainable Development					
	A.9. Innovating					
B. BUILD	B.1. Application Development					
	B.2. Component Integration					
	B.3. Testing					
	B.4. Solution Deployment					
	B.5. Documentation Production					
	B.6. Systems Engineering					
C. RUN	C.1. User Support					
	C.2. Change Support					
	C.3. Service Delivery					
	C.4. Problem Management					
D. ENABLE	D.1. Information Security Strategy Development					
	D.2. ICT Quality Strategy Development					
	D.3. Education and Training Provision					
	D.4. Purchasing					
	D.5. Sales Proposal Development					
	D.6. Channel Management					
	D.7. Sales Management					
	D.8. Contract Management					
	D.9. Personnel Development					
	D.10. Information and Knowledge Management					
	D.11. Needs Identification					
	D.12. Digital Marketing					
E. MANAGE	E.1. Forecast Development					
	E.2. Project and Portfolio Management					
	E.3. Risk Management					
	E.4. Relationship Management					
	E.5. Process Improvement					
	E.6. ICT Quality Management					
	E.7. Business Change Management					
	E.8. Information Security Management					
	E.9. IS Governance					

The e-CF version 3.0 gives clear definitions and sound orientation to support decision-making in relation to the selection and recruitment of candidates, as well as the training and the assessment of ICT professionals. It enables the identification of skills and competences that may be required to successfully perform duties and fulfil responsibilities related to the ICT workplace. The widespread adoption of the e-CF by companies and organisations throughout Europe has started to increase the transparency, mobility and efficiency of ICT sector related human resources. [7]

Previous research [8] proposed the bidirectional mapping of e-CF version 3.0 definitions of skills and competences as a common language of describing skills and competences offered by higher education courses.

#### 4.3. Mapping programmes to CEN ICT profiles and industry job profiles

Master Degree Programmes are a set of courses. The tool for bidirectional mapping accumulates the e-CF skills and competences thought in all courses of a programme. The results could be used to identify gaps between standard CEN ICT profiles, industry recognized job profiles and the existing educational offers or to highlight overlapping content – similar skills and knowledge at similar levels that are offered by independent courses. The proposed method to programme evaluation provides scientific approach to programme curricula development based on the CEN e-CF profiles.

Figure 2. Bidirectional mapping of 3 e-CF (CEN ICT) profiles with 3 Industry profiles to PM academic programme (sample screenshot)

eCF v2.0	eCf profile	eCf profile	eCf profile	Company profile	Company profile	Company profile	PM Subject	PM Subject Courses
	ICT Operation manager	Service manager	PM	PM	PM	PM	Program max e-CF level	Program Number of courses
A.1. IS and Business Strategy Alignment (L5)					4	4		
A.2. Service Level Management (L4)		4						
A.3. Business Plan Development (L4)				4				
A.4. Product or Project Planning (L4)			4		4	4	4	1

The approach was used to evaluate New Bulgarian University Master Degree programme “IT Project Management”. The programme was started in 2009 aiming to enable experienced ICT developers, first- and second-level ICT managers to move to a higher management level. The evaluation revealed that in terms of CEN ICT profiles the graduates have the thinking, knowledge and skills that correspond to the Project Manager, ICT Operations Manager, Quality Assurance Manager, Enterprise Architect.

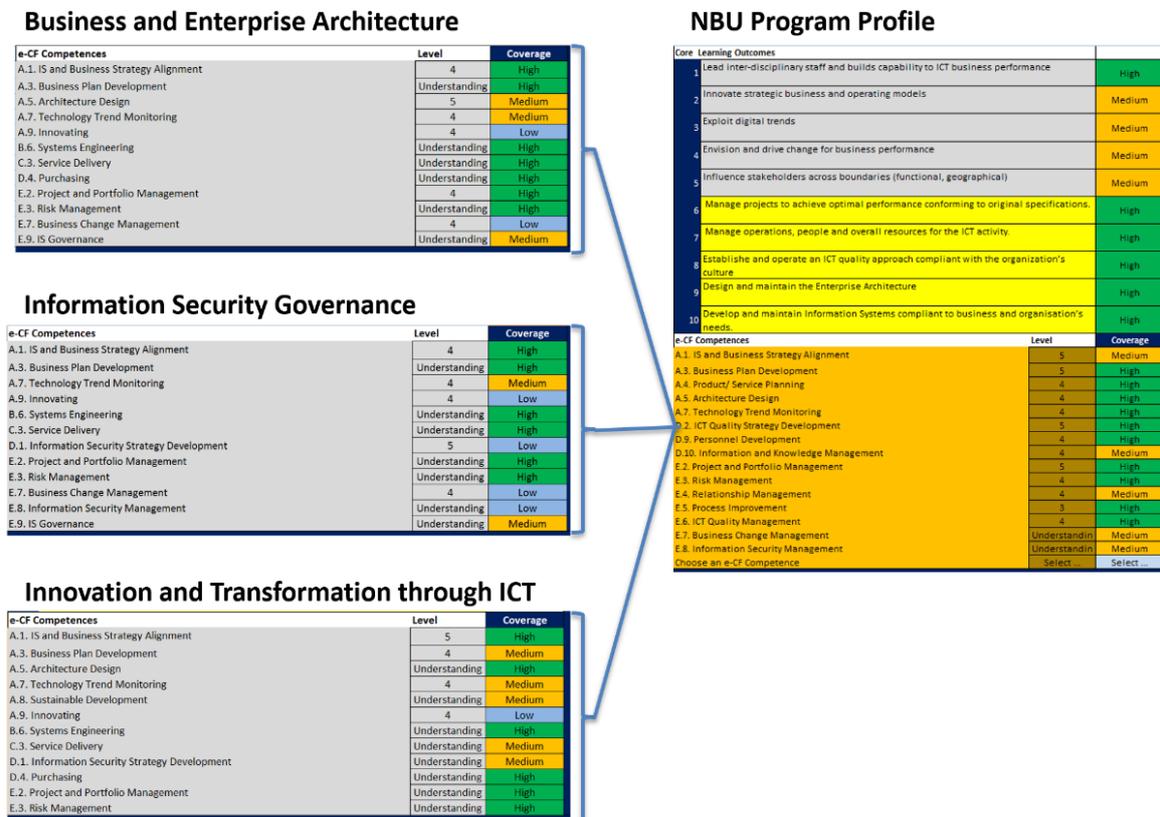
### 5. CURRICULA IMPROVEMENT OPPORTUNITIES

The bidirectional mapping identifies non-interesting knowledge and skills areas between industry demand or CEN ICT profiles and the educational offers supplied by the universities and the higher educational institutions. In the case of Master Degree programme “IT Project Management” the skills and competences that were not covered by the courses of the programme were related to e-CF E.8. Information Security Management. The bidirectional mapping identifies improvement opportunities for existing curricula. New course on “Strategy Development for ICT Intensive Organizations” filled the competence gap and “IT Project Management” programme satisfied the requirement of one additional CEN ICT management profile – Chief Information Officer (CIO).

CEN ICT management profiles define the competences required from the ICT leaders of today. World level educational offers should prepare e-Leaders – the leaders of tomorrow. European Guidelines for New Curricula Fostering e-Leadership Skills define three initial e-Leadership curricula profiles [9]:

- Business and Enterprise Architecture
- Innovation and Transformation through ICT
- Information Security Governance

Figure 3. Mapping e-Leadership curricula profiles to M.Sc. Programme “IT Project Management” at New Bulgarian University



The mapping approach described in the previous section of this article could be applied to e-Leadership curricula profiles. Improvement opportunities could be identified based on the non-intersecting or overlapping ICT skills and competences, and the expected learning outcomes.

A similar exercise was carried out by IE Business School for the case of the Executive Education course on “Digital Innovation and IT Governance”. In the case of IE, the course met all the requirements of e-CF. It is worth mentioning, the inclusion in the programme of the so-called “soft skill” need by leaders, skills such as communication, negotiation, critical thinking, and leading in case of uncertainty. The programme has also been influenced by previous recommendations from the e-leadership initiative, including having experiences and practical within the learning process.

## 6. CHALLENGES TO THE UNIVERSITIES OFFERING E-LEADERSHIP CONTENT

Results from exploratory interviews with SMEs in five European countries and an online survey of SMEs and entrepreneurs on their specific requirements for e-leadership skills confirmed the predicted specifics of the e-Leadership demands of small and medium business. SMEs concentrate e-Leadership responsibilities in the top-management personal most often in a single chief officer that is both ICT-savvy and business-savvy.

The exploratory interviews with fast growing or leading SMEs in Bulgaria revealed their preferred sources of advanced knowledge:

- internal coaching and training
- external trainings (1 or 2 days)
- conferences
- free online courses
- recruitment of experts

None of the interviewees has mentioned the universities as a lifelong learning knowledge provider. The challenge to the universities is to prepare appropriate educational content based on mappings to CEN ICT profiles and e-Leadership curricula profiles, and to offer innovative course formats in order to answer the demand for SMEs e-Leaders. Demonstration activities are planned to take place in the next twelve months to evaluate different formats and/or course content and to identify best practises in providing start-ups and fast growing SMEs with relevant e-Leadership skills, competences and knowledge.

In the case of Spain, similar results were obtained. We can highlight the importance of self-learning, and the fact that SMEs are bringing the “trainer” directly into the workplace. This is bringing important challenges to universities and higher-education institutes. On one hand, there is a need to new educational formats in addition to face-to-face format, such as Webminars, MOOCs and electronic discussion boards, which may contribute to requirements such as online courses and learning from the workplace. On the other hand, universities need to prepare short courses tailored for specific needs from companies. The role of the trainer for the case of e-leadership is evolving to be facilitator in the learning processes, a coach, in addition to the classical transmission of knowledge.

## **7. CONSLUSION**

The challenge to the universities is to prepare appropriate educational content based on mappings to CEN ICT profiles and e-Leadership curricula profiles, and to offer innovative course formats in order to answer the demand for SMEse-Leaders. “LEAD - e-Leadership Skills: for Small and Medium Sized Enterprises” explores and develops targeted actions for start-ups and fast growing SMEs to provide them with relevant e-Leadership skills.

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**Contributors:**  
**LEAD team** (<http://eskills-lead.eu/>)



INSEAD



New Bulgarian University



IE Business School



Antwerp Management School



Henley Business School



European Foundation for Management Development



AARHUS UNIVERSITY

Aarhus University



IDC Europe



PIN-SME



CIONET

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## ROMANIAN FISHERIES IN THE EUROPEAN COMMUNITY CONTEXT

**Silviu Stanciu**

*The Bucharest University of Economic Studies, Romania,  
sstanciu@ugal.ro*

### **ABSTRACT**

*Aquaculture and fish processing are traditional activities specific to the fisheries sector in Romania. Areas for fish and aquaculture are natural resources, occupying a strategic place in Romanian economy. At present, fishing heritage in Romania consists of areas permanently or temporarily water covered, being considered to have an area of nearly 500,000 hectares of stagnant water, 66,000 km of mountain, hill and plain streams, and 25,000 square km of marine water in the Black Sea. An accurate assessment of the sector must take into consideration its complex role for the national system, because of the potential food resources available to the public, the environmental values created, the generation and maintenance of wetlands and the biodiversity of fish, birds and fauna. Better awareness of fish as raw material, ensuring continuity of supply and a wide range of fish products to consumers, making the processors of added value primary products are key objectives of the Romanian industry. Joining the EU allowed a large range of opportunities for Romanian fisheries. In 2007, domestic production and fish consumption were significantly lower. The appearance of imported species on the Romanian market led to a diversification of supply and a change in consumer preference towards new species of fish. After accessing European funds the number of fish farms, the areas intended for aquaculture, the species reared in aquaculture, the processing capacity and the number of employees increased. The paper proposes to present the effects of the European Community Policy on the Romanian fisheries sector.*

**Key words:** *aquaculture, fish processing, fish market, fisheries sector*

### **1. INTRODUCTION**

Fishing and aquaculture represent traditional activities in Romania; historical proof exists referring to the unfolding of these activities on the Romanian territory since ancient times (Bartosiewicz and Bonsall, 2004). Fisheries and fish are natural resources that occupy a strategic place in national economy. Domestic aquaculture is mainly represented by pisciculture in fresh water; the breeding of other fresh water aquatic organisms (crabs, shells, aquatic plants) or salt water aquatic organisms (shells, snails, shell fish) being almost absent. Romanian fisheries in fresh water, which has a long history, is oriented towards cyprinid breeding in an intensive or semi-intensive system, methods that do not significantly affect the environment (Moldovan, 2013). The importance of the fisheries sector in agriculture and in the national economy must not be treated strictly from a statistical point of view. The assessment of the sector must take into consideration its complex role for the national system, by correlating the food resource potential available for the population with the created environment values, tourism, population stability, water reserve insurance, wet land ichthyologic and bird biodiversity generation and maintenance (the European Parliament, 2008). The fisheries sector development recorded a significant growth in the centralised political leading system before 1989. Thus, between 1965 and 1989, fishing and aquaculture were intensely developed in inland water, as well as ocean fishing and fish processing. Beginning with 1989 up to 2007, the fisheries sector is constantly and permanently declining, Romanian aquaculture practically disappearing. Therefore, the domestic market begins to rely heavily on imports (Cornea, 2012). By joining the EU and by having a common community

policy in the fisheries sector, Romania had the opportunity to access some grants, useful for the development of the national sector, for re-launching the fishing domain and for reducing domestic market dependency on imports.

## **2. MATERIALS AND METHODS**

The research work performed for the paper used data provided by national institutions (The National Institute of Statistics NIS Tempo), community institutions (The European Commission – the Eurostat database) or international institutions (FAO – FAO STAT, Fish STAT), the Ministry of Agriculture and Rural Development (MARD) by means of the National Fishing Agency (NAFA) or by means of the Fishing Operational Plan Management and Administration Authority (AMGPOP), information from articles or treatises, data communicated by producer associations or magazines. The data has been processed and interpreted by using adequate statistical means.

## **3. A GENERAL PRESENTATION OF THE FISHING AND AQUACULTURE SECTOR FROM ROMANIA**

### **3.1. Romania's natural potential**

Romania is a medium-size country, the 12th in terms of surface in Europe, having a territory of 238,391 km<sup>2</sup>. Over 87% of the total surface is allotted to rural areas (representing approximately 207,372 km<sup>2</sup>), only a small part being destined to the urban areas (31,018 km<sup>2</sup>, representing 13%). According to the data regarding population census, published by NIS (2011), in 2011 Romania had 21,431,298 inhabitants, with a relatively balanced distribution of the population on sexes (51.3% men and 48.7% women) and of the location between the rural and the urban areas (44.9% inhabitants lived in the countryside and 55.1% lived in the cities). As far as occupations are concerned, almost one third of Romania's population works in the agricultural domain. As compared to 2009, the weight of the population working in agriculture recorded a slight rise in 2010, reaching approximately 29.1% (as compared to 28.7% in 2009).

#### **3.1.1. Romania's natural fisheries potential**

From the point of view of the fisheries potential, having a hydrographical network of 843,710 ha, with a weight of over 3.5% of the total surface of the country (Boariu, 2012), Romania is on the first place in SE Europe. Fishing and aquaculture, fish processing and fish product trade are activities present in all the regions of the country, although they have a fragmented distribution on the national territory. In some isolated areas (the Danube Delta, the Danube meadow) fishing represents one of the main economic activities that offers jobs and income for the local population.

At present, the fishing patrimony, made up of temporarily or permanently water-covered lands, is appreciated as having a surface of almost 500,000 ha of stagnant water, 66,000 km. of mountain, hill and plain streams and 25,000 km<sup>2</sup> of marine water in the Black Sea Exclusive Economic Area (Bucur, 2012). The great majority of water-covered surfaces, i.e. approximately 300,000 ha of natural lakes and pools, 98,0000 ha of artificially created lakes and ponds, 47,000 km. of hill and plain streams, 19,000 km. of mountain streams, 1,075 km. the Danube river are public domain property. The fishing maritime area of Romania is considered to be between Sulina and Vama Veche. The coast line, with a length of approximately 243 km., is divided into two main sectors: the northern part between Chilia and Constanța (158 km.) and the southern part between Constanța and Vama Veche (85 km.). The distance between the sea shore and the continental platform limit varies between 100 and 200 km. In the northern sector and approximately 50 km. In the southern sector. The waters

situated up to the Black Sea northern part 20 m. isobaths are included in the Danube Delta biosphere reservation. The marine area of the Danube Delta biosphere reservation constitutes a traditional area for spawning and feeding for the trans boundary species and a passing route for the anadromous species (the sturgeon, the Danube mackerel). In the southern part of the sea coast there is the Vama Veche – 2 Mai Marine Reservation, with a total surface of 5,000 ha. The area presents a great biotype and biomass diversity, being situated on the migration route of the main marine mammal and benthonic and pelagian fish species. Information regarding the Black Sea fish bank biomass (the sprat, the whiting, the turbot and the shark), based on the productivity data statistical processing obtained by means of trial and industrial trawling are presented in table 1 (NAFA, 2012).

*Table 1 The main fish species biomass on the Black Sea coast (in tons) (NAFA, 2012).*

No.	Species	2007	2008	2009	2010	2011
1.	Sprat	36388	30917- 61900	33683-60075	50.643	60.000
2.	Whiting	7311- 16095	-	11853- 4921	7410 -20948	26171- 16307
3.	Turbot	1595	1712-2356	1378-1037	1140-1254	1092- 1495
4.	Shark	5131	-	967-2541	5635-13051	1173- 1619

Romania's fishing fleet unfolds its activity within the competence area of the Fishing Region Management Organisation – GFCM, Area 37 – the Mediterranean and the Black Sea, Sub-area 37.4, Division 37.4.2, GSA 29 (MARD, 2011). Marine fishing is conducted along the Romanian coast line, being limited to the marine area up to the 60 – 70 m isobaths. In 1986, Romania declared the Black Sea own Exclusive Economic Area, with a surface of 25,000 km<sup>2</sup>, subsequently expanded to 29,000 km<sup>2</sup> following the Hague International Law Court decision (MAE, 2009). The Romanian fleet can unfold fishing activities at 30-35 miles off the Black Sea Coast. Trawler fishing is seasonal, depending on the fish presence in the area. An important fishing area is represented by the maritime part of the Danube Delta Biosphere Reservation. Here, trawler fishing or fishing with other tools is prohibited. Only fishing with seines or driftnet fishing is allowed (Făgăras and al., 2005).

### **3.2. Fisheries sector development during the centralised political system**

The activity of the communist regime in the fisheries area was based on the concept of central planning in the general organisation of national economic activities. In the aquaculture domain, the measures applied led to the growth of the planned surface from a few hundred ha in 1945 to 85,578 ha (1989), on which an annual production of approximately 50,000 tons of fish was obtained (Văcaru, 2014). The fish processing sector development materialised in the setup of 35 big plants and 40 fish processing medium-size factories subordinated to the National Agriculture Ministry, in 50 industrializing units, respectively, belonging to the co-operative sector. The locations were correlated with the possibility of easy supply by means of naval transport (Tulcea, Constanța, Brăila, Galați) or of some high-density population areas (București). These plants, together with smaller factories, ensured the whole domestic consumption and provided large quantities of tinned fish for export. Beginning with 1997, all these factories and plants went bankrupt, one by one, and they closed (România Liberă, 2005). The creation of an oceanic fishing national vessel fleet, under the name of Oceanic Fishing Industrial Unit IPO Tulcea led to the use of 47 oceanic fishing vessels, 12 fish transport vessels “Polar” and 2 full supply tankers and of 10,000 employees. IPO Tulcea unfolded seizing activities, mainly in international oceanic waters, primary processing, transport and oceanic fish delivery in large quantities towards direct domestic consumption, local processing in industrial units or finished raw material export activities. Fish consumption,

together with the slogan “No meal without fish”, although imposed and promoted as a national nutritional strategy, highlighted fish nutritional importance for humans. From the point of view of consumption, willing or imposed, the communist period led to annual medium quantities of 8 kg./inhabitant (Băjenaru, 2008).

### 3.3. The fisheries sector evolution between 1989 and 2008

The transition to a free market economy led to the oceanic fishing fleet disappearance, the closing of the main processing units, domestic production diminution and fragmentation. The fisheries production dramatic decline, the industrialisation capacity reduction and the powerful anti-centralisation movement led to fish medium consumption diminution, reaching 2 kg./inhabitant in 2000. From 2000 until 2007 fish domestic consumption recorded a fluctuant evolution at 3 – 4.5 kg./inhabitant/year, being mainly based on imports, which covered approximately 87% of the market necessary (Văcaru, 2014). The data regarding the fisheries domain is managed and provided by NAFA, an organisation within MARD. According to the NAFA statistics (2012), in the pre-accession period to the EU there existed a slight revival of the fisheries sector as in 2005 there were 100,025 ha of piscicultural centres, with 84,500 ha of fish farms, 15,500 ha of fish nurseries and 25 ha of salmon farms. Between 2005 and 2010 Romania’s fish production recorded fluctuations due to the global economic crisis or national economic instability. Thus, the year 2005 brings an aquaculture fish production of 13,352 tons, followed by a maximum of 17,151 tons in 2009 and then in 2010, because of the economic crisis, it decreases to 15,184 tons, and 11,593 tons in 2011. As far as species structure is concerned, until 2005 approximately 85% of Romania’s aquaculture fish production was dominated by Asian and indigenous cyprinids, the rest of 15% being represented by trout, perch, pike, catfish, and fresh water sturgeon. Commercial fishing in inland waters is performed in natural aquatic pools that belong to the national public domain (the Danube, the Danube Delta, the Razim – Sinoe complex lake, or artificially created lakes), on the basis of fishing licenses, which are annually issued by NAFA. Domestic fishing is performed with mobile or fixed fishing tools, with small fishing boats, made of wood or fiberglass. In inland waters there is no mechanized fishing catch. In point of structure, catches in inland waters are dominated by the crucian carp, the bream and the mackerel (figure 1).

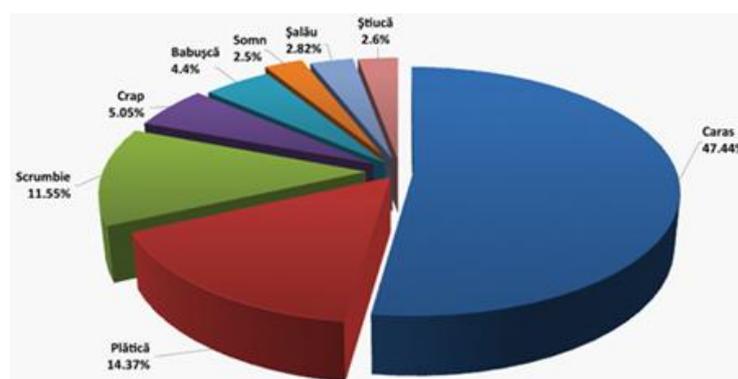


Figure 1. The weight of the fish species in inland water catches 2006 (NIS, 2014)

The fishing sector contribution to national economy in the analysed period was a modest one. It contributed with reduced values to the Gross Added Value (VAB) or to the Gross Domestic Product formation (table 1). The NIS data shows a variation of the added gross value corresponding to the fishing sector, between 255.232,7 million lei in 2005 and 458.535,5 million lei in 2008, representing a Gross Domestic Product contribution between 288.954,6 million lei (2005) and 514.700 million lei (2008). The NAFA data (2011) proves a significant

general decline of the primary sector (agriculture, forestry and fisheries) in forming the national gross added value, with a decrease of its weight from 16.21% in 2005 to 14.97% in 2008.

Table no. 2 Fishing and fisheries weight in the Gross Added Value and in the Gross Domestic Product (%) (NAFA, 2012)

No	Indicators	1998	2000	2003	2005	2006	2007	2008
1.	Fishing and fisheries/Gross added value	0,0058	0,0043	0,008	0,0058	0,0061	0,0043	0,0049
3.	Fishing and pisciculture /Gross domestic product	0,0051	0,0038	0,0071	0,0047	0,0046	0,0062	0,0086

The number of employees in the fishing domain also recorded significant changes between 2005 and 2008. Therefore, if in 2005 the number of people involved in domain-specific activities was 6811 workers, the great majority employed in aquaculture (figure 2), in 2008 the number of people working in aquaculture decreased to 2700, phenomenon justified by the authorities especially by raising work productivity (figure 3).

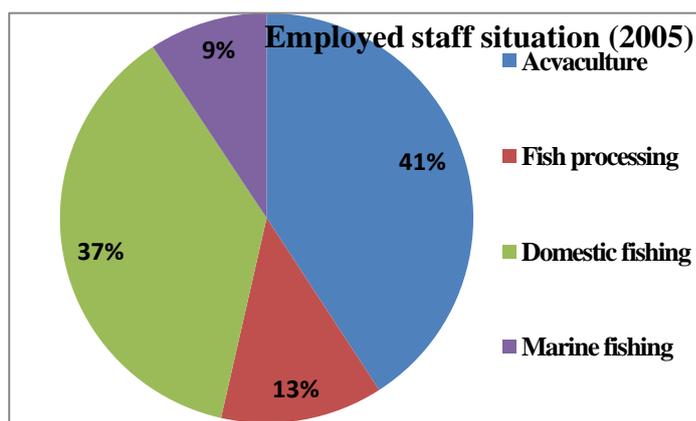


Figure 2. Employed staff situation in the fisheries sector (2005)

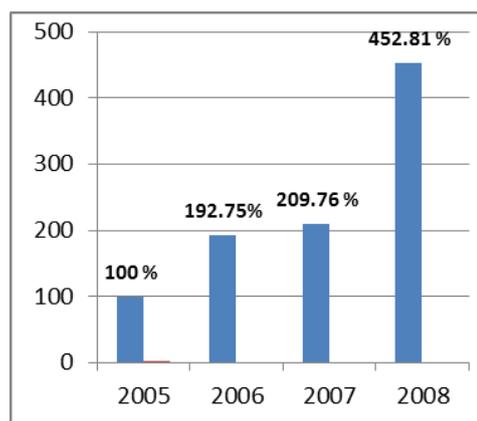


Figure 3. Work productivity rise in the fisheries sector ref.2005 /2008 (%)

### 3.4. The European context in the fisheries domain

The development of a Fishing Common Policy at the level of the European Union (EC PCP, 2002) laid the foundations of a community fisheries sector lasting development, which targets import dependence reduction (approximately 60% of fish and crustaceans community consumption being ensured, in 2008, by imports). By unfolding the 2007 – 2013 programme, the funds that were made available to the community sector by means of the Fishing European Fund (FEP) were of 4,305 billion euros, distributed differentially among community members. Romania, placed among the areas characterized by a high share of co-financing from the part of FEP (75%), was allotted 230.7 million euros (AMGPOP, 2011). By cumulating the national contribution of 25%, too, the local fisheries domain had 307.6 million euros, distributed on 5 priority axes. Community fishing fleet adaptation (A1 - 4.3%); Aquaculture, fishing in inland waters, aquaculture and fishing product marketing and processing (A2 -45,5%); Collective measures (A3-13%); Fishing area durable development (A4 -32,5%); Technical assistance (A5-4,6%) (Figure 4)

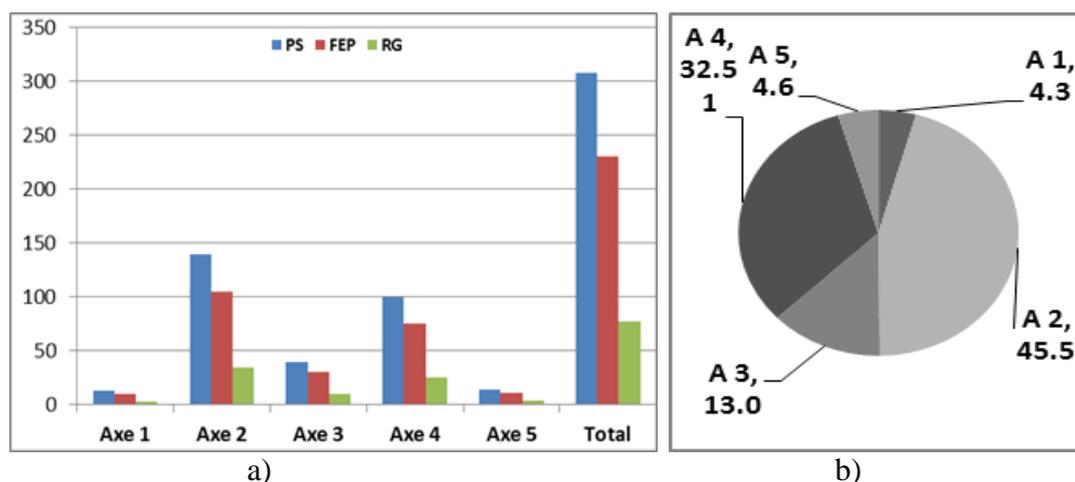


Figure 4. Community fund distribution for Romanian fisheries on years (a) and axes (b) (MADR, AMGPOP, 2011)

### 3.5. The Romanian fisheries sector in the community context

Community fund allocation began to take effect on Romanian fisheries beginning with 2009. The NAFA records (2012) show a positive evolution of fish farms, a rise in the processing capacity and in the creation of new jobs. Thus, the situation of the licenses issued in 2011 reflect a total surface of 98.232,78 ha destined to fish breeding, with 9% allotted to nurseries ((8.617,55 ha) and 91% to breeders (89.615.23 ha). The number of aquaculture farms recorded by NAFA in the Aquaculture Unit Register (RUA) increased from 381 in 2005 to 940 in 2012, out of which 257 nurseries and 693 breeders, with a production of approximately 8,000 tons. A significant increase was recorded in the trout aquaculture, the salmon loft surface increasing from 25 ha in 2005 to 69.23 ha in 2012. 160 new units were recorded in RUA. As a consequence of accessing European funds there was also a relative diversification of the aquaculture species. In 2012, although cyprinids prevail, loft fish species distribution highlights an increase in the number of some economically valuable species (sturgeon, trout, pike) or species asked by Romanian consumers (the Romanian carp) (figure 5). In domestic fishing, there was an increase in the number of boats that reached 2006. They were mainly distributed in the Danube Delta (1282), on the Danube (706) or on artificially created lakes (18) (NAFA, 2011). The distribution analysis of the domestic fish species that were fished between 2008 and 2011, presented in figure 7, shows a decrease in the crucian and the carp to the detriment of other species. Annual fish catches recorded between 2008 and 2011 in inland waters are situated at a relatively constant level, between 2,500 and 3,500 tons.

Fish quantity and other aquatic resource evolution from the Black Sea, between 2008 and 2011 is presented in table 2. Marine fishing is done with three big vessels (having over 18 m. in length) and 481 small boats (having under 12 m. in length), used in coast fishing on a small scale. The value of the catches from the Black Sea recorded a minimum of 230.9 tons in 2010, 2012 bringing four times more quantities. The species fished mainly in the Black Sea were small, having low economic value (sprat, anchovy, horse mackerel), marketed salted because of the vessel low freezing capacity. Other fished species were the mullets, the sharks, the turbot and the gudgeon. The 2012 catch structure is presented in figure 8.

Table 2 Catch situation for the Black Sea 2008 – 2012 (NAFA, 2012)

Year	2008	2009	2010	2011	2012
Fished quantity (in tons)	443,9	331,8	230,9	537,2	810,6

A new aspect of industrial fishing in the Black Sea is the *Rapana venosa* /*Rapana thomas* catch. In 2011 a record quantity of 218 tons was recorded. Fisherman re-orientation towards the capitalization of this new resource is due to quota community system introduction for the turbot (by limiting the annual domestic catch at 40 t.) and to foreign market request.

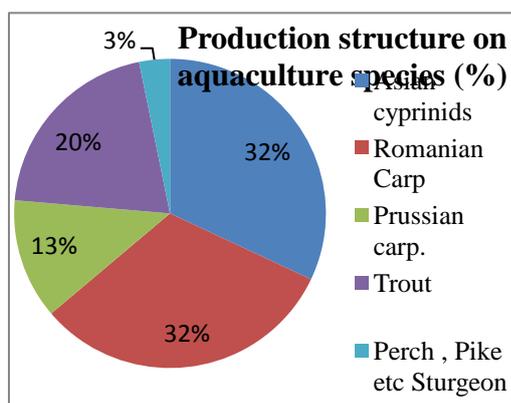


Figure 5. Production structure on species in Romanian aquaculture (2012)

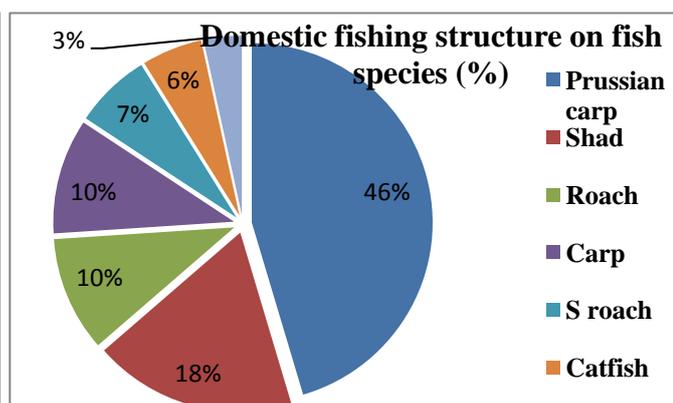


Figure 6. Domestic fishing structure on fish species (2012)

As a result of POP 2007 – 2013 completion, a national production capacity of over 9,200 t new modernised units will be reached. Until 2012, 5 fish processing units were financed with a processing capacity increase of approximately 7,000 tons (1705,55 tons of fresh or cold products; 991,50 tons of canned or semi-canned products; 3547,00 tons of frozen or semi-frozen products; 564,34 tons of products processed in another way – smoking, salting, etc.)

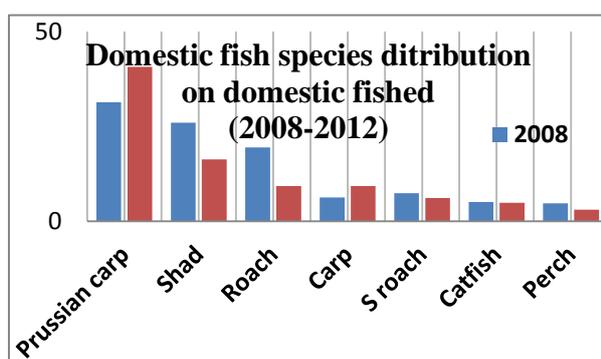


Figure 7. Domestic fish species ditribution fished domestically 2008 – 2012 (NAFA, 2012)

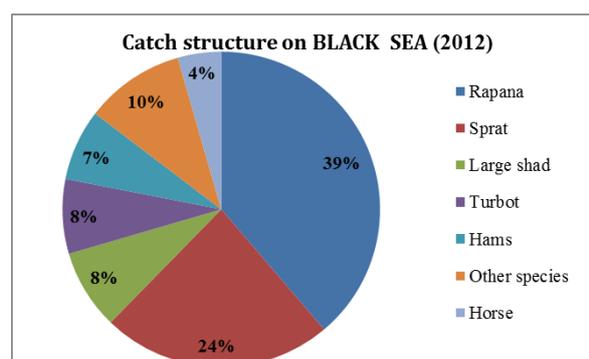


Figure 8. Catch structure in the Black Sea 2012 (FishStat, 2014)

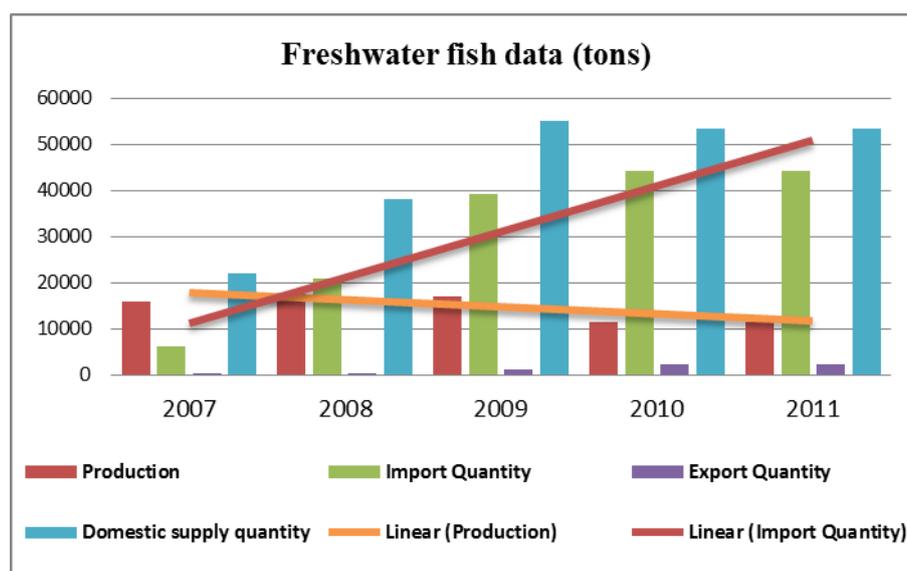
The trade balance of foreign trade in fish and fish products in Romania is poor. Consequently, between 2000 and 2008 Romanian fish product exports were practically absent, the years 2009 - 2010 bringing small quantities of re-exported fish (1300-3000 tons). Although 2011 recorded a record export of 8,200 tons of fish with a value of 13,000 million euros, mainly towards The Republic of Moldavia (Ocean Fish, 2013), imports were approximately 8 times higher (approximately 57,000 tons), rising with almost 20% as compared to 2005 (approximately 80,000 tons), but falling slightly as compared to 2008. The fish annual

average consumption per inhabitant assessed in 2014 at approximately 5.3 kg. has a value close to that of our neighbours (Hungary – 5.1 kg., Bulgaria – 4.2 kg.), but it is much under the European average of 20 kg./inhabitant/year, Romania being among the last countries in point of fish consumption from the EU (Floria, 2012).

*Table nr. 3 Domestic market fish product offer and consumption (NAFA, 2012)*

No.	Specification	U.M.	2008	2009	2010	2011
1.	Aquaculture production	thousands of tons	12,53	13,13	8,98	8,34
2.	Fishing	thousands of tons	3,75	4,02	2,69	3,25
3.	Processing production	thousands of tons	6,10	5,89	6,50	7,00
4.	Total domestic production	thousands of tons	25,38	23,04	18,17	18,59
5.	Imports	thousands of tons	88,62	78,08	72,11	56,92
6.	Exports	thousands of tons	1,71	3,15	3,74	8,17
7.	Domestic consumption	Kg/inhabitant	5,23	4,57	4,08	3,14

The Fish STAT data (2014), which are graphically presented in figure 9, prove that that the Romanian fisheries sector reacts slowly after accessing community funds. Thus, imports denote a raising trend, although moderate in the last few years. According to the data presented by Romanian officials, domestic production presents an increasing trend, whereas domestic consumption is relatively stable at 40-50,000 tons annually. There are some discrepancies, however, between the quantities reported by FAO and NIS (table 2, figure 9).



*Figure 9. Romanian freshwater fish data (Fish Stat, 2014)*

The effect of the EU financed programme implementation is the increase in the number of employees in the fisheries sector. Fund accessing created 832 new jobs, destined to aquaculture (605 people) and fish processing (227 employees). The aquaculture workforce training level analysis, carried out by AMGPOP within Axis 5, also identified the insufficient number of technicians and skilled workers that should be completed in order to make the connection between the managerial sectors and the execution staff (AMGPOP, 2011).

#### 4. CONCLUSION

In the last years, the Romanian fisheries sector presents slight signs of recovery from the decline suffered in 1990. The absorption of EU irredeemable community funds will take effect in a few years 'time, when the investments will reach maturity. The completion of projects needs time, and fish production, even if it is carried out in an intensive system, imposes the crossing of some biological cycles that offsets the appearance of positive effects from the moment the funds have been accessed. The global economic crisis affected the fish product domestic market. As compared to the European average, fish product domestic consumption is low and the market is dependent on imports. Offer diversification and consumer orientation towards new fish products or new ways of presentation imposed the fisheries sector modernization. Romania holds a valuable natural potential, insufficiently capitalized, but that allows an adequate development of the sector if investments will be complemented by administrative measures coming from the part of the Romanian state.

**Acknowledgments:** *This paper was co-financed from the European Social Fund through Sectorial Operational Programme Human Resources Development 2007-2013, project POSDRU number /159/1.5/S/138907 "Excellence in scientific interdisciplinary research, doctoral and postdoctoral school, in the economic, social and medical fields-EXCELIS", coordinator The Bucharest University of Economic Studies*

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## **CORPORATE SOCIAL RESPONSIBILITY IN FASHION SUPPLY CHAINS: PEOPLE AND KNOWLEDGE IN THE CROATION FOOTWEAR INDUSTRY (CASE STUDY)**

**Patsy Perry**

*The University of Manchester, School of Materials, United Kingdom  
patsy.perry@manchester.ac.uk*

**Alica Grilec Kauric**

*University of Zagreb, Faculty of Textile Technology, Croatia  
alica.grilec@ttf.hr*

**Ivan Novak**

*University of Zagreb, Faculty of Textile Technology, Croatia  
ivan.novak@ttf.hr*

### **ABSTRACT**

*With complex global supply chains and polluting production practices, the fashion industry leaves a considerable environmental and social footprint. Corporate Social Responsibility (CSR) and environmental sustainability are thus becoming key considerations for companies operating in the fashion sector. With rising costs of outsourcing, due to increases in wage rates and fuel costs, there is now greater interest from European fashion retailers in near-sourcing fashion products from closer to the EU. As such, we propose that it would be valuable to explore CSR and environmental sustainability within the Eastern European region. In this paper, the theoretical framework of fashion supply chains is set out and the importance of environmental sustainability and CSR from the perspective of people and knowledge in the fashion industry is explained. The paper then sets out the proposed qualitative case study data collection method to explore the implementation of CSR and environmental sustainability in Croatia's footwear manufacturing industry. Initial findings suggest that CSR is present in the observed company, and is focused on social aspects of corporate responsibility in order to attract and retain high quality workers in a labor-intensive sector. The continuing professional development of employees was seen as a means of building capacity in knowledge management within the firm. However, the continued existence of these CSR initiatives was subject to challenges of the footwear supply chain, in particular cost and lead time pressures. Cost-cutting measures resulted in the loss of CSR activities, with negative implications for people and knowledge management and therefore overall business performance in this challenging industry sector.*

**Keywords:** *fashion supply chain, footwear, environmental responsibility, sustainability, corporate social responsibility, supply chain management, Croatia, Eastern Europe*

### **1. INTRODUCTION**

In today's fast changing business environment, it is no longer companies that compete in the global marketplace, but their supply chains. The fashion industry (i.e. textiles, clothing and footwear) is a global industry with considerable market potential: in 2010 in the European Union manufacturing industry, the fashion industry accounted for 7.1% of employees and 3.6% of total revenue, with 11.6% of all companies producing textiles, clothing or footwear products (Eurostat, 2010). As stated by the European Commission (2013), the year 2013 was characterized by divergent dynamics for various light industry sectors: from optimistic

developments for footwear and leather, light improvement for textiles, to decline for clothing. Similarly in external markets, only footwear and leather significantly improved their trade balance, while textiles and clothing widened theirs. The production index in textiles and leather has improved slightly by 2% and in footwear by 4% and it is assumed that signs of recovery in employment may be related to the picking up of production in Central and Eastern European countries.

Supply chain management initiatives such as integration and rationalization of the supply base can result in increased responsiveness and reduced supply chain costs (Christopher, 2000). But due to the high level of vertical disintegration and the extensive practice of outsourcing of production to lower labor cost countries, fashion supply chains are geographically complex with numerous layers of supply chain partners, making collaboration between partners challenging. Furthermore, supply chain management must also incorporate environmental sustainability and corporate social responsibility (CSR), especially when relying on external partners. Environmental sustainability concerns the stewardship of environmental resources such as water, energy and land for future generations. CSR is built on the notion that firms should assume social (and environmental) responsibilities to stakeholders such as employees and local communities, in addition to their financial responsibilities to shareholders (WBCSD, 1999). However, since the fashion industry is one of the world's most polluting industries, with highly complex global supply chains, it remains a challenge to ensure good CSR and environmental sustainability practices are present throughout the supply chain (Perry and Towers, 2013). Although previous literature on CSR and sustainability in Asian and Western European fashion manufacturing companies exists (Welford and Frost, 2006; Yu, 2008; Ruwanpura and Wrigley, 2011; Caniato et al., 2012; Perry et al., 2014), there is a lack of research on how CSR and sustainability is applied in the footwear sector, and specifically in the Eastern European industry.

This paper begins with an analysis of the footwear and leather sector in the Croatian manufacturing industry, focusing on people and educational levels in the sector. It is followed by setting out the theoretical framework of fashion supply chains. For the purpose of this paper, exploratory qualitative research was conducted via an in-depth face-to-face interview carried out with the owner-manager of one Croatian footwear factory. Data is presented in the form of a single exploratory case study. Finally, an integrated conclusion is provided, summarizing the initial results, developing managerial implications and providing suggestions for future research.

## **2. PEOPLE AND KNOWLEDGE IN THE CROATIAN FOOTWEAR INDUSTRY**

As stated in the Croatian Industrial strategy 2014-2020 (Ministry of Economy, 2014), the export of Croatian footwear will represent 60% of overall industrial activity, followed by export of leather products, by the year 2020. Accordingly, it can be concluded that there are great expectations of the importance of the Croatian footwear industry for the Croatian economy. The Croatian leather and footwear sector accounts for 1.2% of all companies, 3.9% of all employees and 1.8% of total revenue in the manufacturing industry (CCE, 2012). The importance of this sector is demonstrated by total revenue increase in the period 2008-2013, as shown in Table 1.

*Table 1: Number of companies, employees and total revenue in Croatian footwear and leather industry 2009-2013 (CCE, 2013) (1 EUR = 7.5 kn)*

<b>Indicator</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
No. of companies	124	127	129	130	128
No. of employees	7.692	8.781	9.026	8.547	9 787
Total revenue (EUR)	291.005.202.4	340.803.699.7	394.365.329.7	400.100.287.5	409.506.062.9

As shown in Table 1, there number of companies remains almost constant, but the number of employees increased in 2013, which indicates that there was additional staff hiring.

The domination by small companies (Table 2) is the main characteristic of the footwear and leather industry in Croatia. In 2013, there was only one large company with more than 250 employees, but it had significantly higher total revenue.

*Table 2: Number of companies, employees and total revenue of Croatian footwear and leather industry according to company size, 2013 (CCE, 2013) (1 EUR = 7.5 kn)*

<b>Footwear and leather manufacturing</b>	<b>Size of company</b>			
	Small (less than 50 employees)	Medium (50-250 employees)	Large (more than 250 employees)	Total
No. of companies	128	4	1	128
No. of employees	4.496	1.541	3.750	9.787
Total revenue (EUR)	100.400.392.9	42.595.704.8	266.509.965.2	409.506.062.9

In the period 2010-2012 there was a decline in net earnings of 7%, while average gross wages fell by 6% (Ministry of Economy, 2014). Average monthly net earnings increased from 2000-2013, as shown in Table 3.

*Table 3: Average monthly net earnings in Croatian footwear and leather industry, 2007-2013 (CBS, 2014) (1 EUR = 7.5 kn)*

<b>Year</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
<b>Earnings (EUR)</b>	353.33	363.07	380.93	382.00	387.73	406.93

Since average net wages in 2014 in the garment and footwear industry are the lowest in the entire manufacturing sector in Croatia (garment industry 403 EUR; footwear and leather industry 425 EUR (CISOK, 2014)), the majority of employees in garment, footwear and leather industry receive net wages of below 425 EUR which is near the poverty line (poverty line: 246 EUR defined in 2011 by CBS).

Educational attainment in this industry sector is relatively low. The largest share of employees achieved high school education (47% in 2012), followed by the share of unskilled workers (26% in 2012). The majority of workers employed in this industry (96%) have secondary education or lower (Ministry of Economy, 2014). The last available published data on professional education in Croatia's footwear and leather sector are from 2008, published by the Croatian Bureau of Statistics and shown below in Table 4.

*Table 4: Persons in paid employment in legal footwear and leather industry by educational attainment, 31 March 2008 (CBS, 2009)*

	Educational attainment										
	Total	University degree			Non-university college degree	Secondary school education	Basic school education	Highly skilled	Skilled	Semi-skilled	Unskilled
	Total	Doctoral	Masters								
Footwear and leather industry	8 707	117	-	1	133	2 910	205	91	1 130	648	3 473

The industry sector is important at the national level as it employs a mostly female workforce, being thus referred to as a “social shock absorber” (AVETAE, 2011, p.29).

The limiting factors in Croatia's footwear and leather industry include high uncertainty in the marketplace, which is subject to constantly changing fashions and short product life cycles, underdeveloped business / production processes, low investment in technology, lack of well-known brands (especially when taking into account the EU market and the world market), and weak competitiveness of enterprises. However, there are also development potentials, such as the availability of quality raw materials (such as quality of raw beef skin), tradition and developed recipes. Proximity to other European markets significantly facilitates and enables delivery speed (Ministry of Economy, 2014).

### 3. FASHION SUPPLY CHAINS AND CSR

In the fast fashion sector, where the focus is on manufacturing the latest trends with short lead times and cost-efficient production, all supply chain partners must be able to quickly react, produce and deliver products to the end customers in order to be competitive in the fashion market. Popular examples that react quickly include Benetton and Zara. Benetton was the first agile company in the fashion sector that managed to satisfy customers' needs in terms of colors that were fashionable for the season, by adopting the concept of postponement of product differentiation and thus match supply to customer demand more accurately. In this case, the traditional dye and knit stages of the supply chain are reversed, with garments being knitted in greige and then dyed, rather than dyeing fabrics prior to knitting (Bowersox et al., 1999). European fast fashion brand Zara achieves “15 days' magic” from designing to delivery of the product in the retail store (Ferdows et al, 2004; Choi et al, 2010).

However, apparel is considered a low-value manufacturing industry and the trend towards faster and more complex garment supply chains leaves behind a negative ecological and societal footprint. The fashion industry is often connected with environmental problems linked to the production process, which is characterized by the intense use of chemical products and natural resources, thus resulting in a high environmental impact (Caniato et al., 2012; de Brito et al., 2008). The manufacturing process is labor-intensive and large fashion retailers rely on a global network of subcontractors in developing countries, which have lower labor rates and large pools of labor. Due to the complexity of fashion supply chains and the lack of visibility and control, it is difficult for fashion retailers to manage ethical issues and there have been numerous reports of poor working conditions in supplier facilities in lower labor cost countries. Indeed, a number of fatal tragedies have recently occurred in supplier facilities in developing countries that supplied garments to European retailers (Burke and Hammadi, 2012; BBC, 2012), culminating in April 2013 and the worst disaster in the history of the garment industry, when more than 1000 lives were lost due to the building collapse of the Rana Plaza factory in Bangladesh (BBC, 2013). CSR and sustainability issues occur not only in the production phase of the supply chain, but also in the post-purchase consumer use

and disposal phase. Current social trends encourage a “throwaway culture” whereby fashion products lose their intrinsic value and consumers are encouraged to replace and dispose of products before their real life cycle has ended (Kant Hvass, 2014). This leads to environmental problems associated with increasing amounts of textile waste being disposed on in landfill sites (Claudio, 2007; Morgan and Birtwistle, 2009).

Since “a company is no more sustainable than its supply chain” (Krause et al., 2009, p. 18), addressing the supply chain perspective is key in progressing sustainability within industry sectors (Perry and Towers, 2013). Supply chain management (SCM) has two very important purposes in the fashion industry: enabling companies to achieving competitiveness and also allowing them to pursue environmental responsibility (Caniato et al., 2012) as well as social responsibility. Through its corporate social and environmental policy, a firm should commit to “behave ethically and contribute to economic development, while improving the quality of life of the workforce and their families as well as of the local community and society at large” (WBCSD, 1999, p. 3).

#### **4. CASE STUDY: CSR, PEOPLE AND KNOWLEDGE IN THE CROATIAN FOOTWEAR INDUSTRY**

Qualitative data was gathered from a single case study organization through key informant interview and secondary sources. The research purpose was not to generalize to any population but rather “to a real world that has been uncovered” (Easton, 2000, p.214). Cases should be selected on the basis that they are rich in information relevant to the phenomenon which is being studied (Caniato et al., 2012; Patton, 1990; Shaw, 1999). Sampling criteria were that the business was a footwear manufacturer based in Croatia that supplied international retail buyers. A face-to-face in-depth interview was conducted with the Managing Director of the case study organization in September 2014, which lasted approximately 1 hour and allowed sufficient time for extensive interaction and deeper themes to emerge. The interview was conducted at the participant’s business premises, using a semi-structured topic guide devised from existing literature. The interview was recorded with the respondent’s permission, and anonymity of company identity was assured. Interviews were transcribed and established qualitative data analysis principles were used to identify cross-connections and relationships within the data (Miles and Huberman, 2002; Yin, 2009).

Initial findings suggest that CSR is evidenced in the case study company. The owner-manager has a positive attitude about CSR, which is focused on people and knowledge management within the company to a greater extent than philanthropic activities for wider groups of stakeholders:

*“There is nothing negative about CSR. My company takes care of employees and invests in their education. However, I do not have extra money for local community because in Croatia there are 30% taxes on giving money to local community (called representation tax).”*

In terms of continuing professional development, the owner-manager explains that his company “organizes seminars very often, and other types of education for employees. Also, we allow them to earn extra money to the workers by allowing them to carry work at home (hand made shoe accessories) after they finish their working shift.”

Furthermore, “acquit communautaire, that Croatia as the State completely accepted by entering EU, regulates, among other things, CSR. National Legislation can be, with its regulations only on the level above as Acquis communautaire is. In Croatia there exists an

*inspectorate for CSR that must make at least one control per year, and more often if required. This inspectorate also informs us about legislation and regulation, and how to implement in our business processes.”*

The positive impact of CSR to the business, in terms of becoming an employer of choice with the ability to attract and retain high quality workers, is counterbalanced to some extent by the increased costs generated from CSR activities:

*“By higher level of CSR, we are a more desirable employer, which allow us to have better and more skillful workers, but this impact is denied by higher expenses (CSR level generates some costs also). High impact would be globally regulated level of CSR in order to have the same costs in all countries.”*

The owner-manager perceives CSR to be very important for people and knowledge management in the firm, in terms of attracting and retaining skilled employees, which supports the ability of the firm to grow and expand:

*“We are the production facility that constantly grows, year after year. In order to do so, the first precondition is to retain committed employees with experience who transfer their knowledge to new employees (educational system in Croatia does not provide employees that can start working immediately). Employee commitment is gained by good working conditions, correct and honest relations among workers and management, and possibilities of promotion: in other words, a high level of CSR. New employees more likely choose the company structured as such. Our strategy is constant growth of company assets, market share and number of employees. Therefore CSR is of vital significance for our company.”*

Although the owner-manager is aware of CSR's importance, he acknowledged the negative influence of supply chain pressures such as demand for lower costs or shorter lead times on his CSR efforts:

*“In the situation of decreases of income, first thing where you save are donations, then all you provide to workers and is not required by law, and at the end, as the last measure, before dismissal of the workers, cutting down the wages. Last measure is decapitalisation. All those measures are decreasing the level of CSR.”*

## **5. CONCLUSION AND FURTHER RESEARCH**

As Croatia became the 28th Member State of the European Union on 1 July 2013 and consequently became more interesting for European investors, it has to concentrate on CSR initiatives and workers outcomes. In the observed case study company, the owner-manager is aware of the importance of CSR implementation into his business activities. The findings confirmed previous research which proposed that CSR standards became a differentiating factor that attracted the best quality workers in a competitive labour market (Perry and Towers, 2013).

Within the case study company, CSR initiatives are solely focused on one group of stakeholders: employees. The case study company provides seminars and education to employees and as the majority of employees in footwear sector are unskilled workers, every effort in promoting further education is very welcome. This has clear benefits for people and knowledge management in the organization. Providing extra earnings to the workers is also a

benefit that can be seen as a CSR activity. The findings also confirm previous academic research that concluded low-cost sourcing locations are increasingly focusing on CSR and working conditions as a means of attracting and retaining good quality employees in labour-intensive industry sectors (Perry and Towers, 2013; Handfield and McCormack, 2005.)

Almost all activities that are considered as CSR from a people and knowledge perspective in this case study are initiated by legislation and regulation. Therefore it can be concluded that the owner-manager is not fully aware of the positive consequences that he could bring by adopting as many as possible CSR initiatives and not only by following the law but going beyond regulatory requirements and thus truly embracing the voluntariness dimension of CSR. Currently, there was no evidence of CSR activities being implemented as a means of building corporate reputation or developing a license to operate in the wider stakeholder community.

This exploratory case study provides insight that will inform further research and ongoing data collection seeks to build a multiple case study database.

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## **INFLUENCE OF FINANCING SOURCE ON THE SMALL BUSINESS PERFORMANCE**

**Mihaela Mikic**

*University of Zagreb, Faculty of Economics and Business, Croatia  
mihaela.mikic@dfzg.hr*

**Tomislav Novoselec**

*novoselec.tomislav@gmail.com*

**Dinko Primorac**

*University North, Croatia  
dinko.primorac@unin.hr*

### **ABSTRACT**

*Finding funds for financing entrepreneurial venture often presents most difficult obstacle in realization of entrepreneurial idea. During this process choosing the source of financing represent the special challenge. Although in first it may look there is a wide selection of source of financing as: private equity, business angels, public finance, etc., in practice entrepreneurs usually depend on their own assets, informal investors and debt financing. This paper gives detail overview of possible source of financing for new and already existing entrepreneurs. Based on conducted research and multiple linear regression analysis is defined influence of individual source of financing and small business performance. As profit represents the core motive for entrepreneurship, these research findings should be entrepreneurs' guidelines in choosing the source of financing their venture.*

**Keywords:** *business angels, business performance, private equity, small business, source of financing*

### **1. INTRODUCTION**

Like everywhere in the world, small entrepreneurship in Croatia is the most important generator of development, it opens new workplaces, encourages sole proprietorships and innovation, increases production and export, and thus creates added value. Role of these companies is not only in economic spheres of society, but also in social, cultural and historic spheres. Due to their contribution to employment, creating GDP and export, sole proprietorships represent a huge part of Croatian economy. Small and middle sized companies (SMEs) encompass 99.6% of total number of registered businesses in 2012. Out of that, 98.3% are small sized and 1.34% are middle sized businesses. Share of small businesses in employment in 2012 recorded a growth compared to 2011 and now stands at 67.04% (49% are small sized and 18.04% are middle sized businesses). At the same time, SMEs constitute 43.06% of total Croatian export, 21% are small businesses, 22.6% are middle sized businesses (HGK 2014). Small activity in new ventures, small share of growing companies, administrative barriers, under-developed financial market (too dependent on traditional instruments) and lack of education focused on honing entrepreneurship knowledge and skills are main traits of small businesses in Croatia.

Financial resources are needed for realization of every idea and innovation. Financial requests have a tight bond with business strategy, which in interaction with financial strategy enables creating added value and raising the level of competitiveness. Without financial resources it is impossible to realize new good business ideas. When a business is started, financial resources are ensured from owners own sources. With growth and development of a company,

requirements grow with them, and so possibility to finance come from many different sources. Each stage of a company's life cycle has different sources of financing. In earlier phases personal assets, loans from family/friends and micro loans present key financing resources, while in later phases they can be expanded with equity funds, business angels (as informal investors) and public financing. Small businesses face many barriers in their life cycle and financing is one of the most common to appear and hardest to overcome.

## **2. POTENTIAL SOURCES OF FINANCING**

### **2.1. Self-financing**

When launching a business, every entrepreneur must first turn to his own personal property. Although entrepreneurs prefer to invest only someone else's capital to reduce their risk, banks and other investors require capital investment by entrepreneurs as a sign of faith in the venture. The largest part of their funds is personal savings they've acquired over the years. The funds presented as savings can be found at the current bank accounts, saving bank accounts or in the form of effective money. There's a positive correlation between savings and probabilities, it is a cause - effect relationship characterized by great likelihood that a person will start a business venture if it has a larger amount of savings, on the one hand, and that he/she will generate greater amounts of savings if he/she engages in running a business, on the other (Hurst and Lusardi, 2006). Likewise, savings (wealth) is concentrated by entrepreneurially active people and entrepreneurship is a powerful factor which affects the level of aggregate savings (wealth), and thus the aggregate consumption (Gentry and Glenn, 2004). Surveys show that the majority of entrepreneurs in Croatia opted for entrepreneurship out of necessity (GEM, 2013), so an important source of self-financing is redundancies that can reach very high amounts. The next type of self-financing is personal debt that can be result of overdraft on current account or credit card. Among these, personal loans are suitable for settling short-term liabilities and are sometimes used in order to achieve tax benefits on such loans (Grgić, Bilas and Franc, 2011).

When they exhaust their own sources of financing entrepreneurs turn to informal investors, friends and family. Unlike other investors family members and friends are often more patient and don't interfere in the way entrepreneurs conduct their business. Also they usually do not sign formal contracts and the contractor doesn't pay any interest (if they exist they are insignificant) for the borrowed funds. Information on the return and the potential benefits are also informal (Skrtic and Mikic, 2011). Repayment period of the borrowed funds is often flexible and it adapts to the undertakings' capabilities, and the borrowing decision depends on the personal trust in the entrepreneur as a person. Because of the mutual relations of family members or friends and business drivers, they will prefer to invest in entrepreneur's investment than decide to hold cash or invest in other investments (Scarborough and Zimmerer, 2009). In this case there may be conflicts between entrepreneurs and family or friends, and the main causes of disagreement are usually unrealistic expectations or misunderstood risk by those who have invested in venture project. In order to avoid distortion of relations, the entrepreneur must honestly and realistically present strengths, weaknesses, opportunities and threats of the project and the nature of the investing risks.

If we talk about financing of the existing company, then we need to mention another form of self – financing, which in this case is the most important, financing from business retained earnings. There are two options that a company can use if it makes profit. One is to reinvest the acquired funds in the business to help them achieve new value added, and the other option is to distribute its profits to owners in the form of dividends.

## **2.2. Debt financing**

The most common form of debt financing is a bank loans. Such financing can be shortterm or longterm and is marked by giving collateral as insurance of payment by entrepreneurs. It is for this reason that this type of financing is difficult to apply to businesses that are at the very beginning of their life cycle. Bank wants proof of successfully conduction of business and real evidence of stable sales and the ability of products or services to generate adequate cash flows to ensure the repayment of the loan, and therefore they insist on collateral when financing entrepreneurial projects in early stage of development. In assessing the requirements for lending resources, banks focus on the ability of the company to generate cash flows since it will continue to serve for servicing the loan. Other forms of debt financing include: trade credits, factoring and leasing. Trade credit is given by the supplier (also called loan of manufacturer to the customer), and is implemented through the granting of loans under a contract for the delivery of goods with deferred payment, usually 30 to 90 days. Suppliers often use this type of financing to attract new customers, and customers or contractors use it as a way of acquiring the additional working capital. Since these loans are often not linked to interest payments, entrepreneurs often use it in their daily business. Factoring, as a form of debt financing, represents a form of shortterm financing on the basis of sales of short, in general, unsecured assets of enterprises (primarily trade receivables without collateral payments) to specialized financial organization, which is called a factor. These financial institutions may also provide other services, such as claims management and underwriting payment from the debtor. Factoring regularly represents a shortterm rating with a large circle of regular customers and large annual turnover and is often not an option for small businesses. Leasing is a form of financing that is based on the idea that it is better to use the object of leasing than to buy it. It allows the user to obtain any equipment or property for use during needed time, rather than to buy it. By leasing, SMEs can obtain manufacturing and other goods without spending their own funds and without taking expensive loans in the financial market, and allows compensation for the use of subjects on the principle of "pay out of what you earn." There are two types of leasing: financial and operational. Financial leasing is a basic contract period of the lease, in which one of the contracting parties can't cancel, it is designed as a "contract of full amortization," which means that the user, during the duration of the contract paid the full value of the service (where the costs of maintenance and obsolescence of subjects bears the recipient). On the other hand, operating leasing represents a shortterm contract for the lease that can be terminated at any time (under the terms of the agreement), it lasts less than the economic life of the subject, the fee is smaller than the value of the object, so the service is depreciated only by a portion of their expenses and assumes the risk of obsolescence and maintenance costs of leased items. Also after the expiry of the lease entrepreneur can (if the contract was concluded) redeem the subject of leasing. In operations of European companies leasing is mostly used for the acquisition of transport equipment and machinery, and technology (European Commission, 2013). Leasing purchase of equipment allows small businesses to keep up with technological change and to preserve their technological competitive advantage.

## **2.3. Equity capital**

Venture capital funds are a form of equity financing, and represent funds for medium and longterm investment in companies that typically are not listed and have high growth potential (Cvijanovic, Marovic and Sruk, 2008). These funds are known under the name of private equity funds and by the Investment Funds Act of Republic of Croatia defined as mutal venture capital funds with a private offering (150/05). Venture capital funds usually invest in companies that are engaged in hightech service sectors such as Internet, communications,

information technology, biotechnology, etc.. To attract capital, company must primarily have potential for rapid growth. The process of obtaining capital is rigorous and requires entrepreneur to professionally prepare project documentation with longterm business plan. When a venture capital fund accepts an entrepreneurial project follows an agreement on all relevant business issues with special emphasis on the management team. Venture capital funds do not buy more than twenty to forty percent ownership of the company, since the purchase of a large stake would reduce the enthusiasm of entrepreneurs to manage the company. The dynamics of investing funds in an entrepreneurial project is not always a one time investment; instead, if it comes to large amounts, it can be realized in several phases. Acceptance of this form of financing requires a waiver of part of ownership by the entrepreneur, and sometimes loss of control over operations. Business angels are individuals or groups that provide capital for financing new business projects. Most often these are wealthy individuals who are looking for entrepreneurial ventures (projects) in which they would invest their own resources in exchange for the acquisition of shares of those companies (Garaca and Marjanovic, 2010). This is an informal form of investment whose holders are highly educated business people who invest their funds in start up projects with high potential of growth. This implies that angels expect a high annual return on investment and a multiple increase of the initial investment after a few years when they decide to retire from the business (Figar, 2010). The reason why they are willing to accept such a degree of risk is that one investment is only a tiny fraction of the total portfolio of personal investments that angels make (Vasilescu, 2009). On capital market business angels fills the gap between the founders, family and friends on one side and the venture capital funds on the other, and therefore have a key role in the financing of SMEs, particularly innovative businesses and businesses with high growth potential. In some cases, firms choose to raise capital through the public sale of shares in the capital market, so called going public. By analysing the strengths and weaknesses of public offering, we can conclude that going public primarily allows the entrepreneur to collect large amounts of capital, but not without consequences. For some businesses, the consequences are too big. Most entrepreneurs enter entrepreneurship with the goal of independence and creating something of their own, so the loss of independence in decision making and conducting business, shared ownership and a sense of "accountability" are simply too big sacrifice that most entrepreneurs are not ready to make. For those entrepreneurs who enjoy the fact that their company outgrew themselves and who want to try some other challenges, public offering is a good way to achieve that dream. Once an entrepreneur, a small business owner, weighs all the pros and cons and decides for public offering he will meet with the formal problems. Today in the world there are only a few specialized stock exchanges for SMEs, of which the most important for Croatian entrepreneurs is AIM (Alternative Investments Market) in London. AIM London is the largest and most liquid world market for growing SMEs, and its biggest advantage over other stock exchanges is that it belongs to the London Stock Exchange which brings listed companies many advantages and great number of competitors as well.

### **3. CHOOSING THE SOURCE OF FUNDING**

Raising funds for launching an entrepreneurial project is a big challenge for every entrepreneur. Constant changes on the market only make the mentioned challenge more difficult. When selecting sources of financing entrepreneurs need to consider the following factors (Stokes and Wilson, 2010):

- legal forms of conducting business
- phase of enterprise life cycle
- the nature of funds

Companies with more complex legal forms of conducting business, such as public limited companies, will have an increasing number of opportunities related to funding the company, while those with simpler legal forms (sole traders) will be much more limited in terms of the diversity of funding sources. Thus, for example, sole traders can't get access to equity capital because there is no possibility of selling shares of the company.

At different company life cycle stages (start up, growth, differentiation, consolidation, liquidation) company will require increasing amounts of resources for growth and prosperity of business. The needs for financial resources of a recently founded company and one that has a long tradition of conducting business are not the same. It is essential that strategy and structure of the company are changing along with the changes in the life cycle and therefore business conditions, and indirectly the needs for financial resources will also change. Funding problems are encountered mostly by entrepreneurs who are at the very beginning of their entrepreneurial adventures, so at the very beginning, funds come from entrepreneurs, friends, relatives, business angels. Banks are reluctant to finance new business ideas for entrepreneurs usually can't provide adequate collateral. On the other hand, the venture capital funds are usually not interested in these investments because for them the amounts of profit are very low. In the next stage, the resources are needed for the development of the business idea and its expansion, so for the entrepreneur, through well developed business plan the possibility of using others financing resources is opening up. When a company occupies a certain market position through quality business it will have a full range of possible sources of funding available.

In the case of fixed resources, financing is mostly carried out through owner's equity, and funding source is most often seen in the proportion of entrepreneur's ownership (in the form of shares) in the company or personal loans of entrepreneurs or their partners. This serves to cover the initial operating expenses or new product development in the stage of development and expansion. Unlike fixed assets, current assets are covered by shortterm financing and are used to cover operating costs and often the procurement of rolling stock. Financing assets carried out through medium and long term financing (3 – 10 years) is used for the acquisition of plants, machinery, equipment, while making sure that credit conditions correspond to life expectancy (or shorter) of the underlying assets. In financing sources entrepreneur should pay attention to the potential problems that are presented by exchange rate fluctuations, requirements and safety charges.

## **5. SMALL BUSINESS FINANCING IN CROATIA**

### **5.1. Methodology**

Population of this research is all Croatian small businesses. Small business has maximum of 50 employees and size data are available in the register of business entities at Croatian Chamber of Economy. Research sample consists of 350 small businesses from various business activities: manufacturing, construction, wholesale and retail sale, repairs of motor vehicle and motorcycles, and objects for personal consumptions and households, transportation, storage and communications. Research was conducted via electronic mail, and rate of return is 11.71%. Regardless relatively small percentage of return, given sample is sufficient for relevant analysis and impact assessment of choosing financing source on small business performance. Questionnaire was answered by owners of small business, ie small entrepreneurs.

Determining financing sources was done by using five-level Likert item scale. Financing sources include: self-financing by entrepreneur, informal investor (3F), venture capital funds and business angels. This research was based on acquisition of self-selected, subjective answers about the financial and non-financial performance of the firm from the entrepreneurs

of the retained sample companies with an effort to reflect its multi-dimensionality. Business performance was operationalized accordingly by Gupta and Govindarajan (1984) where the respondents were asked to rate the extent to which stated financial and non-financial indicators are important for their business, and subsequently, to assess the extent of satisfaction with the achieved performance of these indicators. For this purpose three financial and three non-financial indicators were used; each of the indicators was measured with three questions using a five point Likert scale. Financial performance represents the key of business effectivity and it is considered important, but not self-sufficient for defining business performance (Murphy et al., 1996). We used these indicators of finance performance:

- total profit
- ROA
- ROE.

Business performance represents market oriented components and includes indicators of total revenues and market share. This definition was subject in numerous researches (Koufopoulos et al., 2010; Postma, Zwart, 2001)

Multiple linear regression method is used for the prediction of the dependent variable on the basis of the insights that can be obtained from a number of independent variables and for determining the nature and relationship between these variables and the variables used to measure the quantitative scale. Standard methods of multiple linear regression is used and all independent variables entered into the regression equation simultaneously in order to explore the relationship between the entire set of independent variables and the dependent variable. For the evaluation of the strength of relations among variables the regression coefficients and t-test is used.

## 5.2. Sample characteristics

We gathered responses from 41 small business. The biggest part of questioned business is from construction 37% and wholesale and retail sale 29% (Figure 1). The majority was founded in period of 1990 to 2000, average year of foundation is 1996, and the modal year is 1991.

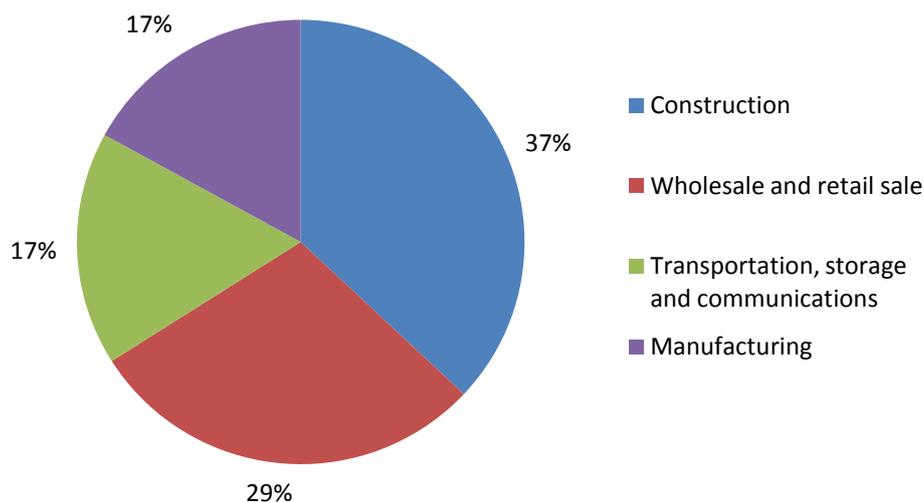


Figure 1: Distribution of the business according the business activity

As main reason for using self-financing entrepreneurs stated completely ownership over the resources 24%, no interest rates and monthly payments 23% and independence in disposing resources 22% (Figure 2).

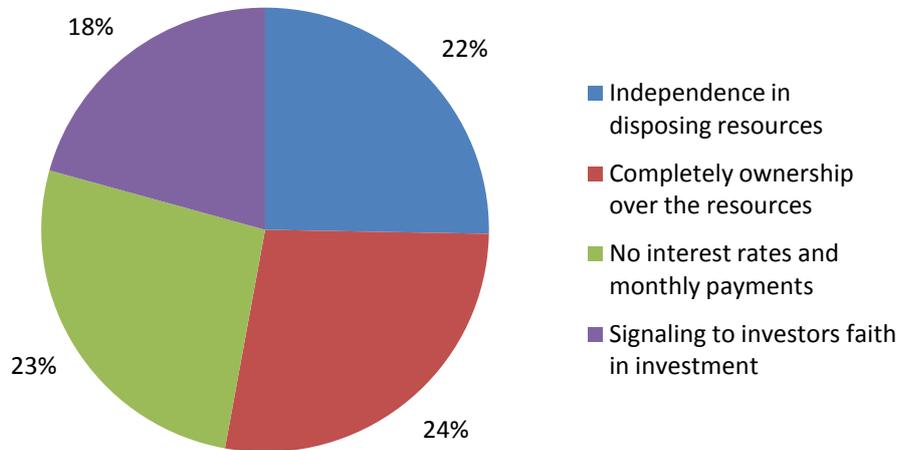


Figure 2: Reasons for using self-financing

Most common source of self-financing is savings through the years 34%, and from other sources inheritance and selling of the personal property (Figure 3) Personal debt financing and current account overdraw are least represented, which can be interpreted as willingness of entrepreneurs to stay independent in disposing resources without attachments to interest rates and terms as in the case of bank loans.

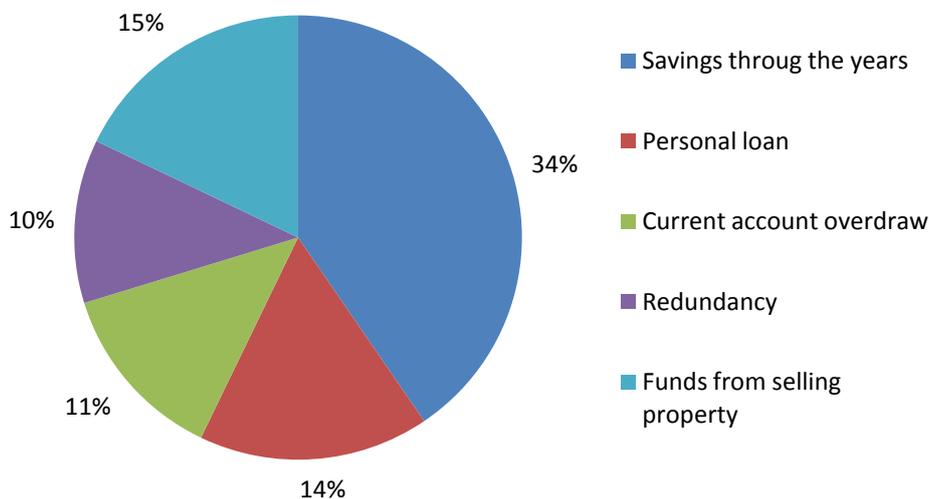


Figure 3: Source of personal property

As for the entrepreneurs who used the loans to family/friends to finance business equity, 65% of them stated these reasons for using this form of financing: no detachment deadlines and high interest rates and the fact that family members/friends will not interfere with their way of doing business. Interesting is that the 35% of the sample did not use any borrowings from family/friends to finance equity (Figure 4).

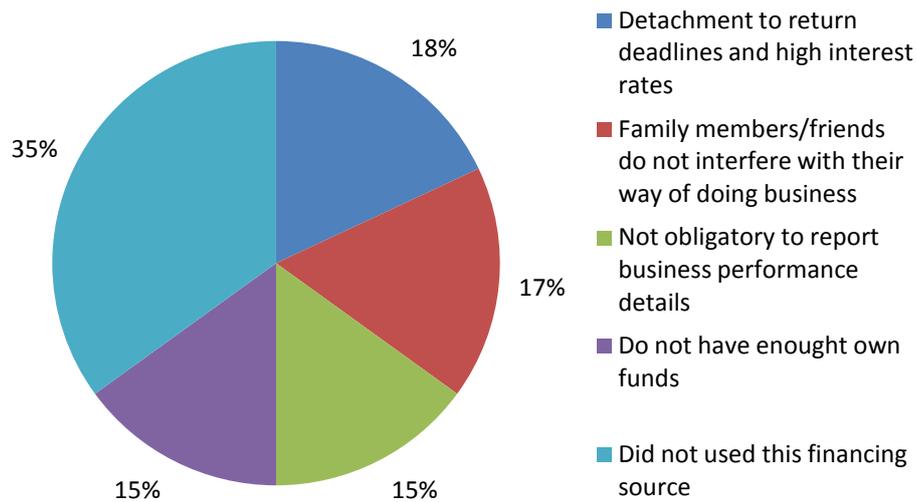


Figure 4: Reasons for using funds form family/friends

The other interesting finding is that 44% questiond entrepreneust said that the concept of venture capital is completely unknown to them. Only 41% of respondents answered that they have heard of venture funds, but are not familiar with possibility of using their finance resources (Figure 5).

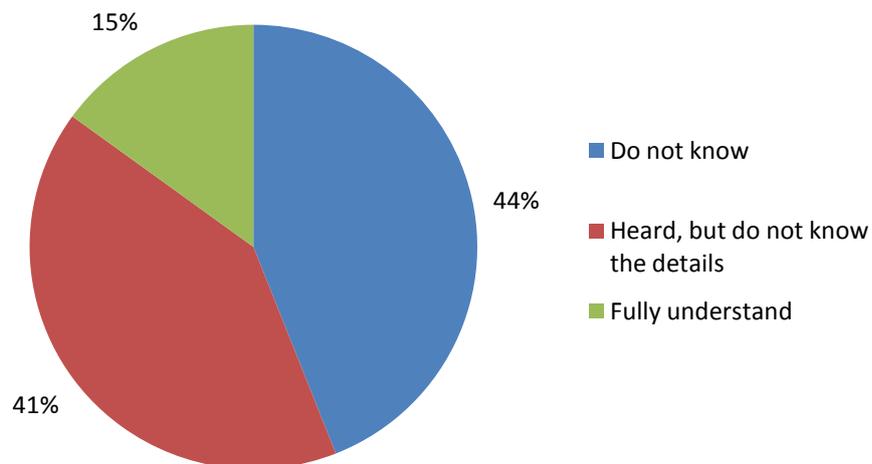


Figure 5: Familiarity of venture capital funds

Even worse indicators relate to knowledge of the term of business angels and their advantages and disadvantages. Only 15% of respondents is fully aware of business angels (Figure 6). At the same time, to 59% of entrepreneurs business angels are completely unknown concept. The above shows an extremely negative trends of Croatian SMEs, and states the area within is necessary to conduct additional training of entrepreneurs in order to improve these negative trends.

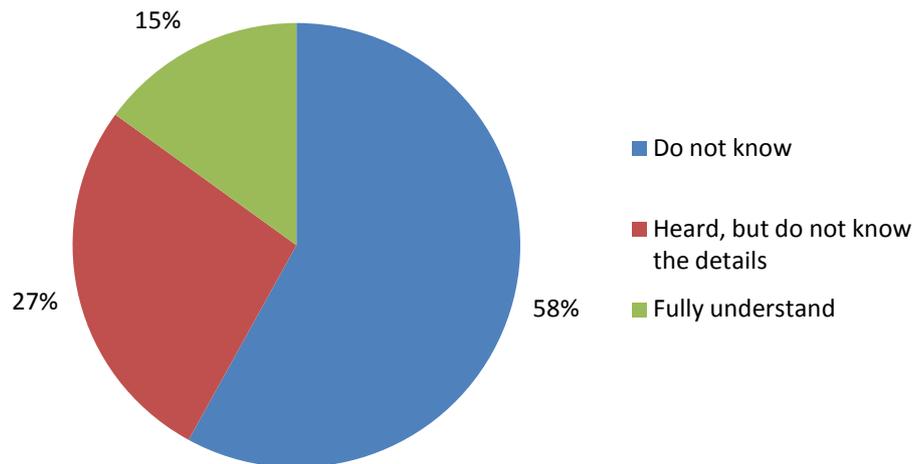


Figure 6: Familiarity of business angels

As conclusion it can be stated that the Croatian small businesses or entrepreneurs show a more traditional approach to finance business equity. Majority of financing is based on their personal property and only a small part on the borrowed funds from family/friends or informal investors.

### 5.3. Results of multiple linear regression

Regression equation is:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_i$$

Y = business performance

X<sub>1</sub> = entrepreneur's savings

X<sub>2</sub> = funds form family/friends

X<sub>3</sub> = bank loans

In the above regression equation venture capital funds and business angels are exempt as previously mentioned results show that questioned entrepreneurs did not use their funds for financing their business venture.

The business performance(Y) is the dependent variable and is measured as a weighted average which is obtained through multiplying the importance and satisfaction for each individual criterion. Criteria used are: (1), Financial performance: company total profit, profitability of total assets (ROA) and return on equity (ROE); (2) Business performance: total revenue and market share. The independent variables in this model represent the types of financing that take three modalities: personal property of entrepreneur, fund from family/friends and bank loans.

The outcome of a multiple linear regression using method of least squares (Table 1) show estimated equation model of the impact of financing source on small business performance as follows:

$$\hat{Y} = 0,14 + 0,67X_1 - 0,37X_2 + 0,49X_3$$

*Table 1: The outcomes of the multiple linear regression (financing source/small business performance)*

N=41	Coefficient	Standard deviation	t(41)	p-level
$\alpha$	0.136546624	0.769284092	0.177498	0.860085165
X <sub>1</sub>	0.66667436	0.120485453	5.533235	0.0000026921391
X <sub>2</sub>	-0.369496985	0.251370055	-1.46993	0.150032975
X <sub>3</sub>	0.489712921	0.128733438	3.804085	0.000516709

Statistics	Value
Multiple R	0.698670101
Multiple R <sup>2</sup>	0.48813991
Adjusted R <sup>2</sup>	0.44663774
F(3,37)	11.76179259
p	0.0000147744

Contribution of financing sources to explanation of business performance is satisfactory because it explains 48.81% of variance, on the whole population is 44.66%. This data is significant as a source of financing is one of the most influential factors of business success - but not the only one. There are many other factors that affect business performance - both on the internal as well as external level, which in this analysis was not included. Regardless of the high coefficient of multiple linear determination, the impact of the financing source on small business performance is highly significant ( $p < 0.01$ ).

Personal assets of entrepreneur has a positive impact on business performance ( $\beta_1 = 0.67$ ,  $p < 0.01$  - significant at 1%). The above result was expected because when investing their own funds entrepreneurs are acting and making decisions more prudently. As an entrepreneur invests his savings accumulated for years, thereby risking the financial stability of your family, it is logical that he will be managing it more responsibly while avoiding investment in high-risk activities. In this case, we can say that the entrepreneur takes reasonable assumption of risk when making business decisions.

And financing through bank loans has a positive impact on business performance ( $\beta_3 = 0.49$ ,  $p < 0.05$  - significant at 5%). The reason for this can be found in the complex procedure of loan approval which credit institutions protect against bad loans. When applying for funds, entrepreneurs are responsible for providing high quality and systematically developed a business plan which covers all areas of the business in order to reduce potential operational risks to a minimum. By doing so, companies are obliged to comply with the plan. At the same time, the bank will only approve funding for promising projects that have a certain economic potential. In this way the bank invests only in ventures that promise a return, so it is logical that between bank loans - as a form of business financing - and the business performance we have a positive link.

Interesting results showed that analysis of the impact of funds from family/friends on small business performance. Results of the analysis indicate a negative relationship ( $\beta_2 = -0.37$ ,  $p = 15$  - significant at 15%). This is explained with very informal relationship that exists between entrepreneurs and investors mentioned. As the landing of the funds is usually based on acquaintance and relationship with the entrepreneur, or trust, all the information about the entrepreneurial venture and the potential returns are usually verbal. The lack of formal developed business plan that will provide an objective picture of the business venture potential may lead to worse malpractice risk management operations, thereby to achieving

poorer financial results. Also, entrepreneurs are often turning to family and friends when they exhausted all their own available funds or personal property and at the time when they can no longer get any bank loans. The most common reason is high-risk from non-viability of a business project or already high indebtedness of entrepreneur.

The research results bring answers to many questions related to the Croatian small businesses and ways to finance it, but also many questions remain open for further research. Additional limitation is the scarcity of data on business performance in the Republic of Croatia so the quality of doing business is still incomplete. A small sample represents a kind of restriction regarding the use of inferential statistics and advanced statistical models for more detailed and better analyses.

## **5. CONCLUSION**

Finding and selecting sources of financing is a significant problem in implementation of Croatian entrepreneurs' ideas. Although they have available many sources of financing, as shown in this paper, they usually use only three types: personal property of entrepreneur (self-financing), informal investors (family and friends) and bank loan. The reason for this lies in the lack of knowledge of other forms of financing that are at their disposal, such as venture capital funds and business angels. Also, stated unwillingness of investors to finance entrepreneurial ventures in the initial phase of the life cycle or to finance such "small" amount does not help. The limiting factor in finding funding represents a legal form of business, which entrepreneur is not usually aware of when starting a business.

The empirical research has shown that there is a positive relationship between self-financing of the entrepreneurial venture or investment of his personal property, and small business performance, and above is explained by the fact that such firms conduct much more sensibly risk management. Entrepreneurs are investing savings gathered through the years and inherited assets, the reason is completely ownership over the resources, no interest rates and monthly payments and independence in disposing resources. The reverse situation is present when borrowings from family/friends. Results of multiple linear regression show a negative correlation between this form of financing and business performance. The main reason for borrowing from family/friends is detachment to high interest rates. The fact that family members/friends do not interfere in doing business, is the second most common reason for using this type of financing. Financing through bank loans positively affects the achievement of successful business results, and one of the reasons is systematically and holistically developed a business plan that is needed for obtaining bank funds. Croatian small businesses show a more traditional approach to funding equity, the majority of funding is based on the personal assets of the entrepreneur (in 2012 the average proportion of self-financing was 80.14%), and only a small part is based on the borrowed funds from family/friends and bank loans. Precisely for this reason, the Croatian entrepreneurs should through education for entrepreneurship, improvement of technical and technological knowledge and skills, and international entrepreneurial practices adopt the best European (global) trends in entrepreneurship so their work and business efforts could result with a long term national and international competitiveness.

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## RESILIENCE IN THE ROMANIAN FOOD PROCESSING SECTOR

**Silviu Stanciu**

*Bucharest University of Economic Studies, Romania,  
sstanciu@ugal.ro*

### ABSTRACT

*Is the Romanian food industry adaptable to critical situations? Production and food sales could be affected by a number of risks, with a general or specific action. Food quality is achieved by the manufacturer, the merchant maintains it and it is ascertained by the consumer. The Romanian food sector is largely dependent on imports, although lately there have been important advances. The global or local crisis, the old or recent issues such as the bovine spongiform encephalopathy - BSE, Scrapie – TSE, avian flu influenza - H5N1, beef substituted with horse meat, food contaminated with various pollutants, altered meat have an influence on the Romanian market and the food processing sector. Business continuity and increased resilience in critical situations are fundamental objectives for the Romanian food processing sector. More or less justified, 28 alerts were issued to the national food industry last year. The paper proposes a review of the recent critical incidents that have had an influence on the local production of animal origin food, the food incident domestic processor response and the effects on trade and consumption.*

**Keywords:** *critical incidents, food processing, the food market, resilience, risk*

### 1. INTRODUCTION

By means of the food chain the necessary food for the population are ensured. According to Goldberg (1968), the food chain is defined as being all the economic agents involved in the production, transformation and marketing of a product. Malassis and Ghersi (1992), quoted by Turek and contributors (2009), consider the food chain as being the itinerary covered by a product or a group of products within the food chain, including a set of agents (enterprises and administrations) and operations (production, distribution and financing) involved in product transfer and manufacture up to the usage final stage, the flow adjustment mechanisms, the factors and products along the food chain and in the final stage. The food chain capacity to face some critical situations is essential for the functioning and for food continuity and rhythmicity insurance, being part of the country's food safety policy. As general definition, resilience is a notion specific to materials science, being used to characterise material behaviour to mechanical shocks (DEX, 2014). Oxford dictionaries (2014) defines resilience as "the ability of a substance or object to spring back into shape; elasticity" or „the capacity to recover quickly from difficulties". From the materials science the term "resilience" has been extrapolated for other domains, too (agronomy, medicine, psychology, economy). The studies regarding food chain resilience in Romania are few. The term is relatively new for the Romanian economy, being used in the Rural Development National Plan 2014 – 2020 (MADR, 2014) in order to illustrate the food, agriculture and forest sectors adaptation to climatic changes, taken from the European Union Council documents (2011). In the scientific papers from abroad the term is frequently used. Dăianu (2013) uses the term "robustness" for „resilience", trying to define the behaviour of a human habitat system that includes a technological and infrastructural component with a high degree of complexity in a national economy analysis. The two notions are not identical, according to Asbjørnslett (2009), who makes a difference between them ("robustness is a system's ability to resist an accidental event and return to do its intended mission and retain the same stable situation as it had before the accidental event. Resilience may be defined as a system's ability to return to a new stable

situation after an accidental event. As such, robust systems have the ability to resist, while resilient systems have the ability to adapt”, *Supply Chain Risk*, p. 18). The Cranfield Centre for Logistics and Supply Chain Management, Cranfield University uses the term in a series of scientific papers that approach risk in the food chain. Christopher and Peck (2004), in a study financed by the UK’s Department for Transport analyses the resilience of economic activity to all sorts of potential threats. Peck (2006), in a study carried out for the UK Department for Environment, Food & Rural Affairs, assess the extent according to which the British food chain is prepared to handle critical situations. The Centre for Resilience, Ohio State University, presents a selection of papers on resilience in science and engineering.

## **2. MATERIALS AND METHODS**

For research, there have been used the following: scientific articles, technical treatises, specialised publications of the authorities or of specialist associations from the food domain. For statistical data we have used national, community or international databases. The statistical processed data have been graphically represented in tables/graphs, analysed and interpreted. As specific indicators, there have been used the evolution of livestock numbers, the food chain sector share within national economy, time and date series, fixed base index etc.

## **3. THE ROMANIAN FOOD SECTOR EVOLUTION**

The food sector plays an important part within national economy. From the point of view of its share, in 2013 Romanian agriculture contributed with approximately 5.8% to the GDP, and the food industry with another 5.4%, reaching an aggregate value of 11 – 12%. Romania's economic growth, with approximately 3.5% in 2013 is mainly due to industry, which participated with 2.3 points to the growth, the agriculture's contribution being of 1.1 points. In absolute values, in 2011, the food industry had a contribution of 30 billion lei added value, representing over 25% out of the 121 billion lei contribution of the processing industry, and almost 20% of the 160 billion lei gross value added by the whole industry to the GDP (Pâslaru, 2014).

The food production domain suffered a fluctuant evolution in Romania after the changing of the communist regime in the 1990's. Thus, the transition from a centralised production system, with aggregation of the farmland, a well-established irrigation system, sufficient and well-trained workforce, an intensive usage of inputs (chemicals and fertilizers) to a decentralised system with fragmented farmland, with small farms led to production decrease in all agricultural sectors. Agriculture’s contribution to the GAV (Gross Added Value) decreased continuously after the 1990’s, reaching 12% in 2000, going under 10% in 2005 and consecutively reaching minimum thresholds in 2007 (6.5%), 2010 (6.7%) and in 2013 (5.8%) (Figure 1). According to World Bank (2003), the decrease in gross agricultural production from 1990 until 2000 is not due to the changes brought about by the 1989 revolution, the decline being started since 1985. According to the AMPNADR report (2013), in 2011 agricultural production was dominated by the vegetable sector (67.5 %), being double as compared to the livestock sector (31.6%) (Figure2). The food industry, correlated with agricultural production in the old regime decreased dramatically, making the Romanian market dependent on imports.

The trade balance for food products has always been unbalanced, constantly recording a deficit from 1990 until 2010. Therefore, in 2004 the deficit was of 1.06 billion euros, reaching a maximum of 2.2 billion euros in 2007. The great increase in primary processed agricultural product exports after Romania joined the EU led to the decrease in deficit up to a value of 0.43 billion euros in 2012. From 2007 until 2011 the trade balance for processed food

products reduced its deficit with over 20% (The Romanian Centre for Foreign Investment and Commerce Promotion CRPCIS, Dumitrescu, 2012). In 2012, Romanian exports surpassed imports for a series of food products, a surplus of approximately 554 million euros being recorded for vegetables and 963 million euros for cereals. According to Botănoiu (2014), 2013 is the first year with a positive balance of 331 million euros, due to vegetable exports, which were greater than imports with approximately 1,533 million euros. For processed foods, drinks and tobacco there is still a deficit, which is maintained around an average value of approximately 880 million euros per year.

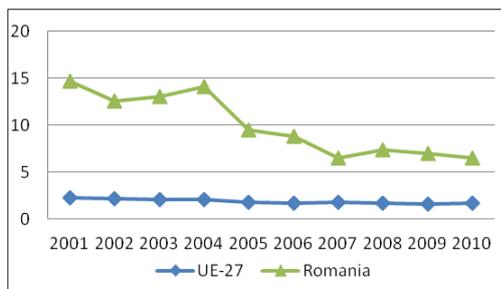


Figure 1. The gross added value share in agriculture, hunting and fishing at GAV (taken from AMPNDR, 2013)

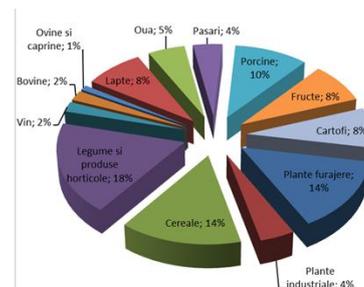


Figure 2. Romania's agricultural production structure in 2010 (taken from AMPNDR, 2013)

Joining the EU and OTAN led to the increase in the foreign investment capital appetite for the Romanian food sector. Thus, local agriculture attracted the external investors' attention, the level of foreign investment being of over 1.4 billion euros in 2012 (Nițu, 2014). The most important investments were made in land, also favoured by market liberalisation beginning with January 2014 (some purchases were probably speculative, taking into account the relatively low price for the arable land as compared to the rest of Europe) or in livestock breeding (Stanciu, 2014). The industrial infrastructure from the food domain received a series of foreign investments, which led to the development of some new production units and to modern technology implementation. The generous natural potential, workforce availability, the OTAN community member quality represented factors that contributed to the external capital influx (Stanciu, 2014). Romania recorded important progress in the chicken meat (Figure 1) or sheep meat production (Figure 2).

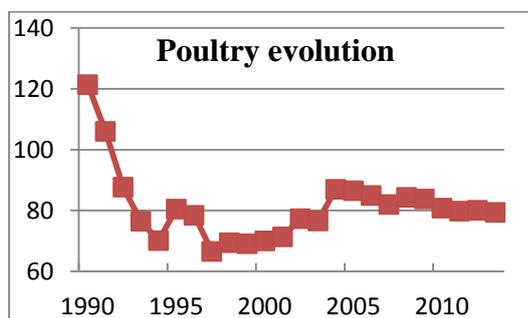


Figure 3. Chicken flocks evolution 1990-2013 (INS data processing, 2014)

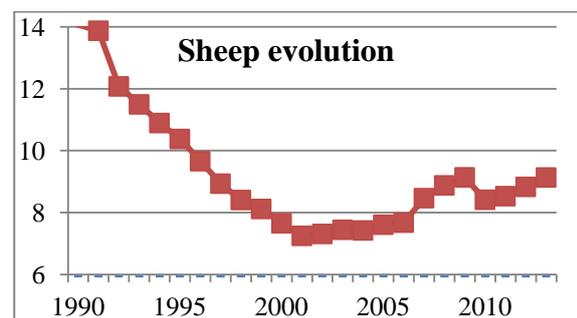


Figure 4. Sheep number evolution 1990-2013 (INS data processing, 2014)

A positive evolution was recorded by the number of units from the food industry complying with the ANSVSA requests (figure 5). In Romania there were 1866 certified units at the end of 2013, increasing as compared to the previous year with 816 units. Except for the red meat domain and the storage/packaging areas, all the domains recorded an increase in the certified

unit number. The most spectacular evolution of certified units was recorded for milk, with 828 new processing units (ANSVSA, 2014).

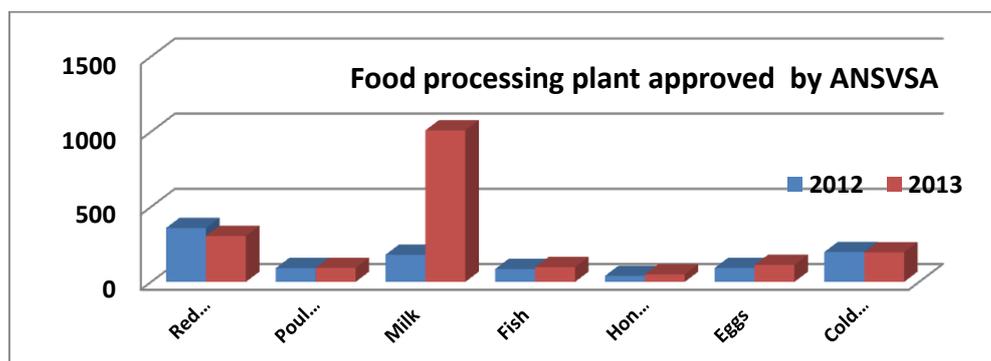


Figure 5. The ANSVSA certified food industry unit number evolution 2012– 2013 (ANSVSA, 2014)

#### 4. CRISIS SITUATIONS IN THE ROMANIAN FOOD SECTOR

Together with the economic progress recorded in the above-mentioned domains there were also a number of food scandals, which affected Romanian producers significantly. The local food production volume growth led to the denouncement of some products in point of their quality by external partners or by the domestic economic environment. The inadequate handling of crisis situations led to the decrease in turnover and the loss of a significant percentage of consumers. The year 2013 brought 26 alerts regarding non-compliant Romanian products at the European level, a double number as compared to 2011 and with over 50% greater than in 2012 (table 1).

Table 1. Romanian notifications and food alerts (EC RASSF Report, 2013)

No.		
1.	Informative notifications, out of which	<b>242</b>
2.	- national	193
3.	- European	49
4.	Alert notifications, out of which	55
5.	- national	26
6.	- European	29
7.	Product rejection at the frontier	22

The alerts targeted berries, chicken breast, field corn, egg powder, sausages or frozen beef. The biggest number of alerts were from Germany, Italy and Greece, which initiated the greatest number of alerts regarding products from Romania, but over 50 % were not confirmed (EC, RASSF Report, 2013). Ensuring business continuity and adequate behaviour in critical situations are not generally applicable notions in the analysed Romanian sector, the impact of food crises being greater on Romanian producers.

##### 4.1. Bovine spongiform encephalopathy BSE

Bovine spongiform encephalopathy (BSE) is a deadly disease with a neurodegenerative action, it is caused by prions (unconventional transmissible agents), which cause cattle spinal cord and brain spongy degeneration (WHO, 2014). The disease was first diagnosed in Great Britain in 1986. The pathogen has an incubation period of four years, usually affecting adult

cattle between four and five years of age, all the breeds being equally sensitive. The main sources of infection are contaminated fodder, the protein products of animal origin or the pasture if on the same area there are also sick animals. The disease may be transmitted from cattle to humans, being known as the new type of Creutzfeldt-Jakob disease (vCJD or nvCJD). The disease is incurable and it killed 163 people in Great Britain (OIE, 2014a).

In the United Kingdom, the most severely affected country, the damage produced to British economy were evaluated at over 8 billion pounds. Over 179,000 cattle were infected and over 6.5 million cattle were sacrificed in the eradication program. Beef production was severely affected, for ten years Great Britain having an interdiction for beef exports (Cleeland, 2009).

In Romania, the cases of Bovine spongiform encephalopathy were sporadic, and there weren't any significant economic losses. In order to avoid the spread of the disease a compensation system was designed for the sacrificed animal loss or the destroyed animal products in case of BSE suspicion (ANSVSA, 2013). A form of the BSE disease, named scrapie (transmissible spongiform encephalopathy, EST) can affect small ruminants (OIE, 2014b). According to the data provided by ANSVSA (2014), scrapie is a deadly degenerative disease, caused by an infectious agent, which affects the central nervous system of sheep and goats, but it is not dangerous for people. Its emergence and high risk determined the establishment of some legal regulations for the control of the disease and its spreading. EST affected the sheep meat Romanian sector for 12 months, export restrictions being imposed.

In 2013, in Romania, there were 11 active scrapie sources, out of which five identified in 2012, under eradication, and six in 2013. Between 2002 and 2013, the disease was confirmed in 363 sheep out of a total of over 8.5 million. In 2012, 12 scrapie sources were confirmed, on 76 sheep, which were sacrificed in order to eradicate the sources (Simionescu, 2012).

As a prevention measure 7,047 sheep were slaughtered for consumption and 4,000 animals were confiscated (ANSVSA, 2014). Because of the EST and BSE risk, Turkey blocked imports from Romania and Romanian sheep meat transit towards the adjacent areas. The truck monitoring system, based on the GPS variant, applied by Turkish authorities constituted a model for the Romanian authorities in view of reducing evasion in the vegetable and fruit domain. In 2014, export ban for sheep was raised, but the Bluetongue problems appeared (Deaconescu, 2014). EST didn't crucially affect the Romanian sheep meat sector. According to the information presented by the National Institute of Statistics (2014), between 2002 and 2014, period during which sheep breeders were affected by scrapie, there weren't any important fluctuations in the number of animals.

The significant decrease from 1985 until 2002 (from 18.5 million heads in 1985 to 7.3 million heads in 2001) was caused by the dismantling of large livestock farms and state and cooperative livestock farms and by changing the change of the ownership of land (Doroftei, 2005). From 2002, the number of sheep has been increasing. At present, there are over 9 million heads. The lack of some disease source eradication measures from the part of the authorities and a firm attitude from the part of farmers, respectively, delayed a faster evolution of the sector, according to the obvious tendencies worldwide.

#### **4.2. The avian flu**

The avian flu, transmitted by the A (H5N1)/A (H7N9) virus contamination, is a disease that especially affect birds, but it can also infect mammals. The epidemic event between 2003–2007 led to over 340 illness cases and over 200 deaths worldwide (WHO, 2013). The most affected areas are Asian countries in which the first illness cases were signalled (the germ dissemination source). Out of a series of singular, sporadic cases in China (2003), the epidemic acquired global dimensions, resulting in the direct death/slaughter of over 400

million poultry and economic losses recorded worldwide of over 200 million euros (faostat.fao.org).



Figure 5. Areas affected by the avian flu (WHO, 2013)

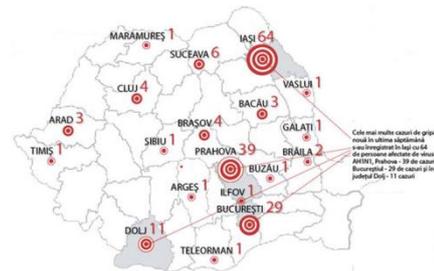


Figure 6. Areas affected by the Romania (Gândul, 2011)

Romania did not represent an important source of disease, but the total losses exceeded 25 million euros. According to the information from the media, the effects of the avian flu at a national level materialized in 127 confirmed avian flu sources, the slaughter of over 800,000 poultry in farms and 300,000 at population, compensation for owners of over 3 million euros (at prices of 1-2 euros/kg. of live poultry), epidemic limiting costs of approximately 20 million euros (Van, 2006). The inadequate handling of the epidemic led to a dramatic decrease in chicken meat sales, with over 80%, without a significant increase of pork or beef consumption (for which artificial price increases were recorded and an increase of only 2% of sales). The overall loss in the poultry sector are estimated by Ilie Van, the president of the Romanian Poultry Breeding National Union, at over 120 million euros, being represented both direct loss and the associated costs necessary for consumer trust rebuilt (Van, 2006). Romanian consumers refused to eat chicken meat, regardless of its origin, fact which led to bigger losses for chicken meat producers than those presented in the official statistics. The Avicola Crevedia Company reported in the first months of 2006 losses of approximately 500,000 euros, due to a 30% production sale price reduction and to delivery possibility reduction (Damian, 2006). The crisis triggered by the avian flu highlighted the Romanian producer lack of training to cope with critical situations, of efficient solutions from the government and multiple corruption cases of the officials.

#### 4.3. The substitution of beef with pork scandal

The substitution of beef with pork scandal immediate effect was the European consumer's loss of trust in the community food production and a strong media impact (Stanciu et al, 2013). In Romania, the subject generated over 25 hours of TV broadcast, 3 hours of radio broadcast and 82 tabloid newspaper pages, focusing on the account of the main information and statements released. Total exposure of the subject on social networks cumulated over 15,000 accounts, 500 posts on Romanian blogs, 2,000 posts on Facebook.com, 43 short movies uploaded on Youtube.com, over 2,000,000 estimated visualizations estimate (Rogalschi Grigoriu, 2013). The crisis began at the beginning of 2013, when traces of horse meat were identified in the frozen lasagne produced by Comigel and marketed on the British market by the British subsidiary of the Swedish group Findus, although there were previous signals about possible frauds regarding beef meat in Ireland (European Commission, RASFF Annual Report, 2014). The subsequent media scandal led to a change in British citizen eating habits, a loss in trust of 24% of British consumers in these products being recorded and to a decrease in processed meat consumption with 30% (Stanciu et al, 2013). Although the Romanian authorities' action in clarifying the horse meat route was prompt, the local producer sales and image had to suffer. The investigation carried out by the Agriculture and Rural

Development Ministry proved that the alert was false, the Romanian producers being unjustly accused, the lots of horse meat from the Romanian slaughterhouses being correctly labelled. At community level, The European Commission (2014) launched a five-point program, materialized in the creation of a network to combat food fraud, specialised in border fraud, an informatics system specialised in border fraud, and in the training of some community clerks about food domain responsibilities and about the legal framework review applicable to official controls.

According to the Humane Society International (2014), at a European level, 250,000 horses are slaughtered annually for consumption. Following the scandal, the horse meat European production in 2013 recorded a decrease of approximately 27% as compared to 2012. Romania, together with Poland, were the most affected countries by this scandal, recording losses of horse meat carcass production more over the European average. As compared to Romania, this scandal had a positive effect in France, which recorded an increase in domestic production, explained by Marin (2013) by mainly marketing the horse meat in stores/traditional slaughterhouses and not in supermarket networks.

*Table 2 Equidae slaughtered for meat production (Humane Society International, 2014)*

	Country	2011		2012		2013	
		Heads	Tons carcass	Heads	Tons carcass	Heads	Tons carcass
1.	Italy	60,617	16,338	70,827	17,958	51,845	14,983
2.	Spain	50,024	11,265	72,582	15,606	50,319	11,512
3.	Poland	41,700	23,600	38,196	21,297	22,514	12,157
4	France	16,973	5,000	18,528	5,300	20,544	5,785
.....							
6	Romania	16,817	5,824	17,785	6,229	17,913	4,115
Total EU27-28		249,563	79,611	294,380	86,946	216,347	62,751

Although there isn't any impact study regarding the Horsegate effect on Romanian economy, after the onset of the scandal regarding Romanian horsemeat exports decreased dramatically. A negative evolution was also recorded in the sliced beef meat export. The horsemeat scandal generated confusion in Romania (Stanciu, 2014). Consumer migration towards packaged chicken meat, which came from well-known producers, proved that trust is built over time and is reconfirmed in crisis periods. Although ungrounded, the accusations brought to Romanian producers affected greatly the Romanian meat sector, proving its fragility and its dependence on the community market.

#### **4.4. The altered chicken meat scandal**

The altered meat scandal broke out in September, when Selgros deciding to stop chicken meat deliveries from the Avicola Călărași supplier in its supermarkets and to cease future product deliveries until the clarification of the situation. The main reasons were the aspect and the inadequate quality of the delivered products. The controls carried out by the The National Sanitary Veterinary and Food Safety Authority (ANSVSA) detected 37,000 poultry infected with Salmonella enteritidis, being withdrawn from sale 55.7 tons of chicken meat, which came from Avicola Călărași. Beginning with 2007, ANSVSA implemented a Salmonella control program for the pultry in Romania, approved and annually certified by the European Commission. According to the investigations carried out at Avicola Călărași, the most

probable source of contamination was connected with non-obeying the handling and storage conditions in the warehouses. Following the crisis, the poultry sector recorded losses of over 25 million euros (which were mainly due to a decrease in sales of 20%), the total damage brought to the industry being estimated at 50 -60 million euros (Ilie, 2013).

## 5. CONCLUSION

Romanian food sector has registered a positive evolution lately in the chicken meat, horsemeat, sheep or goat meat domains. The increase in production and the accessing of some foreign markets led to some problems connected to the nonconformity of some products. Although the alerts haven't always been justified, local producers suffered important image and economic losses. The local companies' lack of resilience in critical situations denote the lack of some adequate plans to ensure business continuity and the local food sector dependency on the community market. In most cases, the Romanian authorities' interference was at the level of performing routine checks and not at the level of local producers' support.

## Acknowledgements

*This work was co-financed from the European Social Fund through Sectorial Operational Programme Human Resources Development 2007-2013, project POSDRU number /159/1.5/S/138907 "Excellence in scientific interdisciplinary research, doctoral and postdoctoral school, in the economic, social and medical fields-EXCELIS", coordinator The Bucharest University of Economic Studies*

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## ANALYSIS OF THE APPLICATION OF THE PRINCIPLES OF CORPORATE GOVERNANCE IN THE PUBLIC SECTOR OF THE REPUBLIC OF SRPSKA

**Matea Zlatkovic**

*The Faculty of Economics, University of Banja Luka*  
*matea.zlatkovic@efbl.org*

### ABSTRACT

*This paper discusses the role and importance of corporate governance and the application of the principles of corporate governance in the public sector of the Republic of Srpska. Corporate governance is the focus of the business community and international financial institutions, due to the numerous failures and scandals related to the business of the companies in which they are not effective mechanisms for ensuring transparency and accountability of management. The existence and functioning of the corporate system has a pronounced effect on both the performance of companies and the national competitiveness of the state. The low level of corporate governance reduces the possibility of attracting foreign direct investment because investors do not want to invest in companies with the possibility of mismanagement. Corporate governance as part of a broader economic framework in which companies operate has a key role in improving economic efficiency and progress of the company, as well as creating greater investor confidence. It should provide an incentive management structure to achieve the objectives of the company, which are in the interest of the company itself as well as its shareholders, and also provide effective control and monitoring, which raises the level of trust and create preconditions for the efficient functioning of the market economy. From the resulting lower costs of capital, encourage the efficient use of resources and growth of the company. Raising the quality of corporate governance increases the value of companies in the market, allows the use of all forms of external financing: national and international, public and private, and thus strengthen their long-term prosperity. From the standpoint of the national economy, the purpose of the introduction of corporate governance is to encourage business enterprises by creating a business environment that motivates managers to maximize business efficiency, attract investment and earnings on them, improving productivity and long-term development. A prerequisite for attracting investment is to reduce risk factors, or creating a reliable investment environment. The key objective of corporate governance is to control operations of the business, creating the prerequisites for consistent protection of investors' interests and respect for the interests and expectations of society. Good corporate governance entails correctly defined the rights of shareholders, responsible business environment, a high level of transparency of information, functional oversight committees, all of which helps companies to achieve significant premium to be favorable in charge and to be more competitive. According to numerous studies, investors in making decisions about investing in individual companies, highlight corporate governance as an important determinant of potential growth or profit.*

**Keywords:** *corporate governance, protecting the interests of investors, public companies.*

### 1. INTRODUCTION

Corporate governance is particularly important for economies in transition, especially due to the transition from one type of economy to another. The former socialist transit to a capitalist mode of economy regards to countries that radically change their socio-economic environment (Klein Rudolf, 2004, p. 66). Acceptance of corporate governance practices in companies that operate in the economy of these countries is of major importance, both at the

microeconomic and the macroeconomic level. The study of corporate governance is associated with a variety of areas such as finance and accounting, management, strategy development, organization theory, and so on. The practice of good corporate governance involves the regulated legal and institutional environment in which companies operate. In transition economies, the aggravating circumstance of lack of a clear relationship between the state and the financial sector, the imperfection of independent organizations such as the courts and arbitration as well as the complexity of property rights and interweaving between the state, public and private ownership (Babic, 2003). The survival of the company depends mainly on access to investment funds, which is caused by overview of company liquidity of the financial system and the "good tidings" of its managers. In some cases, investors want to get right control over management in return for investment in the company. Foreign investors want to be familiar with the way that will ensure the reversibility of their investments, with the balance on the capital market, labor and raw materials in the region where the company is located. In their view, the most significant is the legislative framework which protects their interests. In Republic of Srpska and Bosnia and Herzegovina there are rising of numbers of public speaking experts who point to problems of business performance of public enterprises with majority state ownership. Although it is the companies that have significant natural resources and are of strategic importance to their business in focus they show very little return on equity, and even losses. This paper presents the research carried out in the public enterprises of the Republic of Srpska majority in state ownership listed on the Banja Luka Stock Exchange, with special emphasis on companies in the electricity sector. Observed enterprises, especially those from the electricity sector, are compared with foreign enterprises from the electricity sector with majority state ownership which are listed on some of the world's stock exchanges. Data required for the study were mostly collected from the database of the Banja Luka Stock Exchange and Thomson Reuters as well as searching Internet sites observed companies. Presented research draws on previous research conducted for a period of 5 years, from 2007 to 2011 (Todorovic and Zlatković, 2013), which is extended in this paper in terms of the analysis of the application of principles of corporate governance in the future and their impact on profitability the studied companies. Research on the application of the principles of corporate governance was carried out using the Scorecard standards for corporate governance, based on the information published in annual reports and other company reports. Indicators of profitability are based on the company financial statements. The collected data are mathematically and statistically analyzed and presented. Scientific methods were used for analysis and inference methods for analysis and synthesis methods of comparison, as well as methods of induction and deduction. The observed sample is consisted of 21 companies from the Republic of Srpska – majority in state ownership, which represents 79.3% of the total number of companies with majority state ownership listed on the Banja Luka Stock Exchange and 18 foreign companies from the electricity sector with majority state ownership. Sample of local companies includes 10 companies from the electricity sector, which represents the total number of companies in this sector in the Republic of Srpska. These facts indicate that the observed pattern is unbiased and representative of the population from which they were elected, which is the base for measuring and drawing conclusions. The research is based on the hypothesis that public companies of the Republic of Srpska-majority in state ownership are characterized by undeveloped system of corporate governance that contributed to the low profitability of enterprises. The aim of this study was to determine trends in the application of the principles of corporate governance in public companies of the Republic of Srpska-majority in state ownership and to highlight the importance of improvements in this area.

## **2. CONCEPT, IMPORTANCE AND BENEFITS OF APPLYING CORPORATE GOVERNANCE PRINCIPLES**

The concept of corporate governance (Eng. Corporate Governance) refers to the management structures and processes in corporations and business systems. A set of mechanisms that are managed and controlled by corporation makes corporate governance. Its role is to create a framework for the most important goals, determining the means of achieving them and monitoring their implementation and effectiveness, as well as ensuring a balance between economic and social goals of the corporation (OECD, 2004). The overall institutional and legal framework of corporate governance is determined by the government of a country. Among individual countries, whether in terms of OECD countries or countries outside the OECD, there are differences regarding participants in the system of governance (shareholders, creditors, employees and other stakeholders). The relationships between participants are partially defined by laws and regulations, and the rest is left to the voluntary adjustments, especially in market forces. The corporate governance principles cover the following areas: providing the basis for an effective corporate governance framework, the rights of shareholders and key ownership functions, equal treatment of shareholders, role of stakeholders, disclosure and transparency and accountability of the board.

### **2.1. The importance and advantages of implementing corporate governance**

Corporate governance is the focus of the business community and international financial institutions, due to the numerous failures and scandals related to the business of the companies in which there are not effective mechanisms for ensuring transparency and accountability of management. It is believed that the existence and functioning of the corporate system has a pronounced effect on both, the performance of companies and the economy's competitiveness. The low level of corporate governance reduces the possibility of attracting foreign direct investment since investors do not tend to invest in companies with the possibility of mismanagement. Managers can lead to the collapse of the company and greatly damage the interests of shareholders and stakeholders (employees, creditors, supplier and etc.). Quality of corporate governance is based on the acceptance and actual implementation of best principles and practices including: transparency, integrity and accountability. In this sense an important factor regards voluntary in implementation of these basic principles. Investment capital favors companies that have adopted international standards in information disclosure of financial and non- financial, accounting, adequate protection of investors and independent and responsible oversight of managers. According to a survey conducted in 2002, 40% of investors in making decisions about investing in a company in Eastern Europe highlights the corporate governance as an important determinant of potential growth or income (McKinsey, 2002, p. 58).

### **2.2. The state of corporate governance in B&H and some countries in the region**

An important component of corporate governance principles is the development component, in accordance with the constant changes in the environment, so companies must include innovations in their corporate governance practices in order to adapt to new demands and new opportunities. In World Bank's report on the Observance of Standards and Codes (ROSC) is performed comparison between national framework for the implementation of corporate governance practices and companies and OECD's Principles of Corporate Governance. The goal of this program is to raise awareness of benefits of good corporate governance and adoption of recommendations to improve the situation in this area. The following table shows the assessment of the implementation of certain principles of corporate governance in Bosnia and Herzegovina, Macedonia and Slovenia, based on the latest report of the World Bank for these three countries.

*Table 1. Assessment of compliance with corporate governance principles of the OECD, adapted from Reports on the Observance of Standards and Codes (ROSC) (World Bank, 2004, 2005, 2006)*

Principle	Bosnia and Herzegovina 2006.					Macedonia 2005.					Slovenia 2004.				
	O	LO	PO	MO	NO	O	LO	PO	MO	NO	O	LO	PO	MO	NO
<b>I. ENSURING THE BASIS FOR AN EFFECTIVE CORPORATE GOVERNANCE FRAMEWORK</b>															
IA Overall corporate governance framework			X				X								
IB Legal framework enforceable /transparent			X				X								
IC Clear division of regulatory responsibilities			X					X							
ID Regulatory authority, integrity, resources			X						X						
<b>II. THE RIGHTS OF SHAREHOLDERS AND KEY OWNERSHIP FUNCTIONS</b>															
IIA Basic shareholder rights		X					X					X			
IIB Rights to part. in fundamental decisions				X			X					X			
IIC Shareholders GMS rights		X						X				X			
IID Disproportionate control disclosure			X						X			X			
IIE Control arrangements allowed to function			X						X			X			
IIF Exercise of ownership rights facilitated			X				X								
IIG Shareholders allowed to consult each other			X					X							
<b>III. EQUITABLE TREATMENT OF SHAREHOLDERS</b>															
IIIA All shareholders should be treated equally			X					X				X			
IIIB Prohibit insider trading			X						X			X			
IIIC Board/Mgrs. disclose interests				X				X					X		
<b>IV. ROLE OF STAKEHOLDERS IN CORPORATE GOVERNANCE</b>															
IVA Legal rights of stakeholders respected			X				X					X			
IVB Stakeholder redress		X					X					X			
IVC Performance-enhancing mechanisms			X					X				X			
IVD Stakeholder disclosure				X					X			X			
IVE "Whistleblower" protection				X						X					
IVF Creditor rights law and enforcement		X						X							
<b>V. DISCLOSURE AND TRANSPARENCY</b>															
VA Disclosure standards				X					X				X		
VB Standards of accounting & audit			X					X					X		
VC Independent audit annually			X					X					X		
VD External auditors should be accountable			X					X							
VE Fair & timely dissemination			X						X				X		
VF Research conflicts of interests			X					X							
<b>VI. RESPONSIBILITIES OF THE BOARD</b>															
VIA Acts with due diligence, care				X			X					X			
VIB Treat all shareholders fairly			X					X				X			
VIC Apply high ethical standards			X					X				X			
VID The board should fulfill certain key functions			X					X						X	
VIE Exercise objective judgment			X					X					X		
VIF Access to information			X				X					X			

**Observed (O)** means that all essential criteria are met without significant deficiencies. **Largely observed (LO)** means only minor shortcomings are observed, which do not raise questions about the authorities' ability and intent to achieve full observance in the short term. **Partially observed (PO)** means that while the legal and regulatory framework complies with the Principle, practices and enforcement diverge. **Materially not observed (MO)** means that, despite progress, shortcomings are sufficient to raise doubts about the authorities' ability to achieve observance. **Not observed (NO)** means no substantive progress toward observance has been achieved.

In analysis of level of corporate governance in Bosnia and Herzegovina in relation to two other observed countries, one can notice the similarity with the situation in Macedonia and significantly worse situation than in Slovenia, particularly bearing in mind that the report of the situation in Bosnia and Herzegovina is made in 2006 and Slovenia in 2004.

### 3. EMPIRICAL EVIDENCE

In the empirical part of this paper is analyzed the state of application of the principles of corporate governance in public enterprises of the Republic of Serbian (RS), with majority state ownership, with special emphasis on the Electric Power Industry of Republic of Srpska. Assessment of the state of corporate governance is conducted using Scorecard questionnaire of Banja Luka Stock Exchange.

Enterprises in electricity sector in Republic of Srpska has a significant share in the total capital of public enterprises and represents the most important resource for the development of the Republic of Srpska's economy. Accordingly, it is analyzed the profitability of companies electricity sector of Republic of Srpska, where due to objective estimation, derived indicators of profitability are compared with indicators of profitability of foreign companies in the electricity sector with majority state ownership. It is conducted comparative analysis of indicators of profitability and level of corporate governance in companies in electricity sector in Republic of Srpska.

#### 3.1. Variable operationalization and measurement

Based on the main research hypotheses, profitability of enterprises can be identified as dependent variable and the level of corporate governance as an independent variable. To determine the profitability of enterprises (the dependent variable) it is made a measuring of selected indicators of profitability based on data from the financial statements of tested companies, including: return on assets (ROA), return on equity (ROE), net profit margin (NPM) and earnings per share (EPS), Table 2.

*Table 2. Selected indicators of profitability*

Indicator	Definition
Return on assets - ROA	$\frac{\text{Net Income}}{\text{Average Total Assets}}$
Return on equity - ROE	$\frac{\text{Net Income}}{\text{Average Stockholder's Equity}}$
Net profit margin - NPM	$\frac{\text{Net Income}}{\text{Sales Revenue}}$
Earnings per share - EPS	$\frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Weighted Average Common Shares Outstanding}}$

To assess the level of corporate governance in companies in electricity sector of Republic of Srpska (independent variable), is used as a tool Scorecard questionnaire of Banja Luka Stock Exchange, in which the role of indicators have a company's individual commitment to the principles of corporate governance. Each of these indicators is estimated on the basis of questions posed in the context of specific areas.

#### 3.2. The research results

The average values of indicators of profitability for a period of five years, within observed period from 2007 to 2011, are obtained based on the financial statements of all observed companies observed in Republic of Srpska which are majority state-owned and listed on the Banja Luka Stock Exchange, especially for the electricity sector of Republic of Srpska (10 companies), as well as selected foreign companies from the electricity sector, with majority state ownership, are shown in Table 3. (Todorovic and Zlatković, 2013)

*Table 3. Comparison of average values of the indicators of profitability of domestic and foreign companies (Todorovic and Zlatković, 2013)*

	ROA	ROE	NPM	EPS
<b>All observed companies in the Republic of Srpska in majority state ownership</b>	<b>-0.649181</b>	<b>-1.293556</b>	<b>-0.068981</b>	<b>-0.003617</b>
<b>All observed companies from the sector of electric power in the Republic of Srpska (Power Utility of the Republic of Srpska)</b>	<b>0.191971</b>	<b>0.186829</b>	<b>0.011472</b>	<b>0.001725</b>
<b>A foreign companies in the sector of electric power</b>	<b>5.085818</b>	<b>11.459891</b>	<b>0.113336</b>	<b>3.642711</b>

The presented results indicate that the electricity sector in Republic of Srpska has lower profitability compared to foreign companies in the electricity sector with majority state ownership observed period. Having seen other local companies have worse indicators of profitability than companies in electricity sector of Republic of Srpska, we can conclude that considered public companies in Republic of Srpska with majority state ownership in observed period, on average, have low profitability.

Companies in electricity sector in Republic of Srpska participate within more than 85% of the capital in the total capital of the observed public companies with majority state ownership. This was one of the reasons for the special analysis of the state of corporate governance in this group of companies. In 2011, it was found that the average level of corporate governance in these companies is 62.47%, which indicates poor corporate governance. Application of mandatory corporate governance principles defined by standards of corporate governance of corporations and legal framework of the Republic of Srpska's capital markets should facilitate the level of corporate governance in the range of 65% -75%. The area to the level of 100% should be an incentive to companies to apply the higher principles of corporate governance.

In Table 4 is presented an overview of research results on the application of the principles of corporate governance in companies of electricity sector in Republic of Srpska in the period from 2011 to 2013, while in Table 5 are shown the values of the indicators of profitability of these companies during the same period. In a separate column are indicated the appropriate levels of corporate governance.

*Table 4. Results of the level of corporate governance in companies in electricity sector of Republic of Srpska*

	Company name	Year	I (10%) Commitment to the Corporate Governance Standards	II (20%) Rights of Shareholders	III (10%) Equal Treatment of Shareholders	IV (10%) Role of Stakeholders in Corporate Governance	V (20%) Disclosure and Transparency of Information	VI (20%) Role and Responsibility of the BoD	VII (10%) Audit and Internal Control System	Total Score
1	COMPANY A	2011	4.25	14.50	2.25	5.00	12.00	13.50	5.00	56.50
		2012	5.50	15.00	6.00	6.5	10.00	13.00	5.75	61.75
		2103	5.50	15.00	6.00	6.5	12.50	13.00	6.50	65.00
2	COMPANY B	2011	3.00	14.50	4.75	5.00	14.50	13.00	8.00	62.75
		2012	4.50	12.50	3.50	5.50	13.50	11.00	5.75	56.25
		2013	-	-	-	-	-	-	-	-
3	COMPANY C	2011	6.25	13.50	1.25	6.50	9.50	12.50	5.75	55.25

		<b>2012</b>	-	-	-	-	-	-	-	-
		<b>2013</b>	-	-	-	-	-	-	-	-
<b>4</b>	<b>COMPANY D</b>	2011	9.00	15.5	2.25	6.00	12.50	11.50	8.50	<b>65.25</b>
		<b>2012</b>	-	-	-	-	-	-	-	-
		<b>2013</b>	-	-	-	-	-	-	-	-
<b>5</b>	<b>COMPANY E</b>	2011	3.00	16.00	5.00	5.00	10.00	15.00	6.50	<b>59.50</b>
		<b>2012</b>	<b>7.50</b>	<b>12.50</b>	<b>5.25</b>	<b>5.00</b>	<b>10.00</b>	<b>15.50</b>	<b>6.50</b>	<b>62.25</b>
		<b>2013</b>	-	-	-	-	-	-	-	-
<b>6</b>	<b>COMPANY F</b>	2011	5.50	15.00	5.00	4.00	12.00	15.50	5.75	<b>62.75</b>
		<b>2012</b>	-	-	-	-	-	-	-	-
		<b>2013</b>	-	-	-	-	-	-	-	-
<b>7</b>	<b>COMPANY G</b>	2011	3.50	17.50	7.50	9.00	14.00	15.50	9.25	<b>76.25</b>
		<b>2012</b>	-	-	-	-	-	-	-	-
		<b>2013</b>	-	-	-	-	-	-	-	-
<b>8</b>	<b>COMPANY H</b>	2011	-	-	-	-	-	-	-	-
		<b>2012</b>	-	-	-	-	-	-	-	-
		<b>2013</b>	<b>7.50</b>	<b>11.00</b>	<b>6.75</b>	<b>5.00</b>	<b>12.50</b>	<b>12.50</b>	<b>4.25</b>	<b>59.50</b>
<b>9</b>	<b>COMPANY I</b>	2011	5.50	15.50	6.00	3.50	13.50	12.50	5.75	<b>62.25</b>
		<b>2012</b>	-	-	-	-	-	-	-	-
		<b>2013</b>	-	-	-	-	-	-	-	-
<b>10</b>	<b>COMPANY J</b>	2011	5.50	13.50	9.00	3.50	10.00	14.50	5.75	<b>61.75</b>
		<b>2012</b>	<b>10.00</b>	<b>16.50</b>	<b>9.00</b>	<b>3.50</b>	<b>13.50</b>	<b>14.50</b>	<b>5.75</b>	<b>72.75</b>
		<b>2013</b>	-	-	-	-	-	-	-	-
<b>Electricity sector in Republic of Srpska (average score)</b>		2011*	<b>5.06</b>	<b>15.06</b>	<b>4.78</b>	<b>5.28</b>	<b>12.00</b>	<b>13.72</b>	<b>6.69</b>	<b>62.47</b>
		2012**	<b>6.88</b>	<b>14.13</b>	<b>5.94</b>	<b>5.13</b>	<b>11.75</b>	<b>13.50</b>	<b>5.94</b>	<b>63.125</b>
		2013** *	<b>6.50</b>	<b>13.00</b>	<b>6.375</b>	<b>5.75</b>	<b>12.5</b>	<b>12.75</b>	<b>5.375</b>	<b>62.25</b>

\* The number of companies: 9

\*\* The number of companies: 4

\*\*\* The number of companies: 2

*Table 5. The values of the indicators of profitability and rated level of corporate governance for the electricity sector of Republic of Srpska*

	<b>Company name</b>	<b>Year</b>	<b>ROA (%)</b>	<b>ROE (%)</b>	<b>NPM (%)</b>	<b>EPS (BAM)</b>	<b>Level of CG (%)</b>
<b>1</b>	<b>COMPANY A</b>	2011.	0.01	0.01	0.03	0.0007	<b>56.50</b>
		2012.	-0.01	-0.01	-0.03	-0.0008	<b>61.75</b>
		2013.	0.16	0.23	0.58	0.0746	<b>65.00</b>
<b>2</b>	<b>COMPANY B</b>	2011.	0.06	0.09	0.17	0.0033	<b>62.75</b>
		2012.	-0.19	-0.28	-0.65	-0.0129	<b>56.25</b>
		2013.	0.19	0.30	0.67	0.0135	-
<b>3</b>	<b>COMPANY C</b>	2011.	0.05	0.06	0.14	0.0015	<b>55.25</b>
		2012.	0.05	0.06	0.16	0.0018	-
		2013.	0.12	0.15	0.41	0.0460	-
<b>4</b>	<b>COMPANY D</b>	2011.	0.08	0.11	0.21	0.0430	<b>65.25</b>
		2012.	0.08	0.11	0.26	0.0530	-
		2013.	0.05	0.07	0.16	0.0350	-
<b>5</b>	<b>COMPANY E</b>	2011.	0.21	0.22	5.68	0.0027	<b>59.50</b>
		2012.	0.79	0.82	17.16	0.0108	<b>62.25</b>
		2013.	2.53	2.64	38.06	0.0353	-
<b>6</b>	<b>COMPANY F</b>	2011.	-1.54	-1.58	-39.19	-0.0366	<b>62.75</b>
		2012.	0.07	0.07	1.42	0.0017	-

		2013.	0.46	0.49	7.41	0.0116	-
7	COMPANY G	2011.	1.55	1.74	6.15	0.0187	<b>76.25</b>
		2012.	-0.94	-1.09	-4.83	-0.0130	-
		2013.	0.83	0.98	3.39	0.0118	-
8	COMPANY H	2011.	0.42	0.5	1.20	0.0247	-
		2012.	0.30	0.35	1.04	0.0212	-
		2013.	0.29	0.34	1.00	0.2060	<b>59.50</b>
9	COMPANY I	2011.	0.02	0.02	0.35	0.0004	<b>62.25</b>
		2012.	-0.47	-0.47	-13.79	-0.0120	-
		2013.	1.23	1.26	15.97	0.0320	-
10	COMPANY J	2011.	2.25	2.61	7.54	0.0424	<b>61.75</b>
		2012.	2.32	2.69	8.23	0.0467	<b>72.75</b>
		2013.	0.59	0.68	2.26	0.0117	-
Electricity sector in Republic of Srpska (average score)		2011.	<b>0.311</b>	<b>0.378</b>	<b>-1.772</b>	<b>0.01008</b>	<b>62.47</b>
		2012.	<b>0.200</b>	<b>0.225</b>	<b>0.897</b>	<b>0.00965</b>	<b>63.125</b>
		2013.	<b>0.645</b>	<b>0.714</b>	<b>6.991</b>	<b>0.04775</b>	<b>62.25</b>

### 3.3. Testing of hypothesis

As stated in the introduction, this study starts from the hypothesis that public companies of the Republic of Srpska in majority state ownership is characterized by undeveloped system of corporate governance that contributed to the low profitability.

The results show that in most of the companies in the electricity sector of Republic of Srpska, except the 5th, 6th and 10th company, for the year 2012, is observed decline or stagnation of indicators of profitability, while for the year 2013 there was a slight increase of profitability, except in the 7th, 8th and 10th company. Thus, indicators of profitability of companies in the sector of electric power Republic of Srpska differ slightly compared to the year 2011, when they were far below than indicators of profitability for foreign companies in the same sector. This fact is followed their much lower efficiency in converting corporate assets or capital and income in real income, i.e. value for owners, as well as lower efficiency in achieving the profits of the shareholders of these companies on the domestic market, in comparison to foreign companies. It can be observed that, generally, the values of the indicators of profitability are higher at higher levels of corporate governance. In some cases, regardless of the increase in the level of corporate governance, there is a decline in profitability indicators. In addition, only four out of ten surveyed companies have announced the declaration of conformity of its business with the principles of corporate governance for the year 2012 and only two for the year 2013.

These facts indicate an insufficient application of public companies Principles of Corporate Governance, which is consistent with the hypothesis set. However, despite the strong correlation between indicators of profitability and the level of corporate governance in year 2011, there are not enough elements that confirm this trend in the coming years.

### 3.4. Comparison of research results with other similar studies

There are a large number of studies dealing with the connection of application of corporate governance principles and indicators of business. In Germany, Drobetz, Schillerhofer and Zimmermann (2003) have created a corporate governance score (CGR) for German companies. They found a positive relationship between CGR and values of the company. Similar results have provided Beiner, Drobetz, Schmid and Zimmermann (2003) who found a significant association between the level of corporate governance and increasing the value of the Swiss companies. Institutional Shareholder Services, USA (2005) in his report linked the

good corporate governance structure and a lower risk, better profitability and higher value of the company. In contrast to previous authors, Bauer, Guenster and Otten (2004) for Europe and the United Kingdom cited negative relationship between corporate governance standards and indicators of profitability. De Jong, Mertens and Wasley (2005) do not detect any price effects following actions taken by the Netherlands' private sector.

Outline the research shows the similarity of the results obtained from the research presented in this paper so that it would be desirable to deepen this research on a larger sample of companies.

#### 4. CONCLUSION

The term "quality management" means responsible management and control of joint stock companies, which are focused to creating long-term value, which is done through the protection of the interests of shareholders and transparency to all stakeholders, in accordance with the OECD principles and guidelines of corporate governance. Economists suggest that a high level of quality management affects cheaper financing of companies, contributes to its business development and meets the requirements of stakeholders. In Bosnia and Herzegovina, from the standpoint of the community, information about business performance of public companies with majority state ownership has higher significance. Regardless it is being done among companies that possess significant natural resources and have strategic importance in their business it is discovered they have very little return on equity, or even losses. Research on the level of corporate governance in joint stock companies RS listed on the Banja Luka Stock Exchange, with special emphasis on companies in the electricity sector, shows insufficient commitment to implementing the principles of corporate governance and very low profitability of the companies surveyed, compared with foreign enterprises in the same sector. The results obtained indicate a possible association between low profitability and low level application of the principles of corporate social responsibility governance.

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## SOME SUGGESTIONS FOR IMPROVEMENT OF UNDERSTANDING WORKING CAPITAL

**Jaan Alver**

*Tallinn University of Technology, Estonia  
jaan.alver@ttu.ee*

**Lehte Alver**

*Tallinn University of Technology, Estonia  
lehte.alver@ttu.ee*

### **ABSTRACT**

*During the 20<sup>th</sup> century the English language has established itself as the world's business language, hence, is the architect of accounting terms. Unfortunately, the English terminology used in financial statements also has shortcomings. There is a multitude of names, expressions and definitions, a myriad of financial terms and relationships that often are explained differently in special literature. We know the meaning of the words used separately, but used collectively, they can be mystifying. In the paper, the relationships between the different explanations of working capital are thoroughly analyzed.*

*American professors Welsch and Short state: "Working capital involves an arithmetical difference – total current assets minus total current liabilities. Thus, working capital is an abstraction because it does not represent a single asset, or group of similar assets, rather it includes total current assets and an offset – total current liabilities. It cannot be counted, handled, or used to settle receivables and payables. Because of its abstract nature, working capital often is not fully understood by statement users."*

*The authors of this paper have tried to determine the correct relationships between the terms net assets, capital, net current assets, working capital, gross working capital, net working capital and eliminate the anarchy in the usage of these terms. In the process of determining the correct relationships between the examined terms, semantical and logical connections have been followed. To build up a correct system of terms and give them proper substance, the conventional balance sheet format and well-known relationships between different sections of balance sheet have been used.*

**Key words:** *capital, working capital, gross working capital, net working capital, net current assets, working capital.*

### **1. INTRODUCTION: 'CAPITAL' AS AN ACCOUNTING TERM**

Few analytical terms are more widely used and, at the same time, less understood than the term 'capital'. The word 'capital' has different meanings in economics, finance, accounting and the business world. In 1921 professor Edwin Cannan referred to the fact that the first examples of the use of the economic term 'capital', or rather 'capitall', that have been discovered in English literature occur in treatises appertaining to accountancy (Cannan, 1921). An analysis of accounting and finance literature shows that there is no standard definition of 'capital'. According to the number of different specialized English dictionaries, the term 'capital' *can mean:*

#### **In accounting**

1. Equity interest of the owner in the business that is the difference between assets and liabilities, also called equity or net worth (Siegel, 2010).
2. A long-term debt plus owners' equity (Rosenberg, 1993).
3. The excess of assets over liabilities (Davids, 1986; Munn, 1993).

4. The primary meaning in accounting is proprietorship interest as represented in a balance sheet by the contributed and accumulated capital equal in amount to the assets less liabilities (Parker, 1992).
5. Another term for 'owners' equity' (French, 1994).
6. The money, property, and assets used in a business (Collin, 2007).
7. The amount of the proprietors' interests in the assets of an organization, less its liabilities (A Dictionary ..., 2010).

### **In finance**

1. Net asset of a firm, partnership, and the like, including the original investment, all gains and profits (Rosenberg, 1993).
2. Money that is available to be invested by a person, business, or organization in order to make a profit (Pocket ..., 2010).
3. Money, which is, invested (Renton, 2008).
4. The money contributed by investors to start a business (Wuite, 2009).
5. Money and other property of a corporation or other enterprise used in transacting its business (Friedman, 2007).
6. Money from shareholders and lenders that can be invested by a business in assets in order to produce profits (Longman ..., 2000).
7. Funds invested in a firm by means of share capital or loan (Harriman's ..., 1998).
8. An amount of money that is invested in or is used to start a business (Oxford ..., 2008).
9. Money that is lent or borrowed on which interest is paid (Oxford ..., 2008).
10. Owner's share in a business plus operating profit or surplus, financing its long-term growth (Fitch, 1994).

In the business world, *capital* usually refers to an item or part in the balance sheet. Using these definitions in connection with the balance sheet causes a complicated question: where should *capital* be placed in the balance sheet – to the assets side or to the liabilities and owners' equity side? It is clear that the matter is really different. So 'capital' is vague term that requires a qualification. All its meanings, however, have something in common. They all imply that *capital* is not a flow. In the language of the famous American economist Irving Fisher, capital is a stock of wealth existing at an instant of time (Fisher, 1906).

In balance sheet terminology, *capital* may mean the total of a company's finances, including all *share capital*, *retained earnings*, *long-term* and *current liabilities*. Such an aggregation might be called ***total capital*** and it equals total assets. A narrower definition of *capital* excludes short-term financing of current assets. An even more restrictive definition of *capital* centers on the owners' investment in the entity. This narrower view equates *capital* to total shareholders' equity.

In the balance sheet, *capital* should be shown under liabilities and owners' equity (or, to be more exact, word 'capital' as a noun should be used to describe items and/or parts of the liabilities and owners' equity side of the balance sheet). This position has been directly supported by several authors through the accounting equation, expressed as

$$Assets = Liabilities + Capital$$

or

$$Assets - Liabilities = Capital$$

or

$$Assets = Capital$$

## 2. CONCEPT OF WORKING CAPITAL

The working capital of a company is one of the most important measures in any financial statement. The concept of working capital originated with the distinction between fixed and circulated capital at the beginning of the twentieth century. In specialized English dictionaries the term 'working capital' *can mean*:

1. The current assets and current liabilities of the business (Elliot, 2002).
2. Current assets of an organization, especially cash, accounts receivable, and inventory (Fitch, 2006).
3. Earning assets of an organization, including marketable securities, receivables, and inventor, which can be converted to cash if needed (Fitch, 2006).
4. The difference between current assets and current liabilities (Arnold, 2005; Nobes, 1995).
5. The excess of current assets over current liabilities (Caruth, 1997; Scott, 2009; Westbrook, 1997; Wild, 2005).
6. Money used to finance ongoing operations (Krajewski, 2005).
7. Capital in the form of cash, stocks, and debtors but not creditors, used by a company in its day-to-day operations (Collin, 2007).
8. Capital in cash and stocks needed for a company to be able to work (Collin, 1997).
9. Capital available for the day-to-day running of a company, used to pay such expenses as salaries, purchases, and so on (Dictionary ..., 2001).
10. Net working capital and is the resource that a company can use to finance day-to-day operations. It is calculated by taking current liabilities from current assets (Reuters ..., 2003).
11. The total net current assets of a business minus its liabilities (The Chartered ..., 2003).
12. That part of a company's capital which is circulating or in use rather than tied up in fixed assets etc. (Johannsen, 1996).

The term 'working capital' can be used in two senses – *gross working capital* and *net working capital*. Gross working capital and net working capital are components of the overall working capital of a company.

## 3. GROSS WORKING CAPITAL

The term *gross working capital* is used in specialized literature by several authors (Brigham, 1996; Dictionary ..., 2001; French, 1994; Friedman, 2007; Scott, 2009). *Gross working capital* has been defined as:

1. Funds invested in a company's cash, accounts receivable, inventory, and other current assets (Crumbley, 1994, Downes, 1987; Friedman, 2007).
2. Amount, which the company has invested into the current assets (Parikh, 2011).
3. Current assets (Brigham, 1996; Dickerson, 1995; Scott, 2009).
4. The total value of current assets (French, 1994).
5. The liquid funds available to a business and any assets that are anticipated will be exchanged for cash within a one year period (Business ..., 2014).
6. The total amount of a company's current assets, including cash, stock, accounts receivable, inventory and others assets that can be easily converted into cash within one year (Hunt, 2014).
7. The sum of company's current assets and current liabilities (Banks, 2010).

We agree with (Meaning ..., 2014) that gross working capital represents total value of current assets. In other words, it is the sum total of net working capital and current liabilities. It is a concept of quantity showing the total amount available for financing the current assets.

Without going into further discussion it is appropriate to recall the initial assumption expressed in the first part of this paper: in the balance sheet *capital* should be shown under liabilities and owners' equity (or, to be more exact, capital as a noun could be used to describe items and/or parts of the liabilities and owners' equity side of the balance sheet). To take this into consideration *gross working capital* should be defined as **total claims** against *gross working assets* or *(gross) current assets*. It should be noted that **mathematically** the amount of *gross working capital* is equal to *(gross) current assets*, but these terms should not be considered synonyms because *gross working capital* and *gross current assets* are located on different sides of the balance sheet.

#### 4. NET WORKING CAPITAL

Gallinger and Healey say that "Net working capital ... should not be confused with working capital, which is often used as a substitute for current assets ..." (Gallinger, 1991).

Generally, accepted definition of net working capital is current assets less current liabilities (Brigham, 1996; Crumbley, 1994; Hunt, 2014). It is the company's gross working capital less short-term borrowed money, accounts payable and accrued liabilities (Hunt, 2014). Before defining *net working capital* it is useful to focus on one of the oldest principles in finance – the **matching principle**, which can be stated as follows: **finance short-term needs with short-term sources, and finance long-term needs with long-term sources**. The idea expressed in this principle is to 'match' the maturity of the source of funds with the length of time the funds are needed. Walsh states: "A certain balance should exist between the long-term assets and funds on the one hand and the short-term assets and funds on the other. As a general rule, long-term assets in a company should be matched by corresponding long-term liabilities and *vice versa*." (Walsh, 2006).

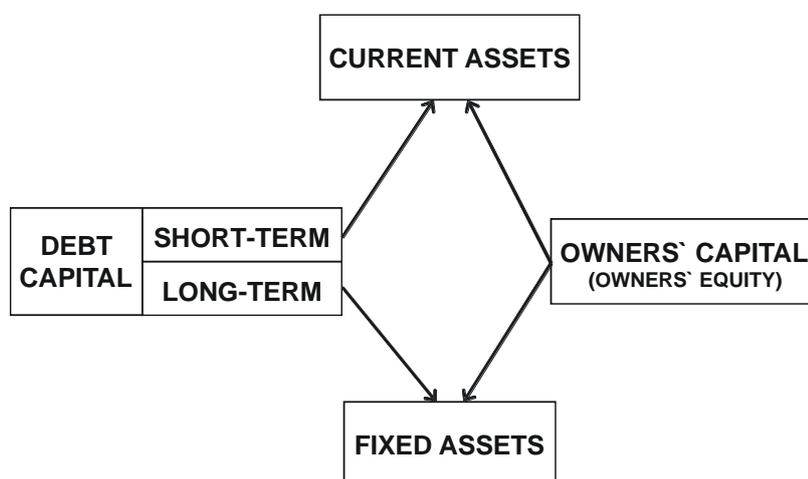


Figure 1: Matching principle (Source: by the Authors)

To follow this principle it is useful to exchange the places of long-term liabilities and owners' equity on the right side of the balance sheet. It makes it feasible to emphasize the substance of terms used to mark distinguished parts of the balance sheet. After that *net working capital* could be defined as the **owners' claim to current assets** and *net current assets* as the **amount of current assets acquired through investments made by the owners**. This standpoint is supported by well-known professors Harrison and Horngren, who state: "Recall

that capital or owners' equity is total assets minus total liabilities. Working capital is like a 'current' version of total capital." (Harrison, 1998).

It is impossible to separate or compute the amount of *net working capital* directly. This is due to the fact that calculations are made **indirectly**:

$$\begin{aligned} \text{Net working capital} &= \text{Current assets} - \text{Current liabilities} \\ \text{Net current assets} &= \text{Current assets} - \text{Current liabilities} \end{aligned}$$

As we can see, the same formula is used for calculating net working capital as well as net current assets. Therefore, **mathematically**, the amount of *net working capital* is equal to *net current assets*, but logically they cannot be synonymous for the simple reason that capital and assets are located on different sides of the balance sheet.

ASSETS				LIABILITIES & OWNERS EQUITY			
GROSS CURRENT ASSETS	CURRENT ASSETS CONTRIBUTED BY CURRENT LIABILITIES			CURRENT LIABILITIES (SHORT TERM DEBT CAPITAL)			GROSS WORKING CAPITAL
	NET CURRENT ASSETS		NET TANGIBLE ASSETS	OWNERS' EQUITY	NET WORKING CAPITAL		
FIXED ASSETS	NET FIXED ASSETS	NET TANGIBLE FIXED ASSETS	NET TANGIBLE ASSETS		NET ASSETS	NET FIXED CAPITAL	CAPITALISATION (PERMANENT CAPITAL)
		INTANGIBLE ASSETS		LONG-TERM LIABILITIES (LONG-TERM DEBT CAPITAL)			
FIXED ASSETS CONTRIBUTED BY LONG-TERM LIABILITIES							

Figure 2: Relationships between gross current assets, gross working capital, net current assets and net working capital (Source: by the Authors)

## 5. CONCLUSION STATEMENT

Last but not least: you do not go out and buy or sell (net) working capital the way you do assets.

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# THE CORRELATION OF LEADERSHIP PRACTICES OF FIRST AND SECOND GENERATION FAMILY BUSINESS OWNERS TO BUSINESS PERFORMANCE

**JP van der Westhuizen**

*Vaal University of Technology*  
*johanvdw@vut.ac.za*

**A. Garnett**

*North-West University, Vaal Triangle Campus*  
*andreagarnett@yahoo.com*

## ABSTRACT

*Family firms are a major contributor to many economies. However, very few of these businesses will continue to exist after the first generation due to succession failure. Family business leaders need to learn how to manage the factors that affect the succession process. Researchers in family business literature acknowledge that leadership is vital to the success and survival of the firm, although the high failure rate of family businesses in the second and later generations indicates that the succeeding generations might not have developed sufficient leadership practices to sustain business performance. The aim of this research study was to investigate whether there is a correlation between leadership practices and business performance amongst first and second generation owners of family firms. A self administered, quantitative survey questionnaire, measuring leadership practices and business performance was distributed via means of a non-probability, snowball sampling method to 197 first and second generation family business owners in the Sedibeng region of South Africa. The findings indicate that positive significant correlations exist between the occurrence of leadership practices and business performance for first generation leaders of the selected family businesses, but limited correlations exist between the variables for the second generation leaders. These results illuminate the potential differences in the ways that first and second generation leaders lead family businesses. To this end, propositions are offered to assist founders in training future leaders.*

**Keywords:** *Business performance, Leadership practices, family business, first generation, successors.*

## 1. INTRODUCTION

The importance of family businesses were until the early 90s, somewhat overlooked in most developing and emerging economies around the world. Their true value and contributions were only appreciated when the challenges of unemployment and poverty started to cause social and political problems and uncertainty.

Today, family businesses are the dominant form of business enterprise in both developed and developing countries. (Gersick, et al., 1997; Lee, 2006) and make an important contribution to economic growth and wealth creation in the world (Poza, 2010; Basu, 2004, Morck & Yeung, 2004; Astrachan & Shanker, 2003; Ibrahim, Soufani & Lam, 2001). For example, in France and Germany the majority of the 250 largest listed companies are family dominated (IFERA, 2003). In Spain, statistics indicate that 50 percent of the top 3 000 firms are family owned. In the USA and Canada it is estimated that family businesses make up 90 percent of all businesses (Astrachan & Kolenko, 1994), and 35 percent of the 500 biggest companies are family owned (Lee, 2006; Longenecker et al., 2006). South Africa is no exception in this regard, as it is estimated that 80 percent of businesses in South Africa could be classified as family businesses and these businesses comprise 60 percent of the companies listed on the

Johannesburg Stock Exchange (Ackerman, 2001). Maas, Van der Merwe and Venter (2005) are of the opinion that, because of the important role family businesses perform in the South African economy, their survival is of utmost importance.

Family businesses, unfortunately, lack longevity; very few family businesses survive to the second generation and considerably less continue to the third (Bareither & Reischl, 2003; Lea, 1991). Approximately 85 percent of all new businesses fail. Among those that survive, only 30 percent are successfully transferred to the second generation of the founding family owners (Poza, 2014). A large number of family businesses fail because of succession failure (Ibrahim & Ellis, 2004; Kets de Vries, 1996), mainly as a result of the inability of family businesses to manage this complex process of transferring ownership and management to the next generation (Bareither & Reischl, 2003; Lansberg, 1999), and lack of management to sustain a family business (Aronoff et al., 2002).

Poza (2014) views succession as the most critical and important issue facing family firms. Succession is so important to family firms that Ward (1987) chose to define family firms in terms of their ability to achieve succession and research reports that 70 percent of family businesses fail to pass the first test of succession (Lansberg, 1988; Handler, 1994). This represents an enormous loss of productivity to the economy. Many authors believe that this inability could be one of the most important reasons for the high failure rate among first- and second-generation family businesses (Corbetto & Salvato, 2004). The need to identify and understand the factors that influence generational succession in family businesses becomes apparent.

Researchers in family business literature acknowledge that leadership is vital to the success and survival of the family firm (Fiedler, 1996), for the following reasons: firstly, family firms may have different goals than publicly owned businesses (Chrisman et al., 2003). Secondly, when compared to non-family firms, family businesses have a greater potential for long-term conflict among involved members (Morris et al., 1997). Finally, the process of leadership succession is far more important for family firms than non-family firms because of a stronger link to firm survival (Rubenson & Gupta, 1996).

## **2. LITERATURE REVIEW**

### **2.1. Family business and succession**

There is no universally accepted definition of a family business in the literature or among teaching and consulting communities, the public, or even family business owners (Poza, 2014; Astrachan et al., 2002; Flören, 2002; Littunen & Hyrsky, 2000). Since its inception, the field of family business studies has struggled with a need to define its boundaries and source of distinctiveness. Although family businesses resist easy definition (Lee, 2006), almost all researchers agree on the necessity of having a definition (Flören, 2002). Consequently, clarifying a definition for a family business is the first and most obvious challenge facing the family business researcher (Handler, 1994). Poza (2010) proposes the following working definition: (1) Ownership control of 15 percent or higher by two or more members of the single family or a partnership of families; (2) Strategic influence by the family members on the management of the business; (3) Concern for family relationships; (4) The possibility of continuity across generations.

The more successful the transfer of ownership, the better the chances of success and long-term profitability. It is a delicate process, and a well-considered and planned succession will increase the chances of finding a competent successor and will ensure a smooth transition between generations (Poza, 2014; Neubauer & Lank, 1998; Murray, 2003).

A major challenge in some family businesses is that the owners are reluctant to do succession planning (Ibrahim et al., 2010). Reasons may be that the owners see the loss of power and

status as the result of retirement. Many founders have worked so hard their entire lives that they value the control of the business above anything else.

Researchers have suggested that the individual most responsible for the continuity of the family business is the founder or incumbent leader. The attributes of owners that have brought them success in the business may prove to be hurdles in the process of transferring the ownership to the next generation to ensure the survival of the business. The aim of the founder to transfer the business to future generations is a key defining element of continuing a family business (Poza, 2014; Astrachan & Shanker, 2003). Issues that need careful consideration involve integrating the family, business and ownership roles, and a successor lacking the necessary leadership skills may affect the continuity of the business (Poza, 2010; Ibrahim et al., 2004).

Until the founder makes the decision to involve the family and pass the business on to the next generation, the founder remains essentially an entrepreneur or small business owner (Gersick et al., 1997). Moreover, the leadership style of the successor may be different because of the difference in role perception. The successor must understand their own level of risk-taking propensity to enhance their own development as a leader (Cater & Justis, 2009).

Barach and Ganitsky (1995) believe that the succession process is a time for the outgoing leader to assist the younger leader with educational and operational opportunities, and it is a time for potential successors to fine-tune their own expertise, along with understanding the family values and special competencies.

## **2.2. Challenges promulgating failure in the succeeding generation**

It has been estimated that only 30 percent of family businesses successfully transfer to the second generation, 10 to 15 percent to the third generation and only three to five percent successfully survive to the fourth generation, according to Aronoff (1998), and later supported by Poza (2010) and Tio and Kleiner (2005). In South Africa, only one in four family businesses survive into the second generation, and one in ten makes it to the third generation (Hugo, 1996).

The founder's inability to move on was found to be a major factor inhibiting succession (Sharma et al., 2003). Girard (1996) states that jealousy is inevitable due to human desire. Therefore, in the context of the family business, the founder may support and encourage their heir to take charge of the business, but at the same time, refuse to let go of control. Conflict and rivalry within the family may then result in a failure in succession. The founder's general type of behaviour during the succession process will lead some businesses to fail regardless of the successor's abilities (Grote, 2003). As a result, family business leaders lacking the necessary leadership skills, which include relinquishing control, may affect the ultimate success of the business (Ibrahim et al., 2004).

## **2.3. Family business and leadership**

Scholars in family business literature acknowledge that leadership is vital to the survival and success of the business. Leadership is one of social science's most examined phenomena (Day & Antonakis, 2012). This is not surprising, seeing that it is a worldwide activity evident in humankind and in animal species (Bass & Bass, 2008).

Most leadership scholars would concur that leadership can be defined in terms of (a) an influencing process and its outcomes that occur between a leader and followers and (b) how this influencing process is explained by the leader's characteristics and behaviours, follower perceptions and attributes of the leader, and the context in which the influencing process occurs. Other authors posit that leadership can be measured and taught (Kouzes & Posner, 2012; Avolio & Bass, 1998).

## **2.4. Kouzes and Posner's Theory of Exemplary Leadership**

This theory of Kouzes and Posner (2012) showed that the study of leadership and practices leaders use in organisations originates with the relationship between aspiring leaders and followers to accomplish extraordinary goals. Without understanding these relational connections between leaders and followers, strategic tactics, skills and practices are meaningless. As a result, their research began 25 years ago and focused on finding out what essential qualities the followers most look for and admire in a person they would be willing to follow.

Their findings reveal there are four qualities that dominate. These include emotional satisfaction, shared visions of the future, a focus on trust and collaborative relationships (Kouzes & Posner, 2012). They realised over time that these fundamentals remained constant even if the context of leadership situations changed.

While observing leaders who performed successfully and studying those specific situations, Kouzes and Posner (2012) developed a theory of exemplary leadership, which is a model developed from their research findings. They believe that average leaders can be developed into extraordinary leaders through practices that can be learned. Their work led to the development of the leadership practices inventory (LPI), which is the basis of the measuring instrument used in the study that this article is based on.

The prominent attribute about the five practices of exemplary leadership is that they are attainable by leaders in smaller capacities, unlike the other neo-charismatic leadership theories, which focus on leaders of large companies. Overall, the relationship between leadership attributes and economic performance indicators of the business are supported by researchers in the literature (Collins, 2005; Duffy Atkin, 2002). However, studies focusing on relationships between leadership and business performance are rare. A similar study was done by Weaver (2008) in the USA, but no scholarly work related to the abovementioned factors could be identified in South Africa. Weaver (2008) suggests the field needs studies testing the association between the two dimensions to expand the validity of these results.

## **3. PURPOSE OF THE STUDY**

This research study seeks to explore the leadership practices displayed or used and the relationship to business performance for first generation and second generation family business leader's located in the Sedibeng region of South Africa.

It is envisaged that the survival rate for family businesses could improve if the identification of successful leadership practices is distinguished. First generation leaders may then encourage second-generation leaders to take steps to develop such practices or otherwise consider the presence or absence of such practices when deciding on a successor.

## **4. RESEARCH METHODOLOGY**

### **4.1. Participants**

The population for this study consisted of small and medium sized family businesses in the Sedibeng District and the Metsimaholo municipality in Southern Gauteng in South Africa. The definition of a family business, as outlined by Ibrahim and Ellis (2004), has been adopted as the definition for the purpose of this study. To be classified as a family business, the following requirements must be met: (1) At least 51 percent of the business must be owned by the family; (2) At least two family members must be involved in the management of the business; (3) The transfer of leadership to the next generation of family members must be anticipated.

Weaver (2008) conducted a similar study in the United States and used a convenience sample of 183 family business leaders. This substantiates the 197 small and medium sized family

business owners that made up the sample for this study. Because the study was exploratory the only inclusion criteria was that the respondents were either first or second generation family business owners.

#### **4.2. Instrument**

The leadership practices inventory (LPI) used in this study formed the basis for determining the differences in the type of leadership practices present in first and second generation family business leaders. The leadership practices inventory was appropriate for the current study because of its documented validity and application in a wide range of situations (Weaver, 2008; Enger, 2004; Kouzes & Posner, 2012).

This LPI assessment gives feedback to leaders on their performance with respect to five practices of exemplary leadership: (a) *model the way* (refers to setting an example and standing up for beliefs), (b) *inspire a shared vision* (adopting a positive outcome for the organisation and sharing that vision with others), (c) *challenge the process* (embracing change and risk taking), (d) *enable others to act* (by fostering collaborative efforts and sharing power), and (e) *encourage the heart* (exemplary leaders celebrate victories and recognise follower contributions). The leadership practices inventory (LPI) includes a ten-point Likert scale with 1 denoting almost always and 10 denoting almost never. The five practices are evaluated by six dimensions each on the leadership practices inventory.

In addition, the respondents completed a business performance and demographic questionnaire with specific business performance indicators, which will be discussed in the next section.

#### **4.3. Business performance indicators**

According to Chaharbaghi and Willis (1999), business performance is broadly viewed from two perspectives namely, an objective and subjective measure. Where objective measures refer to financial aspects, subjective measures test the non-economic performance of the business.

Matsuno and Mentzer (2000) also support the concept that business performance should be viewed not only as economic performance (concrete figures representing business performance) but also as non-economic performance (customer satisfaction, social acceptance, corporate image and employee satisfaction).

The objective business performance measures include various financial aspects of the business, such as figures gleaned from the businesses financial statements. These figures can include sales turnover, profit margins, investment returns, staff turnover rates and other ratios developed from financial statement information (Plakoyiannaki et al., 2008; Lee, 2004). An additional objective measure of economic performance is the change in the number of employees over time. In a multidimensional approach, Haber and Reichel (2005) asked respondents in a study of small tourism ventures to indicate profitability, revenues, and number of employees for each of three years. They found that an increase in revenues had a positive correlation with an increase in the number of employees.

Researchers have historically used subjective measures of business performance for research on small privately held firms because of the unavailability of publicly accessible, objective financial information (Miller & Besser, 2005). In addition, many private firm owners were reluctant to provide confidential financial statements to researchers, preferring to respond to the questions themselves (Miller & Besser, 2005; Wolff & Pett, 2006). Miller and Besser (2005) asked respondents to indicate the prior year's sales in an open-ended question, and Wolff and Pett employed a five-point Likert type scale for questions comparing the firm's performance to competitors in the industry. In a similar manner, Rasheed (2005) asked

respondents whether the sales and profits for the business increased, remained the same, or decreased each year over the past three years.

Obtaining financial information in this manner helps to ascertain the change in business performance over time as well as the position of the company within the industry (Miller & Besser, 2005; Rasheed, 2005; Wolff & Pett, 2006). The perception of profitability relative to similarly situated businesses is a useful measure in a multi-dimensional approach (Wolff & Pett, 2006). The final measure of business performance relates to the owners' perception of satisfaction in the leadership position.

Therefore, the business performance indicators for this study included the following questions: (a) annual sales for the business for 2009, 2010 and 2011; (b) the average number of employees for 2009, 2010 and 2011; (c) the leader's perception of the profitability of the business as compared to similar sized businesses (determined on a 5-point Likert scale), and; (d) the leader's level of satisfaction with the leadership role in the business.

#### **4.4. Data collection methods**

The researchers conducted the fieldwork for the study personally. Because, of the absence of officially compiled databases for family businesses, the only available option was to rely on snowball sampling as the sampling method.

A starting point was to obtain a preliminary list of all businesses from the local business chambers, and from there the researchers identified a number of family businesses. The approach used was to make telephonic appointments with those respondents who met the requirements for the study. During the meeting, the researchers briefly described the research topic, reason for the study, possible outcomes expected from the study and the anticipated advantages for the family business leaders. The respondents were informed of the principle of voluntary participation, privacy, and the fact that they could withdraw from the study at any time.

A total number of 250 self-administered questionnaires were delivered or e-mailed to the accessible population of small and medium-sized family businesses and later collected. Of the

250 questionnaires distributed, 197 were returned, which is a response rate of 78.8 percent.

## **5. FINDINGS AND DISCUSSION**

### **5.1. Demographic profile of respondents**

The profile of respondents comprised 150 first generation and 47 second generation leaders, representing 76.1 percent and 23.9 percent of the family businesses respectively. For the first generation leaders, 32 percent were over the age of 60, thereby demonstrating their desire to remain involved in the business close to their retirement age. Perhaps another possible explanation is that many family businesses have not done succession planning or there may be no willing family members to take over the businesses, as was the case in research conducted by Van Duijn et al. (2007) and Rwigema and Venter (2004).

In addition, 80 percent of the first generation family business leaders had more than 20 years of experience in a leadership position. For the second generation, the majority of the respondents in this study were under the age of 40 and had 5 years and less (100%) experience as a leader. In addition, all the respondents employed fewer than 200 employees. The annual sales/turnover for the three years ranged from R700 000 to R165 000 000 for the first generation family businesses, and between R550 000 and R103 000 000 for the second generation family businesses. Various family business leaders were reluctant to report actual sales figures and offered the percentage of change in sales from 2009 to 2010 and 2011. This was acceptable because the scoring of this business performance indicator considered the change in sales for the above-mentioned years.

## 5.2. Reliability and validity

A measurement model of the conceptual model with six latent variables was estimated. All constructs were modelled using reflective indicators. Construct reliability was assessed by three methods, Cronbach's alpha test (Cronbach's  $\alpha$ ), composite reliability test (CR) and average value extracted (AVE) test. The results are presented separately for the first generation and second generation leaders in Table 1 and 2 respectively.

*Table 1: First generation leaders*

Construct	Cronbach Value	CR Value	AVE Value
Model the way	0.778	0.702	0.530
Inspire a shared vision	0.819	0.754	0.512
Challenge the process	0.752	0.741	0.582
Encourage others to act	0.869	0.715	0.530
Encourage the heart	0.796	0.709	0.599
Business performance	0.773	0.723	0.601

*Table 2: Second generation leaders*

Construct	Cronbach Value	CR Value	AVE Value
Model the way	0.742	0.749	0.531
Inspire a shared vision	0.767	0.749	0.563
Challenge the process	0.775	0.771	0.569
Encourage others to act	0.766	0.773	0.589
Encourage the heart	0.734	0.729	0.539
Business performance	0.741	0.734	0.533

Cronbach alphas of above 0.73 were reported for all the constructs in the scale, for both first and second generation leaders, which is above the acceptable level as suggested by Nunnally (1978) and indicates that the scale is consistent and reliable. All of the items loaded on the six predetermined factors as expected, indicating the uni-dimensionality of the scale. The internal reliability of each construct was also evaluated using the composite reliability (CR) index test. A composite reliability index that is greater than 0.7 depicts an adequate internal consistency of the construct (Hair et al., 2010). AVE values greater than 0.50 (Hair et al., 2010; Neuman, 2006) reveal that the indicators represent the construct well. The CR and AVE values are all above the recommended measures, therefore, signifying that the measuring instrument used to measure the constructs is internally reliable and consistent (Hair et al., 2010).

## 5.3. Structural equation modelling (SEM)

The structural model was tested using the loadings and significance of the path coefficients (indicating the strength of relationships between dependent and independent variables), and the R<sup>2</sup> value (the amount of variance explained by independent variables).

The statistical significance of each path was estimated using a Smart PLS bootstrapping method utilising 100 resamples to obtain t-values (Hair et al., 2010). Support for the study hypotheses (refer to Table 3 and 4), which are labelled on their corresponding paths in Figure 1 and 2 could be ascertained by examining the directionality (positive or negative) of the path coefficients and the significance of the t-values. The standardised path coefficients are expected to be at least 0.2 and preferably greater than 0.3 (Hair et al., 2010).

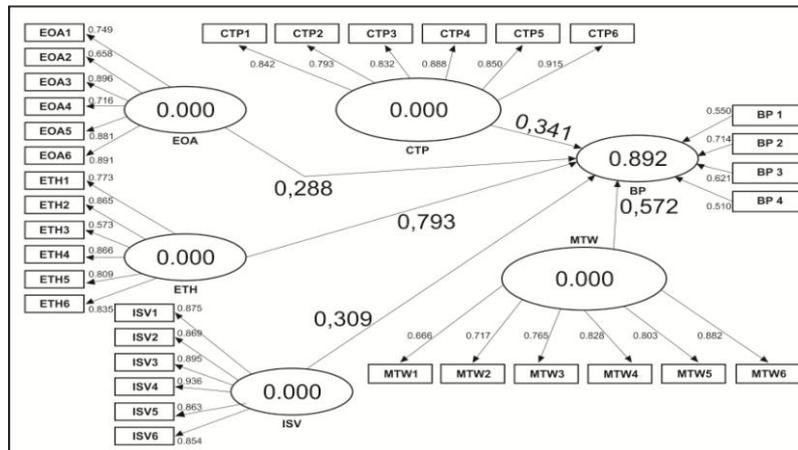


Figure 1: Structural model results - first generation

For the first generation, the  $R^2$  value for the dependent variable – business performance (BP) is 0.892. This indicates that the five leadership practices explain about 89.2 percent of the variance in business performance (BP), hence suggesting that these variables almost fully explain the variations in business performance indicators for the first generation family businesses.

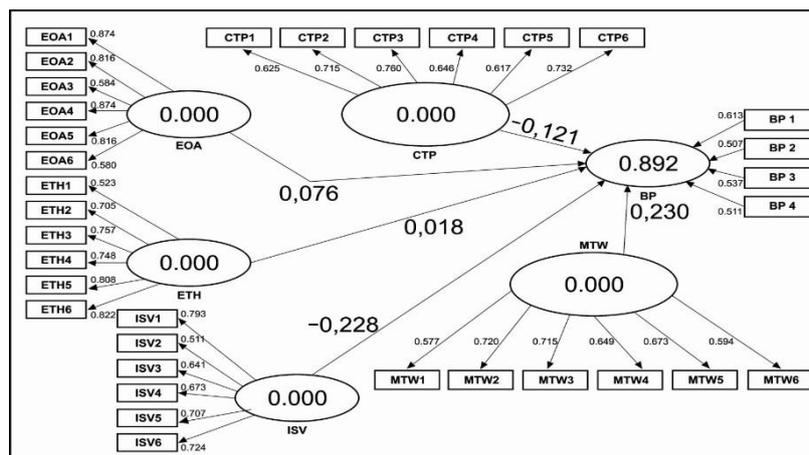


Figure 2: Structural model results - Second generation

For the second generation, the  $R^2$  value for business performance (BP) is 0.129. This finding suggests that the leadership practices explained only 12.9 percent of the variance in business performance (BP), indicating that the leadership practices employed by second generation leaders did not have a significant impact on business performance.

#### 5.4. Hypotheses testing for first generation leaders

The corresponding path coefficients of the research hypotheses indicate observable existence of positive relationships between the five individual leadership practices and business performance for first generation family business leaders. A summary of these significant relationships is represented in Table 3.

Table 3: SEM analysis - first generation

Proposed Hypothesis Relationship	Path Coefficients	T-Statistics	Rejected / Supported
H <sub>a</sub> 1a. There is a significant positive association between the individual leadership practice (1) <i>model the way</i> and business performance for the first generation family business leaders.	0.572	3.423*	Supported
H <sub>a</sub> 2a. There is a significant positive association between the individual leadership practice (2) <i>inspire a shared vision</i> and business performance for the first generation family business leaders.	0.309	3.018*	Supported
H <sub>a</sub> 3a. There is a significant positive association between the individual leadership practice (3) <i>challenge the process</i> and business performance for the first generation family business leaders.	0.341	2.929*	Supported
H <sub>a</sub> 4a. There is a significant positive association between the individual leadership practice (4) <i>enable others to act</i> and business performance for the first generation family business leaders.	0.288	2.243*	Supported
H <sub>a</sub> 5a. There is a significant positive association between the individual leadership practice (5) <i>encourage the heart</i> and business performance for the first generation family business leaders.	0.793	3.434*	Supported

\*Significance level of +1.96

Hypotheses 1 to 5 show positive and significant relationships between each of the leadership practices and business performance. The results indicate a positive ( $\beta = 0.572$ ) and significant ( $t = 3.423$ ) relationship between the leadership practice *model the way* and business performance. For hypothesis 2, the results show a positive ( $\beta = 0.309$ ) and significant ( $t = 3.018$ ) correlation between the leadership practice *inspire a shared vision* and business performance. Similarly Hypotheses 3 (*challenge the process*); 4 (*enable others to act*) and 5 (*encourage the heart*) showed positive and significant relationships with business performance. As a result, H<sub>a</sub>1a, H<sub>a</sub>2a, H<sub>a</sub>3a, H<sub>a</sub>4a and H<sub>a</sub>5a are supported.

For leaders to effectively model the way, they should first be clear about their own guiding principles. Leaders' deeds are far more important than their words. Exemplary leaders set an example by aligning their actions with shared values. Hence, a leader who sets a good example will positively affect the performance of the business.

Leaders describe their personal best leadership experience as times when they imagined an exciting, highly attractive future for their businesses. They had visions of what could be. Leaders envision the future by imagining exciting possibilities such as growth in market share and an overall increase in business performance, which has ostensibly influenced the results of the family firm. First generation business founders are likely to have had this vision in mind when beginning the firm, due to their own entrepreneurial orientations and have been able to transfer this vision to their employees, who subsequently influence business performance positively.

No leader can claim to have achieved a personal best by maintaining the status quo. Leaders who challenge the process venture out, they do not sit idly by and wait for things to happen. These leaders have to look constantly outside themselves and the business to search for opportunities and by looking outward for ways to improve. This continual seeking of improvement is bound to have an impact on business performance.

An organisational vision will not be realised through the actions of one individual only; it requires a team effort. It necessitates trust, commitment and strong relationships. This sense

of teamwork extends beyond a few direct instructions, and these leaders typically engage and enable all employees to act to ensure the performance of the business.

It has been shown by  $H_{a5a}$  that a greater level of encouraging the hearts of employees is related to higher levels of business performance. Leaders recognise contributions by showing appreciation for individual excellence, and these acts of caring draw people forward. These leaders are often on the lookout for ways to create an environment in which people feel cared about and appreciated. Acknowledging aspects during a project that was successful and giving positive feedback to people who deserve credit is very important. It builds morale and contributes to a more cooperative work environment. The first generation leaders, possibly due to their investment and involvement in the family firms, were able to model all these leadership practices successfully.

### 5.5. Hypotheses testing for second generation leaders

The five hypotheses tested for the first generation leaders were similarly assessed from the data gathered from the second generation leaders via means of SEM. The results are outlined in Table 4.

Table 4: SEM analysis - second generation

Proposed Hypothesis Relationship	Path Coefficients	T-Statistics	Rejected/Supported
$H_{a1b}$ . There is a significant positive association between the individual leadership practice (1) <i>model the way</i> and business performance for the second generation family business leaders.	0.195	0.736	Rejected
$H_{a2b}$ . There is a significant positive association between the individual leadership practice (2) <i>inspire a shared vision</i> and business performance for the second generation family business leaders.	-0.228	0.082	Rejected
$H_{a3b}$ . There is a significant positive association between the individual leadership practice (3) <i>challenge the process</i> and business performance for the second generation family business leaders.	0.118	1.998*	Supported
$H_{a4b}$ . There is a significant positive association between the individual leadership practice (4) <i>enable others to act</i> and business performance for the second generation family business leaders.	0.076	1.370	Rejected
$H_{a5b}$ . There is a significant positive association between the individual leadership practice (5) <i>encourage the heart</i> and business performance for the second generation family business leaders.	-0.121	2.019*	Supported

\*Significance level of +1.96

Hypothesis  $H_{a1b}$  posited a positive relationship between the leadership practice *model the way* and business performance. The results show a positive ( $\beta = 0.195$ ) but insignificant ( $t = 0.736$ ) association between the leadership practice *model the way* and business performance and the hypothesis is thus rejected. Hypothesis  $H_{a2b}$  is similarly rejected as the results indicate a negative ( $\beta = -0.228$ ) and insignificant ( $t = 0.082$ ) relationship between the leadership practice *inspire a shared vision* and business performance.

Hypothesis  $H_{a3b}$  posited a positive association between the leadership practice *encourage the heart* and business performance. Table 4 indicates that there is a positive ( $\beta = 0.118$ ) and significant ( $t = 1.998$ ) association between the leadership practice and business performance.

Therefore, H<sub>a3b</sub> is supported. H<sub>a4b</sub> is however rejected, because the results show a positive ( $\beta = 0.076$ ) but insignificant ( $t = 1.370$ ) correlation between the leadership practice *enable others to act* and business performance.

Hypothesis H<sub>a5b</sub> posited a positive relationship between the leadership practice *challenge the process* and business performance. Table 4 indicates that there is a negative ( $\beta = -0.121$ ) but significant ( $t = 2.019$ ) relationship between the leadership practice *challenge the process* and business performance. Therefore, H<sub>a5b</sub> is also accepted.

These findings show that second generation leaders did not use all the leadership practices frequently and thus had marginal influence on business performance. The inexperience of the successors based on the limited years in a leadership position resulted in them perhaps not understanding the leadership challenge. They were only able to *challenge the process* and *encourage the heart*. This could firstly be indicative of the younger generation of successors (akin to the Generation Y cohort) that are more likely to challenge authority and consider themselves immune to rules. Secondly, they are also possibly able to be supportive and empathetic to their followers due to having a sense of belonging and camaraderie within the organisation if they were essentially raised in a family firm. However, leaders mobilise others to accomplish shared aspirations and this means that leadership is a relationship. It is possible that these successors have not yet developed the behaviours to use all these leadership practices sufficiently to develop these relationships. They were unable to *model the way*, *inspire a shared vision* and *enable others to act*, so these second generation leaders still need to develop these competencies.

Based on the findings, exemplary leadership behaviour makes a difference in an individual's commitment and performance at work. Leaders who more frequently engage in these leadership practices are considerably more effective. These results are supported by the research of Kouzes and Posner (2012:33) and in a similar study done by Weaver (2008) in the USA.

## 6. RECOMMENDATIONS

This research study proposes that the five leadership practices are important to the successful transfer of ownership and leadership of family firms to the second and later generations. However, first generation family business leaders should be aware that successors face different challenges than those faced by the first generation leaders. Second generation leaders may require attributes that are not necessarily the same as those needed by first generation leaders and appropriate transitioning mechanisms need to be put in place to address this. To this end, it is important that members of the second generation develop all the five leadership practices to ensure increased business performance and ultimately sustainability. The demographic information indicated that 32 percent of the first generation leaders are over the age of 60 and are probably planning to retire in the next few years. This may result in a large number of new leaders being introduced into the economy. Creating and providing emerging family business leaders with leadership and training opportunities may help to improve the success rate of the second and later generation family businesses. Family businesses that develop these leadership practices may be poised to seek opportunities that allow them to capitalise on performance. As the successors of family businesses were not engaging in all the leadership practices, they are the areas that require development to assist in improving business performance, namely *model the way*, *inspire a shared vision* and *enable others to act*. This implies that when it comes to setting an example, communicating vision and mobilising resources to allow for progress, the family business successors were lacking. First and second generation family business leaders should take note of these

potential problem areas and use this research to improve on the leadership practices used in their respective businesses. Figure 3 presents suggestions for developing the three leadership practices that were lacking within successors for the benefit of the family firms.

Model the way	Inspire a shared vision	Enable others to act
<ul style="list-style-type: none"> <li>• Examine past experiences to identify values and to make choices and decisions.</li> <li>• Articulate the values that guide current decisions, priorities and actions.</li> <li>• Help others articulate why they do what they do, and what they care about.</li> <li>• Make sure that others are adhering to the values and standards that have been agreed upon.</li> </ul>	<ul style="list-style-type: none"> <li>• Determine what you care about, what drives you, where your passion lies.</li> <li>• Be curious about what is going on around you.</li> <li>• Spend time thinking and finding out about the future.</li> <li>• Talk to your employees and show how their long-term interests are served by enlisting in a common vision.</li> <li>• Promote people's pride in what they contribute.</li> </ul>	<ul style="list-style-type: none"> <li>• Spend time with your followers, listen and find out what makes them pulse.</li> <li>• Frequently repeat the common goal that you are all striving towards, the shared values and the larger purpose.</li> <li>• Make sure people understand how they are interdependent with one another.</li> <li>• Let people make choices about how they do their work and serve customers.</li> </ul>

*Figure 3: Development of leadership practices*

Since published evidence of a quantitative nature on the leadership practices and the correlation with business performance in small and medium-sized family businesses is still lacking, these findings present opportunities for further research.

## 7. LIMITATIONS AND IMPLICATIONS FOR FURTHER RESEARCH

Only family businesses located in the Sedibeng region in South Africa participated in this study, owing to the use of a non-probability, snowball convenience sample, therefore the sample cannot be considered representative of all small and medium-sized family businesses in South Africa. As a result, the findings reported cannot be generalised to the general family business population.

Another limitation of this study is that the current study required the family business leaders to fill in a self-reported version of the leadership practices inventory to record the leader's own perception of the leadership practices employed by him or her-self. It is possible that these own perceptions were biased in some form. Future studies could obtain additional observations by others evaluating the leadership practices of the leader and may provide a better assessment of the leaders' leadership practices rather than sole reliance on the self-reported version.

In addition, a mixed method approach might shed light on the lack of correlation between the individual leadership practices and the measures of business performance for the second generation business leaders.

By using the qualitative component of interviews, researchers may determine what other factors could be occurring in the business environment. Some of these factors might be the role of other leaders within the business, the involvement of the founder on a regular basis or other economic factors such as a downturn in the economy.

## 8. CONCLUSION

In an effort to try to explain the persistent failure rate of succeeding family businesses this study has contributed to the field of family business and leadership research by using the concept of quantifying leadership.

This study also used the LPI to ascertain whether these leadership practices show a relationship with the business performance of the selected family businesses. The use of structural equation modelling to signify relationships enhances the contribution as most studies on family businesses have focused on case study methodology.

Taking the theories related to leadership succession in family business into account, an empirical investigation into the five leadership practices has provided insight into where the potential problem areas lie in the second or later generation of family business leaders. This is an area of research that has not yet been conducted in South Africa and could result in the adaptation of entrepreneurial theory in the family business literature.

This stream of research may supply advances in not only theoretical knowledge, but also the management of the succession process in family businesses, an important consideration given the high failure rate in the transition of leadership.

Family business leaders and advisors may use the information to provide platforms for the training of successors, or use the information when choosing a successor for the family business. This should allow for a measure of transference from first generation to second generation business leaders, and contribute to the sustained success of family firms.

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## CORE COMPETENCY OF MUAKLEK STEAKHOUSE

**Katanyu Hiransomboon**

*King Mongkut's Institute of Technology Ladkrabang, Thailand.  
katanyu\_h@hotmail.com*

**Adilla Pongyeela**

*Dhurakit Bundit University, Thailand.  
adilla777@yahoo.com*

### ABSTRACT

*The objectives of this research aim to (1) study the consumer behaviors of Muaklek Steakhouse in Thailand, (2) study the core competency of Muaklek Steakhouse from the opinions of consumers. The population was Muaklek Steakhouse tourist consumers in Thailand. The sample size was 400 of tourist consumers. The questionnaire was used as a research instrument. The data were analyzed by frequency, percentage, mean and S.D., and testing hypothesis by using t-test, F-test following by LSD. In order to serve the objectives of the study, it was found that;*

*(1) Most of the tourist consumers had main reason of eating steak at Muaklek Steakhouse because of having various menus and it was recommending food for the tourist, they preferred pork, beef, seafood, and chicken steaks respectively, had eaten not very often, price per time of eating was 301 to 500 baht, timing of eating steak was uncertainty, preferred convenient location, had eaten together with family.*

*(2) The core competency of Muaklek Steakhouse was 1) functional competency: there were accommodation management ability, various items of food, responded to order, followed by 2) quality and service maintaining competency which focused on freshness, and 3) market competency respectively which was being the popular food in the market. The results of hypothesis testing found that the consumers those had different demographic background such gender, age, status, occupation, and educational level had no significant different opinions about core competency of Muaklek Steakhouse except income level.*

**Keywords :** *Muaklek Steakhouse, Core Competency, Consumer Behavior, Functional Competency, Market competency.*

### 1. INTRODUCTION

Even most Thai people enjoy having Thai food in daily life but they also welcome foreign food to experience new taste such as Japanese food, Chinese food, and western food.

Steak is one of popular foreign food in Thailand, not only for the extraordinary meal-but also available in the lower price dish (not more than 100 baths or less than 2.5 €) which is affordable for everyone. Thai people like to eat steak which make of pork, beef, chicken, sea food, lamp or ostrich. There are many steakhouses in Thailand especially in Bangkok and North eastern provinces where beef is more favorable than pork. Also many cattle farms are settled to produce qualified raw material to cook the perfect steak.

Muaklek is a district in Saraburi province where boundary connected to Pakchong district in Nakornrachasima province. Many tourist sites and cattle farms are available there to support steakhouses and restaurants business. Steak becomes local dish which is famous as “Muaklek steak” or “Saraburi steak”. Sometimes it is called “Korach steak” because Korach is another name of Nakornrachasima province. Fresh raw material, cooking in Thai style, and convenient location nearby tourist place enhances tourists to usually have steak in their trip. Due to increasing demand of delicious steak, Muaklek steakhouse business is growing and being more competitive to offer the best service to win their customer’s satisfaction.

Sustainable Muaklek steakhouse requires core competency to survive and grow further. From customer's sight, steakhouses which provide good service and skillful cooking must dominate their market, maintain qualified product and service and perform all duty appropriately. If Muaklek steakhouse have adequate competency, they could become an indigenous knowledge which become another selling point of touring in north eastern of Thailand.

### **Objective of the Study**

1. To study behavior of eating Muaklek steak.
2. To study core competency levels of Muaklek steakhouse.
3. To compare the core competency levels of Muaklek steakhouse divided by gender, age, marital status, occupation, income, and education of tourist customers.

### **Methodology**

#### **1. Data Collection Method**

The data used for this research was primary data from tourist customers of Muaklek steakhouse in Muaklek district, Saraburi province and Pakchong district, Nakornrachasima province. These data was collected through interview 400 customers.

#### **2. Tools for Data Collection**

Questionnaires and employed for the survey; consisting of 3 parts as follows:

Part 1: Personal data of tourist customers.

Part 2: Behaviors of eating Muaklek steak.

Part 3: Core competency levels of Muaklek steakhouse consisted of market domination

#### **3. Population and Sample Group**

The population in this research is tourist customers of Muaklek steakhouse in Muaklek district, Saraburi province and Pakchong district, Nakornrachasima province. Convenience sampling was used. Totally number of samples was 400 tourist customers.

#### **4. Data Analysis**

Descriptive statistics such as percentage, were used in the data analysis regarding personal information of respondents and behaviors of eating Muaklek steak. Mean and standard deviation were used to analyze core competency levels of Muaklek steakhouse.

T-test was used to compare core competency levels between two genders. F-test for one-way analysis of variance (One-way ANOVA) was used to compare core competency levels of steakhouse customers divided by age, marital status, occupation, income, and education of tourist customers.

## **2. REVIEW**

Jirawan Juiwatlaio (2013) studied satisfaction test of consumers on Chiang Mai Brown (Sahiwal Friesian, SW 50%: HF 45-50%) bull meat steak. Data were collected through questionnaires from 148 consumers who joined the "Innovative of animal breed research from Department of Livestock Development for consumers" exhibition day at Ratchaphruek Royal Floral Park, Chiang Mai. The results showed the tenderness, fragrant, flavor and overall satisfaction of T-bone), loin and topside were in the very satisfaction level when the taste of rump and knuckle were in satisfaction level. The meat from proper age 8-10 months

and weighing about 200 kg. an specific part of Chiang Mai Brown bull cut were found satisfaction for consumer. Katanyu Hiransomboon (2013) studied marketing mix affecting specialty restaurant service selection in Bangkok . The data were collected from 300 specialty restaurant customers by using questionnaires. The results were that most specialty restaurant customers were women, 21-30 years old, bachelor degree graduated, single, company employees, more than 30,001 baht monthly income. They came to specialty restaurants because of enjoying the taste of food, dining at the restaurant with friends, the service using frequency was more than a month in each time and spent more than 250 baht for each customer. The important levels of marketing mix implemented ranking respectively are 1) physical evidence 2) service personnel 3) service process 4) food products 5) service channel 6)pricing and 7) marketing promotion. Customers in different age had different service channel and marketing promotion. Customers in different education level had different pricing, service channel, marketing promotion, and physical evidence. Different marital status paid different attention in physical evidence. And different occupation customers had the different pricing, service process and service personnel. Morakok Thepyos (2008) **studied** factors affecting business operation of foreign food restaurants in Chiang Mai municipality. 34 samples were selected from foreign restaurants in Chiang Mai to be interviewed by questionnaires. The study found that most foreign food restaurant were in medium size, invested by Thais. Operation period was 5-10 years, opened daily from 10.00 - 14.00 or 10.00 - 22.00., most entrepreneurs were keen in cooking, rented a place to build restaurants, located near the business zone. The owner was responsible for managing business and used less than 20 staff members, of which at least five people at the management or the kitchen, mostly buy their raw materials from the market. Moreover, the raw materials are imported from abroad, 31.15 percent and used non-toxic/healthy ingredients 32.31 percent. Most foreign food restaurants capital invested 300000-500000 baht by using private money. Working capital was less than 200,000 baht per month, which came from the earnings of the business. Costs, mainly in raw materials, was about 53 percent of total cost. Total sales for the year was 1,000,000 - 2,000,000 baht with net profit 500,000 - 1,000,000 baht. Both Thais and foreigners were customers. Average number of customers was 61 – 90 per day. Factors affecting the establishment of foreign restaurants were two major factors ,personnel was the most importance factor and financial factors were the least important factors. In the marketing mix, location factor was the most important and promotion was the least important. Major problem found was high competition among foreign food restaurants and the least important one was regulatory issues.

### 3. CHAPTER

#### 3.1. Personal Data of respondents

Most steakhouse customers are female, 21 – 30 years old, married, earned more than 30,000 baths (751 €), entrepreneur, and bachelor degree. (Table 1)

*Table 1: Personal Data of Steakhouse Customers.*

Personal Data of Steakhouse Customers.		Number	Percent
Gender	Male	192	48.00
	Female	208	52.00
	Total	<b>400</b>	<b>100.00</b>

<b>Age</b>	20 years old or younger	26	6.50
	21 – 30 years old	133	33.25
	31 – 40 years old	100	25.00
	41 – 50 years old	80	20.00
	51 – 60 years old	50	12.50
	60 years old and older	11	2.75
	Total	<b>400</b>	<b>100.00</b>
<b>Marital Status</b>	Single	175	43.75
	Married	198	49.50
	Widow/Divorced/Separated	27	6.75
	Total	<b>400</b>	<b>100.00</b>
<b>Monthly income</b>	15,000 baths or lower (375 € or lower )	65	16.25
	15,001 – 20,000 baths (376-500 €)	83	20.75
	20,001 – 25,000 baths (501-625 €)	62	15.50
	25,001 – 30,000 baths (626-750 €)	76	19.00
	More than 30,000 baths (More than 751 €)	114	28.50
	Total	<b>400</b>	<b>100.00</b>
<b>Occupation</b>	Company employee	107	26.75
	Government officer	100	25.00
	Entrepreneur/ independent	122	30.50
	Student	41	10.25
	Retired/ Housewife	25	6.25
	Unemployed	5	1.25
	Total	<b>400</b>	<b>100.00</b>
<b>Education</b>	Lower than bachelor degree	77	19.25
	Bachelor degree	256	64.00
	Higher than bachelor degree	67	16.75
	Total	<b>400</b>	<b>100.00</b>

### 3.2. Consumer Behavior of Muaklek Steak

Main reason of selecting Muaklek steak is it has been a recommended local menu as Muaklek is famous in doing cattle business for many years and produce qualified raw material for cooking steak. However, Thai people prefer pork steak as some of them deny to consume beef due to religious belief, so beef steak is in second rank.

Price of steak is quite high compare to the other local dishes so someone have it not so often but affordable customers have it once a trip. Having steak is an occasional meal so most customers require good steak which price is quite high. In the other words, high price steak is more desirable than low price one.

Customers often have steak in lunch and dinner, not for breakfast. Steak in lunch time takes longer time to digest but steak meal with wine and party usually occurs in dinner.

Many steakhouses are available in Muaklek district so customers can choose any place to try new experience even some select only regular steakhouse where they used to enjoy the good taste.

Having steak with family or couple usually occurs in touring trip. In business trip or study tour, people go to steakhouse with friends.

*Table 2 : Steak Consumption Behavior*

<b>Reason of selecting Muaklek Steak.</b>	<b>Number</b>	<b>Percent</b>
Muaklek steak is one of recommended local menu.	201	35.45
Muaklek steak is my favorite dish.	124	21.87
Muaklek steak is delicious.	94	16.58
Muaklek steakhouse provides the impressive service.	22	3.88
Muaklek steakhouse has variety of food for everybody.	126	22.22
Total	<b>567</b>	<b>100.00</b>

<b>Types of Steak</b>		
Beef steak.	147	20.16
Pork steak.	223	30.59
Chicken steak.	77	10.56
Fish steak.	140	19.20
Seafood steak.	87	11.93
Ostrich steak.	34	4.66
Lamp/ Sheep steak.	21	2.88
Total	<b>729</b>	<b>100.00</b>
<b>Frequency of Muaklek steak consumption.</b>		
More than once a trip.	41	10.25
Once a trip.	111	27.75
Often but not every time.	108	27.00
Not Often	121	30.25
First time.	19	4.75
Total	<b>400</b>	<b>100.00</b>
<b>Expense per person.</b>		
Not more than 300 bath	75	18.75
301 – 500 bath	204	51.00
More than 500 bath	121	30.25
Total	<b>400</b>	<b>100.00</b>
<b>Table 2 (Continued)</b>		
<b>Dining Time</b>		
Lunch	174	43.50
Dinner	43	10.75
Uncertain	183	45.75
Total	<b>400</b>	<b>100.00</b>
<b>Dining place</b>		
Regular steakhouse.	114	28.50
Steakhouse where is convenience to come.	187	46.75
Depending on their companion.	99	24.75
Total	<b>400</b>	<b>100.00</b>
<b>Companions</b>		
Family or couple	203	50.75
Relatives	82	20.50
Friends	115	28.75
Total	<b>400</b>	<b>100.00</b>

### 3.3. Core competency level of Muaklek steakhouse

In this research, core competency of Muaklek steakhouse is divided into 3 categories; performing appropriate activities, dominating steak market and maintaining and quality and service maintaining competency

Functional competency come in the highest level. Most customers can easily see that Muaklek steakhouse prepares all dinning accessories appropriately such as seasoning, knife and fork, etc. Physical evidence of service business usually shows how well the customers would be served. But Thai people do not pay much attention to the side dish because they focus on the quality of steak. Moreover, most Muaklek steakhouses have not much difference in side dish, they concentrate in cooking steak.

The second is market competency As a famous local dish, Muaklek steak is likable for every visitor. Having steak in this area is another way to enjoy travelling trip. However, many customers are willing to have only once in a trip because pork or beef steak is quite high price and hard to digest. Nowadays Thai people interest more about their health, they watch weight carefully by avoiding heavy meal.

Quality of product and service maintaining competency is also the second level, as much average value as Market competency Customers feel that raw material of Muaklek steak is

always good and fresh which affect steak quality directly. Many cattle farms available in Muaklek district convince people that beef is quite fresh. But most Muaklek steakhouse is quite crowded in high season (winter) so some customers do not think it was the remarkable place (Table 3)

*Table 3: Core competency level of Muaklek steakhouse.*

<b>Core competency level of Muaklek steakhouse.</b>	$\bar{x}$	S.D.
<b>Functional competency</b>	<b>3.88</b>	<b>0.59</b>
Muaklek steakhouse can cook delicious steak.	3.77	0.72
Muaklek steakhouse can cook delicious steak.	3.77	0.72
Muaklek steakhouse can cook delicious side dishes such as salad, baked potato, French fried.	3.74	0.76
Muaklek steakhouse can cook as the customer order.	3.90	0.72
Muaklek steakhouse can prepare all dinning accessories appropriately such as seasoning, knife and fork, etc.	4.04	0.79
Muaklek steakhouse has proper atmosphere such as decorated in western cowboy style, with country song.	3.85	0.85
Muaklek steakhouse can service efficiently even in crowded situation.	3.85	0.84
Muaklek steakhouse has several types to select and adequate raw material to cook.	4.02	0.73
<b>Market competency</b>	<b>3.74</b>	<b>0.58</b>
Visitors cannot miss Muaklek steak.	3.76	0.78
Muaklek steak is more delicious than the other steaks.	3.73	0.76
Muaklek steak is worth to repeat consumption.	3.51	0.81
Name of Muaklek steak is more reliable than the other steakhouse.	3.89	0.79
Muaklek steak is likable for every visitor.	4.01	0.75
Muaklek steak can be opened more branches or in franchise system.	3.55	0.89
<b>Quality and service maintaining competency</b>	<b>3.74</b>	<b>0.60</b>
Taste of Muaklek steak is consistency.	3.83	0.71
Raw material of Muaklek steak is always good and fresh.	3.94	0.71
Employees of Muaklek steak are responsive to customer's request.	3.75	0.75
Employees of Muaklek steak provide service with empathy.	3.67	0.79
Muaklek steakhouse provides fast service.	3.64	0.80
Muaklek steakhouse is a remarkable place for customer.	3.61	0.78

### 3.4. Comparison of Muaklek steakhouse core competency levels

#### 3.4.1 Comparison in different personal data of customer

Customers who have different monthly income have different level of quality and service maintaining competency and different level of functional competency at the 0.05 significant level. Because high income customers normally choose good steakhouse where provides high quality steak. They are willing to pay more for remarkable meal and expect the constant quality in everytime they come. (Table 4).

*Table 4: Comparison of Muaklek steakhouse core competency levels in different customer personal data by using F-test at the significant level = 0.05*

<b>Muaklek Steakhouse Core Competency</b>	$\bar{x}$			<b>F</b>	<b>F-Prob</b>
	<b>≤20,000 bath</b>	<b>20,001 - 30,000 bath</b>	<b>&gt;30,000 bath</b>		
Market competency	3.76	3.76	3.69	0.55	0.578
Quality and service maintaining competency	3.80	3.81	3.58	5.66	0.004*
Functional competency	3.94	3.93	3.75	4.25	0.015*

#### 3.4.2. Comparison in different steak consumer behaviors

Customers with different frequency of steak consumption have different in market competency and quality and service maintaining competency because customer who visits steakhouse more frequently can compare the components of service in each steakhouse more precisely.

Customers with different expense per person have different in market competency because some customers require qualified steak from famous steakhouse which has high price, suitably to be special meal in extraordinary occasion. They pay less attention to the expense, only want to enjoy the tasty steak. But some customers select budget steak which quality will be inferior.

Customers with different dining place have different in market competency, quality and service maintaining competency and functional competency. Some customer who do not select steakhouse by themselves (depending on companion) cannot expect level of steakhouse competency but customers who choose their regular steakhouse know exactly which level of steakhouse competency they will receive.

Customers with different companion have different in functional competency.

If they go to steakhouse with couple, they will choose good atmosphere and well decorated steakhouse. Family with many members usually prefer steakhouse where provides variety of food to satisfy everybody.

*Table 5: Comparison of Muaklek steakhouse core competency levels in different consumer behaviors by using F-test at the significant level = 0.05*

Muaklek Steakhouse Core Competency	F-Prob			
	Frequency	Expense/person	Dining Place	Companions
Market competency	0.025*	0.008*	0.002*	0.116
Quality and service maintaining competency	0.011*	0.800	0.004*	0.094
Functional competency	0.057	0.058	0.050*	0.011*

#### 4. CONCLUSION

Muaklek steakhouse market is segmented by the quality and price of steak, so it has effect to raw material and ingredient procurement. High quality steak need qualified raw material with a higher cost. Most customers prefer high quality steak because steak is an occasional extra meal so they expect to have a worthwhile experience. Regular customers will choose the high quality steak to enjoy their favorite food.

#### Suggestions:

1. Unique formula for Muaklek steak should be developed. Local ingredient such as Thai herb can be used to invent special taste of “Muaklek steak” which differentiates from western style steak. Muaklek steak sauce can be the signature of this local dish and be promoted as one of local wisdom.
2. Muaklek steak is already famous among Thai tourists so it should also be extended to be well-known among foreign tourists. As some Thai famous dish like Pratu-nam chicken rice had opportunity to open a restaurant in Japan, Muaklek steak could be another export dish in the future if unique formula is delicious differently from the western style steak.
3. Government agency or local bureau should support Muaklek steakhouse business by enhancing the whole steak supply chain. From the upstream, more cattle production should be encouraged to supply more raw materials to steakhouse instead of cross-province

procurement. Suitable breed for high quality beef should be recommended to cattle farmers because qualified beef is required for premium steak. Promotion activities must be added continuously such as registration to be official recommended local product, steak champion contest, encouraging innovative steak cooking and dish decoration, etc.

4. Steakhouse should provide the other menus for covering dining market. Most tourists in that area come with family or friends so everyone can enjoy their favorite menu individually. Moreover, steak price is quite high and be occasional menu hence some alternative menu should be available. However, the other menu should not be too variety to save raw material carrying cost.

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## **THE IMPACT OF HUMAN RESOURCES MANAGEMENT ON WORK PERFORMANCE – CASE STUDY BEER FACTORY PEJE/KOSOVE**

**Alma Shehu Lokaj**

*University “HaxhiZeka”Peje, Kosove  
alma.shehu@unhz.eu*

**Ariana Xhemajli**

*University “HaxhiZeka”Peje, Kosove  
ariana.xhemajli@unhz.eu*

### **ABSTRACT**

*To measure the performance within an enterprise includes a series of activities that the Human Resources Management must and is ready to perform when it is necessary. Motivating the employees is considered one of the most critical points of achieving the goals set by the enterprise. The way in which the managers deal with the employees and the way of decisions are made, must be some of the good practices through which the managers and the employees will achieve the organization's goals. This paper will address these issues mainly based on the practices followed in one of the biggest beer factories in the region of Peja/Kosovo. The paper will be focused on the beer industry surveys dealing with: 1) the importance that managers give to the relationship with the employees and how this affects their performance; 2) how the organizational changes have affected the performance of the employees; 3) are the employees involved in the decision making process and what are the achieved results; 4) what influences the training has in enhancing performance. This paper not will only show that a good management of human resources affects the improvement of the performance, but will also explain the ways that the organization can improve its performance.*

**Keywords:** *Decision making, Human Resources Manager, Performance, Training process.*

### **1. INTRODUCTION**

For the human resources as it is an important asset, inside of the Company, it has been discussed with different authors. In Kosovo the human resources department started to function after the war at the end of 1999. Because Kosovo has been a socialist country the human resources department didn't give much attention or importance to the human resources management. Because Kosovo is the newest country in the world, it is confronted with many problems; the management of human resources must change direction not as it was in the past. Because of the new dynamic development of the economy in the 21<sup>st</sup> century, it will require fundamental changes, either in the preparation of human resources, or the policies the company pursues to manage them. Due to the high unemployment in Kosovo, which stands at about 40%, the labour market is overcrowded and only in recent years have companies begun to realize how important the choice of the right people, their training and development is, in order to achieve the company's objectives. In this paper we will try to give an answer to the question of how the management of human resources affects the performance of their work. Because of the Culture in Kosovo society, many companies are variable in the employer's job description, so it is often acceptable to make cuts, change plans or projects and programmes can be modified at a moment's notice. In these cases, individual's relationships direct the situations. Priority is given to "relatives" and "friends" and where the choices made are not objective but are relative. This kind of culture contributes to the fact that companies often do not even want to make a clear job description for office workers, by applying horizontal and not vertical specialization for labour skills, unlike

Anglo-Saxon companies. As mentioned above, the results of the performance of these employees will not necessarily be the ones expected to achieve the company's objectives. In general, enterprises in Kosovo, Human Resources are considered an additional cost and not an investment for the future which would generate revenue for the company.

## 2. LITERATURE REVIEW

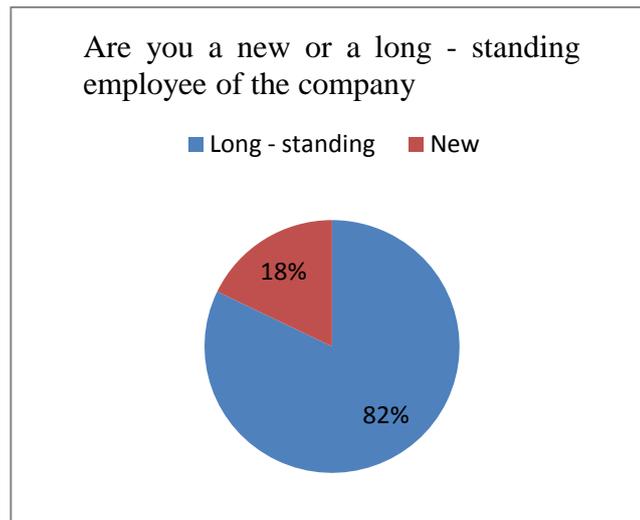
Many *theoretical*, as well as *empirical* studies, have shown that efficient management of human resources within an Company will affect the performance of the employees, and as a result the performance of the entire enterprise.

- Job performance is an important construct in industrial, organizational psychology (Arvey & Murphy, 1998; Austin & Villanova, 1992; Campbell, 1990; Murphy & Cleveland, 1995; Schmidt & Hunter, 1992).
- Moreover performance measures contribute in making the company objectives more understandable, which ultimately will increase work performance (Kaplan & Norton 2001).
- Scott – Ladd and Marshall (2004) studied that influence of employee participation in decision making and shows positive gains for the organization:
  - Improved employee performance resulting from greater motivation;
  - A positive workplace culture as an outcome from greater information sharing;
  - Improvements in productivity when employees are consulted over changes to job design and work practices.
  - Performance management systems, (Pulakos, 2004) which typically include performance appraisal and employee development, are the “Achilles’ Heel” of human resources management. They suffer flaws in many organizations, with employees and managers regularly be mooring their ineffectiveness.
  - (Hatchison, 2013, pg.3) claims that best practice advocates that there is a distinctive set of HR practices which can be adopted by any organization, irrespective of setting, which will result in improved performance.
  - According to Caliskan E.N. since it is clearly understood from academic research that human resources are a source of sustained competitive advantage, while, traditionally, the costs associated with the development of HR strategy have been regarded as an operating expense, these costs would be better considered as an investment in capital assets.

## 3. THE EMPIRICAL STUDY

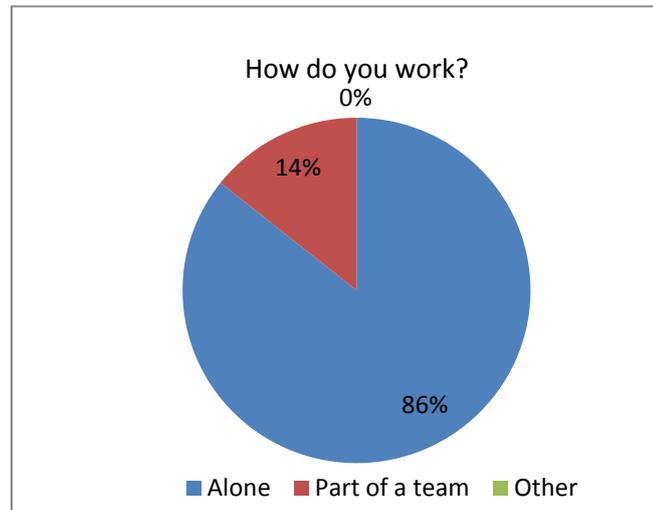
The empirical study has been done in the Brewery of Peja/Kosovo. The brewery has started construction in 1968, while production has started since 1971. The factory complex includes surface of 24 ha, with its entire infrastructure. The initial capacity was 300 thousand hectolitres of beer per year, while the current capacity is 900 hectolitres. Within the complex are also malt factory, refined alcohol factory and commercial network. The numbers of employees is about 1500. The questionnaire was distributed in 5 sectors of the brewery and the total number of questionnaires was 50. Out of this number only 30 responded to the questionnaire.

Figure 1.



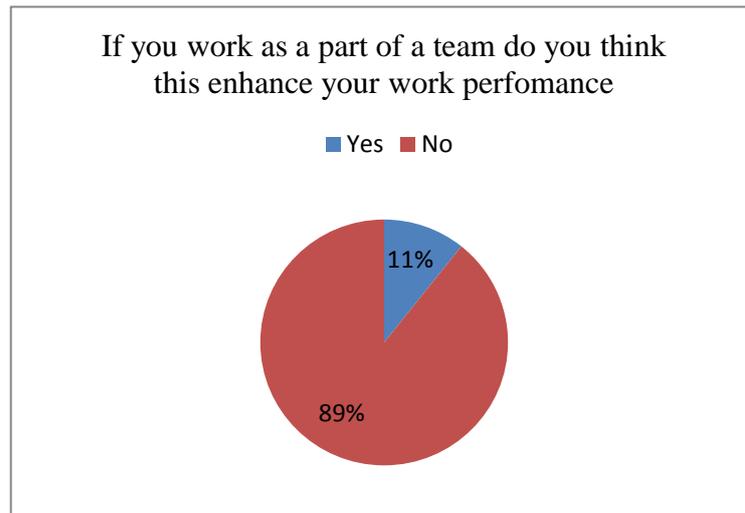
The chart shows that 82% of workers are long-standing employees with more than 10 years of experience in the company and only 18% of them are young workers. Having long-standing employees is a priority of this company, because these workers are trained, have more experience, and as a result will be more productive. New employees are considered an additional cost for the company because they have to be trained for specific jobs. The advantage of the younger workers is that they are more prepared than the older ones with regard to the advancement of technology.

Figure 2.



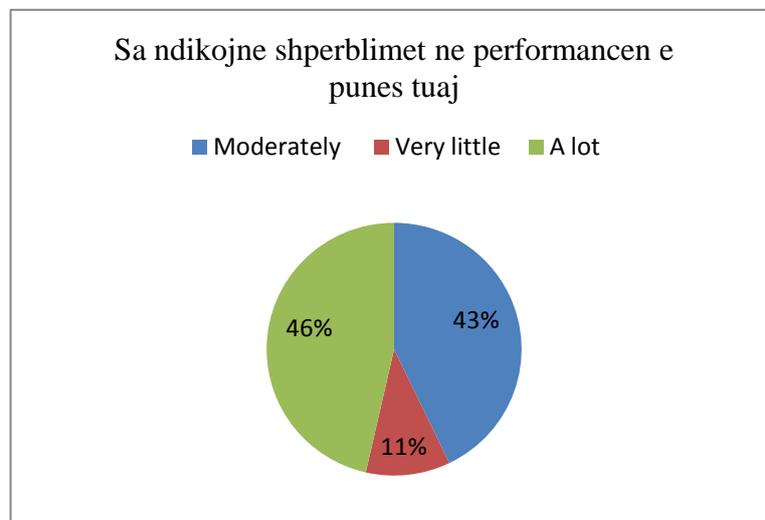
This chart shows that 86% of respondents work alone, and only 14% of them work in groups. This should be a matter which management should focus on, considering the advantages of working in groups. To remain competitive organizations need to make optimum use of equipment and people if they are to thrive or even survive. Research carried out by ACAS in conjunction with the Tavistock Institute suggests that teamwork is used by organizations for improvements in four key areas: productivity, quality, the use of new technology, and motivation.

Figure 3.



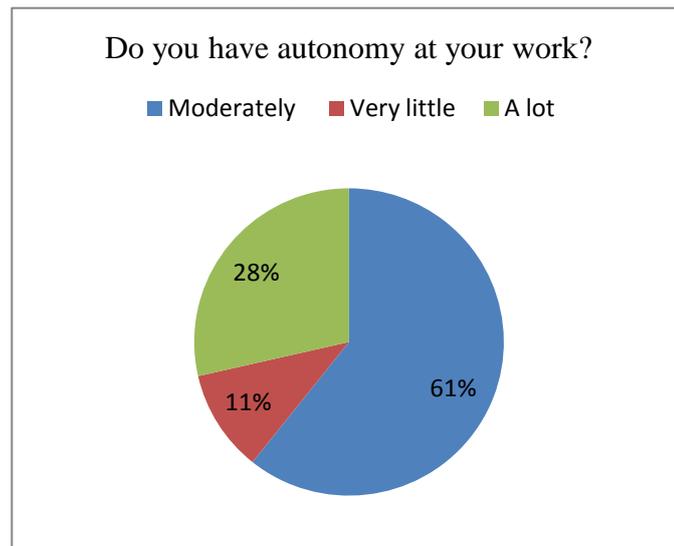
The percentage of the respondents thinking that working as a part of team will increase the work performance is bigger 89%. This shows that the employees' preference is to work as a part of the group. This means that they understand that working as a part of the group has more advantages then disadvantages. Only 11% of the respondents have answered that working as a part of the team will not increase their working performance in the company.

Figure 4.



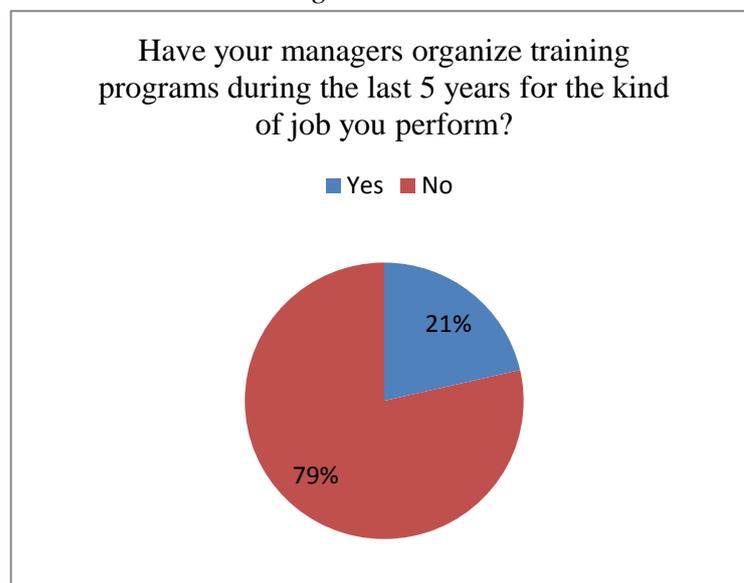
On this question the respondents have answered: 46% of them think that rewards affect a lot in their work performance, 40% of them think that the rewards moderately affect their work performance and only 11% think that the rewards affect very little their working performance. It is illustrious that employee performance can be improved when employees are motivated to achieve their goals ..... and there is a positive relationship extrinsic rewards, intrinsic rewards and employee performance (Edirisooriya, 2014, pg 8).

Figure 5.



Having or no autonomy in their work 28% of the respondents answered on having a lot of autonomy, 61% of them think that they moderately have autonomy and 11% of them have a very little autonomy at their work. According to Petrova K. (2011) there are few theoretical studies generating the prediction that autonomy is offered to already motivated workers. Aghion and Tirole (1997) investigate the two-way interaction between authority and information. Their model implies that delegation of decision rights is more likely when innovative activities are involved, where innovative activities are related to motivated workers. Later on, Murdock (2002) applies the idea developed by Staw (1989) that people are motivated by the outcomes, or intrinsic returns, of their work.

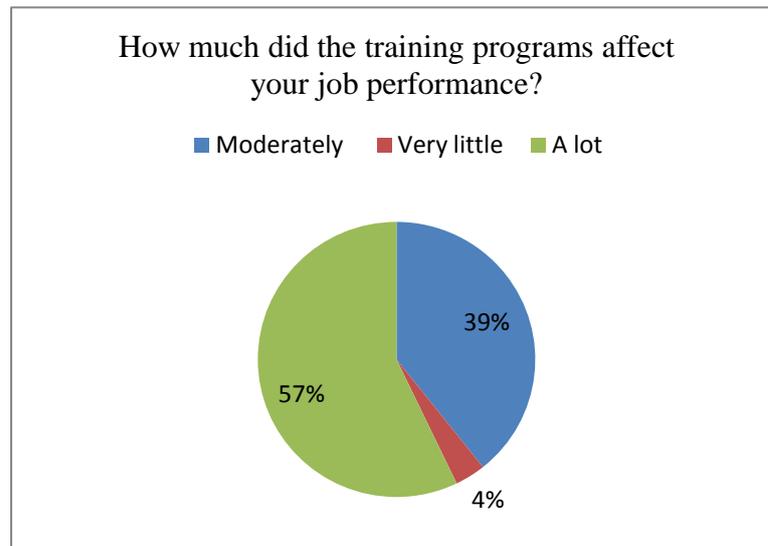
Figure 6.



In this question only 21% of the respondents have answered that within the company are organized training programs for the kind of job they perform and 79 of them have answered negatively. If we relate this question to the first one we suppose that this low percentage is because only the new employees have been included in the training programs and the most of the employees, about 82% (fig.1) have been trained earlier in the company. Because the technological progress and the business need are in grow every day more the management of

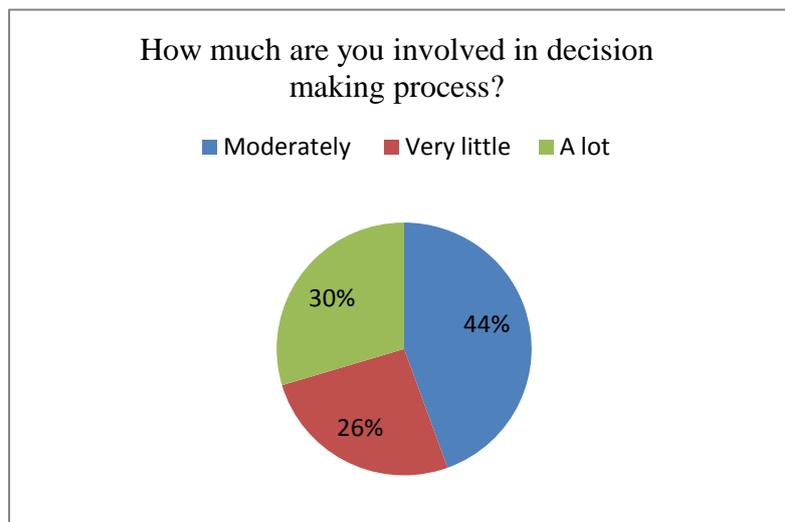
the company must take into consideration to organize other training programs for both new and long-standing employees.

Figure 7.



The chart shows that 21% of the employees attending the trainings 57% of them think that training have affect a lot their work performance, 39% think that the training moderately affect their work and only 4% think that training do not affect their job performance.

Figure 8.



The chart shows that 30% of the employees thing that they are a lot involved in the decision making process, 44% of them think they are moderately involved, and 26% are very little involved in this process. According to Kuyea L. and Sulaimon A.H (2011) 1.

Whether there is a significant relationship between employee involvement in decision making and firms' performance. 2. Whether employee involvement in decision making has a significant impact on firms' performance. 3. Whether there is a significant difference between the performances of firms whose employees' involvement in decision making are (deep) high and the performance of firms whose employees' involvement in decision making are (shallow) low.

In our research 26% e te anketuarve mendojne se jane pak te perfshire ne procesin e vendimmarrjes, 44% mendojne se jane mesatarisht te perfshire ne procesin e vendimmarrjes dhe 30% e tyre mendojne se nuk jane te perfshire ne procesin e vendimmarrjes.

#### 4. CONSLUSION

During the last 15 years kosovar companies are facing difficulties in both organizational and human resources management plan. The companies are increasingly aware that an effective strategic plan is the key toward company's success.

Within this a special attention should be given to the human resources. The kosovar companies have begun to understand that the human resources are very important, and they are the success or maybe the failure of their businesses, therefore employee's performance affects the company. The performance is also important, because it is an important part of company's image and has its impact to clients and other stakeholders.

The human resources managers should apply the measurement and reporting of successes or failures as usual routine part of their work. The technological progress gives to the business and its leadership the possibility to start a new stage and training the employees has become a normal process of working.

We can conclude that the modern concept of human resources management in Kosovo, is still in its first stages of the models conceptualized in developed countries. The factors that influence in human resources management in kosovar companies are: political and economic and social-cultural environment, company structure and hierarchic relations. The companies in Kosovo should seriously think about managing people and about their work performance by preparing appropriate strategies on human resources development. In this way these companies will success in their businesses and employees' performance.

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## COMPETITIVE ADVANTAGE OF MUAKLEK STEAKHOUSE IN THAILAND

**Adilla Pongyeela**

*Dhurakij Pundit University, Bangkok, Thailand.*

*Adilla777@yahoo.com*

### ABSTRACT

*The objectives of this research aim to (1) study the strengths of Muaklek Steakhouse in Thailand those bring to create competitive advantage, (2) study the type of competitive advantage of Muaklek Steakhouse. The population was Muaklek Steakhouse entrepreneurs in Thailand. The sample size was 50 of entrepreneurs of the business. The questionnaire was used as a research instrument. The data were analyzed by frequency, percentage, mean and S.D, and testing hypothesis by using t-test, F-test following by LSD. The result of this study shows that most of the firms were one owner business, had not more than 5 employees, operated business not more than 5 years, had location near the tourist sight, there were just ordinary steakhouse. The popular steaks were pork, beef, and chicken. The most sellable prices were 200-400 Baht. Most of the entrepreneurs did not graduate in the direct field of food. In order to serve the objectives of the study, it was found that;*

*(1) The strengths of Muaklek Steakhouse in Thailand those bring to create competitive advantage were the creation of value chain, knowing the source of raw materials, coming first to market, offering better than competitors, and economies of scales.*

*(2) The type of competitive advantage of Muaklek Steakhouse was differentiation especially in quality and taste. The results of hypothesis testing found that the firms those have different number of employees had significant different level of creating value chain. The firms those have different number of years operating had significant different level of ability to come first to market. The decoration had positive superior than competitor. The background of the study of the entrepreneurs indicated no significant difference to the type of the advantage.*

**Keywords:** *Muaklek Steakhouse, Entrepreneur, Competitive advantage, Type of competitive advantage, Creation of value chain.*

### 1. INTRODUCTION

People nowadays pay more attention to the happiness of themselves, mostly for delicious food in daily life. There are different kinds of foods that business had offered to market. Many kinds of foods discovered in one country but become very popular in many countries. Steak is one of the examples of those foods which came from the west to the east and other parts of the world. In Thailand steak is popular too that attracted many entrepreneurs to come to run this business that we called steakhouse. Therefore, there are many steakhouses opened to serve customers in the country in different styles and different prices, brought to higher competition in the industry. The steak entrepreneurs took harder effort to create competitive advantage to retain customers. In Thailand the popular steakhouses are in the places that have cattle farms. The popular place called "Muaklek." That was why they call "Muaklek steakhouse." Muaklek steakhouses had become the generic name of steakhouses in Thailand. They compete to each other. They used different kinds of strategies to encourage customers. They earned differently. Therefore, it comes to this research to find out that how this business could create competitive advantage and what type of competitive strategy they used to operate the business.

## **2. OBJECTIVE OF THE STUDY**

1. To study the strengths of Muaklek Steakhouse in Thailand those bring to create competitive advantage.
2. To study the type of competitive advantage of Muaklek Steakhouse that used as competitive strategy.

## **3. LITERATURE REVIEW**

A steak is a thick slice of meat cut for roasting or grilling or frying. There were many kinds of steaks in the market such as beef, pork, chicken, fish, lamb, seafood, and vegetables. Beef steak is very popular. The prices are depended on qualities, higher prices for higher quality. Generally, the higher the quality, the more tender the beef, the less time is needed for cooking. For example, Kobe beef from Japan, is known for its high quality and commands a high price. Steak is often served with chips and various vegetables that could make different styles to offer the market in different countries. Religious belief has an effect on the consumption of steak and other meats. Jews and Muslims are not permitted to eat pork steak; and for many Hindus, cows are sacred and should not be killed or eaten. In Thailand most of the people are Buddhist and most of them eat various kinds of food, which forced entrepreneurs in Thailand offer various kinds of steaks. The cuts of steak are quite dissimilar between countries, with the result that a steak found in one country is not the same as in another. Not only in Thailand but steak is a popular dish in many places around the world. When ordering steak at a restaurant it is common practice to advise the chef or person taking orders of how you would like your steak cooked. The terms rare, medium-rare, medium, medium-well or well-done denote individual preferences. Many restaurants which are specialized in serving steak, describing themselves as "steakhouses", competing for offering their own kind of steak to serve their target market. When many entrepreneurs come into the market make the industry get higher competition. That was why each entrepreneur tries to create his own competitive advantage. A competitive advantage is an advantage gained over competitors by offering customers greater value, either through lower prices or by providing additional benefits and service. An advantage that a firm has over its competitors could bring the firm to generate greater sales or margins or retain more customers than its competitors. There are two main types of competitive advantages, which are cost advantage and differential advantage. Cost advantage is a firm's ability to produce its product at a lower cost than its competitors, which gives the firm the ability to sell the product at a lower price than its competitors or to generate a larger margin on sales. A differential advantage is created when a firm's products differ from its competitors and customers could perceive better. Enz, A. Cathy (2008) studied creating competitive advantage by building resource capability, the case of Outback Steakhouse in Korea provides the framework which suggests that companies must manage and blend resources in the following five categories: (1) financial resources, (2) physical resources, (3) human resources, (4) organizational knowledge and learning, and (5) general organizational resources (including brand names and relationships with stakeholders). Mueller (1997) indicated that one of the empirical regularities of a product or industry's life cycle is that the one or two firms that eventually emerge as the industry leaders tend to be among the first to enter the industry. It shows the first mover's advantage that might account for the dramatic and persistent differences in performance across firms that have been observed. In steak business, the first firm who entered the industry and could be sustainable must have enough strengths because there are many factors affecting the animal industries. Cheva-Isarakul, Boonserm (2010) from Department of Animal Science, Faculty of Agriculture, Chiang Mai University indicated that Issues Affecting the Animal Industries: those were biotechnology, consumer issues, environment issues, government policy, marketing issues, public land issues. So, the firms must face with this uncertainty

environment. Normally, business could create competitive advantage in many ways for goods and services. Pongyeela, Adilla (2010) suggested that those are:

- 1) Coming first to the market to be pioneer in that area. There are less competitors and easy to remember.
- 2) Offering superior goods and services than competitors. Customers have good impression and have opportunity to perceive value that bring to loyal in brand.
- 3) Creating of value chain. The steak entrepreneurs are able to add value to the products. May be from creating own recipe.
- 4) Knowing the sources of resources both primary and secondary, help steak entrepreneurs save costs, have good quality of raw materials, and able to control the quality and quantity.
- 5) Having alliances help entrepreneurs meet efficiency, save time and cost, and having network of information, materials, and service, be able to reduce weakness and support strengths.
- 6) Economies of scale which help entrepreneurs save costs, especially fixed cost per unit could be reduced creating competitive price.

For the type of competitive advantage which is cost leadership, there were factors needed to support: those are 1) able to access source of fund, 2) efficiency of production structure, 3) productive labors, 4) low distribution cost, 5) effective cost control, 6) need feedback of control, 7) product design which able to produce fast and easy. For the type of competitive advantage which is differentiation, there were factors needed to support: those are 1) ability to offer value, 2) product differentiation, 3) creativity, 4) ability to do R&D, 5) ability to retain reputation, and ability to attract high reputation persons to PR( Industrial business center, [money.sanook.com/](http://money.sanook.com/)).

#### **4. METHODOLOGY**

##### **Population and Sample**

The population in this research was Muaklek Steakhouse entrepreneurs, concentrated in Saraburi province and Nakhon Ratchasima province, in Thailand. The sample size was 50 of entrepreneurs of the business which approximately more than 50% of population. Convenient sampling was used to choose data.

##### **Data Collection Method**

The data used for this research was primary data from the entrepreneurs of Muaklek Steakhouse in Thailand, concentrated in Saraburi province and Nakhon Ratchasima province. Those area are popular for tourists both Thais and foreigners. These data were collected through interviewing and surveying 50 entrepreneurs of Muaklek steakhouse in Thailand.

##### **Tools for Data Collection**

Questionnaire was employed as the tool for the survey which passed doing pretest for validity and reliability; consisting of 3 parts as follows:

Part 1: Business data of Muaklek steakhouses.

Part 2: The strengths of Muaklek Steakhouse in Thailand those bring to create competitive advantage, there were the creation of value chain, knowing the source of raw materials, coming first to market, offering better than competitors, and economies of scales.

Part 3: Type of competitive strategy which reflected competitive advantage of Muaklek Steakhouse.

##### **Data Analysis**

Descriptive statistics such as percentage was used in the data analysis regarding the respondents' business information. Means and S.D. were used in the data analysis regarding the respondents' opinions about competitive advantage.

The inferential statistics such as t-test was used to compare means between two groups. F-test for one-way analysis of variance (One-way ANOVA) was used to compare means which are more than two groups.

## 5. RESULTS

### Part 1 Business information

*Table 1 - Number and percentage of business characteristic*

<i>Number of employees</i>	<b>N</b>	<b>%</b>
Not more than 5 persons	20	40.00
6 – 10 persons	16	32.00
More than 10 persons	14	28.00
Total	50	100.00
<i>Age of business</i>		
Not more than 5 years	21	42.00
6 – 10 years	16	32.00
More than 10 years	13	26.00
Total	50	100.00
<i>Location</i>		
Near tourist sights	23	46.00
Near resident community	15	30.00
Near business area / department store	0	0.00
Near hotel / resort	12	24.00
Total	50	100.00
<i>Type of steak house</i>		
Decorated inside beautifully / had small garden / had music	9	18.00
Decorated inside beautifully	20	40.00
Ordinary steakhouse	21	42.00
Total	50	100.00
<i>Type of steaks</i>		
Beef	46	23.71
Pork	50	25.77
Chicken	36	18.56
Fish	36	18.56
Seafood	10	5.15
Ostrich	11	5.67
Lamp	5	2.58
Total	194	100.00
<i>Average price per order</i>		
Not more than 200 baht	14	28.00
201 – 400 baht	29	58.00
401 – 600 baht	6	12.00
More than 600 baht	1	2.00
Total	50	100.00
<i>Educational Background of entrepreneurs</i>		
Food graduated directly	12	24.00
Non- food graduated	38	76.00
Total	50	100.00

From the study in table 1, it was found that the respondents consisted of 50 entrepreneurs of Muaklek Steakhouse in Thailand, concentrated in Saraburi province and Nakhon Ratchasima province. Most of the steakhouses employed not more than 5 employees. The ages of operation mostly were not more than 5 years. The most popular location was near the tourist places. There were just ordinary steakhouses some decorated inside beautifully. They offered steaks such as pork, beef, chicken, fish, seafood, Ostrich, and lamp respectively. The most sellable price per order was between 201 – 400 baht (approximately 6.5-13 USD), and most of the entrepreneurs of the steakhouses were non- food graduated.

*Table 2 - level of opinion of entrepreneurs toward strengths of Muaklek Steakhouse which brought to create competitive advantage*

Strengths of Muaklek Steakhouse	level of opinion		Rank	Meaning
	$\bar{x}$	S.D.		
Coming first to market	3.82	0.82	3	High
Offering better than competitors	3.77	0.52	4	High
Creation of value chain	4.24	0.47	1	Highest
Knowing the source of raw materials	4.06	0.64	2	High
Having alliances	3.16	0.65	6	Moderate
Economies of scale	3.63	0.55	5	High
<b>Average</b>	3.79	0.41		High
<b>N</b>	50			High

Table 2 indicated that from the opinion of entrepreneurs it was found that the highest strength that brought to create competitive advantage was creation of value chain ( $\bar{X} = 4.24$ ), the next was knowing the source of raw materials, coming first to market, offering better than competitors, economies of scale, and having alliances respectively. So, the most important is creation of value chain that could make the offering superior than competitors. The detail could be seen on table 3-8.

*Table 3 - Level of opinion of entrepreneurs toward strengths of creation of value chain*

Strengths of creation of value chain	level of opinion		Rank	Meaning
	$\bar{x}$	S.D.		
Having own raw material sources	3.54	1.01	5	High
Creating own formula/recipe	4.54	0.61	2	Highest
Owner is able to cook by himself	4.56	0.61	1	Highest
Able to run business by owner and family	4.38	0.75	3	Highest
Having reputation and popular steakhouse	4.16	0.74	4	High
<b>total</b>	4.24	0.47		Highest
<b>N</b>	50			

From Table 3. it was found that the most significant strength of creation of value chain of steakhouse business is the owner is able to cook by himself, the next is being to create own formula/recipe of steaks, and able to run business by owner and family those are highest. Main reason is that those activities could be controlled by owner and family, hard to copy, that is why could create competitive advantage.

*Table 4 - Level of opinion of entrepreneurs toward strengths of knowing the source of raw materials*

knowing the source of raw materials	level of opinion		rank	Meaning
	$\bar{x}$	S.D.		
Knowing the source of raw materials and bring to use	4.36	0.66	1	Highest
Ability to find the second source of raw materials	4.12	0.77	2	High
Ability to use local raw materials	3.70	0.95	3	High
<b>Average</b>	4.06	0.64		High
<b>N</b>	50			

From Table 4. it was found that the most significant strength of knowing the source of raw materials was to know the source of raw materials and bring to use in operating steaks moreover, the entrepreneurs must have ability to find the second source of raw materials to support when there is lacking of primary sources.

*Table 5 - Level of opinion of entrepreneurs toward strengths of coming first to market*

Strengths of coming first to market	level of opinion		rank	Meaning
	$\bar{x}$	S.D.		
Coming first to operate in the area.	3.86	0.93	1	High
Pioneer to offer new service in the area.	3.78	0.89	2	High
<b>Average</b>	3.82	0.82		High
<b>N</b>	50			

From Table 5. it was found that the strengths of coming first to market was coming first to operate in the area, and being pioneer to offer new service in the area which make customers know before others.

*Table 6 - Level of opinion of entrepreneurs toward strengths of offering better than competitors*

Offering better than competitors	level of opinion		rank	Meaning
	$\bar{x}$	S.D.		
Use higher quality of raw material than competitors	4.18	0.66	1	High
Offer various kinds of steaks and other foods more than competitors.	3.66	0.82	3	High
Have better atmosphere than others.	3.60	0.83	5	High
Have more productive employees than others.	3.58	0.67	6	High
Have faster process of cooking than others.	3.62	0.78	4	High
Have better taste of food and service than others.	3.98	0.65	2	High
<b>Average</b>	3.77	0.52		High
<b>N</b>	50			

Table 6. indicated that the highest strength from the opinion of entrepreneurs toward offering better than competitors was using higher quality of raw material than competitors. The next were having better taste of food and service than others, offering various kinds of steaks and other foods more than competitors, having faster process of cooking than others, having

better atmosphere than others, and having more productive employees than others respectively.

*Table 7 - Level of opinion of entrepreneurs toward strengths of economies of scale*

Economies of scale	level of opinion		rank	Meaning
	$\bar{x}$	S.D.		
Buying raw materials in high quantity	3.84	0.79	1	High
Worthiness to hire employees	3.70	0.84	2	High
Utilizing the operating expenditures	3.42	0.70	4	High
Utilizing decorating expenditures	3.56	0.79	3	High
<b>Average</b>	3.63	0.55		High
<b>N</b>	50			

Table 7. indicated that the most significant strength of economies of scale was buying raw materials in high quantity, the next were worthiness to hire employees, utilizing decorating expenditures, and utilizing the operating expenditures respectively.

*Table 8 - Level of opinion of entrepreneurs toward strengths of having Alliances*

Having Alliances	level of opinion		rank	Meaning
	$\bar{x}$	S.D.		
Having PR network from government agency	2.76	0.92	4	Moderate
Having network of recommending	3.08	0.94	3	Moderate
Having tourism network	3.16	0.87	2	Moderate
Having relationship with materials sellers	3.66	0.85	1	High
<b>Average</b>	3.16	0.65		Moderate
<b>N</b>	50			

Table 8. indicated that the most significant strength of having alliances was having relationship with materials sellers such equipments, service maintenance, because this business could not wait for a long time. They need someone to solve the problems immediately because customers could not wait for foods when they order.

*Table 9 - Level of opinion of entrepreneurs toward the type of advantage (competitive strategy)*

Type of advantage(competitive strategy)	level of opinion		rank	Meaning
	$\bar{x}$	S.D.		
Cost leadership	3.09	0.87	2	Moderate
Differentiation	3.50	0.82	1	High
<b>Average</b>	3.30	0.54		Moderate
<b>N</b>	50			

Table 9. indicated that the most significant type of advantage or competitive strategy that those steakhouses employed was differentiation which was at high level but cost leadership strategy was used just at moderate level. Table 1 supported that the most sellable order was not at low price. It is indicated that customers needed some quality for steaks.

*Table 10 - Hypothesis testing of the relationship between the type of advantage and the price per order*

Type of Advantage	Mean			F	F-Prob
	ไม่เกิน 200 บาท	201 - 400 บาท	มากกว่า 400 บาทขึ้นไป		
Cost leadership	3.50	3.03	2.50	3.59	0.035*
Differentiation	3.04	3.64	3.86	3.67	0.033*

\* 0.05 level of significance

Table 10. indicated that the steak firms which set different prices per order employed different type of advantage or competitive strategy. The firms those offered high price tended to employ differentiation strategy, and the firms those offered lower price tended to employ cost leadership strategy. With differentiation strategy, the firms in this study paid high cost of raw materials let them increase the prices.

From hypotheses testing it was found that the quantity of employees had significant relationship with the creation of value chain. Number of years operating had significant relationship with the first mover strategy and economies of scale. High number of operating could increase more economies of scale. Decoration of steakhouse had had significant relationship with offering better than competitors and economies of scale. There is no significant relationship between number of years operating, number of employees, location, educational background of entrepreneurs and type of advantage.

## 6. CONCLUSION

The significant strength of Muaklek Steakhouse in Thailand those bring to create competitive advantage was creation of value chain, those were owner is able to cook by himself, creating own formula/recipe, able to run business by owner and family, an knowing the source of raw materials and bring to use. The type of competitive advantage of Muaklek Steakhouse mostly employed was differentiation.

### SUGGESTION

- 1) Steakhouses those offer high quality and high price or at least moderate price had more opportunity than lower quality and lower price products because steak is not daily food of Thai people, they sometimes eat steaks, that is why they need quite good quality.
- 2) The entrepreneurs of the steakhouse must do research and development with his own to create new taste of steak as the uniqueness of the firm.
- 3) The entrepreneurs of the steakhouse must be able to run the business with their own family, not to depend on others, which loose of control.
- 4) The entrepreneurs of the steakhouse must know the source of raw materials and bring to use.

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Section 3

**Entrepreneurship Caught Between Creativity and Bureaucracy**

## **DETERMINANTS OF REGIONAL ENTREPRENEURSHIP IN AUSTRALIA: EMPIRICAL EVIDENCE FROM PANEL DATA ANLAYSIS**

**Yongqiang Li**

*College of Law & Justice, Victoria University, Australia  
yongqiang.li@vu.edu.au*

### **ABSTRACT**

*Unemployment, population growth and qualified working population are generally accepted as determinants of regional entrepreneurship in Europe, US and developing economies. However, knowledge about the determination of entrepreneurship in regional Australia, measured by the labour market approach, is less extensive and based primarily on case studies. This paper fills the gap by establishing empirical evidence based on an extended list of factors identified in previous studies as likely determinants of regional entrepreneurship in Australia. The dataset, provided by Australia Bureau of Statistics (ABS), include 3462 count data for 577 Local Government Areas (LGAs) during the period of 2004-2009. Fixed effect, random effect, Seemingly Unrelated Regression (SUR) and Instrumental Variable Models are applied to evaluate the impacts of each determinant on regional entrepreneurship, controlling for other contextual factors. The findings highlight the fact that unemployment has a negative impact on regional entrepreneurship measured business entries; population base has a positive impact; the impact of alternative income options are mixed; foreign language is a disadvantage for business entries; number of people who have high academic qualifications has a negative impact for entries of businesses which are not employing and foreign language combined with high academic qualifications is a favourable factor. However, in the regional context of Australia, infrastructure turns up to be irrelevant. The paper suggests that future policy reforms targeting at boosting regional entrepreneurship should reduce unemployment, increase the population base, and offer additional language training to entrepreneurs who come from a foreign background. The moderation effects were also estimated.*

**Keywords:** *regional; entrepreneurship; determinant, panel data*

### **1. INTRODUCTION**

The past five years witnessed growing inequality among Australian regions due to the 'mining boom' and the trend of the inequality is continuing at an accelerated rate (National Economics 2011). Beside factors such as physical capital, human capital and knowledge capital, the disparity of the entrepreneurial capital is identified as a 'social component' that, on an accumulated scale, drives the unequal regional development (Audretsch and Keilbach 2004). Entrepreneurial capital, in the form of entrepreneur and entrepreneurial activities, serves as a nexus of production inputs and outputs by perceiving investment opportunities and making decisions to invest in different regions (Naude, Gries et al. 2008). Thus, a critical question is what are the determinants of entrepreneurship and how can the regions boost their entrepreneurial activities. This section defines entrepreneurship at the outset, followed by a description of Local Government Areas (LGAs). Gaps of the existing literature and contribution of this paper are discussed. Then the research question is putting forward.

### **1.1. Entrepreneurship**

Though entrepreneurship has been a widely researched topic, the academia does not have unanimity on how to define entrepreneurship<sup>61</sup> (Landström 2005; Landström 2010). Landström (2005, 2010) identified three main streams of definition, namely i. entrepreneurship is a function of the market; ii. the entrepreneur is an individual; iii. Entrepreneurship is a process of the emergence of new organisations (Gartner 1988). This study adopts the third stream.

Entrepreneurship has emerged as an important element in the organisation of economies (Thurik, 2009). Over the last decade, one major direction of entrepreneurship research has been to construct a measure of entrepreneurial capacity and activity. A great number of empirical studies have been undertaken to explore the interdependent relationship between regional environment on the one hand and entrepreneurial activities and success on the other. Nonetheless, while a number of measures have emerged scholars have struggled to develop a theoretically grounded and empirically proven index that can be widely accepted (Ács and Szerb, 2009, Iversen et al., 2008). Most studies have provided an understanding of the level of entrepreneurial activity by providing international comparisons (Klapper et al., 2007), some provided state level or individual region analysis (Fairlie, 2010, Lasch et al., 2007). There remains, however, a gap in an understanding of the level of entrepreneurial activity and its associated antecedents and impacts and the local government area (LGA) or municipality level. This means that policy makers may be able to develop policies generalizable to a state or nation that may not be relevant to individual LGAs. Moreover, these entrepreneurship measures lack to incorporate the institutional-environmental variables that greatly influence the level of entrepreneurship (Ács and Szerb, 2009).

This is important as many regions try to promote local entrepreneurship through initiatives such as changing tax laws, improving local transportation and telecommunications infrastructure and establishing small business centres, yet few actually succeed in stimulating entrepreneurial activity (Arıkan, 2010). Further, there is a body of research that contends that entrepreneurial activity in a regional context is not solely about entrepreneurs, rather they need contributions from a diverse set of actors such as including local government, research and education institutions, real estate firms, media institutions, workforce in the region and local socialites (Arıkan, 2010).

### **1.2. LGAs in Australia**

ABS (ABS 2011) defines LGAs as follows

‘A Local Government Area (LGA) is a geographical area under the responsibility of an incorporated local government council, or an incorporated Indigenous government council. The LGAs in Australia collectively cover only a part of Australia. The main areas not covered by LGAs are northern parts of South Australia, a large part of the Northern Territory, the western division of New South Wales, all of the Australian Capital Territory and the Other Territories.

### **Gaps in the literature and contribution of this paper**

This paper is contributing to the literature in four aspects as follows, (1) Local Region Areas (LGAs) data, rarely available in other countries, has been used for the analysis; (2) using LGAs as the basic analytical unit is able to eliminate the heterogeneity problems encountered by other studies which are based on national and cross-national data; (3) policy implications of determinants of entrepreneurship in LGAs are discussed; (4) panel data modelling techniques identify robust evidence.

### **1.3. Research question**

Given the gaps identified above, the following research question merits investigation:

What are the entrepreneurship determinants of regional Australia and how?

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<sup>61</sup> Landström (2005, 2010) provides a comprehensive survey of the definitions of entrepreneurship.

#### **1.4. Structure of the paper**

The rest of the paper proceeds as follows: Section 2 reviews the literature and identifies factors pertinent to entrepreneurship in previous empirical regional studies; Section 3 provides details of the sample, data and methodology; Results are discussed in Section 4; Section 5 concludes with some policy recommendations.

## **2. LITERATURE REVIEW**

Entrepreneurship is not a peripheral activity unrelated to economic adaptation and change, with one sixth of adults directly involved in entrepreneurial activity (Reynolds et al., 2004)<sup>62</sup>. At the national level there is a breadth of research that suggests that higher levels of entrepreneurship significantly relates to a range of positive economic impacts (Klapper et al., 2007, Reynolds et al., 1999). That is, higher level of entrepreneurship significantly relates to greater economic development, as well as formal sector participation, and better governance (Klapper et al., 2007). There are also other associated benefits, for instance, countries with lower barriers to entry and less corruption generally see higher percentages of firm registrations and entry (Klapper et al., 2007).

### ***Antecedents of entrepreneurial activity***

The foregoing discussion suggests that entrepreneurship and the measurement of it is a complicated distinction. Between countries the ranges of factors that explain entrepreneurship vary, for instance, in some countries higher local unemployment rates are associated with more entrepreneurial activity, reflecting entrepreneurship of necessity as opposed to opportunity. Sectoral differences also confuse measurements with some sectors such as tourism-related activities that have lower barriers creating a bias towards countries where these activities are more demanded (Grilo and Irigoyen, 2006). However, in recent years our understanding of the antecedents to national and state entrepreneurship levels has grown largely due to the quality of data available and level of statistical analysis (Acs et al., 2006).

In the US and Europe, lack of financial support emerge as an obstacle to starting a new business (Grilo and Irigoyen, 2006). However, the perceived lack of financial support does not necessarily impact significantly on the preference towards self-employment. Rather administrative complexities, also perceived as an obstacle by a large majority of the population, played a significant role in explaining entrepreneurial drive. Both obstacles have a significant negative direct impact on self-employment status (Grilo and Irigoyen, 2006). While education level did not have any significant impact on self-employment preferences, age played a role, with younger people more likely to prefer self-employment but less likely to be self-employed. Gender-wise, men display a much stronger preference for self-employment than women though in practice being a man has no significant impact on being self-employed (Grilo and Irigoyen, 2006). Therefore, the demographic composition of a region may be a determinant of entrepreneurial activity. Again, however, these factors are used to explain national differences. Focusing on demographics at the regional level Florida (2003) suggests that in order to succeed as a region and promote innovation and entrepreneurship, a region must establish a multidimensional and creative community. Florida suggests that cities and regions need to invest in creating the "Broad people Climate" that can attract people of all sorts.

The environment in which business is conducted plays a crucial role in fostering or weakening entrepreneurial activities in terms of firm creation, of firm expansion and of implementation of process, product and management innovation within a firm. From a policy

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<sup>62</sup> Reynolds, P. D., 2004, 'Nature of Business Start-ups', in W. B. Gartner et al (eds.), *The Handbook of Entrepreneurial Dynamics: The Process of Business Creation*, Thousand Oaks, CA: Sage Publications, pp. 244-258 (Chapter 23).

point of view, these “framework conditions” are the aspects that offer the widest scope for action. Issues such as the fiscal environment, labour market regulations, administrative complexities, intellectual property rights, bankruptcy law, education and skill upgrading are understandably crucial in determining the entrepreneurial dynamism of an economy (Freitag and Thurik, 2007).

A region’s degree of labour market conditions and economic freedom significantly impacts the underlying level of entrepreneurial activity (Kreft and Sobel, 2005, Audretsch and Vivarelli, 1996). Put simply, an environment of low taxes, low regulations, and secure private property rights is what is necessary to encourage the entrepreneurial activity that is vital to produce economic growth (Kreft and Sobel, 2005). That is, economic freedoms generate growth primarily because they promote underlying productive private-sector entrepreneurial activity (Kreft and Sobel, 2005).

At the regional level, Lasch, et al. (2007) identified three major determinants of entrepreneurship identified 1) a high unemployment rate, 2) population growth, and 3) a highly qualified working population. Unemployment was found to affect entrepreneurial activity even more than population growth.

A common theme in the small business literature is that of small business access to finance for both start-up and operational activities. Similarly, the availability of financial resources in an area, especially venture capital investment is vital to developing entrepreneurs (Klapper et al., 2007, Henderson, 2002). Conversely, Kreft and Sobel (2005) suggest that entrepreneurial activity causes an inflow of venture funding, and not vice versa.

Clusters and agglomeration are relevant to the discussion of local entrepreneurship measurement. Clusters or geographic concentrations of interconnected companies, are a striking feature of virtually every national, regional, state, and even metropolitan economy, especially in more advanced nations (Porter, 2000). In Germany there was found a positive relationship between the number of clusters and the number of employees in clusters in German regions on the one hand and entrepreneurial activities and—even stronger—entrepreneurial attitudes like the assessment of good start-up opportunities and fear of failure of a start-up on the other (Sternberg and Litzenberger, 2004). Although local entrepreneurs are likely entrants to a cluster, entrepreneurs based elsewhere frequently relocate sooner or later to a cluster location. The same lower entry barriers attract them, as does the potential to create more economic value from their ideas and skills or to raise the productivity of their emerging companies (Porter, 2000).

### **3. SAMPLE, VARIABLES AND METHODOLOGY**

#### **3.1. Sample and data**

The dataset, provided by Australia Bureau of Statistics, include 3462 observations of 577 Local Government Areas (LGAs) during 2004-2009.

#### **3.2. Variables and measure**

Variables are defined in this section. Exits, entries and business numbers are absolute values. Various incomes are measured in AU\$ million.

##### **3.2.1. Dependent variable**

Entrepreneurship is measured by total number of entries in a given financial year. Entries are defined as counts of trading businesses as at June in each reference year which are newly entered the market in the reference year. All the entries data are from the ABS business Register.

##### **3.2.2. Endogenous variable**

Average income is defined as total income over working population, where total income is originally obtained from the Australian Taxation Office’s (ATO) Individual Income Tax Return Database on an aggregated format. The total income is the summation of income from

wage and salaries, own unincorporated business, investment, superannuation and annuity income and other income sources excluding government pensions and allowances. Unemployment is defined as the total number of people estimated experiencing unemployment. The unemployment estimates for small areas are produced by the Department of Education, Employment and Workplace Relations (DEEWR) using Structure Preserving Estimation (SPREE) methodology. Population is defined as the estimated resident population counts aged between 15-64 years old for the selected region as at 30 June for the year shown. The estimates are mainly based on census data and estimates around the census data. Wages & salaries income is defined as summation of the individual wage and salaries reported to ATO. Wage and salaries are the main forms of payments made to employees for their work or services, includes gross income, allowances, commissions, bonuses, tips, gratuities, consultation fees, honoraria and other payments for services, attributed personal services income, eligible termination payments and lump sums. Own unincorporated business income includes net income from business, distributions from partnerships and trusts for primary production activities; distributions from partnerships for non-primary production activities and net personal service income. Investment income includes interest from financial institutions, net rent and dividends or distributions. Superannuation and annuity income, abbreviated as Superincome, includes superannuation and similar pensions and annuities paid by an Australian superannuation fund, a retirement saving account provider, a registered organisation or life assurance company and pensions paid by a fund dependant. Non-employing businesses is the total number of businesses still actively operating in Australia in the given financial year but not employing people. Number of business employing one-to-four is the total number of businesses still actively operating in Australia in the given financial year and employing 1-4 employees. Number of business employing five or above is the total number of businesses still actively operating in Australia in the given financial year and employing 5 or more employees. Data available below for the follow variables are cross-sectional data obtained from the ABS Census 2006. Foreign language, abbreviated as flanguage, is defined as any language other than English using the Australian Standard Classification of Languages (ASCL, cat. No. 1267.0) and only one language is counted. Education is number of people who have received education from middle school and above. High qualification is the number of people who have obtained tertiary qualifications. Broadband is the number of people who have access to broadband network. Dialup is the number of people who have landline. The interaction term for qualification and foreign language is used to indicate the mixed effect of qualification and foreign language.

### 3.3. Methodology

The relationship between exits and its determinants can be mathematically put as

$$y_{i,t} = f(x_{i,t}) + u_{i,t} \quad (1)$$

, where  $y_{i,t}$  is a vector of dependent variables, consisted by total exits, exits of non-employing businesses and exits of employing businesses,  $x_{i,t}$  is a vector of endogenous variables, whose components include total exits, exits of employing business, unemployment, exits of non-employing business, average income, population, wages & salaries income, own unincorporated business income, investment income, superannuation income, non-employing businesses, number of business employing one-to-four, number of business employing five or more, entries of non-employing business, entries of employing business;  $u_{i,t}$  is the error term. Index  $i$  denotes panels, or LGAs here;  $t$  denotes year. Eq. (1) is further specified using the Instrumental variable (IV) modelling (Stock and Watson 2008). The instruments are number of businesses in each industry, specifically agriculture, mining, manufacturing, electricity, construction, wholesale, retail, accommodation, transport, communication, finance, property,

education, health, cultural and personal, while personal is dropped in the computation due to multi-collinearity.

$$y_{i,t} = \alpha + \beta_1 x_{i,t} + \beta_2 w_{i,t} + u_{i,t} \quad (2)$$

, where  $\beta_1$  is the vector of coefficients to be estimated for endogenous variables;  $w_{i,t}$  is the vector of instruments, including number of business by industry by region by year. Eq. (2) is estimated using Generalized Methods of Moments (GMM).

### 3.4. Computation

To eliminate the heterogeneity among LGAs, both robust estimator and cluster analysis approaches have been adopted. The STATA 11.2 software is used to empirically specify the above models. Recently release XTIVREG2 package is couple GMM and fixed effect together for IV models using panel data.

## 4. RESULTS AND DISCUSSION

The descriptive statistics and correlation coefficients are available upon request.

### Model selection

It is widely acknowledged that traditional models, including fixed- and random effect models suffer from three problems, namely omitted variable bias, measurement error and selection bias. The remedy to these problems is to use Instrument Variable (IV) modelling. Comparatively, IV models with GMM estimator produces more robust results at the cost of efficiency (Drukker 2010). Thus we select the IV-GMM model as the most appropriate model. Hence the discussion will be around the results of IV-GMM model.

The Hausmann test was applied to compare the random-effect and fixed-effect models.

The under-identification test of IV adopts the Kleibergen-Paap rk LM statistic. The weak-identification test adopts the Cragg-Donald Wald F statistic and the results rejected the null hypothesis that the model is weak-identified. The over-identification test adopts Hansen J-Statistics and all the results were not able to reject the null hypothesis at 5% significant level, meaning that the model is not over-identified. Thus, IV-GMM model passed all the IV related tests. The robustness test has been applied by clustering the data by LGAs. The results do not show significant differences from the IV-GMM model.

### Results of models for panel data<sup>63</sup>

This section reports the results of modelling for both panel data which ranges within 2004-2009 and cross-sectional data which only covers the year 2006. Five different models, including Ordinary Least Squares (OLS), fixed effect (fix), random effect (Random), instrument variable (IV) and instrumental variable using GMM (IV\_gmm). Given that IV\_GMM has been selected as the most robust model, all the analyses and discussions of the results are around the IV\_GMM models. Below is the interpretation of the results which follows a ceteris paribus paradigm. For total business entries within a region, on average, unemployment is negatively contributing to the business entries. 1 more unemployed person would result in 0.0713 less business entries, meaning that the more unemployed people the region has, the less likely new businesses would entry. The coefficient of wages & salaries income is statistically significantly negative, though an increase of \$1 million in wages & salaries income is incurring the decline 0.0319 entries. The number of investment earners is statistically significant and positive. One more investment income earner leads to 0.0871 more entries. The coefficient of own unincorporated earners is significant and negative, meaning that one increase in own unincorporated earners resulted in 0.123 deduction of

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<sup>63</sup> Instruments: population, mining, agriculture, manufacturing, construction. For brevity, the summary statistics of the instruments are listed here but can be provided upon request.

business entries. The coefficient of own unincorporated income is significant and positive, meaning that an increase of \$1 million in own unincorporated income leads to 1.46 more business entries. The number of superannuation earners is negatively contributing to business entries, and one more superannuation earners will lead to 0.208 declines of business entries. The coefficient of superannuation income is statistically significant and positive. An increase of \$1 million in superannuation income leads to an increase of 3.28 entries. Number of other income earners is negatively contributing to business entries, and one increase in other income earners is leading to a reduction of 0.133 business entries. Number of businesses not employing people has a statistically significant and positive impact on entry, meaning that one increase in businesses employing five or more people resulted in 0.366 increases in business entries.

*Table 2. Results of final models*

	Total entries	Entries of non-employing business	Entries of employing businesses
unemployment	-0.456**	-0.239**	-0.232*
population	0.0557***	0.0302***	0.026**
wage and salary income	-0.71*	-0.361*	-0.365*
investment earners	-0.0566***	-0.0329***	-0.0217***
other earners	0.127***	0.0803***	0.0427*
Non-employ businesses	0.0129	0.0651*	-0.0505
employ one to four	0.513***	0.201***	0.306**
foreign language	-4.33*	-2.66*	-1.55
qualification	3.54	1.76	2.1
high qualification	-4.32	-3.08*	-1.48
broadband	-2.45	-0.466	-2.14
dialup	-1.89	-0.494	-1.52
foreign language and qualification	0.136**	0.094***	0.0408
constant	53.8	16.4	37.5
<b>Interaction terms</b>			
Unemployment * investment earners	-0.032*	-0.015*	-0.027*
Unemployment * non-employing business	0.007*	0.152*	-0.092
Unemployment * foreign language	1.963*	1.532*	1.326
R <sup>2</sup>	0.976	0.984	0.938
No. of observation	517	517	517
Cluster by LGA	Yes	Yes	Yes

The moderation effects of entrepreneurship culture has been applied and found that investment, self-employing business and migrants serve as moderators to the unemployment-entrepreneurship link. The results show that the investment serves as a positive moderator, and self-employing business and migrants as negative moderators.

## 5. CONCLUSION AND FUTURE RESEARCH DIRECTIONS

Section four shows a number of interesting findings, to be summed up as follows

- i. Positive determinants pertinent to total entries are investment income, number of businesses employing five or more people and entries of employing businesses; whilst

- negative determinants include average income, wages & salaries income, and superannuation income.
- ii. Positive determinants pertinent to entries of employing businesses, beside the determinants identified in i above, include entries of non-employing businesses; whilst negative determinants include non-employing businesses and number of businesses employing one to four people.
  - iii. The determinants of non-employing businesses are nearly the same as those of employing businesses, except that the direction of the impacts are opposite and number of business employing five or more people is not shown to be statistically significant.
  - iv. Size makes a difference in terms of the impact of different determinants on firm entries.
  - v. High academic qualification is a negative factor for business entries, while regions with higher percentage of foreign language speakers with higher qualifications have a positive impact on the business entries.

The paper is subjected to two limitations, (1) though this paper tries to identify a whole list of entries determinants, we are only able to identify the determinants which are available in the database; (2) using the absolute number of entries as the only indicator of business entries may not be able to capture all the characteristics of regional entrepreneurship.

Future research can include firm level data to provide a systematic view of business entries. Future research can focus more on the following aspects: (1) inclusion of more variables, in particular size of the business, should be collected and included in the analysis; (2) to develop a robust and consistent statistics to measure entrepreneurship at regional level; (3) the research should look in-depth to the fundamental issues of business entries and their potential impacts, i.e. efficiency, employment, regional economic growth, innovation and productivity.

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## EFFECT OF CREATIVE ACCOUNTING ON THE COMPANY

**Vlora Berisha**

University "Haxhi Zeka", Kosovo  
vlora.berisha@unhz.eu

**Albulena Shala**

University "Hasan Prishtina", Kosovo  
albulenashala@hotmail.com

### **ABSTRACT**

Objective of this research is to show the effect of creative accounting on the performance of the company, creative accounting techniques that are used by companies for the purpose of manipulating the numbers in their annual accounts to reach out to their financial desired results. Creative accounting is the transformation of financial accounting figures from what they actually are to what preparer desires by taking advantage of the existing rules and/or ignoring some or all of them.

**Keywords:** *Creative accounting, earnings management, financial reporting*

### **1. INTRODUCTION**

Creative accounting is applied in order that the view of the company to look financially stronger or weaker depending on the aspirations of management. Using creative accounting practices, managements can alter impressions about their firms' business performance. Periods of crisis represent in fact tests for companies and managers who are tempted to resort to ingenious methods, often questionable, in order to improve the presentation of financial statements. The 1990s were characterized by mass use of manipulative practices in accounting more prestigious American firms, for example as Enron, Worldcom, AOL, which was renuan like a castle of sand within a very short period. Their involvement in abuses accounting system has caused more damage, which extend beyond the financial costs. Speaking glancing different reports written after the failure of these companies, almost all the actors involved in rigging have tried to justified with the excuse that the introduction of an accounting "creative" can not be called fraud, while manipulation were legal frameworks that GAAP has set. Even if there exist strong accounting standards (GAAP and IAS) to guide financial accounting activities, sometimes it becomes impossible to prevent the manipulative behavior of financial statement preparers, who wants to effect the decisions of the financial statement users in favor of their companies. Most manipulations have passed the limits of the use of space to let GAAP, passing by really creative in rogue, using illegal practices, totally contrary to the rules, distorting, add or remove many of the factual data, and this order to reflect their situation in a way that will help them to achieve their goals. The difference between creative accounting and fraud is that creative accounting operates within the regulatory framework, while fraud involves a violation of law or breach of regulatory framework (Jones, 2011, pp.8). The remainder of this paper is organized as follows: Section 2 lists the methodology of the study. Section 3 and 4 gives a short overview of the empirical literature on Creative accounting. Section 5 presents the conclusion.

### **2. RESEARCH METHODOLOGY**

The research method in this paper is deductive, the basic method that give us the necessary preconditions for future research.

The methodology employed in this paper consists of the following phases:

1. The problem that is identified on the research of the effect of creative accounting on the performance of the company.
2. The elaborate plan of research which is therefore also collected literature bibliography is set to be used.
3. The defined structure and sections of the paper.
4. The paper discussed on the structure based on the knowledge gained through the qualitative data obtained mainly from books, articles, studies, and Internet sources.

### **3. LITERATURE REVIEW**

Until recently many researchers have shown interest in the field of creative accounting. They have carried out numerous theoretical and empirical studies and field observations to illuminate the brightness and darkness of this field. Their findings and suggestions are reviewed here:

Hussey & Ong (1996) stated that creative accounting first became very prevalent in the 1980. Due to loopholes of accounting regulations, companies could produce accounts which flattered their financial performance.

Blake & Salas (1996) explained that creative accounting is seen as widespread in the U.K. and undermines the credibility as a disease. During 1990-s, creative accounting problem identified in Spain within the “Continental European” model of accounted regulations. There was an empirical work in Spain in which questionnaire was sent to 100 partners in Spanish audit firms. 29 replied, which was well above the average. They compared Spanish survey with two survey of U.K. on this topic with total 42 respondents. In both countries 30% of auditors consider creative accounting as legitimate business tool, while over 60% see creative accounting to be a serious problem. Where as in Spanish auditors, 28% think that creative accounting cannot be solved completely and in U.K. 95% thinks so. They also compared Anglo American with continental European.

Rucsandra, Sorin, Cristina (2010), in their research paper titled “Fighting the enemy of fair view principle – Getting to know Creative Accounting”, discussed the role of creative accounting as a technique of accounts manipulation in contrast with the fundamental principle of accounting – fair view presentation, and the ethics of the accounting profession. In this paper the authors analyzed the role of auditors and corporate governance in winning the fight over this kind of accounting practices.

O. Effiok, Okon E. Eton (2012), their study was conducted to appraise the impact of creative accounting on management decisions. The authors recommendation is that effective regulation of financial reporting should be encouraged to minimize miss representation of facts. The tenet of good covenants should be the watch word in ensuring abuse of financial statement. Management of firms should try to base their investment decision on financial report that as not been manipulated.

Cosmin (2010) described the various techniques used by the managers to get desired results. Oriol Amat, Catherine Gowthorpe (2010), in their research paper titled “Creative Accounting: Nature, Incidence and Ethical Issues”, discussed the various ways in which creative accounting can be undertaken and summarizes some empirical research on the nature and incidence of creative accounting.

Syed Zulfiqar Ali Shah, Safdar Butt, and Yasir Bin Tariq (2011), in their study “Use or Abuse of Creative Accounting Techniques”, explored and tried to answered a very important question, why managers do creative accounting and how they become successful in performing such practice in the presence of stringent rules and procedures. At the end they concluded that the complex and diverse nature of the business transactions and the latitude available in the accounting standards and policies make it difficult to handle the issue of

creative accounting. It is not that creative accounting solutions are always wrong. It is the intent and the magnitude of the disclosure which determines its true nature and justification. Dilip (2006) conducted a research to find out the reasons for the sudden collapse of seventh largest company of USA. He found that the company was hiding the losses using a complicated web of partnerships, subsidiaries and SPEs.

Naser and Pendlebury (1992) questioned senior corporate auditors about their experience of creative accounting. They were able to conclude that a significant proportion of all categories of companies employ creative accounting techniques to some extent. Many research studies examine a particular aspect or technique of creative accounting. All tend towards the conclusion that creative accounting using that particular technique does exist.

#### **4. OVERVIEW- CREATIVE ACCOUNTING**

*'Creative accounting is the root of many of recent accounting scandals, and many proposals for accounting reform - usually centering on an updated analysis of capital and factors of production that would correctly reflect how value is added' (Wikipedia.org, 2006).*

As soon as these words “Creative Accounting” are mentioned, the image that emerges in one’s mind is that of manipulation, dishonesty and deception.

The reliability of the financial statements are crucial for the stakeholders of the firms in order to make appropriate decisions. This fact has become more important in recent years starting from 2001 by the collapse of Enron and its importance has intensified with the recent financial crisis because of the bankruptcy of major financial institutions. Even if there exist strong accounting standards (GAAP and IAS) to guide financial accounting activities, sometimes it becomes impossible to prevent the manipulative behavior of financial statement preparers, who wants to effect the decisions of the financial statement users in favor of their companies. These manipulative behaviors are often called “creative accounting” and/or “earnings management” “Creative accounting” is the more preferred term in Europe, whereas it more common to use “earnings management” in the USA (Türker Susmus, Dilek Dermihan, 2013, pp. 2).

The term “Creative Accounting” was first originated with the movie “The Producers” by Mel Brooks in 1968. One of the early researchers who defined the account manipulation was Copeland (1968). He defined it as some ability to increase or decrease reported net income at will. The term ‘creative accounting’ can be defined in various ways. Including the following: ‘Is the deliberate dampening of fluctuations about ‘some level of earnings considered being normal for the firm’ (Barnea 1976).

Kamal Naser (1993), offers this definition of creative accounting which presenting an academic view: creative accounting is the transformation of financial accounting figures from what they actually are to what preparers’ desire by taking advantage of the existing rules and/or ignoring some or all of them.

Another definition about creative accounting is from Amat (1999) - Creative accounting is the process whereby accountants use their knowledge of accounting rules to manipulate the figures reported in the accounts of a business.

##### **4.1. Creative accounting vs Fraud**

Manipulation that does not lie within the law and standards is considered to be a fraud, according to Diana and Madalina. Engaging in the practices of creative accounting or manipulation accounting is within the law and thus is not considered to be a fraud. Fraud occurs when a firm commits an illegal act, for example if the firm decides to falsify invoices

so it can increase its sales figures. On the other hand making a false estimation on bad debts is not considered to be a fraud.

According to Belkaoui (1989), real fraud is defined as ‘falsifying or altering documents, deleting transactions from records, recording forged transactions or concealing significant information’. Due to the difficulty of the distinction between the two, the commission responsible for fraudulent financial reporting defined fraud as ‘materially misleading financial statements’ ( NCFRR 1987).

To conclude, creative accounting deals with the misrepresentation of accounting figures, by following the standards set by the accounting conventions, while fraud is falsification of accounting figures made, by disobeying the law.

#### 4.1.1. Motivations for Creative Accounting

There are many factors regarded as the reasons of applying creative accounting or earning management techniques. One of the most cited incentive in the literature is the expected increase in the stock prices. It can be concluded easily that the incentives of creative accounting is the following advantages: presenting the best possible earnings picture so as to maximize the price at which the issue is sold; causing earnings to remain between the minimum and maximum earnings level so as to maximize incentive compensation; minimizing the political costs of size and/or industry membership by avoiding what might be considered excessive profit levels; avoiding the potential adverse effects of a covenants violation (for example, an interest rate increase, a demand for security or immediate repayment); avoiding an improper market response to earnings being temporarily off trend; reducing earnings volatility so that a valuation penalty, associated with a perceived higher level of risk, is not assessed; taking large write-offs immediately upon the arrival of new management, relieving future results of the charges and permitting blame to be assigned to outgoing management; reserving any overstated portion of the accruals in order to achieve earnings goals in later periods (Mulford, 1951).

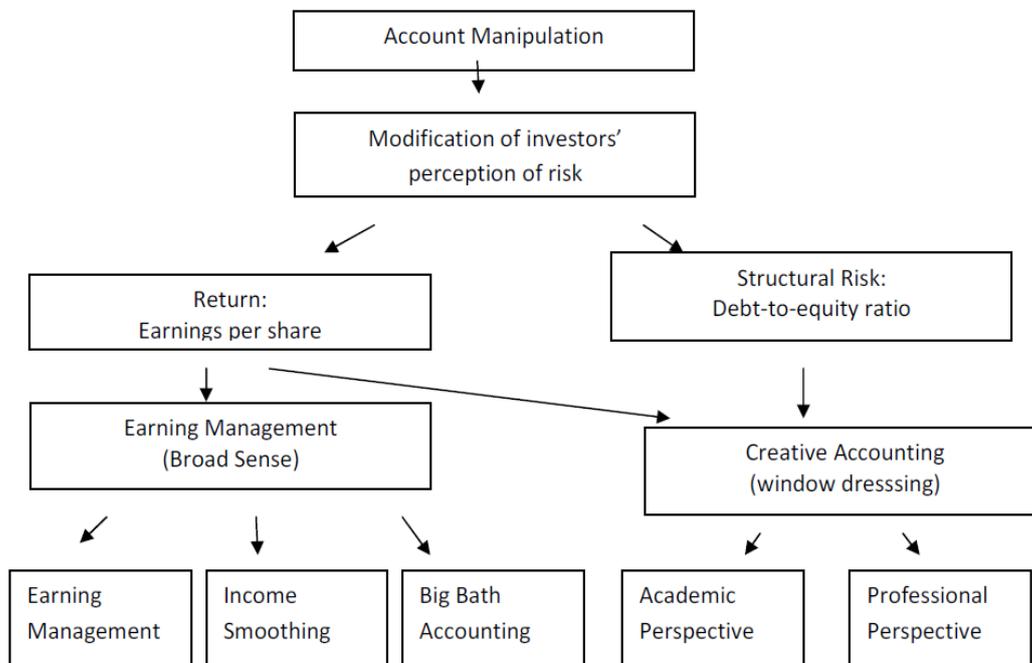


Figure 1. Classification of Accounts Manipulation, Source: Hervé Stolowy and Gaétan Breton, “A Framework for the Classification of Accounts Manipulations”, HEC Accounting & Management Control Working Paper No. 708/2000, 2000, Volume 3, No:1, p.4

#### **4.1.2. Techniques of Creative Accounting**

According to Beidleman (1973) and Lipe (1990) creative accounting techniques reduce the variability of earnings and, therefore, shareholders benefit because the reduced uncertainty and improved predictability of future earnings help in enhancing price/earning multiples. However, they claim that abnormal accruals over time tend to reverse and are readily detected by investors. This clearly calls for moderation in using even healthy techniques for managing earnings.

##### **Big bath charges**

In this technique, instead of showing losses for a couple of years, a big loss is shown for a single year by charging all expenses in that year. This may be done if there are apparent reasons for poor profitability in that year and the management feels that by lumping all expenses in one bad year, they can start showing better profits in following years.

##### **Creative acquisition accounting**

IFRS 3 provides extensive guidelines on how the purchase price of business acquisitions should be allocated. The SEC also has a check on allocation of R&D costs. Yet it leaves room for manipulation of amortizing levels.

##### **Cookie jar reserves**

Over-provisioning for accrued expenses when revenues are high helps to bring down profits to a level that is safe to maintain in the future. Similarly, failure to provide all the accrued expenses can help show larger profits during tougher times when such is the need of the hour.

##### **Materiality**

A change in an immaterial item can help the firm billions of dollars. For example, some companies do not recognize an expenditure under say \$5000 as an asset, even if its benefits is likely to be spread over several years. Varying this limit to say \$2,000 can easily increase profits while hiking up this limit may lead to lower profits.

##### **Revenue recognition**

Firms virtually have a free hand in timing the booking of their revenues at any stage starting from the moment sales contracts are signed till the promised product or service has been fully delivered to and accepted by the clients. For this we can refer to a classic example of Microsoft which was heavily fined by US SEC for its manipulative revenue recognition policy. Microsoft recognized only a small percentage (20- 30%) as revenue at the time of the sale and remaining amount was kept as provision for future after sales services. Why Microsoft adopted that strategy. The answer is to (1) hide substantial profits, (2) signaling effects, (3) avoiding complacency and last but not the least (4) to report smoothed earnings to its shareholders & stakeholders.

Smith (1998) reported on the accounting manipulations employed by 208 of the largest quoted UK companies and identified 12 different techniques in the common use, all of which would impact on the Profit and Loss account and Balance Sheet of the companies concerned. The techniques specified can be described as follows:

1. Extra ordinal and exceptional items,
2. Pre-acquisition write down,
3. Deferred consideration on acquisition,
4. Disposals- profits on sales of asset taken "above the line" and deconsolidation of subsidiaries in anticipation of sale.
5. Brand Accounting- capitalization of assets,
6. Off-balance sheet finance,
7. Contingent liabilities,
8. Changes in depreciation policy(Method),
9. Capitalization of costs (interest and R&D ),

10. Currency mismatching between borrowing and depositions,
11. Pension fund surplus used to reduce annual charge,
12. Convertible with premium put options or variable rate preferred stocks.

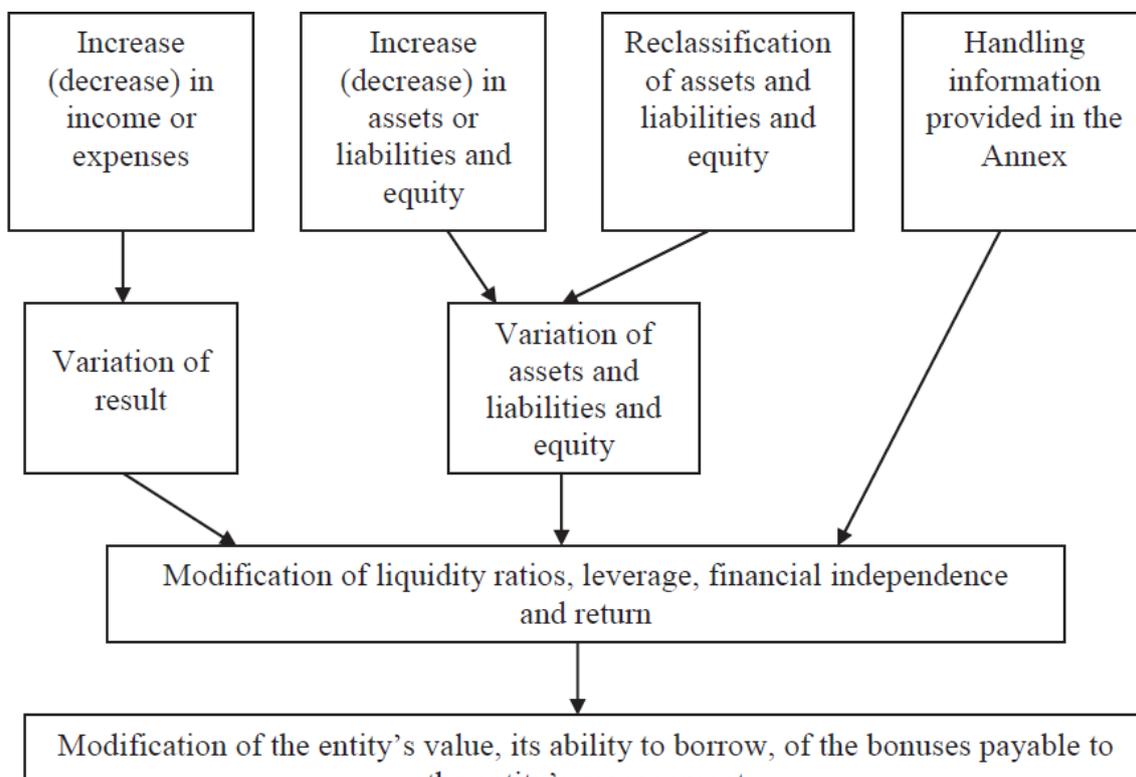


Figure. 2. Creative Accounting techniques and their effect in business performance. Source: N. Feleagă, L. Malciu, "Accounting Policies and Options", Economica Publishing House, Bucharest, 2002, p. 391.

Creative accounting implies that the entity takes advantage of the existing loopholes in the rules, and their flexibility to prepare and publish embellished financial statements. Although not illegal, creative accounting indicates that managers are under financial pressure to seek solutions without questioning regarding their ethical actions.

## 5. CONCLUSION

Creative accounting means finding loopholes in the accounting standards and using them to manipulate the accounts. Companies can use different methods to manipulate the accounts. The improper use of such creative accounting practices had fooled both auditors and regulators in the past (e.g. Enron, Bank of Punjab etc) and it continues to do the same. So we can say that creative accounting is the negative and unethical aspect of accounting but it can be considered a positive aspect of accounting when new standards are introduced to develop the accounting system and to introduce more reforms in business governance.

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## PHYSICAL EVIDENCE DEVELOPMENT OF TOURIST ATTRACTION SITE IN NAKHONRACHASIMA PROVINCE FOR SERVICING THAI TOURIST

**Suwattana Tungsawat**

*Rajamangala University of Technology Isan, Thailand.  
suwat.tana@hotmail.com*

**Katanyu Hiransomboon**

*King Mongkut's Institute of Technology Ladkrabang, Thailand.  
katanyu\_h@hotmail.com*

### ABSTRACT

*This research aims to study the physical development of tourist attraction site in Nakhon Ratchasima province for serving Thai tourists and to establish guidelines on sustainable tourism. The study used questionnaires with sample of 420 Thai tourists. The tourist group was divided with the same ratio for each type of tourist attractions. The statistical analysis methods applied were frequency, percentage, mean, standard deviation, and ANOVA (One-Way ANOVA) in order to test the differences of sample mean towards the need to develop physical evidence of the tourist destination. The result showed a significant level of 0.05.*

*The results of study revealed that Thai tourists have the highest demand on new development of amenity followed by to be familiar with the sites, and to see an improvement of the layout and facility design respectively.*

*The results of hypotheses testing show that Thai tourists with differences gender, age, education, and average income have different opinion of tourism development. In addition, Thai tourists who chose to travel to different tourist attractions also demand different types and design of physical facilities. Most of Thai tourists who have different occupations and education levels desire to see the improvements of physical facilities and tourist attractions layout differently. In addition to Thai tourists who have earn differentiate in monthly income show different opinions on the physical development of tourism of a service station and the attraction sites familiarity while Thai tourists categorize by gender, marital status, purpose of travel, and co-travelers have similar opinions on the needs of physical attraction development at 0.05 significant level.*

**Keywords:** *physical facilities, tourist, tourist attractions, physical facilities development, facilities*

### 1. INTRODUCTION

In current situation, people's attitudes toward spending on traveling become one of the necessary expenses because they live in a fast pace environment with a high stress and many problems from work place. Therefore, traveling will give them new experiences and relaxation. Most tourists prefer to travel during holidays such as weekend, official holidays to relax and enjoy the beauty of a natural environment. Nakhon Ratchasima is a province that has 24-hours bus schedule so travelers can reach the destinations more conveniently and faster. Thai tourists prefer to travel over the 2-3 days holiday's period with a different purpose such as health tourism, academic purpose, and business. Nakhon Ratchasima has several kinds of tourist attractions. It is one of the largest provinces in Thailand (20,493,964 square kilometers). The province has a wide range of tourism facilities such as restaurants, souvenir shops, hotels and resorts.

Nakhon Ratchasima tourist attractions can be categorized into the following:

- 1) Historical and archaeological sites such as Tao Suranaree monument, Miss Bun Luea memorial place, Tung Samrid memorial field, Phimai historic Park, Phanom Wan castle, Non Ku castle, etc.
- 2) Natural attractions such as Lam PraPhloeng dam, Lumtakong dam, KhaoYai national park etc.
- 3) Shopping and recreation tourist attractions such as Palio KhaoYai, Chokchai farm, Suwan farm, and Dan Kwian pottery village, etc.

Every year these places welcome many visitors and the major attractions where tourists can be experienced have attractive physical evidence in each places. The physical evidence of historical and archaeological sites and natural physical attractions site must present as beautiful scenery, clean, valuable, unique identity place also it should be preserved the essence of the site entirety. On the other hand, shopping and recreation tourist attraction places are often owned and managed by the private sector so the physical evidence of each places have been built to meet the needs of tourists. Due to tourist's increasing demand, tourist attractions management must consider applying the art in design and decoration to meet their needs. Currently, the number of tourists arriving Nakhon Ratchasima are gradually increasing resulted in inadequate facilities and lack of tourist services. Even most tourist attraction sites are trying to improve facilities, but some are not appropriate with the surrounding atmosphere. Therefore, it is necessary to develop or improve the original physical evidence but still can maintain the unique atmosphere of each place.

#### **Objectives of the Study**

1. To study needs for developing servicescape of tourist attractions in Nakhon Ratchasima.
2. To study needs for developing facilities design of tourist attractions in Nakhon Ratchasima.
3. To study needs for developing facility layout of tourist attractions in Nakhon Ratchasima.
4. To study needs for developing convenient and familiar service stations of tourist attractions in Nakhon Ratchasima.

#### **Data Collection Method**

Primary data were collected by using questionnaire since October 2013 to January 2014. The variables used in the study were; 1) Independent variables which divided into two parts: the first part is general information of tourists including gender, age, marital status, occupation, income etc. And the second part is types of tourist attractions including historical and archaeological sites, natural tourism destination, and shopping and recreation sites. 2) Dependent variables which are the need for developing physical evidence of tourist attractions.

Applying the quota sampling method, each tourist destination type are collected with the same ratio. The attraction sites are divided into three categories; the historical sites used to gather information from tourists who visit Tao Suranaree monument and Phimai historic park, the natural attractions collected data at the KaoYai national park and Lumtakong dam, the shopping and recreation places used information from Chokchai farm, and Palio KhaoYai shopping place.

#### **Data Analysis**

Descriptive statistics such as percentage, were used in the data analysis regarding personal information of respondents and types of tourist attraction. Mean and standard deviation were used to analyze need for tourist attraction physical evidence development. T-test was used to

compare levels of need for developing tourist attractions physical evidence between two genders. F-test for one-way analysis of variance (One-way ANOVA) was used to compare core competency levels of steakhouse customers divided by age, marital status, occupation, income, and education of tourist customers with a significance level of 0.05.

## **2. LITERATURE REVIEW**

Ratchanee Pattanarat (2009) studied on "An Approach to develop tourism market in UbonRatchathani". The objective was to study tourists behavior, opinions on tourism development, the demand of tourism market development, and the competitiveness of tourism industry in Ubon Ratchathani. It aimed to provide information and guideline of tourism market development in Ubon Ratchathani. The research found that majority of travelers primarily intended to travelling for recreation / touring and travel during holiday trips with family / or relatives on one-day ecotourism trip. Tourists' most favorite activities were photographing and sight-seeing. After the reviews on the tourism development from four groups of respondents, the results indicated that the overall three aspects which were the development of tourism resources, tourism resources management, and providing educational activities and processes were in the good level. Moreover, four groups of respondents showing significant desired to improve the overall tourism market, looking to develop a culture and wisdom, improving customer services and other related businesses, increasing tourist activities, and increasing more tourist attractions.

Titha Khotchompoo (2000) studied "The Potential for a National Eco-tourism on the Plateau of PhuKradueng National Park". The data used to study of the potential effect that may occur by applying weighted method(weighting score method). These potential effects can be divided into six criteria as follows ; the potential to attract tourists, opportunity to create awareness, and environmental education, a variety of ecotourism activities in the area, the destinations accessible, and facilities safety. PhuKradueng national park has potential to become an ecotourism where attracts conservation tourists and it showed the average value of 2.18. The potential impacts were divided into three criteria which are; the potential effects on a wild life, the potential effects on plants, the effect on other thing else. The potential impact is at the moderate level of 2.00. According to the tourists survey, the data showed that 70.85 percent of the tourists know about eco-tourism but only 28.64 percent were eco-tourists. Some improvements were suggested such as provided additional bicycle service, signs should be clearly posted, and a sign should be provided more information on the attraction name and places. At overall, the service was in a good level.

## **3. CHAPTER**

### **3.1. Personal Data of respondents**

Most tourists are female visitors, aged between 21-30 years old, single, has a career as an officer or employee of the company, the average income per person is less than 15,000 baht, hold bachelor degree, travel for recreation with family or couple (Table 1).

*Table 1: Personal data of tourists*

<b>Personal data</b>	<b>Total</b>	<b>Percentage</b>
<b>Gender</b>		
Male	175	41.67
Female	245	58.33
<b>Age</b>		
Less than or equal to 20 years	27	6.43
21 – 30year	154	36.67
31 – 40year	134	31.90
41 – 50year	72	17.14
51 – 60 year	29	6.90
More than 60 year old	4	0.95
<b>Marital Status</b>		
Single	218	51.90
Married	186	44.29
Widow/ Divorce/ Separated	16	3.81
<b>Occupation</b>		
Staff/ Private Company Employee Staff	142	33.81
Officers / employees of State / Government Enterprise	98	23.33
Employed / self-employed	114	27.14
Student/ Collage student	49	11.67
Retired/ Stay home husband/ House wife	13	3.10
Unemployed	4	0.95
<b>Monthly Income</b>		
Less than or equal 15,000 Baht	138	32.86
15,001 – 20,000 Baht	110	26.19
20,001 – 25,000 Baht	46	10.95
25,001 – 30,000 Baht	51	12.14
More than 30,000 Baht	75	17.86
<b>Education Level</b>		
Less than Bachelor Degree	108	25.71
Bachelor Degree	259	61.67
Higher than Bachelor Degree	53	12.62
<b>Tourism purposes</b>		
For recreation	348	82.86
For education trips	20	4.76
For business /work	52	12.38
<b>Co-traveller</b>		
Traveling alone	6	1.43
Family / love one	209	49.76
Relative	18	4.29
Friends / Colleagues	187	44.52
<b>Total</b>	<b>420</b>	<b>100</b>

### 3.2. Overview of need for developing physical evidence of tourist attractions.

The highest level of need for developing physical evidence of tourist attractions are on shopping and recreation places (average value = 3.83, SD = 0.40), followed by the historical sites (average value = 3.87, SD = 0.57), and natural sites (average value = 3.76, SD = 0.51) respectively. Considering the level of need for developing physical evidence of tourist attractions separately, historical and natural sites have the highest level on need for convenient and familiar service stations, but shopping and recreation sites has the highest level on facilities design of tourist attractions. Due to the width of area, historical and natural sites have inadequate sign for indicating viewpoint and direction. But for shopping and recreation sites which are built for commercial purpose, a few facility available for free such as the tourists who want a seat must sit in a restaurant-no free seat.(Table 2)

*Table 2. Overview of need for developing physical evidence of tourist attractions in Nakhon Ratchasima province*

Need for developing physical evidence of tourist attractions	Historical		Natural		Shopping and Recreation		Total Average	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
Servicescape of tourist attractions	3.83	0.53	3.83	0.51	3.82	0.44	3.83	0.49
Facilities design of tourist attractions	3.67	0.72	3.60	0.68	3.88	0.49	3.72	0.65
Facility layout of tourist attractions	3.73	0.71	3.72	0.60	3.80	0.49	3.75	0.61
Convenient and familiar service stations of tourist attractions	3.87	0.84	3.89	0.67	3.82	0.67	3.86	0.73
<b>Total Average</b>	<b>3.78</b>	<b>0.57</b>	<b>3.76</b>	<b>0.51</b>	<b>3.83</b>	<b>0.40</b>	<b>3.79</b>	<b>0.50</b>

### 3.3. Need for developing physical evidence of tourist attractions.

In general, most of tourists would like to see beautiful and clean tourist attractions. Nowadays, one of the popular activities while travelling is to take photographs and post them online. Therefore, it is very important to set up the beautiful scenic point with a perfect location for photo. But for car park and toilet issues, tourists have different opinion (S.D. are more than 1.00). Some tourists need more such facilities for convenience but some do not because they understand the new building limitation of historical and natural sites and do not want to destroy overall circumstance.

Historical and natural sites have unique physical evidence so most tourists would like to preserve those environments by designing facilities in accordance with environment atmosphere. However, there is different opinion in facilities for senior and disabilities. As elder Thai seldom go to travel without their family and belief of disabilities should not travel to unfamiliar place, those facilities are not necessary. Still those people have attendants taking care all the time so facilities are less required. On the other hand, more educated tourists need such facilities for everybody is able to travel by himself.

Historical and natural sites are quite wide so service center is necessary for being start point or meeting point of tourists. However, only visitors from study tour interested in sequencing sightseeing, but tourists who come for relaxation do not.

Inadequate sign for tourists is also the main problem. Some signs are destroyed by rain and wind so some tourists easily get lost or cannot find the way to service station. Some signs are too far away and make tourists misunderstand. Therefore old and oblivious sign should be replaced.

According to Thai society is entering to ageing society, many retired seniors still need to spend time on tour after long working period of life. In addition, Thailand is ranked in the top-five country preferred to live after retirement for foreigners (Manager Online. 2014). In

order to promote tourism in Thailand, each tourist attraction site should begin to build universal facilities to serve elderly or disabilities person so foreign visitors are able to enjoy and relax while they are staying in Thailand.

*Table 3. Need for developing physical evidence of tourist attractions*

Need for developing physical evidence of tourist attractions	Historical		Natural		Shopping and recreation		Total Average	
	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.	$\bar{x}$	S.D.
<b>Servicescape of tourist attractions</b>	<b>3.83</b>	<b>0.53</b>	<b>3.83</b>	<b>0.51</b>	<b>3.82</b>	<b>0.44</b>	<b>3.83</b>	<b>0.49</b>
Beautiful places as tourist expectation	4.22	0.67	3.96	0.75	4.03	0.63	4.07	0.69
Clean place, adequate litter provided.	3.99	0.85	3.76	0.82	3.78	0.70	3.84	0.80
Adequate car park area.	3.64	1.03	3.76	0.77	3.84	0.69	3.75	0.85
Adequate toilet.	3.63	1.03	3.51	0.84	3.70	0.76	3.61	0.88
Car park is located nearby viewpoint.	3.73	0.81	3.84	0.75	3.71	0.69	3.76	0.75
Uncomplicated and smooth pathway	3.81	0.79	3.89	0.82	3.71	0.69	3.80	0.77
Availability of photographic point.	3.98	0.78	4.00	0.86	3.99	0.70	3.99	0.78
Peaceful place, no noise.	3.64	0.80	3.90	0.65	3.84	0.68	3.79	0.72
<b>Facilities design of tourist attractions</b>	<b>3.67</b>	<b>0.72</b>	<b>3.60</b>	<b>0.68</b>	<b>3.88</b>	<b>0.49</b>	<b>3.72</b>	<b>0.65</b>
Design facilities in accordance with environment atmosphere.	3.85	0.82	3.86	0.76	4.00	0.59	3.90	0.73
Availability of facilities used in daily life.	3.46	0.89	3.52	0.88	4.06	0.63	3.68	0.85
Availability of multi- purpose area such as patio.	3.64	0.93	3.65	0.84	3.81	0.72	3.70	0.84
Availability of facilities for senior people and disabilities.	3.74	1.01	3.37	1.01	3.66	0.79	3.59	0.95
<b>Facility layouts of tourist attractions</b>	<b>3.73</b>	<b>0.71</b>	<b>3.72</b>	<b>0.60</b>	<b>3.80</b>	<b>0.49</b>	<b>3.75</b>	<b>0.61</b>
Availability of sightseeing sequence indication.	3.62	0.89	3.64	0.84	3.76	0.70	3.67	0.81
Easy-to- found location of service station such as toilet.	3.66	0.89	3.64	0.86	3.87	0.68	3.72	0.82
Each tourist viewpoint is not too far apart.	3.68	0.82	3.72	0.76	3.84	0.58	3.75	0.73
Each tourist viewpoint has connecting path.	3.73	0.82	3.73	0.81	3.74	0.69	3.73	0.78
Availability of service center for tourist information.	3.94	0.86	3.87	0.90	3.81	0.75	3.87	0.84
<b>Convenient and familiar service stations of tourist attractions</b>	<b>3.87</b>	<b>0.84</b>	<b>3.89</b>	<b>0.67</b>	<b>3.82</b>	<b>0.67</b>	<b>3.86</b>	<b>0.73</b>
Adequate sign of direction and facilities.	3.91	0.96	3.99	0.72	3.85	0.71	3.92	0.81
Availability of overview map.	3.92	0.93	3.85	0.88	3.74	0.78	3.84	0.87
Availability of forbidden behavior sign such as no smoking.	3.79	1.05	3.81	0.85	3.86	0.84	3.82	0.92

### 3.4. Comparison of need for developing physical evidence of tourist attractions divided by tourist personal data

Tourists with different ages require different facilities design of tourist attractions. Young tourists can walk continuously in a long distance route but older people need a seat to rest. Old tourists usually walk for a while then sit down to talk together so they prefer some facilities like a coffee shop or seats on the route. Tourists with different occupations require different facility layouts of tourist attractions. Students and government employees not only travel for leisure but also for study historical or natural tourist site so they like to have sequence sightseeing for more understanding those places. Moreover, service center is necessary to provide useful information for study purpose. Tourists with different monthly income require different convenient and familiar service stations of tourist attractions. Some higher income tourists have more experience in travelling abroad and impressed in tourist

sites with good management system so they need more maps and signs in such tourist attractions.

Tourists with different educational levels require different facility layouts of tourist attractions. Because visitors who have higher education need regulatory and standard system tourist sites so everybody can easily find facilities and never lose their way (Table 4).

*Table 4. Comparison of need for developing physical evidence of tourist attractions divided by tourist personal data by using F-test at the significant level = 0.05*

Physical evidence of tourist attractions	F-Prob			
	Age	Occupation	Monthly income	Education
Servicescape of tourist attractions	0.974	0.469	0.068	0.248
Facilities design of tourist attractions	0.010*	0.389	0.471	0.162
Facility layouts of tourist attractions	0.227	0.019*	0.056	0.035*
Convenient and familiar service stations of tourist attractions	0.878	0.724	0.049*	0.079

### 3.5. Comparison of need for developing physical evidence divided by type of tourist attractions.

Tourists with different types of tourist attractions require different facilities design of tourist attractions. Most shopping and recreational tourist sites are built for commercial purpose results in no free space for rest. It means tourists who need a seat must pay to enter. On the other hand, historical or natural tourist attractions often offer places for tourists without any charge (Table 5).

*Table 5. Comparison of need for developing physical evidence divided by type of tourist attractions by using F-test at the significant level = 0.05*

Physical evidence of tourist attractions.	$\bar{x}$				
	Historical	Natural	Shopping and recreation	F	F-Prob
Servicescape of tourist attractions	3.82	3.81	3.83	0.01	0.999
Facilities design of tourist attractions	3.67	3.60	3.88	7.40	0.001*
Facility layouts of tourist attractions	3.73	3.72	3.80	0.85	0.430
Convenient and familiar service stations of tourist attractions	3.87	3.89	3.82	0.36	0.700

## 4. CONCLUSION

Of total, historical, and natural tourist attraction sites, the highest average value of need for physical evidence of tourist attractions development is on convenient and familiar service stations of tourist attractions, followed by servicescape of tourist attractions, facility layouts of tourist attractions and facilities design of tourist attractions respectively. Because of both types of tourist sites have wide area and preservation purpose, need of physical evidence development are alike. However, shopping and recreation tourist attraction sites has the highest average value on facilities design of tourist attractions, followed by servicescape of tourist attractions and convenient and familiar service stations of tourist attractions equally. Facility layouts of tourist attractions has the least average value. As shopping and recreation tourist attraction sites were built for commercial purpose, any physical evidence can be adjusted to satisfy their target customers without preservation concept.

### Implication

1) Servicescape and tourist facilities should be developed continuously by applying Thai cultural values on each tourist attraction site. Historical and natural tourist site should design facilities that are not only beautiful but also harmonized to the circumstance. These facilities

should apply modern technology are such as computerized information centers, provide both human and Dictaphone guide, and use multi-vision slide. Souvenir shops and beautiful scenery photo corner should also be available for serving tourists.

2) The facilities for the disabled, elderly, and mother with young child in the tourist attractions would definitely enhance the quality of service to meet an international standard. Because everyone should have equal rights to use the recreational facilities and be able to reach each tourist destinations easily. Therefore a ramp for wheelchairs, disabilities restrooms, changing diaper station should be created and becomes practical guide for all tourism management. In addition, these facilities should be done by intelligent design where is not obstruct a beautiful scenic views and it should be harmonized with the original physical evidence of the tourist attraction.

3) Direction signs or warning signs should have necessary details such as “300 meter to waterfalls” or “the path has steep slope with rock” and also provided in English for foreign tourists.

4) Toilets and parking space should be sufficient and clean as well as safe.

5) Free of charge areas in shopping and recreation should be available among such commercial places. For example, they should provide patio area to socialize, the resting bench along the path. Moreover, layout design should not be too crowded only with merchant’s shops.

6) Historical and natural tourist attractions should have map of the whole area. The information of restricted areas should be posted at the information center and on each spot to inform visitors.

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## ENTREPRENEURIAL NETWORKS: THE MULTIPLEXITY OF EXCHANGE CONTENT

**Tina Bratkovic Kregar**

*University of Primorska, Faculty of Management, Slovenia  
tina.bratkovic@gmail.com*

**Bostjan Antoncic**

*University of Ljubljana, Faculty of Economics, Slovenia  
bostjan.antoncic@ef.uni-lj.si*

### ABSTRACT

*Entrepreneurial networks have been the subject of extensive research for several decades. Since entrepreneurs are embedded in their social context the use of networks became an important tool for scholars in entrepreneurship for explaining entrepreneurial behavior. Past research show that in the initial phases of the new venture creation the entrepreneur's personal contacts are crucial to the process. In the beginning of the new firm creation networks enable entrepreneurs to save money, and to reach resources that could be otherwise inaccessible. Entrepreneurs rely on their personal and business contacts, therefore they socially interact with their families, suppliers, customers and friends to gain important information and resources. Entrepreneurs' networks are thus a mixture of friendship, business and kin ties. The present study aims to make a review of past and present research on entrepreneurial networks with a special emphasis on the content of exchange within network members. In the process of establishing a venture the entrepreneurs need the information on what is available, advice how to proceed, capital to finance the growth, and finally moral support and encouragement to know that they are going into the right direction. Therefore, three different types of exchange content within network members are examined: 1) resources, 2) information, 3) moral support and liking. The study presents some important findings regarding network multiplexity and the linkage between entrepreneurial networks and firm output. The research results indicate that the future research has to focus on: 1) longitudinal studies, 2) multiple relationships on the individual level and inter-organizational level, 3) developing measures for network multiplexity, and 4) analyzing the linkage between network multiplexity and firm performance.*

**Keywords:** *Entrepreneurial networks, Information acquisition, Moral support, Multiplexity, Resource acquisition.*

### 1. INTRODUCTION

Social networks have been recognized as a significant source of support for the entrepreneur in the initial stages of the new venture creation (Birley, 1985; Aldrich and Zimmer, 1986; Jack, 2005). Especially the entrepreneur's family members have a significant role in the start-up process (Dyer and Handler, 1995). Entrepreneurs' family members are recognized as an important source of new opportunities, support and advice, even though they are not in the business (Jack, 2005). Entrepreneurs rely on their personal and business contacts, therefore they socially interact with their families, suppliers, customers and friends to gain important information and resources (Aldrich and Zimmer, 1986). Entrepreneurs by creating and developing contacts (like for example participating to conferences, meetings, social events, exchanging business cards etc) build their networks (Aldrich, Rosen, Woodward, 1987). Entrepreneurs' networks are thus a mixture of friendship, business and kin ties (Anderson, Jack and Drakopoulou Dodd, 2005).

The underlying assumption in social network literature is that social networks stimulate entrepreneurship. The main reason is the access to resources necessary to start a firm that are available through social networks (Foss, 1993). In the beginning of the new firm creation networks enable entrepreneurs to save money, and to reach resources that could be otherwise inaccessible (Aldrich and Reese, 1993). Further, the relationship that is established between entrepreneurs and their resource providers can contribute to a sense of trust and commitment (Shane and Cable, 2002; Smith and Lohrke, 2008).

The present study aims to present a review of past and present research on entrepreneurial networks with special emphasis on the multiplexity of exchange content. The concept of network multiplexity was found to be beneficial for firm performance in past research, therefore we directed a particular attention to the development of this concept. In the past research multiplexity was regarded as: 1) the combination of content, 2) multiple relationships with network members, 3) overlapping of social and economic dimensions of exchange, 4) the degree to which two actors are linked by more than one type of relationship (Birley, 1985; Aldrich and Zimmer, 1986; Larson and Starr, 1993). Finally, we appoint possible future directions.

## **2. FRAMEWORK FOR CONTENT MULTIPLEXITY**

The framework for classifying past and present studies was made on the basis of the content of exchange within the network members. With regard to the content of exchange we can differentiate different sub-networks that represent the overall network (Brass, 1992). The definitions used by entrepreneurship scholars vary depending on what is the content of exchange within a network (communication network, network of influence and power, resource network, network of friends etc.). However, to date research was mostly focused on three sub-networks, which are: 1) resource acquisition network, 2) information acquisition network and 3) friendship network. In the process of establishing a venture the entrepreneurs need the information on what is available, advice how to proceed, capital to finance the growth, and finally moral support and encouragement to know that they are going into the right direction (Birley, 1985, Johannison, 1986, Aldrich, Rosen, and Woodward, 1986). Often a single social tie has a multiple content of exchange, which is referred as multiplexity. An entrepreneur's friend can give him or her advice how to raise money, and at the same time offer him or her moral support and encouragement to overcome obstacles. At the same time, an entrepreneur's business partner can become over time his or her friend (Aldrich and Zimmer, 1986; Aldrich, Rosen and Woodward, 1986; Larson and Star, 1993). There were five categories of content multiplexity used in this study, namely: 1) resources and information exchange, 2) information and moral support exchange, 3) resources and moral support exchange, 4) resource, information and moral support exchange, and 5) multiplexity of exchange content (see Table 1).

Regarding the type of network members, we can differentiate two types of networks, namely: 1) personal networks (individual persons as network members), and 2) inter-organizational networks (organizations as network members). Some research defined networks as a structure of relationships among persons, while other studies are focused on relationships among organizations. In this study we are focused on personal networks. Personal networks consists of all people who are connected to each other by a certain type of relationship, and is considered to be more than the sum of the individual connections that form the network (Aldrich and Zimmer, 1986). The entrepreneur's personal network can be thus defined as the total sum of all people with whom an entrepreneur has direct relations (Dubini and Aldrich 1991). The research results of past research show that in the initial phases of the new venture creation the entrepreneur's personal contacts are crucial to the process (Birley, 1985; Dubini and Aldrich, 1991; Ostgaard and Birley, 1994). Since personal networks are usually formed

from the viewpoint of a particular individual, they are regarded as ego-centered networks (Dubini and Aldrich, 1991).

In the next sections the framework is presented, major findings are discussed, and conclusions are drawn.

*Table 1: Framework for the classification of past and present research*

<i>Network type / Type of content multiplexity</i>	<i>Resource and Information exchange</i>	<i>Information and moral support exchange</i>	<i>Resource and moral support exchange</i>	<i>Resource, information and moral support exchange</i>	<i>Multiplexity of exchange content</i>
<i>Personal networks</i>	Hansen (1991); Tjosvold and Weicker (1993); Aldrich and Reese (1993); Ostgaard and Birley (1994); Hansen (1995); Theingi, Purchase, and Phungphol (2008); Siu and Bao (2008)	/	/	Johannisson (1986); Rush, Graham and Long (1987); Anderson, Jack and Drakopoulou Dodd (2005); Batjargal (2006); Klyver and Tejresen (2007); Klyver (2007); Jack, Drakopoulou Dodd, and Anderson (2008)	Birley 1985; Aldrich and Zimmer (1986); Aldrich, Rosen and Woodward (1986); Aldrich, Rosen and Woodward (1987); Brass, Butterfield and Skaggs (1998)

### **3. PERSONAL NETWORKS AND MULTIPLEXITY OF EXCHANGE CONTENT**

#### **3.1. Resource and information exchange**

Studies in this section were mainly focused on the importance of the flow of resources and information within the members of the entrepreneur's personal network (Ostgaard and Birley, 1994; Hansen, 1995; Hansen, 1991; Aldrich and Reese, 1993; Tjosvold and Weicker, 1993; Theingi, Purchase, and Phungphol, 2008; Siu and Bao, 2008).

Hansen (1991, 1995) examined the relationships between the pre-organization variables (size, degree, frequency) and first-year new venture growth. Based on the literature review and social network theory the author hypothesized the positive relationship between network size, degree and frequency and initial venture growth. The research results supported the hypotheses. However, frequency was found positively related to new venture growth only in the presence of size and degree.

The author particularly emphasized the entrepreneurs' aim to access to resources, information, property, capital and credit in the initial phase of firm creation. He stressed that an appropriate management of the action set which represent the network of people that are

somehow involved in the entrepreneurial process is crucial for the firm creation. Aldrich and Reese (1993) in a panel study tested if there is a linkage between networking activities and firm performance. The research results showed that the network size and the amount of time invested in developing and maintaining a network has no impact on firm survival or performance. On the other hand the interviewed entrepreneurs reported a high importance of networking for their business survival. Firm survival is certainly affected by many factors, which can be a reason for not finding a relation between network activities and firm survival. Tjosvold and Weicker (1993) investigated the role of entrepreneurs' networks on the motivation and success of new business ventures. They focused on the relationship that the entrepreneurs develop with others during the implementation of their business plan for acquiring information and resources. They found that entrepreneurs with cooperative goals discuss the task with others, make progress on the task, learn, work efficiently, and work together for mutual benefit, while entrepreneurs with competitive or independent goals were found to be less effective and successful. Cooperative goals contributed to successful networking. The research of Ostgaard and Birley (1994) analyzed the characteristics of the owner-manager's network, and its relation to the competitive strategy of new ventures. The research finding showed that the owner-managers appear to differ both in their emphasis on developing and maintaining contacts as also in the content of the network exchange within their personal networks. They found that entrepreneurs have personal networks that are internally consistent with their concept of the business. Siu and Bao (2008) analyzed entrepreneurial networks of 12 small high-technology firms. They examined the quality and content of Chinese entrepreneurial networks. They identified four network dimensions that were highly interrelated: relationship, governance, structure and dynamics. They found that trust, reciprocity, and interdependence coordinate the network exchange in Chinese entrepreneurial networks.

The relationships in networks were either collaboration based (close and comprehensive interaction, strong ties, efforts to maintain the relationship) or transaction based (specific service or good exchange based on the price, weak ties). All respondents agreed that interpersonal trust contributes to the strength of the relationship and leads to repetitive future exchange. Theingi, Purchase and Phungphol (2008) investigated the use of social capital within Thai export relationships. Thai business people are very long-term oriented, and they do not differentiate between social or business relationships and try to gain both personal and organizational benefit from these relationships. The authors found a high level of overlapping in relationships within respondents' networks, which can be referable to multiplexity. Many individuals in respondents' networks were identified as both friends and business partners. The respondents used their full network to get the better solution for a problem. The indirect ties were mostly used when direct access was not possible (like market information).

Most of them recognized the importance of trust and reciprocity in the relationship. Skills like networking skills, trust development skills specialized knowledge will determine the ability to exchange resources. They conclude that social capital development requires the integration of both social and business relationships.

### **3.2. Resource, information and moral support exchange**

This section represents studies that analyzed the influence of resource, information, and moral support exchange within entrepreneurs' personal networks on different firms' outcomes (Johannisson, 1986; Rush, Graham and Long, 1987; Klyver and Tejresen, 2007; Anderson, Jack and Drakopoulou Dodd, 2005; Klyver, 2007; Jack, Drakopoulou Dodd, and Anderson, 2008; Batjargal, 2006).

Johannisson (1986) focused on entrepreneurs' personal networks, and defined them as the most important source for resources needed for launching the firm. The personal networks

included business colleagues, family members and friends. He claimed that all relationships that support the emerging business are based on trust. The findings of the empirical research showed that individuals that left their previous employment and started a new business were better equipped with networks than individuals that did not start a business. The major finding was that networking can stimulate venture creation. Therefore, entrepreneurs should pay more attention to building networks that include a variety of resources. Rush, Graham and Long (1987) conducted a longitudinal study on the use of a peer network in the start-up process. They examined the evolution of a group of five entrepreneurs that were initially strangers to each other and how did this influence the new venture development. There were identified five sources of help within the group: the transformation of the dream, increased aspirant level, stimulating ideas, practical help and sense of support. All the members received significant moral support, advice (practical suggestion) and practice skills from the peer network. Anderson, Jack and Drakopoulou Dodd (2005) analyzed the role of family members in entrepreneurs' personal networks. The research results showed that one-quarter of all entrepreneurial ties in the sample were kin, and provided to the entrepreneur both professional and affective resources. The authors defined entrepreneurial personal networks as a complex mixture of multiplex social and professional ties. Both types of relationships contain affective and instrumental elements. They found that strong family ties are very important in the entrepreneur's network and they can offer a wide range of professional support to the firm. Batjargal (2006) examined the influence of the initial network structure and past firm performance on the changes in the network structure, relations and resources in the Russian social context. The author found that the bigger was the initial size of the network, the smaller was the increase in network size, resources and weak and strong ties. Further he found that the greater was the past revenue growth, the smaller was the increase in network size, weak ties and resources. The author argues that this is a consequence of entrepreneurs' relational and performance inertia. Klyver and Tejresen (2007) examined gender differences in the composition of entrepreneurs' social networks across four venture stages: discovery, emergence, young, and established. The research results indicated that female entrepreneurs have larger social networks than males, and further have a higher proportion of females in the network during the discovery and emergence phases. In later venture stages both female and male networks are similar (75 percent of male network members). The network exchange comprehended resources (finance), advice and emotional support. Klyver (2007) similarly as Anderson, Jack and Drakopoulou Dodd (2005) also investigated the role of family members in the early stage of the entrepreneurial process. The research findings showed that the family members' involvement differs with regard to the stage of the entrepreneurial process. The strongest involvement of family members is in the emergence stage when the entrepreneur is deciding whether to start or not the business. Further, they found that a higher involvement of family members is more common for younger entrepreneurs. Jack, Drakopoulou Dodd, and Anderson (2008) examined network transformation over time (networking process, structure and exchange content). Three longitudinal case studies of entrepreneurs in oil industry were examined during a six years period. The finding showed that networks are vital living organisms that change, grow, and develop over time. They found that for a successful firm the ties change in terms of becoming affective and based on trust and friendship. Affective ties were found crucial for firm growth.

### **3.3. Multiplexity of exchange content**

There are some scholars that in their research emphasized the importance of multiplexity in entrepreneurs' personal networks (Aldrich and Zimmer, 1986; Birley, 1985; Aldrich, Rosen and Woodward, 1986; Aldrich, Rosen and Woodward, 1987; Brass, Butterfield and Skaggs, 1998).

Birley (1985) focused on the role of informal (family and friends) and formal (local and state agencies, lawyers etc.) networks in the beginning of the entrepreneurial process. The research findings showed that in the initial phases of the firm development the informal network is the most important source of resources, information and support. Multiplexity was seen in terms of acquiring different kinds of content through a single relationship. For example, acquiring information on business start-up and getting moral support from the same person. Aldrich and Zimmer (1986) in their research critiqued the traditional approaches to entrepreneurship research and provide an alternative approach which sees entrepreneurship as embedded in a social context. They argued that relations can contain communication content (passing the information), exchange content (goods and services) and normative content (expectations). They stressed that most of the research is focused on single content types of relations, which is the reason that there is insufficient data on the characteristics of relations composed by different combinations of relations (multiplexity). Aldrich, Rosen and Woodward (1986) focused on the types of entrepreneurial networks that are most important in the stage of the new firm development, and their development as the firms grow. The research finding suggested that during the star-up process entrepreneurs spend almost one-half of their time making contacts. Networks formed by entrepreneurs comprehended diverse members like family members, college professors, competitors, past employers etc.. The authors emphasized the high degree of multiplexity that was reflected in entrepreneurial networks. The entrepreneurs had multiple relationships with their network members. For example, a lawyer was a friend, and a friend was a working associate. Entrepreneurs' personal networks were mostly formed by persons with whom entrepreneurs have long, close and multiple contacts. In a longitudinal study Aldrich, Rosen and Woodward (1987) examined the influence of network size, accessibility and diversity on business founding and business profitability. In their study the multiplexity of relationships was also mentioned, since they argued that relatives can loan money to entrepreneurs, and colleagues can give them advice. They found support for the relationship between accessibility of resources and business founding. Network size and diversity were not found important for business founding. They found that networks with closely associated members are more likely to contribute to firm profitability, which is contrary to the Granovetter's argument of weak ties (1982). As for firms older than three years the research findings showed that the larger is the entrepreneur's network, the more likely is the firm to be profitable. Brass, Butterfield and Skaggs (1998) examined the relationships among network actors by focusing on the types of relationships (strength, multiplexity, asymmetry, and status), the structure of relationships (structural holes, centrality, and density), and combinations of types and structures. They particularly explored how relationships among individuals can affect unethical behaviour in organizations. The opportunities to act unethically in strong relationships are bigger than in weak relationships, but at the same time also the cost of unethical behaviour is bigger. Further, they argued that multiplexity of relationships has also an influence on the unethical behaviour. Multiplexity as having multiple relationships with someone (friends, business partners, family members) increases the costs of behaving unethically, because you can lose a friend and a business partner at the same time. Beside strength of ties and multiplexity, also closeness and density contribute to a more ethical behaviour. On the other hand asymmetric relationships, the presence of structural holes, asymmetric power are more likely to lead to unethical behaviour.

#### **4. CONCLUSION**

After an analysis of past research on personal networks with a special emphasis on content multiplexity, we agree with Casson (1997), who wrote "The question is no longer whether networks are required for coordination, but simply under what conditions they work best." (p. 812). The review shows that networks give the entrepreneurs the access to a wide array of

new opportunities, and are therefore beneficial to entrepreneurs and their firms. Peer networks can significantly contribute to the new firm development. Besides stimulating ideas and creativity networks help also to recognize opportunities and provide the needed assistance (Rush, Graham, and Long, 1987). Entrepreneurs continually interact and exchange information, resources, advises and ideas with different actors, therefore the existent research is mostly lead by the research question “How does the social context in which entrepreneurs are embedded affect their behavior in the entrepreneurial process?” On one hand, some studies found a positive relation between network activity and firm performance (Hansen, 1995, Antoncic, Ruzzier, Bratkovic, 2007), while on the other hand some other research did not find support for a positive relation between network activity and firm performance (Aldrich and Reese, 1993). The reasons for diverse and sometimes contrasting findings in entrepreneurial networks research are few. First, the period of observation can be too short to disclose the direct impact of networking on firm survival or performance. Most studies of entrepreneurial networks are cross-sectional, instead of being longitudinal in order to disclose the network dynamics. Second, the level of analysis is different among different studies. Some studies consider individuals as the unit of analysis, while other studies consider organization as the unit of analysis. Further, some studies are focus on ego-centric networks, while others analyze extended networks. Third, scholars use different measures to measure the dependent variables, which can be firm performance, growth (absolute and relative), success, strategy, internationalization etc. The latter makes difficult to compare the research findings among different studies. Fourth, besides networking there are other factors that also affect firm survival and performance, like for example the status of the economy, the entrepreneur’s personality, technology etc. Therefore, it is important for scholars to accurately define the unit of analysis, the stage in the entrepreneurial process, the investigated variables, and the measures used in the analysis.

#### **4.1. Future research directions**

Most past research about the linkage between networking and firm performance was focused on cross-sectional studies, therefore different stages of firms’ life cycles were not thoroughly considered (Aldrich and Reese, 1993). Future research should be directed toward longitudinal research in order to gain further information on network dynamics, since the role and use of networks differ with regard to the life-cycle of the firm. Despite the importance of multiplexity in entrepreneurial networks, only few studies addressed this issue and examined the role of multiplexity in the entrepreneurs’ personal and inter-organizational networks. Therefore we suggest that future research should be toward a better understanding of the role of multiplexity in entrepreneurial networks and its impact on firms’ performance. Very few studies tried to measure multiplexity, therefore there are no measures of multiplexity developed in the field of entrepreneurial networks. A measurement of multiplexity would allow scholars to better investigate the role of multiplexity in entrepreneurial networks, and further would allow comparing the research findings. The majority of studies took into consideration only personal networks of focal entrepreneurs, while there is evidence in the past research that also personal contacts of employees can contribute to firm performance (Witt, 2004; Shaw, 2006). The larger is the firm, the more important are also the personal networks of employees. Therefore, we suggest that future research should also focus on the investigation of employees’ networks.

#### **4.2. Contributions and implications**

By making a review of the past and present research on personal networks, with a special emphasis on the multiplexity content of exchange, the present study contributes to the entrepreneurial networks theory. Entrepreneurship scholars may identify the research gaps

that are still present in this research area and devote their research attention to the most under-researched areas. The present study is also important for practicing entrepreneurs, people who want to become entrepreneurs, students, and for all that are aware of the importance of carefully managed networks. The study presents some important findings regarding the linkage between networks and firm output. Practicing entrepreneur can select research findings of studies that are most significant for their social networks and make their networks more efficient and successful.

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## PRODUCTS PLACING AN IMPORTANT PROMOTIONAL INDICATOR IN SALES GROWTH

**Rajan Arapi**

*University "HaxhiZeka" – Peje/Kosovo*

*rajan.arapi@unhz.eu*

### ABSTRACT

*Placing the products, as the next step after the products positioning (element of marketing mix, is considered as one of the crucial indicator for products sale. The abovementioned affirmation is also the hypotheses of the research. I will try to prove that placing the products is as much important and decisive as the other forms that include the sales promotion process. Placing the products as a promotion type in last years is very actual in all world, and in later stage has begun to be presented in the transition countries, concretely in Kosovo. What are the steps that companies must take in placing the products? What periods are considered as suitable for placing of products? Can be considered the placing of products in different sale spaces more effective than advertising in a electronic media? What are the costs of placing products in different sale space? These are some of some research questions that I will try to give answers. The research will be based in descriptive and comparative methodology and as a concrete case will be some of production companies in Kosovo. In the end and the most important phase of this research will be the recommendations for production companies in Kosovo.*

**Keywords:** *consumer, sale, placing, product, consumer*

### 1. INTRODUCTION

No company can create profit if their products and offers are not placed as all the other products and offers in the market. The company must follow appropriate positions and differences. As a process of brand strategy direction, every company and offers must present a clear idea for the targeted market.<sup>64</sup>

The word "positioning" was popularized by two publicity executives Al Ries and Jack Trout. They see positioning a creative act of making existing product: the positioning starts with a product, service, a company, an institution, or a person.<sup>65</sup>

The dynamic of living today, in general plays an important role in terms of business which affects the life to be more effective and on the cutting edge with what is happening in the economies of the developing countries.

Obviously, all this rapid and dynamic development followed by risks. In the transition countries, as Kosovo case, where the protection by the state against various phenomena in business is insufficient and on the other side where the competition is huge informal market is also dominating then obviously there is a need for a strong commitment about the way of doing business. Taking into consideration, the risks that accompany various companies in the transition countries, especially in Kosovo, will bring to the increase the need on planning the future of the companies.

The ways and forms how companies make product placement in the market previously followed by a market research, then the precision that these companies must show during the market segmentation, the way how they plan the positioning of the product in the market and promotional form as an inseparable part of this process, today are considered inseparable

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<sup>64</sup> Elmazi Liljana, Bytyqi Shaip, (2007), pg. 361, Drejtimit Marketingu, Prishtine

<sup>65</sup> Elmazi Liljana, Bytyqi Shaip, (2007), pg. 362, Drejtimit Marketingu, Prishtine

issues that companies should take into consideration since the beginning planning of doing business.

## **2. POSITIONING AS AN IMPORTANT FACTOR IN PRODUCTS ADVANCING**

The positioning or how is called in a large part of the literature the placement of the products in the market requires a good analyze of the situation independently of company's location. As a basis for such process it serves the SWOT analyzes which in a detailed form identify the strengths, weaknesses, opportunities and threats that company may face within the planning market to do business.

All the strategies are built on STP – Segmentation, Target and Positioning. A company finds out different needs and groups in the market, aims those needs and groups that the company can satisfy in a superior way and then place deploys the offer in a way on which the targeted market can differentiate company's offer and characteristic image.<sup>66</sup> So, the positioning is the selection of the specific "territory" and this for:

- Consumer's need
- Competitive products
- New products of the company (internal positioning),

Product's territory is its specific positioning in a perceptual map in the category that belongs (it results from consumer's perception) and it responds to a specific need. This is the result of a specific choice of the positioning.

Therefore, from all this that was pointed out above, we can say that the market segmentation, in this case in the territory of Kosovo, is considered one of the basic concepts of marketing by marketing managers. During this research part we have identify the special importance of market segmentation. We have discussed the action of a market and how the clients can be in that market.

## **3. PRODUCTS POSITIONING STRATEGIES**

Regardless of whether a company is being remodeled, recreated or placed a new product on the market, the market analysis indicates how this product as perceived by targeted customers. The analysis takes into consideration some product's attributes if are or not appropriated for a specific consumer. The market analyze includes also a description of the company's identity – including the mission and objectives – and the current position in the market. This analyze that is related to strong, weaknesses, opportunities and threats shows how the company is perceived out and inside. The aim is to underline the advantages and disadvantages.

The targeted market divides the market in some segments. Based to the demography that defines specific market where the company should be focused on. Demography data are a number of characteristics that a group of potential clients share. During this analyze the company studies the design, distribution and even the price. The companies in these cases make some questionnaires to identify the consumer's preferences.

The main advantage of all this is that helps the company to save some losses. Is a company launches a product without any previous analyze or strategy then is possible that the product will not have success. The analyze it shows to the company the changes to undertake in way to have success in the market. This analyze identify how the company can achieve positive results. Even more analyzing helps the company when to launch or not a product<sup>67</sup>.

To concretize the positioning of specific brands of products and customer preferences, obviously it is necessary to clarify, through research, the consumer's requirements and attitudes by these elements:

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<sup>66</sup> Elmazi Liljana, Bytyqi Shaip, (2007), pg. 361, Drejtim Marketingu, Prishtine

<sup>67</sup> Ikub.al article, how to know the advantages we have after market analyze

- What the consumers consider important attributes and of a high ranking product;
- Consumer's evaluation for product's attributes
- Positioning of the "ideal" brand in the attribute's rank.<sup>68</sup>

The abovementioned issues are considered as fundamental factors that create the perception map that is a graphic presentation for the competitive products system in front of the consumers.

As an example of this map let's take a concrete case presented visually.<sup>69</sup> Let's assume that the company A has a high position with high quality and high price products. The company B is determined to produce a product with average quality and average price. The company C sells a product below average quality and low quality product for a high price.

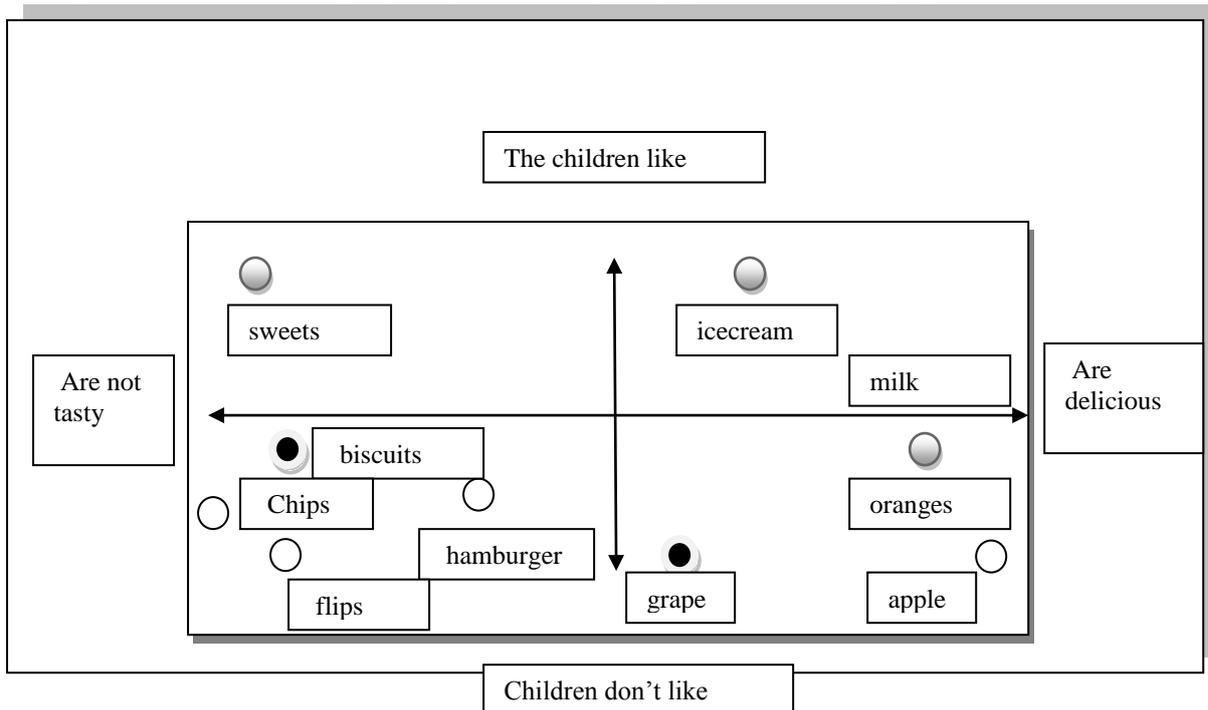


Fig. 1.0. Perception map for alimentary products positioning according to Mayers

Source: Veseli Nexhbi, Veseli Teuta (2009) *Menaxhimi i Marketingut*, pg, 266, Tetovë

The above mentioned figure represents the perception of 150 mother s for 10 alimentary products. The juice producing companies in Kosovo market have effective strategies in segmentation and positioning. Even the number of juice companies is increased and there is a strong competition these companies are trying to place their products aiming the best position in the market.

Actually, juice companies in Kosovo are focused in increasing the quality of the products, meeting the standards as ISO and HASAP and also through the improvement of the technology by installing the most modern one.

<sup>68</sup> Veseli Nexhbi, Veseli Teuta, 2009, pg. 265, *Menaxhimi i Marketingut*

<sup>69</sup> L.Mayers, 2006, pg.96

Also the juice companies in Kosovo, even those companies with the highest quality, aim to offer high or medium quality juices through very advanced strategies for the final price, always taking into consideration the economic situation of Kosovo. Therefore, the principal aim of the companies in Kosovo is to produce with high or medium quality with low prices.

The most of juice production companies have a good position in the market (below we will mention the most powerful juice production companies in Kosovo). These companies are credible and all this thanks to promotional campaigns and the sensitization of the consumers by independent associations for consumer protection, Chamber of Commerce and AKB for the consumption of local products.

As an obstacle, in most cases when it comes to positioning products, the Kosovar juices producers represent the imported juices for which not rarely origin is unknown and with unreliable declarations, but by using the "brand" of a known product, at the same time they dispose of higher prices, which for the consumer in most of cases "high price represents quality", which in the case of Kosovo, this is the contrary. Therefore, these products represent an obstacle for the domestic producers.

Below is presented a map of juice positioning in Kosovo market and have been analyzed some of the juice producer companies and their products.

The Company Pfanner (Company A) has the highest position and the highest prices of its products. Bibita (Company B) company with average quality and price. Laberion (Company C) company with low quality and low prices, and the supposed Company D is considered as a "Crook Artist" because it sales a product with low quality and high price and in this way he abused with the consumers which have not information about the product.

The positioning map is supported by two important elements of the product; quality and price. Are show the offers of the four competitors and a possible position where the companies can place their products. Normally, none of the other companies will be placed close to the company A because will face with well placed company, but anyway the weaknesses of the competitor should be take into consideration. The company "X" will pay attention to place the products in a good position since this company aims to position of the company A.

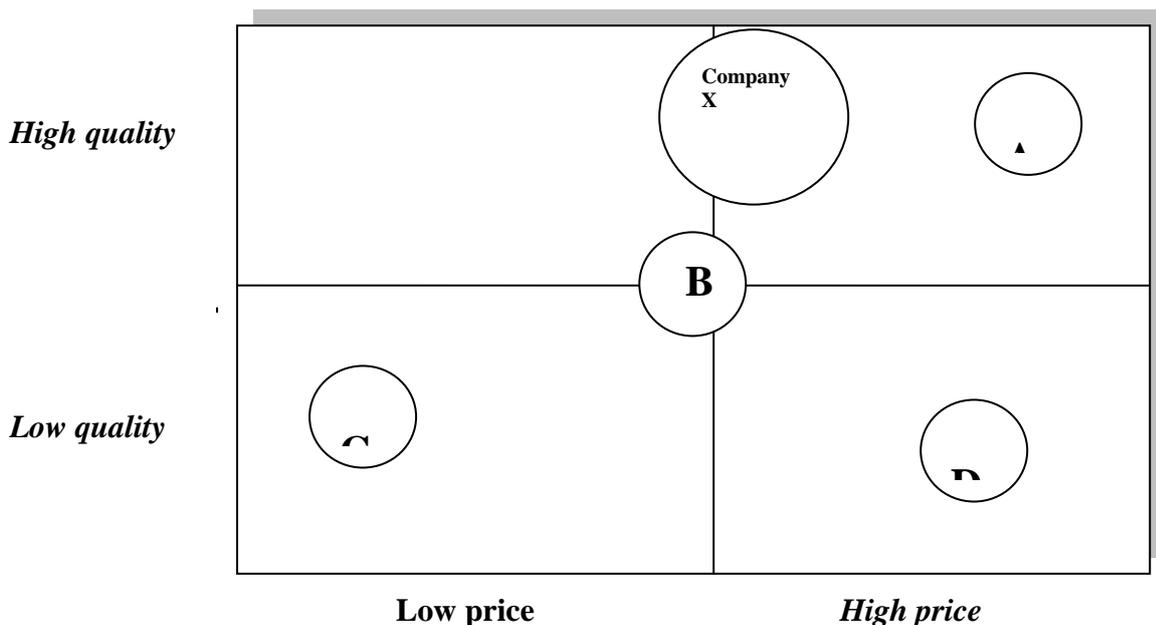


Fig.1.1. The map of juice products positioning in Kosovo market

#### **4. DIRECT AND INDIRECT COMPETITORS OF JUICES PRODUCTION COMPANIES IN KOSOVO**

There are some potential juice production companies in Kosovo. The strategies and the “fight” between these companies for a better position in the market is very large. One of the juice companies, that is also a sample for this paper, is BIBITA company. This company is facing with some direct and indirect competitors such as Fluidy company and Liberion Company, which have products with similar prices and quality.

Beside the direct competition that is present in every market, the companies and the market face also with the indirect competition that in our case are juice companies that produce juices but are different in their assortments for packaging (plastic, glass, carton) and in quantity (product weight)

The most powerful competitor, not only in Kosovo but also further, for BIBITA company as a direct competitor “Devolli Group”, that produces juices Tango and Dolce Vita.

#### **5. CONCLUSION**

When we discuss about competition of production companies in Kosovo that is handled carefully in this paper is shown that Kosova has enough juice companies without counting the exported brands. About seven production companies with big capacities and therefore these companies satisfy the needs of consumers for these products. On the other side the known brands that are leaded by authorized representatives or franchising companies also have a good position in the market with relative prices but influence negatively to the local producers considering also the higher quality of these companies.

What is noticeable to direct competitors, in the concrete case between Bibita e and Fluidi is the “rivalry” that these companies have in their assortments and similarities in products prices and quality.

Undoubtedly, in a competitive market the indirect competition has an important role and in the case of Bibita Company this competitor is “Tango” that has a good and favorable position in the market and this because of high quality and low prices and the intensive promotion and all these are a challenge for kosovar companies.

#### **Recommendations**

Production companies in Kosovo are facing problems. These problems can be solved but is needed dedication and adequate positioning, distribution and promotion strategies. A big role in this have the managers of these companies because they are determinant for decision making.

On the other side the juice companies must take into consideration their product positioning problems that we analyzed in this paper, especially for the case of Bibita Company but also for other production companies in Kosova we recommend:

*Differentiation in the assortment:* the Kosova market is small and bringing together similar products creates uniform products and then categorization and differentiation of products of one company from the other would be the real solution. By this we mean bringing in market diverse products, products that are rare in the market and will have a direct impact on differentiation from competitors.

For a stable position in the market, to the production companies is recommended the application of some international such as ISO and HASAP standards and Environmental Protection standards. Through the application of ISO and HASAP standards the Kosovar companies will have the opportunity to have a secure position in the market in relation to the consumer since they will have more confidence in the products they consume. Regarding the application of Environmental Protection standards the production companies in Kosovo could benefit from donations of various international environmental organizations, whether in

advanced technology, but also in economic propaganda donations, which will impact positively on the image of the company and its products.

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## POTENTIAL APPLICATIONS OF SYSTEM DYNAMICS TO OPTIMIZATION OF PRODUCTION CAPACITIES - TWO DEMAND SCENARIOS

**Robert Fabac**

*FOI, University of Zagreb, Croatia  
rfabac@foi.hr*

**Lorena Tomic**

*FOI, University of Zagreb, Croatia  
lorena.tomic@gmail.com*

### ABSTRACT

*This paper examines potential applications of system dynamics in the process of managing organizational adjustments. With a view to simplify the situation of a manufacturing company which bases its operations on market demands and optimization of its capacities, a system-dynamics model was designed and simulations were performed on the basis of relatively standard assumptions. The system dynamics model is composed of two components, while simulations involve basic scenarios of important business decisions - primarily those relative to the change of product prices. It is shown that in the situation where a manufacturer pursues different levels of adjustments to customer needs by cutting down the prices of his products - this model creates specific requirements for the modification of production capacities in a given period. The changing of production capacities has both positive and negative character. The flexibility of the capacities and the implementation of necessary changes should ensure the desired effectiveness. Preparations of and timely interventions into the capacities may pave the way for achievement of a competitive advantage. In conclusion, when it comes to certain business activities or particular segment of an enterprise, and definitely where there is a possibility to make fast, cheap and relatively error-free changes to the levels of production capacities, the application of system-dynamics simulations may be useful when preparing future optimization requirements.*

**Keywords:** *demand, flexibility, model, production capacities, scenario, simulation, system dynamics*

### 1. INTRODUCTION

We define capacity as an amount or a number of units that a certain facility can hold, receive, store or produce, in a given period (Heizer and Render, 2008, p. 248). Examples can be found in all industries - from the number of barrels of fuel oil produced daily in an oil refinery to the number of cars produced daily in an automobile factory (Shim and Siegel, 1999, p.141). The types of capacity discussed generally include the design capacity, the effective capacity and the actual capacity (Shim and Siegel, 1999, p. 140), (Heizer and Render, 2008, p. 249). Whereas the designed capacity refers to the theoretically plausible realization, the effective capacity denotes maximum output attainable, determined by limitation factors, such as time and certain physical aspects. When aiming at a generally lower level of its actual output, a company tries to move closer to the level of the effective capacity. The degree of such accomplishment is characterized as the effectiveness of capacity.

It is important to make the right decision regarding the capacity because excess capacities may generate losses over time, whereas those undersized may lead to the “missed opportunity” mechanism. That is why the concept of flexible capacities is topical. To further clarify the term, authors (Schuh et al, 2012) made a distinction between the changeability of

capacity (production system) and flexibility. It may be understood that changeability directly involves employees as participants in the process. Organizational changes where human resources have the leading role may be considered from different standpoints (Cameron and Green, 2004). A useful model on the trail of the original provided by D. Gleicher, was offered by (Beckhard and Harris, 1987) and (Dannemiller and Jacobs, 1992), who described change C in dependence on: the level of dissatisfaction (A); the desire to make the described change (B); and the applicability of the change (minimum risks, etc.):

$$C = (ABD) > C_x \quad (1)$$

, while  $C_x$  denotes the costs of changing, but in a wider sense, it may also refer to the resistance to changes.

Capacity planning is the process of determining the capacity level required to realize the production as planned in view of the capacities at hand (Ljubič, 2006, p. 205). Decisions taken on the capacity planning often involve the issue of updating or replacement of the existing equipment, acquisition and reinforcement of the human activity, etc. (Ramos, 1992). According to (Schonberger and Knod, 1994, p. 207), good management and capacity planning means having a plan for enough capacity to ensure high quality, on-time performance and the possibility of improving activities in a reasonable time. Authors (Ceryan and Koren, 2009) and (Abele et al, 2006) claim that flexible capacity reflects the “ability to change over to produce a set of products very economically and quickly” and that, as a result, they can mitigate the effects of uncertainty and oscillations primarily those linked with the demand. The search for optimal capacity includes the analysis of the portfolio consisting of flexible and dedicated capacities in a given context (Ceryan and Koren, 2009). Flexible capacities issue are also addressed in (Fernandes et al, 2012), (Scholz-Reiter and Freitag, 2007), (Tanrisever et al, 2012), (Lusa et al, 2008) etc.

Various methods are used when deciding on the capacity - from the decision-making tree tool to the system dynamics. Our research is aimed at investigating possible applications of the system dynamics simulations in the process of taking decisions on the capacity or adjusting the capacity of an organization. It is based on the elaboration of the demand scenario effects, which was earlier in the focus of research of, for example, (Possoza and Jeanmart, 2007), (Suryani et al, 2009), (Goyal et al, 2006).

## 2. SCENARIO MODELING BY MEANS OF SYSTEM DYNAMICS

An insight into the experiences related to the application of the model intended to describe solutions to the capacity related problems, can be found in the paper (Bermon et al, 2009). It describes the decision-support system created by the IBM which is aimed at optimization of capacities in the manufacture of semiconductors. The implementation of this system, which is based on linear programming, brings many benefits according to authors report.

In keeping with the principles of cybernetics, which are the basis for the modeling of the system dynamics, efficient control of an organization requires prediction (Stacey, 2007, p. 129). In our model presented below we implemented precisely the concept of prediction, by way of changing the variables that can be controlled. Based on these predictions, companies should be able make necessary changes in business activities. While comprehensive approach deals with efficient capacity management for the case of diverse product portfolios, as in (Gyulai et al, 2014), we focused a simple system with the single product.

To construct the system dynamics model we used Vensim simulation tools (ver. PLE 6.3). Models were developed in several basic steps so as to ensure accuracy and credibility in accordance with (Pejić-Bach and Čerić, 2007) - from the model with basic feedback, through expanding and testing, to the final version. Also, actual experiences were taken into account

in the process of evaluation of the model's usability, specifically, the data on major variables in the business operation of one Croatian company. Three validation tests of the model were conducted in the final version, including testing of measuring units, extreme conditions and sensitivity.

### 2.1. Model used to predict demand

Demand is characterized by increase rate or drop rate, depending on certain factors that impact on oscillations in demand. In a simplified version of the analysis of connections and relationships, and given that our interest is predominantly in the second part of the model, we assume the existence of eight variables valued on the (0-1) scale. The left side of the diagram contains variables which, when increased, result in increased demand, while the variables shown on the right side, when increased, result in a drop in demand.

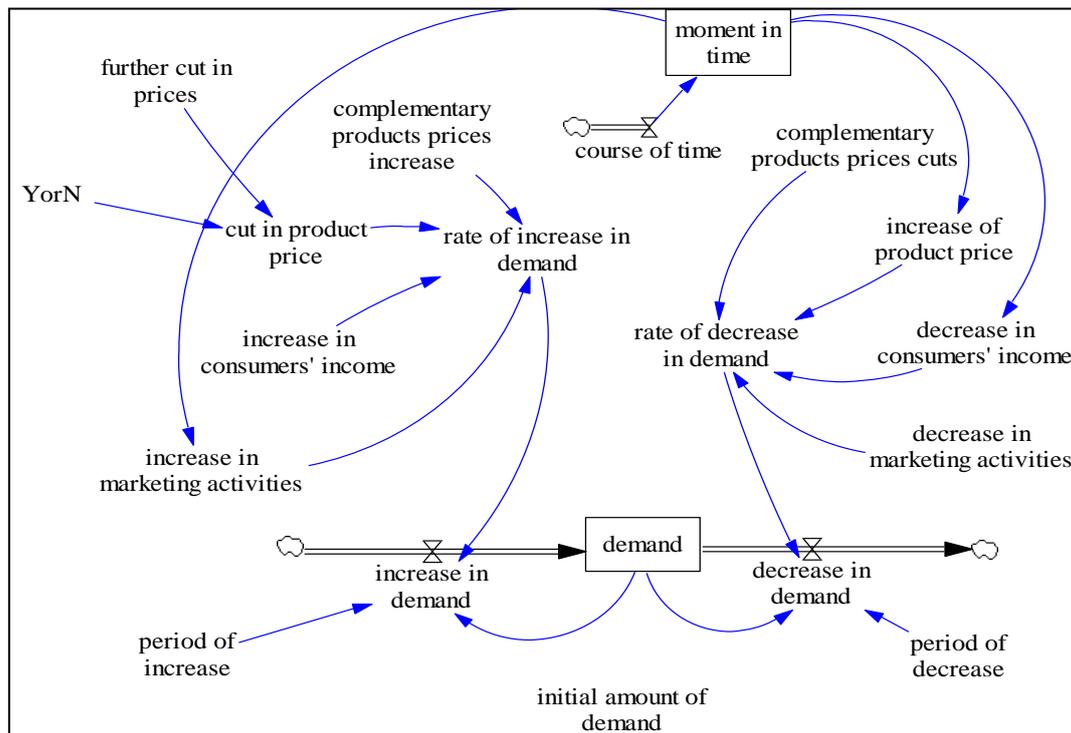


Figure 1: Model used to determine anticipated demand

Increased demand occurs when the prices of complementary products are raised, when one's own prices are lowered, when consumers' income gets higher and when marketing activities expand. On the other hand, demand drops when the prices of complementary products drop, when the prices of one's own products are raised, when consumers' income gets lower and when marketing activities become restricted.

### 2.2. Model used to predict capacity, production and inventory

The second component of the model consists of two important variables as levels: inventory and production capacities. Although it has no major relevance here, the second component of the model contains the basic module required for the management of inventory. The tendency is to keep the inventory stable, at which the most important determinants are indicators of anticipated demand and those of production capacities.

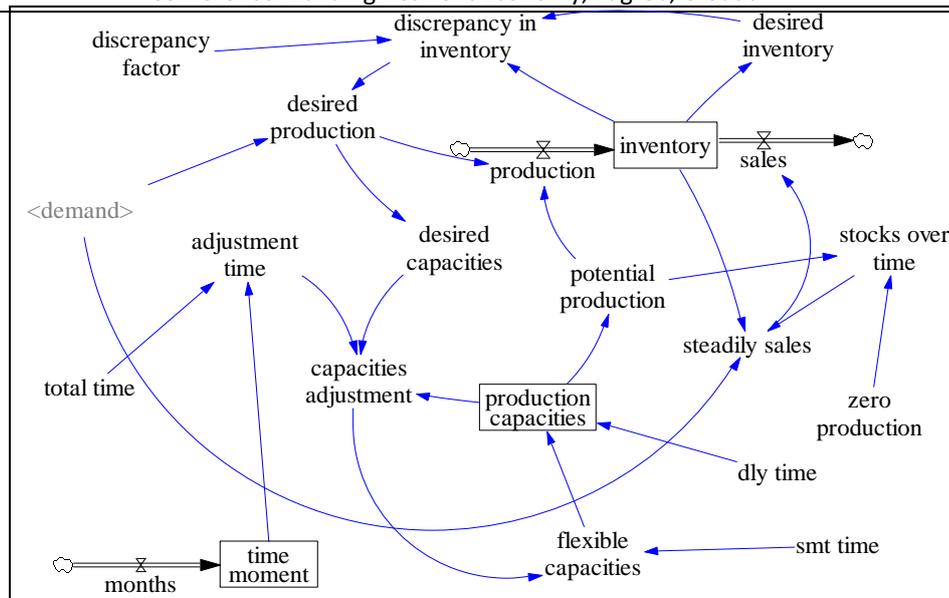


Figure 2: Model used to determine production capacities

The impacts of successful integration of the two models are achieved by means of the “shadow” variable (demand) presented in the next diagram. The level of production capacities depends primarily on flexible capacities as the incoming flow which can be both positive and negative.

Table 1: Selected formulas and descriptions of model variables involved in the process of inventory and production capacities

Name	Formula	Description
Discrepancy in inventory	$(\text{inventory} - \text{desired inventory}) / \text{discrepancy factor}$	Denotes the difference between the actual and the desired stock in the warehouse. Desired stock equals realized sale, i.e. the enterprise wants to have enough inventory to cover the demand.
Production capacities	$\text{DELAY1}(0.3 * \text{flexible capacities}, \text{dly time})$	Denotes the existing production capacities.
Flexible capacities	$\text{SMOOTH}(\text{capacities adjustment}, \text{smt time})$	Sleek function of necessary changes in the level of production capacities.
Desired capacities	$\text{desired production} * 1.1$	Desired capacities are approximately equalized with the desired size of production.

Names of the variables from the set and the accompanying equations used to describe relations are given in Table 1. Despite the simple algebraic expressions used to define causal connection, the determined behavior of “final” variables may be quite a complex one.

### 3. RESULTS OF SIMULATION OF THE COMPANY'S TWO SCENARIOS AND ANALYSIS OF CAPACITIES

On the assumption that at a certain moment a company intervenes by deciding to significantly lower its prices as a factor in Model 1 (Fig. 1), the rate of demand increase will have a positive impact. This change will affect the extent of demand, i.e. the modification of

production capacities. This is Scenario 2 (Fig. 6). When persisting on the initial price level, the company pursues its policy of higher prices, which corresponds to Scenario 1.

### 3.1. Scenario under stable conditions of demand creation

#### 3.1.1 Inventory

Due to the classification of inventory (stocks), we look exclusively at dynamics of finished goods inventory. In view of the fact that every business operation requires stability of the stock in the warehouse, the designed model predicts and enables this effect.

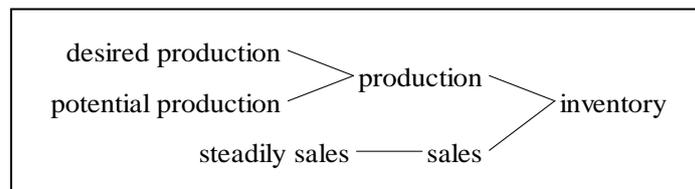


Figure 3: Cause-and effect stock tree

Figure 3 shows a “cause-and-effect” inventory tree which, it should be noted, defines the dependence of finished goods inventory on the sales and production and also the dependence of production on the potential and the desired production.

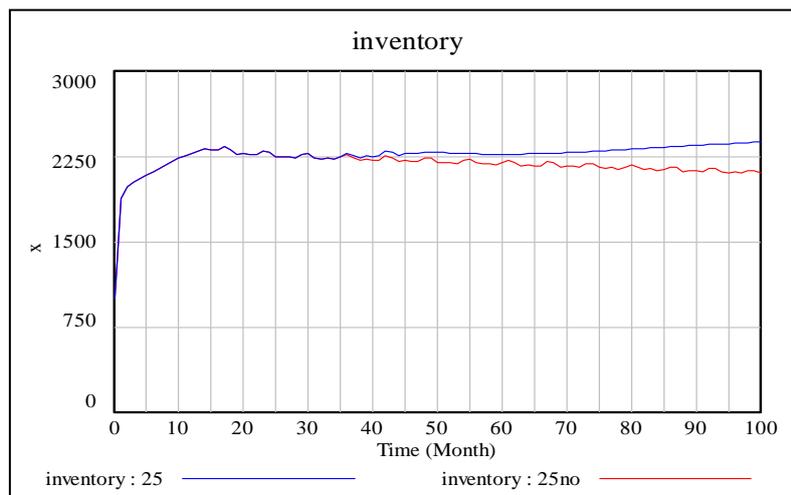


Figure 4: Temporal dynamics of the state of inventory.

In our simulation, inventory remain at the level of the desired stability and this applies to both scenarios, as shown in Figure 4. The designation “25” is for performing simulation with adjusted prices (Scenario 2), and “25no” stands for simulation without price adjustments (Scenario 1). With a different determination of the negative feedback the inventory can be stabilized at other levels as well.

#### 3.1.2 Scenario with oscillations in price increase

A specific feature of the model is in that we perceive adjustment of the price taking place at a certain point in time through two (separate) categories: increase of prices and cutting of prices; they both affect the rate of drop/increase in demand (Fig. 1). Although it does not include additional cutting of prices, Scenario 1 still contains the assumption of the change in prices, following a specific pattern. We assume that the conditions in terms of the

competition, prices and other factors are relatively stable. However, there is periodicity in the increase in prices, which is approximated by sine function (Fig. 5).

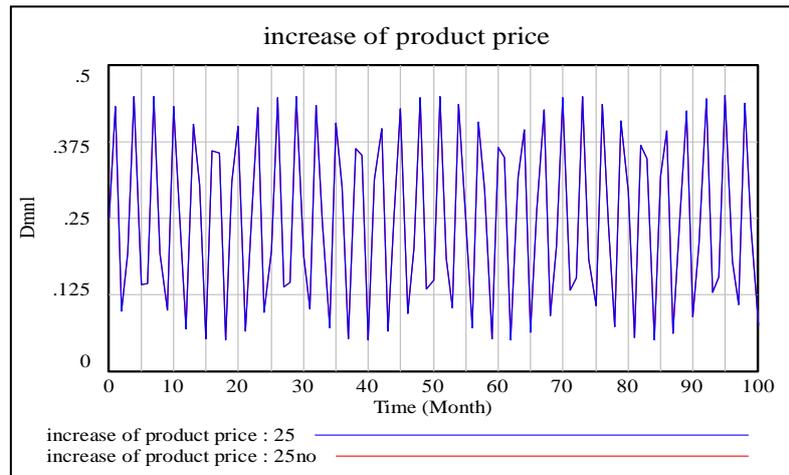


Figure 5: Oscillations in the level of prices

The generated periodical pattern of price increase presented there may refer to seasonal and even monthly actions of changing. A pattern like that will create oscillations which are then further passed through the model on the scale of the anticipated demand.

### 3.2. Scenario with price cutting

The impacts of price cutting (Scenario 2) on the overall behavior of relevant variables turns out to be much stronger than the impact of oscillations in the price increase. Apart from the pattern shown in Figure 5, this scenario has an additional effect.



Figure 6: Graded price cutting.

The diagram in Figure 6 shows the "impulse" present in the price cutting, which takes place approximately after one third of the time elapsed. Figure 7 shows the change in demand, which occurs as a result of this additional price regulation. Adjustment to customers and improvement of accessibility of products linearly raises the demand from approximately 35 months to the end of the interval (demand: 25 line). Without the additional adjustment of prices, the anticipated demand as per Scenario 1, tends to drop, with slight oscillations.

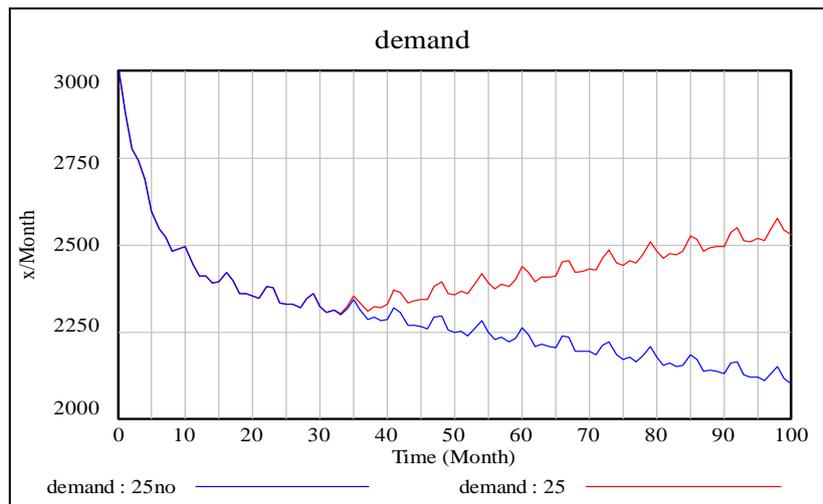


Figure 7: Anticipated demand by two basic scenarios

As regards the price variation model in Scenario 2, it is useful to take a look at the relations between the key production factors. Stabilization and boost of demand must lead to increased production so as to meet sales demands. Furthermore, it is interesting to observe the interaction between the demand and the production capacities, since in the beginning the effective capacities lag behind and later on, as a result of the need for effective production, they must raise to a level even higher than that of the demand.

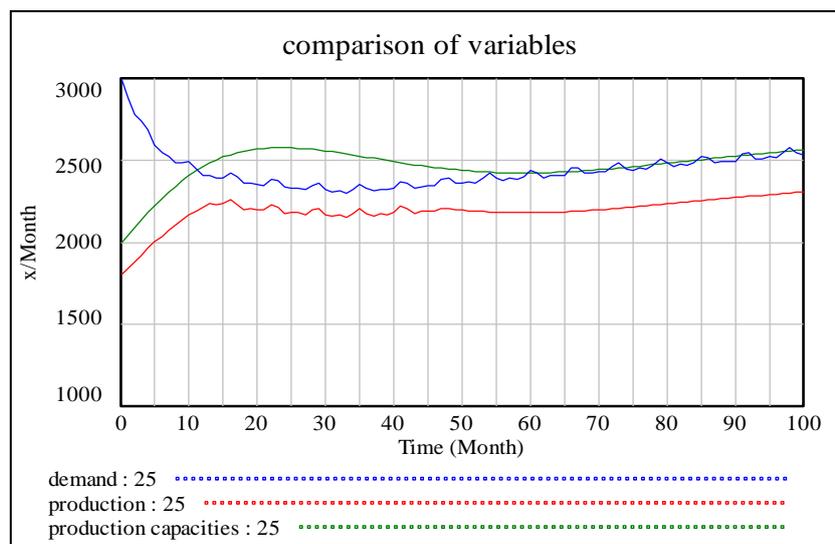


Figure 8: Comparison of predictions of the change of variables when price policy becomes more active

The curves clearly show the output (production) in relation to the capacity, which is here closest to the category of effective capacity. In other words, the effectiveness is close to level of approx. (2200/2500), i.e. it reaches around 85-90%. To achieve such a good realization it is necessary to successfully change the time frame, adjust capacity levels, and make appropriate adjustments to the production processes.

### 3.3. Adjustment of capacities

Following the main goal of the research, we are focused on the problem of changing the capacities of an organization. Flexible capacity in our model is “speed”, measured by units

$x/(\text{month}*\text{month})$ . In fact, the latter denote the speed of required changes of capacities in a given time. The model also provides for a time delay, thus creating a realistic condition for the practical implementation of the change.

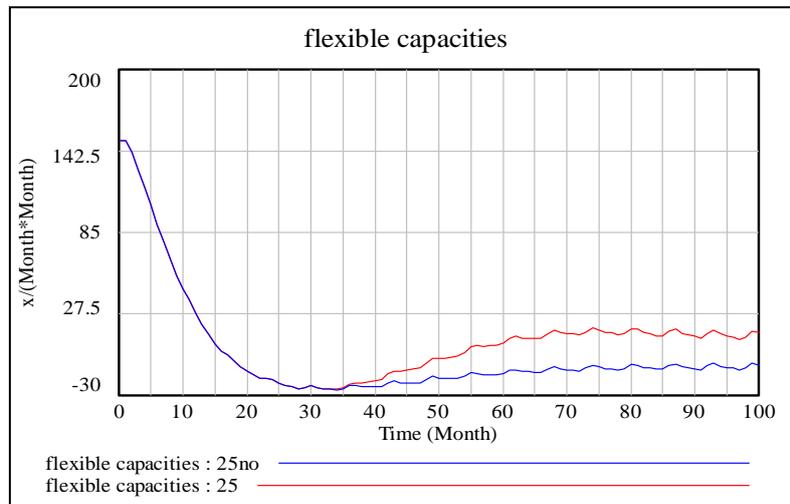


Figure 9: Change of the value of flexible capacity for the two scenarios

Flexible capacities, such as the required speed of changes of total effective capacities, for the two scenarios, is shown in Figure 9. In about first 15 months, the value of flexible capacities in both scenarios is positive, which means that production capacities must be increased in that period. After that, as regards Scenario 1 (maintaining higher prices) the speed of changing of the capacities has a negative character (approx.: -10), and the proportion of this value must be subtracted on a monthly basis from the total level of capacity.

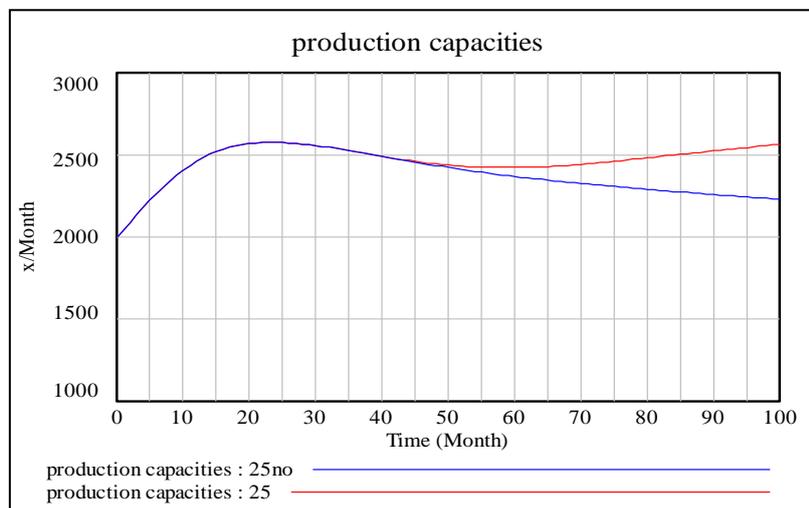


Figure 10: Change in the state of production capacities in both scenarios

Therefore, from around 20th to 100th month it is required to lower the capacities from the value at around 2,600 to around 2,300 (Fig.10). According to Scenario 2 of the graded price cutting in an interval, the speed of change of capacity has a positive note from the 50<sup>th</sup> month to the end of the total analyzed period where the value slightly increases up to level. Therefore, the proportion of this value must be added monthly to the total value of the capacity level. Production capacities should then increase within the limits of approximately 2,400-2,600 (Figure 10). In both scenarios, the existing curve denoting capacity includes

moderation of major oscillations in a short time, which is provided in the model, and as such it improves prospects for the realization of the changes that need to be made in the operation of real organizations.

#### 4. CONCLUSION

Generally, gaining competitive advantage is one of the most important, if not the exclusive goal of every company. Competitive advantage implies that a company is supposed to create higher added economic value than that of its competition, i.e. create products and services at lower production costs, while at the same time buyers' perception of the quality-price ratio is high. This formulation clearly indicates that, when it comes to the competitive edge, the issue of efficiency in the utilization of production capacities has an impact.

Despite the fact that highly accurate determination of required capacities and observance of this determination in practice pave the way to higher efficiency, it must be noted that this does not fully answer the capacity issue. Publication (Institute of Management Accountants, 1996) cites six key terms taken from a larger context, which are relevantly related to capacity cost measurement: resource capability, baseline capacity measures, capacity deployment, capacity utilization measures, time frame of analysis and organizational focus. Therefore, our model and all solutions that it offers can be considered as the one that provides only partial optimization in terms of the overall problem relative to the capacity of production.

In our work we used a system-dynamics model simulated for two different scenarios. The first scenario is a stable one and it envisages the development of initial requirements where factors impacting on the rate of increase/drop of demand are constant or slightly varying. The second scenario is an assumption of discontinuing behavior where a price discount is offered. At one point, the enterprise lowers the prices of its products, thus provoking the need for an increased production, i.e. its production capacities. The model determines the scope of necessary changes by using the variable of flexible capacities; it defines optimal behavior on a monthly basis in terms of adding or detracting some amount of the capacity. Different recommendations are offered for each scenario and the scope of changes of the production capacities for each particular time unit are clearly determined.

The simulation tool described above enables company executives to precisely determine the necessary adjustments in real situations. Of course, the tool needs to be customized and calibrated for the specific purposes and circumstances. If strictly followed, the recommended solutions may generate significant savings and increase rationality and efficiency of an organization. In the Republic of Croatia, optimization of the decisions on the capacities of built infrastructures (motorways, railroads), sports facilities (stadiums, sports halls) or corporative capacities in oil industry are some examples of possible analyses employing simulations of the system dynamics.

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## **EFFECTS OF FLEXIBILITY ON WORK-LIFE BALANCE: PERCEPTIONS OF MANAGERS AND EMPLOYEES IN ONE LUXURY HOTEL**

**Robert A. Lewis**

*Les Roches Gruyère University of Applied Sciences, 3975 Bluche, Crans-Montana,  
Switzerland, ralewis@gmail.com*

### **ABSTRACT**

*This exploratory study evaluated managers' (n=21) and employees' (n=36) experiences meeting their work and non-work responsibilities in one luxury hotel in the principality of Monaco. The hotel requested to remain anonymous. Findings reveal that employees experienced increased work-life conflict due to complex schedules. Findings also point out that managers and employees experience similar difficulties meeting their non-work obligations. Furthermore, findings maintain that despite increased temporal flexibility, managers perceive increased burdens due to work-life conflict. The enactment of role set analysis (which explores employees' and managers' perceptions of work- and non-work-related roles) brought these differences to light. Though findings cannot be generalisable, this case study reveals insight into the effects of temporal flexibility on two types of employees (i.e., managers and employees) in the Monegasque (i.e., from Monaco) luxury hotel context and contributes to a lack of studies in this branch of the literature.*

**Keywords:** *Flexibility, Hotels, Monaco, Work-life balance*

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## CREATING A SUPPORTIVE INSTITUTIONAL ENVIRONMENT FOR SUSTAINABLE ENTREPRENEURSHIP IN ECONOMIES GOING THROUGH TRANSFORMATION PROCESSES

**Olga Kalinowska-Beszczyńska**

*University of Exeter Business School, UK*

*O.Kalinowska-Beszczyńska@exeter.ac.uk*

### ABSTRACT

*Entrepreneurs operate in an extended network of institutions (understood as norms and regulations) and organizations. A transparent and efficient system of both institutions and organizations is essential for entrepreneurs to develop and flourish.*

*Economies going through a transformation process present two big problems. First, there is a lack of networks, this is a legacy of the previous centralised economic arrangements; second, there is political and social pressure to create a sustainable and agile economy based principally on knowledge. Entrepreneurs in such economies face particular challenges related to the environment they operate in. Simply emulating western models does not always bring the results achieved in advanced western economies. Tailored adjustments and modifications to such models are critical to success yet are often difficult to specify precisely. Based on research conducted in Poland, the paper aims to present the dynamics of interdependencies between stakeholders within the entrepreneurial process, acting within an economy undergoing a fundamental structural and economical change. Using the example of the development of a Polish venture capital industry the paper indicates the predominant role of trust as the foundation for efficient cooperation between the various stakeholders.*

**Keywords:** *Entrepreneurial process, Transforming economies, Trust*

### 1. INTRODUCTION

The contribution of emerging and developing economies to global activity has been increasing steadily over the last two decades (Arindam Bhattacharya, 2012; World Economic Forum, 2012). This is not only seen in the Gross Domestic Product statistics<sup>70</sup> but also in changes in market power distribution. For example in the year 2012 China's current account balance was estimated at \$193B surplus compared to the US deficit of \$440B (The World Bank, 2014). Inhabited by 80% of the world population (The Economist, 2012) these economies provide globally significant sources of both workers and consumers. Although emerging and developing economies share some characteristics: such as steady economic liberalisation as well as the introduction of business friendly policies and attitudes (Ernst & Young, 2011), there are also significant differences between them. In this context, economies of the central and eastern European countries form a distinct category. These countries share the experience of a multistage transformation process taking place over a relatively short period of time, i.e. 15 – 20 years. They changed from centrally planned socialist systems into functioning market economies. The chosen type of transformation, the pace of changes, as well as the level of completion of the process, differs among countries. The most successful countries managed to fulfil both economic and political requirements to join international organizations alongside the developed economies. However, there are a significant number of countries still undergoing the process that can benefit from the experiences of the first movers. Nevertheless, the literature concerning the mechanisms contributing to the success of

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<sup>70</sup> The emerging and developing economies GDP growth is 7 - 8 percent annually compared to circa 3 percent recorded by developed economies in the period 1994-2008 (IMF, 2012)

a transformation process remains limited (Hoskisson, Eden, Lau, & Wright, 2000). This paper presents work taken from a larger research project which investigated the transformation process in Poland from the perspective of the Venture Capital industry. Here the scope of discussion is limited to those research findings concerning the dynamics of interdependencies between stakeholders, with an emphasis on the role of trust. However, it should be noted that the overarching project did not consider trust directly in the framing of the research questions. The importance of trust emerged as one of the research findings. The pivotal role of trust as well as mistrust in the entrepreneurial process was indicated independently by all participants. Therefore, trust seems to be a concept requiring further exploration. Due to the restricted scope of the collected data this paper aims to present the relevant findings and propose a set of hypotheses, testing of which would require further research. The following sections firstly discuss the theoretical framework, secondly introduce the case study and finally present conclusions.

## **2. THEORETICAL FRAMEWORK**

The transformation process requires not only an economic shift but also fundamental social adjustment. The main elements of the transformation process include creation of a private sector, liberalization of markets and establishing of market institutions (Smallbone & Welter, 2001) additionally there is a simultaneous background of deep and often dislocating, social dialogue. The social context inherited from the soviet period affects attitudes and behaviours both of entrepreneurs, and the society at large (Smallbone & Welter, 2001). The transformation is perceived as a process. By adopting Pettigrew's (1997) approach, it is assumed that actions drive processes. However, processes cannot be explained simply by combining individual and collective actions. Actions are embedded in context, which limits information, insight and influence (Pettigrew, 1997, p. 338). The interpretative framework consists of two leading theories: the 'Resource Dependence Theory' (RDT) (Pfeffer & Salancik, 1978) highlights the requirements for organizations to survive; whereas the 'Institutional Theory' (IT) (North, 1990) provides deeper insight on how those requirements are identified, constructed and managed. In what follows the concept of trust will be introduced with reference to each of these theories. The two theories can be treated as complementary to each other thus giving a broader picture of the researched phenomena. Merging them allowed us to document and analyse the process at both the physical level, what actually organizations do in order to survive, and at the interpretational level, of understanding the norms governing their actions.

### **2.1. Resource dependence theory**

The 'Resource Dependence Theory (RDT) claims that an organization's survival depends on its ability to acquire and maintain resources from the environment (Pfeffer & Salancik, 1978). The theory indicates that although the environment is a powerful constraint on organizations' actions, managers, by applying various strategies, are able to moderate it (Astley & Fombrun, 1983; Hatch, 1997). Thus in order to understand organizational choice, one not only has to determine the environmental context but also identify the flows of resources between organizations and their environment with particular attention to criticality and insufficiency of specific resources.

Moreover, the RDT assumes that organizations do not operate in an externally determined environment; but construct their own environment through a process of attention and interpretation. Despite constraints created by such elements as law, social norms, values or politics, organizations shape their activities in order to achieve their objectives. Following the RDT the environment is characterised by three levels. The first level refers to the entire system of interconnected individuals and organizations which are related to one another and

to a focal organization through the organisation's transactions. The second level consists of individuals and organisations with whom organisation directly interacts. The third level is described as 'enacted environments' where the organisation's perception and representation of the environment takes place. The enacted environment influences organisational actions, whereas events in the other levels of environment may affect the outcomes of actions (Pfeffer & Salancik, 1978, p. 63). Organisations connect to their environment through a range of relationships such as federations, associations and customer-supplier relationships. The character of those relationships is shaped by physical realities, social norms, information and cognitive capacity as well as personal preferences. The changes in the environment demonstrated by variation in the number of organisations, and, following it, diversity in the supply of resources, creates the challenge for organisational survival. Any alteration in the environment forces the organisation to either model its behaviour accordingly or eventually die. Organisations differ among each other in terms of bargaining power. The power depends on resources or capabilities an organisation may provide to others. The more desired these resources are by other stakeholders the more influence and control the given organisation has over others. Those interdependencies are neither symmetric nor balanced. Besides controlling the external relationships organisations have to manage their internal conflicts. RDT indicates that the organisations exist to provide satisfaction to participants who support them. Thus all direct participants, and those who are affected by the organisation, are entitled to evaluate it. Yet, the number and diversity of interests represented by the various stakeholders confronts the management team of the organisation with a problem of dealing with inconsistent criteria and often competing demands. To summarise the RDT approach, the way an organisation perceives and interprets its environment is given by the combination of the organisational structure, the structure of the organisational information systems, and the activities of the organisation.

## **2.2. Institutional approach**

The institutional approach enriches the interpretation lenses by perceiving organisations as more than merely systems of production or exchange shaped by their technologies, their transactions or their power – dependency relations. Recognition of the environment expands the management task to include consideration of: 'stock of resources, sources of information, loci of competitors and exchange partners' (Scott, 1987, p. 507). The emphasis is given to the idea that 'all social systems – hence, all organisations – exists in an institutional environment that defines and delimits social reality' (Scott, 1987, p. 507). Institutions are understood as 'constraints that human beings impose on human actions' whereas organisations are referred as 'groups of individuals bound together by some common objective' (North, 1990, p. 59). Thus the existing limitations define the opportunity set in the economy. The emerging organisations will mirror this set of opportunities. The organisations will follow the pay-off structure and their investment will reflect the incentive structure (North, 1990). According to North there are two sources of economic incentives: formal and informal, which are imprinted on the institutional framework. He characterises the institutional frameworks as 'political structures that specifies the way we develop and aggregate political choice, the property rights that defines the formal economic incentives and the social structure – the norms and conventions that define the informal incentives in the economy' (North, 1990, p. 49). From the historical perspective, although institutions were used to modify environments in order to obtain a desired outcome with an emphasis on decreasing the level of uncertainty (North, 1990, p. 78) they differ across societies. The variety arises from differences between cultures. North indicates that culture serves the transmission mode between the past and present generation, because culture shapes the way societies perceive their world. Thus the

way individual and organisations learn is crucial for the formulation and evolution of institutions. Moreover this learning process is incremental and path dependent (North, 1990).

### **2.3. Trust**

The concept of trust first became a focus of business related studies due to its potential role in lowering transaction costs (Welter & Alex, 2011). However, at the research level studying trust creates a series of challenges. Trust is not an 'objective' phenomenon. The meaning may differ across cultures and countries (Welter & Alex, 2011), moreover even if a common meaning can be established, the operationalization of trust may reflect dissimilar things (Rousseau, Sitkin, Burt, & Camerer, 1998). Therefore it is difficult both to conceptualize and measure trust. The research adopted Welter and Smallbone's (2006, p. 465) understanding of trust in business behaviours as 'based on a perception of the probability that other agents will behave in a way that is expected'. The types of trust taken in consideration were: 'personal trust', 'collective trust' and 'institutional trust'. 'Personal trust' can be observed at the micro level and refers to individuals. It is built upon longstanding relationships, which create positive experience over time. The potential sources of trust come from emotions, intentions, goodwill, knowledge and competencies. 'Collective trust' relates to the meso level of observation and partially overlaps with 'personal trust'. It includes trust within a community, organisation or industry. Such features as characteristics of the group, information, reputation or professional standards will affect the level of trust (Welter, 2012). 'Institutional trust' refers to trust in the institutional environment, which includes formal rules, formal organizations, sanctioning mechanisms, and informal codes and conduct of values (Welter & Smallbone, 2006). High level of 'institutional trust' is vital for the markets to operate in efficient way. Thus its presence allows agents to enter the transactions with only limited information about the partner, because they trust that there are legal safeguards and sanctions in case the relationship fails (Welter & Alex, 2011; Welter & Smallbone, 2006). The level of trust within a particular cohort cannot be easily manipulated due to such characteristics as being based on tacit knowledge, embedded in culture but also being one of the states which cannot be induced by will, with respect either to oneself or to others (Gambetta, 1988). However, in some cases it might be perceived as a by-product. Mutual respect of each other's welfare accompanied with familiarity and friendship may result in increased level of trust (Gambetta, 1988).

## **3. THE CASE**

### **3.1. Case introduction**

The researched transformation process was analysed from a single country perspective. Poland was selected as the case due to having the following characteristics: it is the largest economy in the Central European region, has experienced major institutional changes in the last twenty years, and moreover it was the first country to start the process of transformation and thus may have served, to some extent, as a blue print for other countries in the region. Further, the scope of investigation was narrowed to single industry – Venture Capital (VC). For the purpose of the investigation, following the organisation studies approach, VC industry was treated as a community of organisations connected to each other by a range of direct and indirect relationships. The rationale behind selecting VC as the leading example was based on the unique set of characteristics of the industry. Firstly, VC is widely perceived as one of the main drivers for innovation and wealth creation both in the US and other developed and developing economies (Gompers & Lerner, 2001; OECD, 1996; Pierrakis, 2010). Secondly, the organisations constituting the VC industry were originated and developed in advanced economies, thus are fully aligned with free market institutions. Thirdly, VC is a complex phenomenon, which requires a particular set of strong institutions

at each stage of its performance in order to operate effectively. Choice of this particular industry allows observation of the entrepreneurial processes through all the stages from creation of an entrepreneurial idea up to market entrance in a structured manner. A typical VC process can be portrayed as a cycle. The process begins with raising long term funds from investors, then selecting and investing into set of portfolio companies and finishes with exiting the deals and returning the capital to the investors. The process renews itself with the Venture Capitalist raising additional funds (Gompers & Lerner, 2004).

*Figure 1: Venture Capital process (Gompers & Lerner, 2004 p.9)*



At each of stages of the cycle, VC participants cooperate with different partners and face various threats and challenges. Among other aims the research sought to investigate the dynamics of the interdependencies between stakeholders within the entrepreneurial process taking place during the process of transformation.

### **3.2. Methodology**

The analysis started with an extensive literature review. Based on the mainstream publications on VC a template isolating and grouping factors influencing VC industry development and performance was constructed. While constructing the template, as well as in the later stages of the analysis, the ‘template strategy’ proposed by King (2004) was utilized. The template was intended to serve as a blueprint for further analysis. The template included six broad themes: the regulatory framework; other organisations; market conditions; entrepreneurs; funds characteristics and culture. Each of the themes included a set of sub categories. The major challenges arising from implementing the template arose from the large number of factors, lack of straight forward indicators addressing the adequate hierarchy of the factors, as well as the possibility that the literature might be silent in respect to some factors critical for the pace and/or direction of VC industry development, especially in the context of economies undergoing transformation.

The research was designed as a single case study, where Poland served as the case. The time frame was set for the period between 1989 until present. The year 1989 covers two major events in the genesis and development of VC in Poland. The collapse of the communist system, which opened the road to market economy, and the creation of the Polish American Enterprise Fund, which was the first such fund created and which helped to trigger the nascent Polish VC industry. Two kinds of data were collected. Primary data consisted of a number of semi-structured interviews conducted with various members of the VC industry. The interviews were structured in such a way that the questions reflected the initial template. However, the research was very careful not to limit the interviewee when an unclassified yet relevant factor was discussed. Secondary data were recruited from available legal documents, official government documents, official documents published by funds, industrial statistics, and historical data. The interviews were transcribed and coded with a modified application of the 1<sup>st</sup> order concepts and 2<sup>nd</sup> order themes (Gioia, Corley, & Hamilton, 2013). The same procedure of coding was applied to official documents. Furthermore, the collected data were confronted with the primarily formulated literature – based template. In order to assure the

generalizability and reliability of the research the following steps were taken. Selecting the case study approach, which followed the strategy proposed by Yin (2003) allowed the researcher to generalise toward a theory proposition. In order to increase the generalizability a theoretical sampling was applied. Following Silverman's (2011) advice, the case was selected with an aim to illustrate the features and process under investigation in-depth. The reliability of the research was enhanced by keeping the procedural and theoretical transparency.

### **3.3. Findings**

This section summarises findings related to trust exclusively. As already highlighted in the introductory section the research question did not apply directly to trust but the importance of trust came out as a by-product. Considering society wide statistics, Poles tend to trust their close family (96%) however, trust in the wider family drops to 36% of respondents. In business activities over 70% of respondents declare that it is wise to be careful with business contacts. In reference to public administration and the courts the numbers are 42% and 44% respectively (Fundacja Centrum Badania Opinii Społecznej, 2010). Those trends were reflected in the examination of the Polish VC industry. There seems to be a lack of trust both at the personal and at the institutional level.

#### **3.3.1. Institutional trust**

While the code of law was considered to be comprehensive, and to meet all needs of the stakeholders in principle, shortcomings were perceived in execution. This view was held by all stakeholders. Additionally, Venture Capitalists indicated lack of transparency in execution as a problem. Entrepreneurs and Venture Capitalists were conditioned by their ongoing experiences of an apparently arbitrary and unpredictable pattern of changes in legal regulations. The worst cases were considered to be in the tax regulations. As a result of this conditioning stakeholders expected uncertainty and instability to continue in the future and financial and risk calculations around innovation were therefore seen as problematic. Moreover they do not trust public officials advice due to beliefs that since the public officials are not directly responsible for their advice they do not take care to provide the best possible advice. Because entrepreneurs do not trust the public officials they avoid processes that will involve them, as a result they avoid novelty because it would usually require the involvement of public officials.

#### **3.3.2. Personal level**

Entrepreneurs do not trust in the good will of either Business Angels or Venture Capitalists as collaborators. No explanation for this assumption was found in the research. But this mistrust is another inhibitor to innovation. A research of legal advisories of Choinski (2010) has revealed a similar condition of mistrust: in this case between entrepreneurs and lawyers. Although, entrepreneurs readily recognize the qualification of lawyers and their expertise in the law they do not trust them as a group to act in the best interest of the entrepreneurs. Nevertheless there is evidence that after developing relationships with a particular lawyer mutual trust can be developed. Business Angels perceive two main risks. The first is the normal risk of business failure. The second is the risk that the entrepreneurs to whom they provide funding will cheat them. And it is found that the second risk carries more weight for Business Angels than that of business failure. We can thus see that trust is a dominant factor in this business relationship. Another observation around trust is that entrepreneurs would prefer to deal with public Venture Capitalists rather than private ones. We can speculate that is because the public institutions by their nature are more trusted than private individuals. This conservative attitude results in a business cost because we know from the research of developed economies that private Venture Capitalists were more successful than the public

ones (Mason, 2009). However, it is found that if people have previous personal relationships they tend to work together more openly and their cooperation is based on friendship. This was observed in case of private investors. Entrepreneurs and Venture Capitalists do not want to work with the universities because there is reluctance to make necessary decisions within the university and a lack of urgency within the process. This seems to be because individuals within the university do not trust that their superiors will support their decisions. This problem is exacerbated by the general lack of clarity in university regulations and processes around innovation.

#### 4. CONCLUSION

The research indicated the perceived lack of trust among stakeholders of the VC industry in Poland. There is a prima facie case for further research to establish the causes of lack of trust. Although, the choice of VC industry had the advantage of providing a comprehensive model it bears the shortcoming of restricted access to data. The character of the industry limits the access to data, because it is both sensitive and source of competitive advantage. The analysis was restricted to using qualitative methods thus the results cannot be used in the statistical sense. However the qualitative findings indicate an important area for further investigation. The importance of the phenomena of trust is supported by the following observed characteristics: firstly, the lack of trust was indicated at two levels, the institutional and personal, by all members of the community; secondly, the presence of mistrust is indicated as a factor hindering the entrepreneurial process; thirdly mistrust is an urgent problem, yet cannot be easily addressed. From the practitioners point of view trust management creates deep and enduring challenges and it would be a mistake to see it as amenable to a short term policy fix. The first steps to be taken to create an environment for both institutional and personal trust to be developed should be directed at providing a stable legal system with specifically designed incentives, as well as promoting transparency of processes. By operating in a stable formal institutional environment stakeholders could become familiar and thus comfortable with procedures, and have a chance to apply those procedures successfully over time, which should enhance the level of personal trust. Summarizing, trust is a complex concept, and not only is it difficult to deconstruct, but even when we can identify individual factors contributing to trust or mistrust isolating them and making any measurement, however relative, poses a significant challenge. It seems that the only realistic research strategy is to hypothesise and test findings for coherence across a number of factors including personal histories and individual characteristics of the actors, in order to identify what matters most in creating or inhibiting trust between actors of different types. This is an obvious case for collaborative research across disciplines, including empirical psychology.

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## **APPLYING PERFORMANCE MEASUREMENT SYSTEMS FOR EFFICIENT INCENTIVE SYSTEMS – PRACTICE FROM THE COMPANIES IN MACEDONIA**

**Marina Serafimoska Trpeska**

*Ss. Cyril and Methodius University, Faculty of Economics – Skopje  
Republic of Macedonia  
marinas@eccf.ukim.edu.mk*

**Atanasko Atanasovski**

*Ss. Cyril and Methodius University, Faculty of Economics – Skopje  
Republic of Macedonia*

**Kiril Jovanovski**

*Ss. Cyril and Methodius University, Faculty of Economics – Skopje  
Republic of Macedonia*

**Dimitar Jovevski**

*Ss. Cyril and Methodius University, Faculty of Economics – Skopje  
Republic of Macedonia*

**Angela Kuzmanova**

*Ss. Cyril and Methodius University, Faculty of Economics – Skopje  
Republic of Macedonia*

### **ABSTRACT**

*Last decades performance measurement systems became trend in many companies. Their usefulness is already confirmed in the practice. One of the areas of their usage are incentive systems for rewarding employees. Performance measurement systems are focused on measuring performance measures which are inputs in the incentive systems. Most used tool for performance measurement is Balanced Scorecard as a concept that include both financial and nonfinancial measures. Using performance measurement system for rewarding employees means setting performance standards with which actual results can be compared. This type of comparison serves also as a control system. The relation between performance measurement system and incentive system, although is already confirmed in big multinational companies, it is focus of research in this paper for the companies in Macedonia. Also we are examining the type of measures used for rewarding employees in the Macedonian companies.*  
**Keywords:** *Performance measurement system, incentive system, rewarding, control system, Balance Scorecard*

### **1. INTRODUCTION**

According to Otley (1999, p. 368), information obtained from the performance measurement systems are directly connected with the motivation and behavior of the employees. Motivation and behavior of the employees represent a part of the reward which, according to Merchant and Van der Stede (2007, p. 393) present an important subsystem in any enterprise. The main task of this subsystem is to inform and remind employees about the results that are expected to be achieved by them, to motivate and guide the employees for achieving set goals, and even their surpassing. Motivating and rewarding employees represent all types of

income that employees receive on the activities, such as salaries, bonuses, awards, promotions and so on.

## **2. FORMS AND METHODS OF REWARDING EMPLOYEES BASED ON THE RESULTS**

In this paper the attention will be focused on monetary incentives. Monetary incentives commonly are associated with actual results, whether to individual employee performance or results of organizational units or enterprise as a whole. Performance for the aims of remuneration usually is divided into three groups, namely: measuring outcomes at the individual level and the performance of each individual employee, performance measurement at the level of responsibility centers and the third group of the performance measurement is at the entire company (Govindarajan & Gupta, 1985). Performance measurement at the level of center of responsibility and at the level of whole organization has long been applied in practice and it is generally based on the financial measures. When performance measurement concerns individual level, it is linked with rewarding employees according to the certain criteria. Employees attempt to optimize performance against the criteria. It is commonly known that when employees know that their performance is measured, have better performance and are more effective at work (Porter, LW & Lawler, EE, 1968, cited in (Govindarajan & Gupta, 1985)). These findings are in the context with the agency theory. In practice very often could be noticed the situation where employees are focused only on improving their individual results or the results of their center of responsibility, not taking into account the overall performance of the organization. In such cases the results of the whole system should not be lost from mind and it is necessary to increasingly emphasize the desirable behavior in a given organization.

Motivating or, even better, rewarding employees, usually is done as an increase in salary based on the performance, and based on the short and long term plans for rewarding (Merchant & Van der Stede, 2007, p. 396). The increase in salary is usually associated with achieving or exceeding targets and is characterized by an increase in salary for a relatively small amount. However, this amount is not negligible if it is taken into account that it is not a one-time increased payment, but continual increased payment of salary in the subsequent periods. On the other side, short-term plans for rewarding represent cash payments based on performance measured over a period of one year or less and are called bonuses. As a basis for the payment of bonuses most often are used financial measures (ROE, EBITDA), but there are situations when non-financial measures are also used (customer satisfaction). Research devoted to this issue shows that non-financial measures are used as a basis for rewarding in those organizations that generate losses i.e. longer period of time their financial statements show a negative financial result (Matejka, et al., 2005). Some research concludes that even when non-financial measures were not part of the practice of performance measurement, managers in the organizations who had been exercising loss or financial difficulties were rewarded on the budgets basis (Imoisili, 1989).

In the companies the most common form of compensation is long-term rewarding plan whose main goal is to protect the interests of shareholders and managers to act on achieving long-term goals of the companies. This type of rewarding enables avoiding the effect of myopia when managers seek to achieve good short-term results to get bonuses, not taking into account the long-term interests of shareholders which might be fully neglected or acting in the opposite direction of the interests of shareholders. The purpose of this type of rewarding is keeping the best employees through their long-term rewarding. Practice shows that this type of rewarding is the most present at the top levels of management.

In literature, but also in practice, particularly in developed countries, it is evident the widely usage of stock options compensations characterized by a certain long-term activities and

motivation of managers as a way for overcoming the short-term activities of executive and non-executive managers and employees for maximizing the financial measures (Aboody, et al., 2010).

It is known that a particular problem in using performance measurement in order to determine the compensation system is the choice of "right measures". This problem has wider background in the sense that it causes tension between performance measurement from several different aspects and assessing results from only one aspect. The "right measures" are inherent in the static environment where the parameters of the performance are well known, unlike competitive and changing environment, where requirements can be suddenly and unpredictably changed, and measures which were used until then for determination of the compensation system suddenly become unusable, which means that new measures should be applied (Murphy, 2001).

Strategic performance measurement systems are defined as a sum of certain financial and non-financial measures which are selected to bring the strategy of the company closer to the employees. These strategic performance measurement systems send them information that focus their activities and behavior in direction to organizational success. In order the behavior of the employees to be focused on the company's strategy and on the achievement of its long-term success, it is necessary employees to be properly compensated for their work. Objective measurement and evaluation leads to positive employees' behavior, thereby improving the overall performance of the organizations.

### **3. BALANCED SCORECARD AND THE COMPENSATION SYSTEM**

In the first papers about the balanced scorecard, Kaplan and Norton did not have in mind the system for compensation employees in the companies. Despite their such approach, however, they emphasize that rewarding employees is a powerful tool to motivate employees toward achieving the objectives of the companies, but they do not suggest how to establish and implement a framework to link balanced scorecard with the compensation system (Kaplan & Norton, 1996). In recent papers by other authors, it is present the position that the compensation system should be connected with the balanced scorecard precisely with the measures included in this framework (Chow, et al., 1997; Epstein & Manzoni, 1998; Otley, 1999; Ahn, 2001; Smith, 2002). They emphasize that the connection between balanced scorecard and the compensation system is increasing more and more, confirming this with the fact that 60% of 100 large companies have implemented the balanced scorecard for the purpose of rewarding employees.

### **4. RELATIONSHIP BETWEEN INCENTIVE SYSTEM AND PERFORMANCE MEASUREMENT**

Compensation of employees and managers is directly related to the performance of the individual employees, organizational units and the companies as a whole. If rewards are based on discretionary decisions by managers, then rewarding is less based on performance. In this section of the paper will be analyzed performance measures and performance standards.

#### **4.1. Performance Measures**

Long time (and still) companies assessing performance of the employees was doing it according to one measure (usually financial). In the contemporary practice compensations are based on the achieved results measured by more financial measures (Eccles, 1991; Kaplan & Norton, 1992; Baber, et al., 2002). Although this method of compensation is considered as objective and most often it is associated with all types of monetary rewards, it does not mean that there is no subjective determination of this type of reward. Using only one measure and

its application in the process of compensation is followed by number of disadvantages. A particular disadvantage is the fact that staff knowing by which measure their work is evaluated, after a while, start to "play" with it or to "dress" the results (Ittner, et al., 2003; Kaplan & Norton, 1996). The end result would be a short-term improvement of the results of some measures in exchange to others or just fictitious improvement of the performance.

As one of the possible solutions proposed in order to overcome the disadvantages of using only one measure in designing an incentive system is involving subjectivism in decisions making about compensations in addition to the results from the financial measures (Budde, 2007). To overcome this subjective way of assessing and rewarding employees, it is recommended the compensation system to be based on the performance measurement system (Burney, et al., 2009). Including subjectivism in case when only one measure is using may cause and support favoring of certain behaviors or certain employees (Moers, 2005). However, the use of subjective measures for measuring performance of the employees and their compensation, not only financial measures which can be objectively calculated, positively influence the efficiency of strategy implementation in the companies (Govindarajan & Gupta, 1985).

From the research devoted to this problem could be derived conclusion that there is a parallel relationship between non-financial measures and the performance of the company (Ittner & Larcker, 1997). Research continues in this area, and are focused in getting information about the connection of non-financial measures and the compensation system (Malina & Selto, 2001).

The appearance of subjectivity in rewarding employees is especially expressed in implicit terms of employment contracts or incentives in which are not clearly defined the conditions under which incentives are paid, but later the superiors subjectively decide about rewarding employees, which can result in decreasing or increasing risk of employees' earnings (Merchant & Van der Stede, 2007, p. 401). There is decrease of the earnings risk in cases where there is possibility for some correction or adjustment based on newly appeared situations or factors, and increase of the earnings risk when superiors evaluate employees on different bases than they were assuming when they made their own decisions or discredit that superiors will make informed and unbiased performance assessments.

#### **4.2. Performance Standards**

Whitin incentive system there are certain standards by which employees will be rewarded only if they achieve their goals, or at least a significant part of the set goals, but to a certain level (Murphy, 2001), as can be seen in Figure 1.1. Thus, most companies set a lower cutoff on meeting targets or threshold, which would mean that at least the purpose should be significantly met (eg, 80%) in order employees to be rewarded. But there are cases where companies set an upper cutoff or cap for performance where no extra rewards are provided for any additional performance above the cutoff. The upper cutoff is usually set as a percentage of annual performance target such as 150% of budget. This restriction is made for a number of reasons including: fear that too high results are not deserved (unforeseen good luck), fear that employees will be focused on achieving the excessive short-term results at the expense of long-term growth of organizations or fear of a poorly designed system reward (Merchant & Van der Stede, 2007, p. 402).

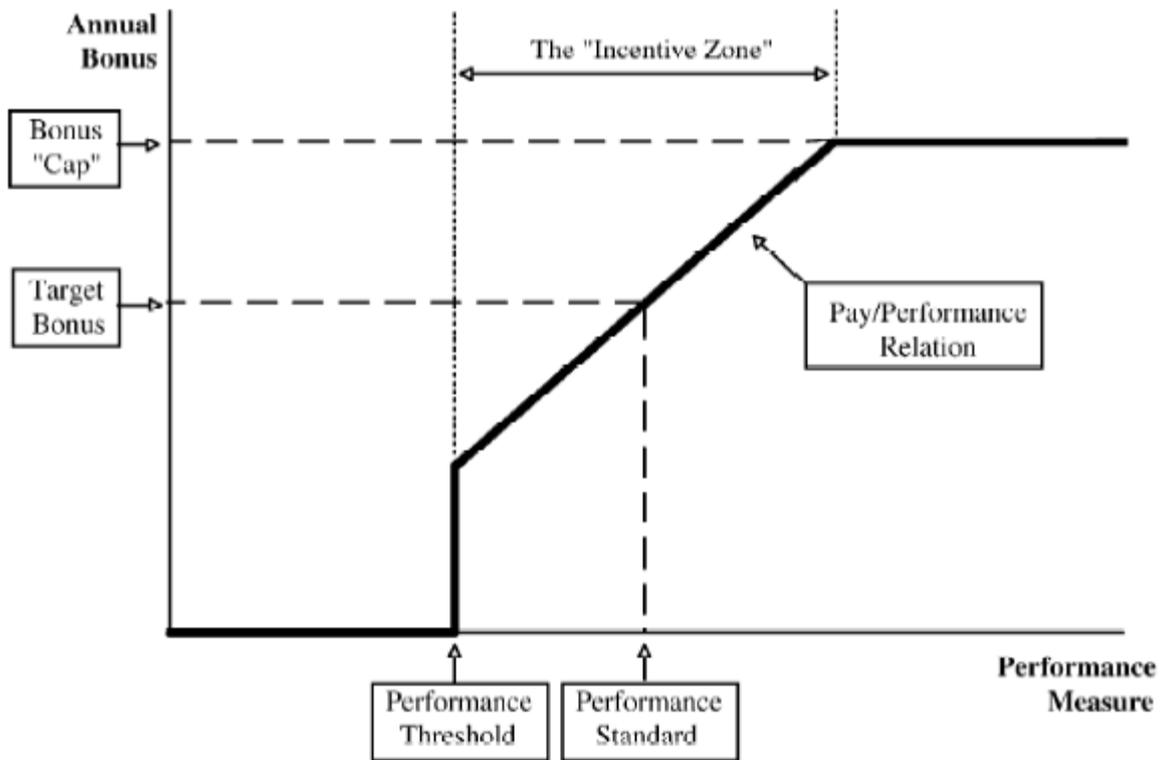


Figure 1.1. Components of a "typical" annual incentive plan  
Source: Murphy, 2001

Standards can be defined as internal and external. Internal standards are applied in budgeting. Also standards are set on the bases of the previous year results based on the improvements made from year to year. There are also so-called discretionary standards under which targets are set subjectively and represent the most appropriate basis for "dressing" of the financial results. Most used external standards is through the process of benchmarking, but very often can be meet so-called timeless standards that include a comparison of the results with a fixed standard (Murphy, 2001). For internal standards employees can take certain actions that would affect the results in any of the current or future years. Employees have no impact on external standards. The research devoted to this problem has no knowledge of whether companies using internal standards realized worse or better results than those who used external standards (Murphy, 2001).

#### 4.3. Relationships and interconnection of the compensation with performance measurement and control systems

The literature emphasis that the budgeting systems and performance measurement systems are the basis for determining the remuneration, salaries and bonuses of the employees. In addition, it should not slip that the results' control, also represents a solid basis for reward or "pay for performance" because it involves rewarding employees for generating good results (Merchant & Van der Stede, 2007, p. 25). Connecting incentive systems with performance measurement systems allows not only more objective compensation of employees, but also act aligned with the company's strategy leading to improved organizational performance. This springs from two important features of the performance measurement systems - first, the reflection of the strategy and secondly, the technical validity (Kaplan & Norton, 1996). A reflection of the strategy in the performance measurement systems is bringing the strategy closer to the employees, showing the links between the measures and the manner in which the activities of the employees will result in the results necessary to achieve the goals of the

organization. The technical validity of the performance measurement systems ensures that the measures are accurate, easy-to-access, comprehensive, reliable and timely. If employees have a sense that they work in an objective environment, the less likely is that they would be engaged in "playing" with the results or their "dressing".

The authors Burney et. al. (2009) have emphasized that the employees have impression that the compensations (salaries, awards, promotions, bonuses) more accurately reflect their efforts when applied performance measurement systems based on strategy and technically valid as a basis for determining the compensations. In this case, the performance measurement system which is aligned with the strategy of the organization, is a document that provides employees standards and objectives that dictate the distribution of rewards. Similarly to this, performance measurement systems that are characterized by high technical validity allow employees to have access to the information, to understand what they mean and how to use them in carrying out their tasks. With this type of information, employees will know that their evaluation truly reflects their efforts and expectations. From the above explanation could be concluded that the performance measurement systems which incorporate the strategy of the organizations and which are technically valid facilitate the matching and comparison of the effort employees give and their reward (Burney, et al., 2009). In the studies in which the differences between wages and bonuses are elaborated, and both are part of the overall rewarding, indicate that wages are positively related to the results measured with the financial measures of the previous period, while the reverse is the situation with bonuses that are in negative relation with these results, i.e. bonuses are linked with the future achievable results. Furthermore, it says that if these two components are merged into one, i.e. general incentive or compensation, it is realized that there is no relation between rewards and results, and this is the result of mutual netting of positive and negative relation of the salaries and bonuses (Rong, 2011).

In consideration of the relationship of the performance measurement with the control systems could be concluded that the control system is much more efficient if the rewarding of the employees is directly and clearly linked to the achievement of the results (Merchant & Van der Stede, 2007). Direct link suggests that achieving results automatically translates into rewarding without mediation and ambiguities. The clear link between performance and rewards mean that there is not tolerance of any excuses for non-performance. Modern trends in the remuneration of the employees indicate that rewarding should be more directly and clearly linked to the achievement of the results.

Agency theory starts from the assumption that employees have some refusal to work and kept only their personal interests. Therefore, the primary agency theory problem is how organizations can use the performance measurement systems for motivating employees and facilitating the control of the organization (Sprinkle, 2003). Performance measurement systems associated with the strategy have certain significance and impact on all employees that grant certain empowers to employees and allow them to feel that they are controlled and valued by the organization (Burney, et al., 2009, p. 309). Past experience suggests that the companies that used their performance measurement systems to determine the compensations of the employees should encourage employees to have a balanced effort and a higher level of performance (Burney, et al., 2009, p. 307) which, in turn, causes stress among employees who would be trying to establish a balance between the limited time and effort for multiple purposes. At the same time, they are faced with more financial and non-financial measures which have to be weighed and matched to each other in order to be able to make rational decisions and to undertake appropriate actions. It is therefore necessary the rewards plan based on performance measurement systems to be clear, transparent and easily understood by the employees.

According to the agency theory, the remuneration of the employees is often defined in the employment contract and is based on the plans when (1) the remuneration of employees is partly a function of the performance which is measured and it is result of their actions; (2) the agreement specifies budgeted (standard) performance and differentiate between favorable and unfavorable performance; and (3) the agreement to reward employees has two functions, one defined for favorable results and one for unfavorable. As an example of this can be cited the case when the employee is paid with basic salary if some profitability measure is under the plan and with higher salary if the profitability measure is at or above a certain plan (Demski & Feltham, 1978).

## **5. INCENTIVE SYSTEMS ANALYSIS IN THE COMPANIES IN THE REPUBLIC OF MACEDONIA**

According to the elaboration above in relation with the incentive systems and their relations with the performance measurement systems, subject of this research are following hypothesis:

*H1: Companies use incentive system based on performance measurement systems.*

*H2: Companies more often use financial measures and monetary rewards for their employees.*

From Table 1 could be seen that the companies in the Republic of Macedonia their performance measurement systems mostly based on the goals set in the budgets. Also, increasing the actual results over targets is largely followed by financial / monetary reward of the employees, which means that it would contribute to improvement of the employees. The remuneration of the employees in many organizations (56%) is based on the performance measurement systems, but it is obvious that in the practice of the Republic of Macedonia the rewarding is still more related to the realization of the budgets and objectives. Therefore, we can not fully accept H1 that the incentive system used in the companies is based on performance measurement systems.

Also, from Table 1 it can be concluded that for the purpose of rewarding the most used are financial measures. This is due to the fact that even those companies that have not implemented performance measurement system calculate significant number of financial measures and part of them are mandatory by law. Measures related with analyzing customers and the market does not lag far behind financial measures because increasing market share and customer satisfaction is of crucial role in achieving positive financial results in the future. If you make a correlation analysis of the performance measurement system application as a basis for an incentive system for rewarding employees (Table 2), can be concluded that in addition to financial measures and measures associated with customers who are statistically significant at the  $\alpha = 0,01$  and are used in assessing the results of employees and determining their remuneration with the level of confidence of 99%. The measures related with internal processes and operating results are statistically significant at the  $\alpha = 0,05$ , or with 95% confidence level these measures are used to assess the employees' results and to reward them. However, despite the fact that within incentive systems are also used nonfinancial measures, i.e. measures related with customers and internal processes, remains the conclusion that most intensively applied measures are financial measures with which we can confirm H2 that more companies use financial measures and monetary rewards for their employees.

## **6. CONCLUSION**

Integral part of the performance measurement system is incentive system. In fact, one of the main functions of the performance measurement system is rewarding management and other employees. To remunerate employees are considered both financial and nonfinancial measures which are part of the performance measurement system on the company level,

measures on the level of organizational units and measures that apply individually for each employee. As the hierarchical level increased, the impact of the performance measures on the level of whole organization increases and decreases the participation of individual measures. Conversely, in rewarding of employees at lower hierarchical levels greater participation in the rewarding has their individual performance measures. The overall compensation of employees is related to the set standards and goals, and from the fulfillment of standards depends the amount of remuneration of employees.

	Minimum	Maximum	Mean	SD
<b>Incentive systems characteristics</b>				
Employees performance is measured by their superiors mainly on the basis of set objectives in the budgets	1	7	5,13	1,519
Managers performance is measured with the measures from the performance measurement systems and is compared with set targets	1	7	4,81	1,786
Employees promotion depends on their ability to achieve budgets and objectives of the measures	1	7	4,81	1,554
Financial rewarding of the managers is increasing as actual results are increased over the budgeted	1	7	5,00	1,741
<b>Level of usage of measures from the performance measurement system for employees rewarding</b>				
Financial measures	2	7	5,65	1,711
Customers	1	7	5,30	1,512
Internal processes	2	7	4,50	1,697
Innovations	1	7	3,90	1,845
Employees	1	7	4,10	1,819
Sustainability	1	7	4,00	1,894
Quality	2	7	4,27	1,574

*Table 1. Descriptive statistics about incentive systems characteristics and their relations with performance measurement systems*

		Managers performance is measured with the measures from the performance measurement systems and is compared with set targets	Financial measures	Customers	Internal processes	Innovations	Employees	Environment	Quality
Managers performance is measured with the measures from the performance measurement systems and is compared with set targets	Pearson Correlation	1	,571**	,693**	,441*	,175	,424*	,419*	,211
	Sig. (2-tailed)		,001	,000	,017	,363	,022	,024	,281
Financial measures	Pearson Correlation	,571**	1	,571**	,261	,131	,320	,434*	,247
	Sig. (2-tailed)	,001		,001	,172	,499	,090	,019	,205
Employees	Pearson Correlation	,693**	,571**	1	,768**	,482**	,496**	,542**	,446*
	Sig. (2-tailed)	,000	,001		,000	,009	,007	,003	,020
Internal processes	Pearson Correlation	,441*	,261	,768**	1	,661**	,676**	,505**	,502**
	Sig. (2-tailed)	,017	,172	,000		,000	,000	,005	,006
Innovations	Pearson Correlation	,175	,131	,482**	,661**	1	,651**	,627**	,878**
	Sig. (2-tailed)	,363	,499	,009	,000		,000	,000	,000
Employees	Pearson Correlation	,424*	,320	,496**	,676**	,651**	1	,594**	,624**
	Sig. (2-tailed)	,022	,090	,007	,000	,000		,001	,000
Environment	Pearson Correlation	,419*	,434*	,542**	,505**	,627**	,594**	1	,551**
	Sig. (2-tailed)	,024	,019	,003	,005	,000	,001		,002
Quality	Pearson Correlation	,211	,247	,446*	,502**	,878**	,624**	,551**	1
	Sig. (2-tailed)	,281	,205	,020	,006	,000	,000	,002	

\*\* .  $\alpha = 0.01$  (2-tailed).

\* .  $\alpha = 0.05$  (2-tailed).

Table 2. Correlation analysis of the measures used in incentive systems and performance measurement systems

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## MANAGING CUSTOMER VALUES AS AN ATTRIBUTE OF A FIRM'S COMPETITIVENESS WITH THE SUPPORT OF INFORMATION SYSTEMS

**Marcela Kozena**

*University of Pardubice, Czech Republic  
Marcela.Kozena@upce.cz*

**Jana Skoludova**

*University of Pardubice, Czech Republic  
Jana.Skoludova@upce.cz*

### **ABSTRACT**

*In the present day, when supply tends to be greater than demand, firms try to come up with a way to acquire new as well as keep existing customers. One of the options is to offer customers high value. A number of authors consider the most important part of value to be the relationship with the customer; others attribute value to a product's exceptional qualities. Value for the customer is an essential factor for success, and it cannot be neglected or omitted. These days, consumers have an inexhaustible number of products available to them and, despite this, are not completely satisfied. The effects are appreciable when the consumer is transformed into a consumer who is informed, active and involved in a network of other consumers and firms. Fulfilling the customer's needs and wishes with the goal of providing them with value while simultaneously making a company profit are among the main tasks of marketing. However, in an overly competitive economy, it is increasingly difficult to influence a customer to choose the value of a given company. The goal of this report is therefore to determine whether and what company methods/tools determine and manage client value as an attribute of a firm's competitiveness with the support of information systems. Research investigation was conducted on the basis of managed interviews with top and line managers from companies in the Czech Republic, empirical generalization and interpretation of the results. The report's goal is to accentuate the move towards relationship marketing and provide familiarization with information systems that support managing client values, most recently with an eye on the enterprise social network. Companies that apply value-based marketing should not approach their activities as merely product and sales, but rather they should realize that it is just as important to provide the customer with values. A comprehensive integrated system for managing relationships with customers can help strengthen a firm's competitiveness. The company that fulfills the customer's expectations – identified by marketing monitoring or causal market research – in terms of value will be the one that is successful in the market. The company that exceeds the value-related expectations of the customer will moreover attain the best reputation and image and will become the subject of viral communication.*

**Keywords:** *customer value, marketing, information systems*

### **1. INTRODUCTION**

Determining the importance of customer value for businesses is still a current issue, as shown in literary sources (Martelo, Barroso, Cepeda, 2013; Blocker, 2011; Ulaga, 2011; Flint, Blocker, Boutin, 2011). The authors Prahalad and Ramaswamy (2005), based on extensive research and experimentation in the field of co-creating customer value, are of the opinion that the traditional concept of creating value is obsolete as a result of more experienced, more informed, more organised and more active customers, and also because of new technologies.

Increasingly, value is created jointly by consumers and businesses. Based on co-creation, a unique value arises, facilitating and promoting technical and social infrastructure.

### 1.1. Customer value as an attribute of a company's competitiveness

The term “customer value” has been defined by a number of authors. For example, Košturiak (2007) defines customer value as a proportion of benefits and losses. Kotler and Keller (2013) add that it is the difference between the evaluation of all benefits and costs of supply and alternatives perceived by the prospective customer. The total costs for the customer are associated not only with the price of the product, but also factors of acquiring and analysing information on the product. The customer will include in his costs also factors of time and energy, as well as mental and financial factors. Lošťáková (2009) defines customer value as what the customer receives during a period of cooperation with the company. Vlček (2005), Mazel (2009), Lejnarová (2009), Máša, Kočka, (2004), and Berka (2006) agree that the growth of customer value increases performance and the company's prosperity, and ultimately the company becomes competitive. Customer Relationship Management is part of the modern concept of marketing strategy. As the authors Kašík and Havlíček describe (2004), transactional marketing is being replaced by a customer approach, characterised by a detailed exploration of relationships, needs, wishes and requirements. Tab. 1 describes the modern concept of relationship (relational) marketing, referred to as Customer Relationship Management (CRM). This is based on taking care of customers, who have used the product or use it to further build their relationship to the product or the company with a view to establishing long-term mutually beneficial relationships.

*Table 1: Basic differences between transactional and relational marketing  
 (Kašík, Havlíček, 2004)*

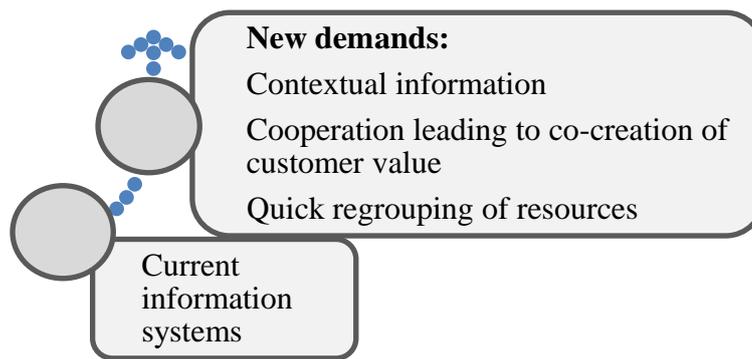
Transactional Marketing:	Relationship (Relational) Marketing:
Focused on a single purchase	Focused on repeat purchases
Direct contact between customer and supplier limited	Direct contact between the customer and supplier frequent
Focus of interest is the product benefits	Focus of interest is the value from the customer's perspective

CRM is a conceptual setting throughout the company together with business processes designed to appeal to and retain customers and provide them with quality service. This concept of customer relationship management includes all processes that have direct contact with customers in the field of marketing, sales and service activities. (Dohnal, 2002; Berka, 2006). Berka (2006) adds that a recent development is management with key customers - KCRM (Key Customer Relationship Management), which is a natural continuation of the concept of CRM.

### 1.2. Information systems to support the management of customer value

The development of information and communication technologies and increased competition have resulted in developments in all types of markets from marketing strategies targeting selected market segments to individualised (one-to-one) marketing and implementation of CRM strategies. (Lehtinen, 2007; Lošťáková, 2009). In order to make proper decisions, a manager needs to have access to company-wide information. The efficiency of business transactions must, within the new CRM system, coexist with the flexibility of relations, which only allows a flexible information infrastructure. (Prahalad and Ramaswamy, 2005). As is evident from Fig. 1, this creates new demands on information infrastructure.

*Figure 1: New demands for information infrastructure in the context of CRM (Prahalad, 2005)*



A CRM system is intended for businesses which wish to become more customer-oriented and successful among competitors. This tool for customer relationship management enables the use of customer information in order to maintain long-term profitable relationships, increase loyalty, predict their behaviour, and act purposefully on them. It allows the improvement of financial indicators, such as turnover, expenses, profitability; and non-financial indicators, such as customer satisfaction and customer loyalty. From the perspective of employees who come into contact with customers, companies can use a corporate social network, Enterprise Social Network. With this network they can provide managers with information on the perceived value of the product by the customers. In addition, employees can, on the basis of personal experience, vicariously express satisfaction or dissatisfaction with a product, including customer requirements for any innovations in a product, feedback from the employees to improve functionality, image and methods of selling products.

## 2. METHODOLOGY

The aim of this paper is to determine, on the basis of a survey, whether and in what ways or with what tools, companies identify and manage customer value as an attribute of the company's competitiveness with the support of information systems.

The research was conducted on the basis of structured interviews in the months of November and December of 2013. The structured interviews were conducted based on the methodology and rules (Allhoff, 2008 and Charlau, 2010). A questionnaire survey was carried out through semi-structured interviews. The basic set for the questionnaires included all the top managers and line managers. To obtain a sample of respondents, a non-random selection was intentionally used (Gavora, 2010 Suynek et al., 1999). The companies were selected on the basis of predetermined criteria and findings from a secondary analysis. The final sample for the questionnaires amounted to a total of 27 respondents. Of these respondents, 12 were from joint stock companies and 10 were from limited liability companies. Based on the classification of economic activities according to the NACE database (Czech Statistical Office, 2014), the companies were sorted into three categories as follows: 5 companies focused on financial intermediation (Section K), 7 companies whose business activities are services (Section J, Section M, Section H, section Q), and 15 companies, whose business is manufacturing (section C, section D). To work out the data for this inquiry, six questions were defined and content analysis was also used. An empirical generalisation was performed and interpretation of the results of the field survey.

## 3. QUESTIONNAIRE SURVEY RESULTS

The first question asked concerned the determination of the strategic concept, including the objectives and procedures focused on the customer. Most respondents (38%) said they

have a strategic concept set for a period of 5 years. A strategic concept set for 1 year was cited by 31% of respondents, for 10 years by 19% of respondents and 12% of respondents said they have no strategic concept set. As is evident from Fig. 2, 5-year strategic concepts prevail among companies in the field of financial intermediation; the same is true for manufacturing companies. For companies engaged in the provision of services, strategic concepts are set for 1 year.

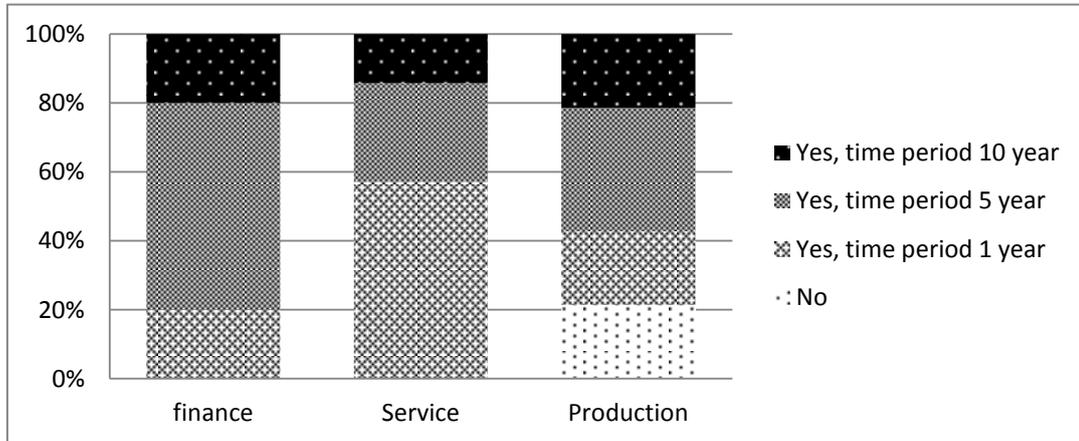


Chart 1: Does your company a clearly defined long-term strategic concept? (Own)

Another question focused on how companies use tools for identifying customer requirements for products in practice. 56% of respondents answered that customer requirements are determined based on questioning regular customers, 29% of respondents use questionnaire surveys, 6% of respondents determine their data on the basis of past developments and the remaining 9% of respondents do not determine customer requirements. As shown in Fig. 3, in all three categories the predominant method of identifying customer requirements is by questioning regular customers. Also of interest is a method based on surveys conducted by companies engaged in manufacturing and companies providing services. The respondents further stated that customer requirements are identified on the basis of e-mails, personal meetings, questionnaires sent in magazines, technical support, maintenance services, and questions and resulting discussions on online social networks.

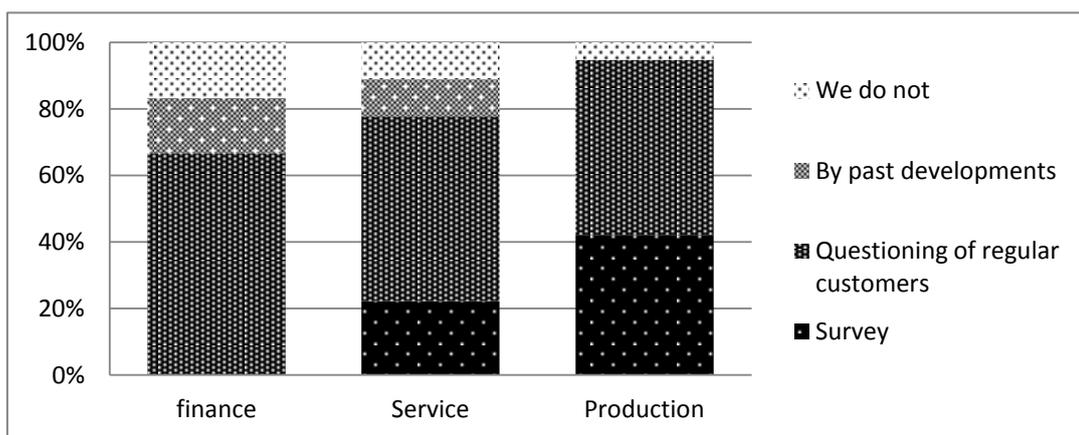


Chart 2: How do you establish customer requirements for your products? (Own)

The research was also focused on customer satisfaction; whether companies measure customer satisfaction, and in what specific ways. All respondents indicated that customer satisfaction is measured and monitored. 41% of respondents use a questionnaire survey, 33%

of respondents determine customer satisfaction based on personal meetings, 22% of respondents refers to the number of complaints, and 2% of respondents measure a customer satisfaction index. Other methods of measuring customer satisfaction include sending sms text messages, a complaints and suggestions book, both direct and indirect customer visits, online social networks, independent research agencies, and twice-yearly meetings with key customers. Fig. 4 shows the frequent use of a personal interview in all three of the categories. A common method of measuring customer satisfaction is a questionnaire survey used primarily by companies whose business is manufacturing and the provision of services.

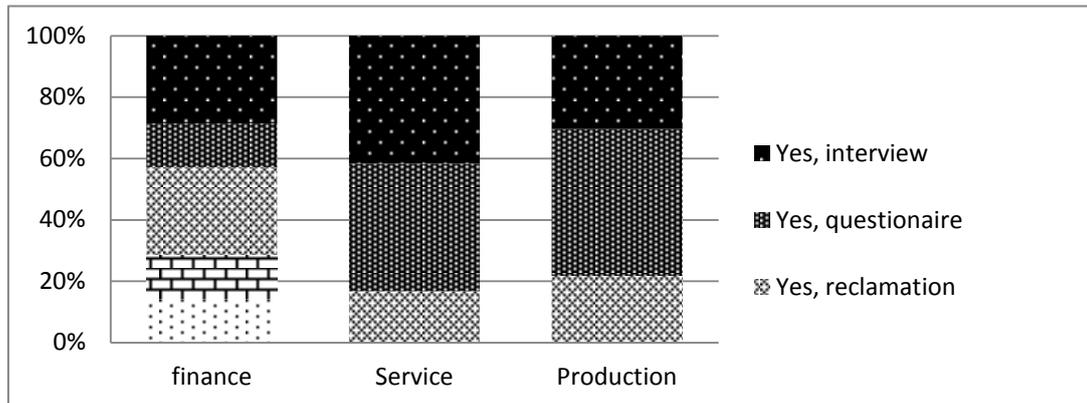


Chart 3: Following (measure) customer satisfaction and which ways? (Own)

Fig. 5 shows how respondents answered the question of which method of communication is used in their companies towards their customers. The largest share of all forms of communication are websites (20%) and advertising (16%). 12% of respondents prefer direct communication, 11% communication through a call centre, and 10% use a form of sales support. In addition, respondents mentioned other methods, such as social networks, e-mail communication, trade fairs, Public Relations, open house days, questionnaires, segment sales, and corporate social networks. Fig. 5 shows that companies engaged in financial intermediation prefer communication with customers through advertising and call centres. Among service companies, websites and advertising dominate. Manufacturing companies communicate using websites, advertising, and are unique in the three categories in the use of trade fairs.

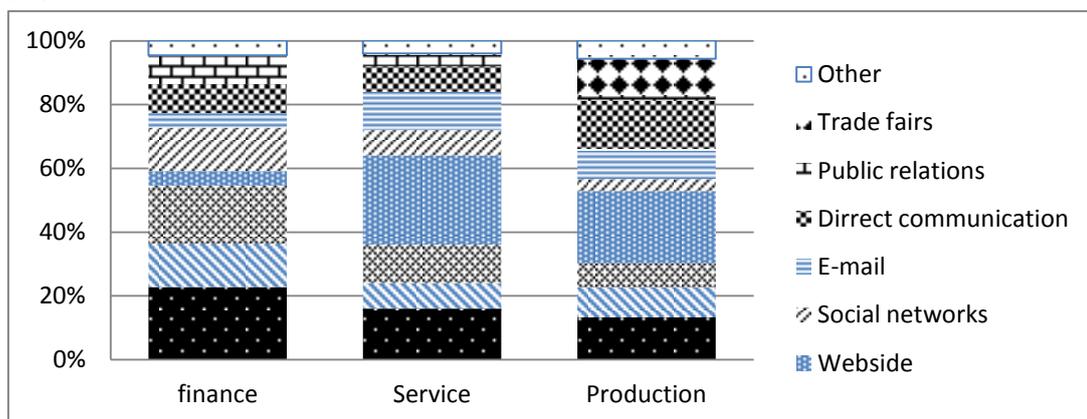


Chart 4: What forms of communication you use in your business? (Own)

Another area of research was the respondents' perception of competitive advantages in comparison with other competitors in the industry. Most respondents indicated a competitive advantage in terms of quality of products offered (19%), and then the range of

the assortment (18%) and speed of delivery of the product (10%). The set price of the products was perceived as a competitive advantage by 8%; the same percentage also mentioned after-sales service. Other competitive advantages mentioned by respondents were a well-known brand, flexibility, certificates obtained, sponsorship and innovation. The graph in Fig. 6 shows that the companies engaged in financial intermediation see an advantage in the range and quality of the products and services offered. For companies providing services, a competitive advantage lies in the quality and price of those services compared to competitors, and the breadth of the range offered. In the last category, manufacturing companies, respondents perceive a competitive advantage in quality, breadth of product range and certificates obtained.

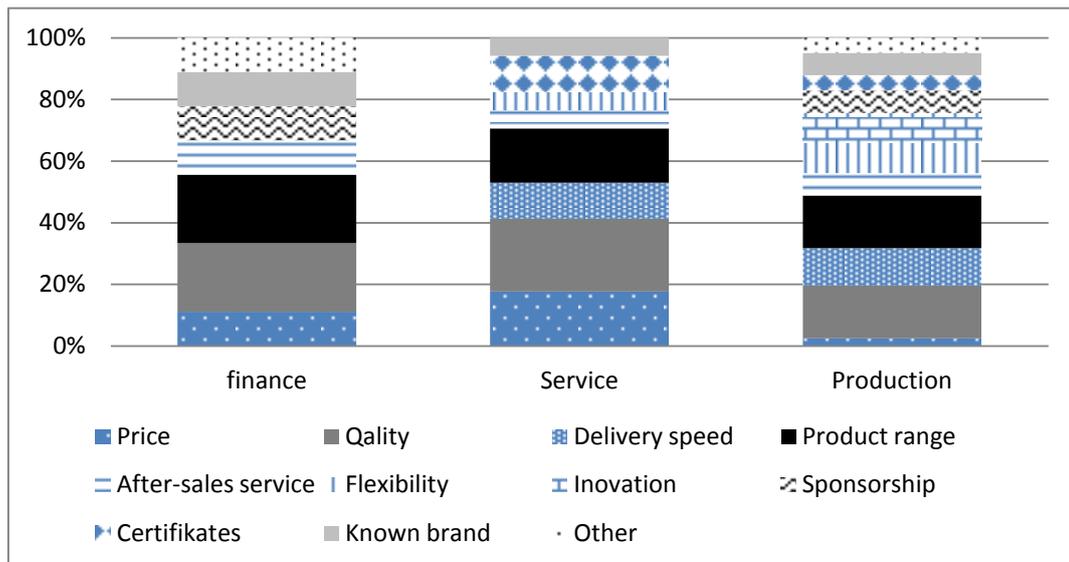


Chart 5: In which areas your business has a significant competitive advantage? (Own)

In the final areas surveyed, the respondents perceived the relationship of “price vs. quality” in comparison with the competition. 61% said that their price and quality is significantly better compared with the competition, 35% of respondents perceived price and quality about the same compared to competitors, and only 4% of respondents said that price and quality are significantly worse in comparison with the competition. As shown in Fig. 7, the companies engaged in financial intermediation and the companies providing services, the relationship between price and quality is better than the competition. For manufacturing companies, the perception of price vs. quality is 46% better than the competition, in 46% of the companies it is roughly the same, and 3% reported this ratio significantly worse.

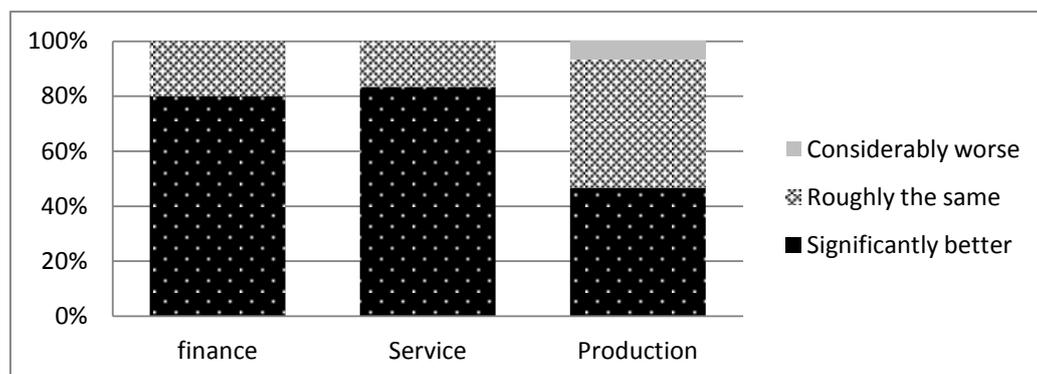


Chart 6: What is the relationship "price vs quality" compared to your competitors? (Own)

#### 4. CONCLUSION

CRM systems have significantly changed in recent years, on the basis of pressure resulting from a more difficult economic situation and on increased customer expectations. These result from, among other things, a growing trend of social networks and mobile devices. The concept of CRM is not a primarily technological issue and should involve all business processes. Finding a comprehensive integrated approach is, however, difficult at present. This statement is proven by, among other things, research from the company Scribe Software, which focused on the state of customer data in companies in 2012 [4]. 51% of respondents stated that they use a combination of traditional local systems and systems provided by a cloud. A total of 11% of respondents use only cloud-based solutions. Only 15% of companies, according to the survey results, have full systems integration, half of the respondents stated partial integration, and 35% of respondents are in the initial phase of the integration path. Dealing specifically with CRM, 21% of respondents use full integration of CRM with Sales Force Automation systems, and 70% of respondents have no exact metrics on which to evaluate the benefits of integration. The research conducted shows that companies are aware of two basic benefits of the implementation of customer relationship management - determining the customer value / requirements and creating long-term customer relationships. As mentioned in the discussion, there is currently no comprehensive integrated approach to customer relationship management with exact metrics on which benefits would be evaluated. Ideas for further research are considered by the authors of this article in further research and the confirmation or refutation of whether CRM information systems ultimately help organisations build up a customer knowledge base and allow this base to be effectively used in order to satisfy customer requirements, establish long-term relationships with customers, and allow improved success in the market compared to competitors. Effective competitive negotiation requires the promotion of conditions for the rapid creation of new knowledge, quality management, and the ability to instantly access information and cooperate in creating customer value through a comprehensive information system.

#### Acknowledgement

This contribution was supported by research project SGA SGF 2014. „Activities of scientific research in the field „Economics and management““.

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# THE EFFECT OF NON-ECONOMIC REASONS FOR AN OUTSOURCING DECISION ON THE BENEFITS OF OUTSOURCING

**Maja Letica**

*Faculty of Economy, University of Mostar, Bosnia and Herzegovina  
maja.letica@gmail.com*

## **ABSTRACT**

*Today we are increasingly discussing the negative aspects of the outsourcing, which are particularly pronounced when it comes to the countries in the transition economies or in less developed capital markets. Since outsourcing as a tool has its roots in the developed economies of the world, its application in the transitional countries of the Balkan region must be different. The circumstances of the market must be taken into account when assessing the results – certain non-economic factors as legislation, interest pressures and political influences play a role in making decisions about outsourcing. This paper deals with the detection of these factors and with their impact on the results of outsourcing.*

**Keywords:** *legal framework, legislation, interest pressures, outsourcing, political influences.*

## **1. INTRODUCTION**

The trend of the business globalization has led to an increase in market competition, which imposes on the companies the necessity of the quick reaction to market changes and the need of ensuring high quality products at low cost. In this struggle, the company alone cannot ensure quality in all segments, but is forced to focus on those activities for which it is most specialized in and leave the others to *outdoor* partners. Sometimes these are the activities that the company cannot carry out itself, and sometimes these are the activities that other companies can perform better or just more cost effective. Outsourcing the non-core activities to the specialized companies allows the company to work on the core activities in order to generate higher added value.

Since outsourcing as a tool has its roots in the developed economies of the world, its application in the transitional countries of the Balkan region must be different. The circumstances of the market must be taken into account when assessing the results – certain non-economic factors as legislation, interest pressures and political influences play a role in making decisions about outsourcing.

Considering the above, this article is examining the impact of the non-economic reasons for the outsourcing decision on the benefits of outsourcing.

## **2. METHODOLOGICAL AND THEORETICAL FRAMEWORK**

The outsourcing is the transfer of the one or more everyday recurring internal activity of the company along with the decision-making rights regarding these activities to the external partners on a contract basis. The outsourcing involves more than the simple use of the consultants. The outsourcing transfers not just the performance of a given activity but also leads to the transfer of the production factors and the voting rights. The factors of the production are the factors that allow performance of the activities and they include people, facilities, equipment, technology and other assets. The decision rights represent obligations for the making decisions about certain elements of the transferred activities (Greaver, 1999, p.3). The outsourcing is a contractual relationship which negotiates the transfer of part of activity or one complete activity or transfer of the several activities to the external partner – it is the transfer of the activities to an external source (adjusted in accordance with Kotabe and Mol, 2009, p.1).

The empirical evidence suggests that the companies use outsourcing for some, but not for all activities – speaking about the level of the outsourcing for the specific enterprise. Every single activity can be considered in the light of the decision *to buy or to produce*, so the decision set for all outsourced activities represent the overall level of outsourcing for a particular company, level that will vary for different companies (D'Aveni and Ravenscraft, 1994; referenced by Kotabe and Mol, 2009, p. 1). There are theoretical explanations for the level of outsourcing at the country level that consider institutional framework for the outsourcing. Lower level of the market deficiencies, in terms of the existence of the legal protection of the economic and property rights, leads to the higher outsourcing level for the companies in the country. If it is a case of the country with a weak legal and institutional framework, companies will prefer to resort to the vertical integration which provides, at least to a certain extent, protection against the opportunistic behaviour and manipulation of the contracts (by Kotabe and Mol, 2009, p. 2). In economies such as Bosnia and Herzegovina this level of the market deficiencies or rather market irregularities plays a big role in the outcome of the connection between the outsourcing and the performance but also in the final results for the benefits of outsourcing for the company as a direct consequence of the outsourcing decision process. Most of the outsourcing literature deals with the problem the economic reasons for the outsourcing decision and their connection to the outsourcing benefits for the company, so the articles and researches that examine the connection between the *non-economic* reasons for the outsourcing decision and benefits of outsourcing are insufficiently explored. This subject is analysed by the authors Dujmović and Letica in their article from 2011, which findings were used in the creation of this paper and will be more fully explained in the further text. Also, Kotabe and Mol article from 2009 presents the impact of the market irregularities as mediating variable in the relationship of outsourcing and company's performance. Accordingly, it is logical to ask the question: What happens with the results of the outsourcing in the form of the outsourcing benefits for the company when decision process is determined by the non-economic reasons? It is understood that the status of a country *in transition* has some side effects – lack of the legal framework, market uncertainty and market deficiencies, and a specificity of the Balkan region - the existence of the external pressures: stakeholder's pressure and political influence. These pressures are subject of the close examination in this article.

### **2.1. Research hypothesis**

The main scientific objective placed in the front of this research article would be: "Assessing the impact of the non-economic reasons for the outsourcing decision on the benefits of the outsourcing for the company."

**H:** Decrease in the effects of the non-economic reasons for the outsourcing decision leads to the increase in the benefits of the outsourcing for the company.

This hypothesis is divided into three supportive hypotheses:

**Ha:** Clearer and more defined legislation and legal framework and its consistent application leads to a decrease in effects of the non-economic reasons for the outsourcing decision and accordingly to an increase in the benefits of the outsourcing for the company.

**Hb:** Reducing of the stakeholder pressures from the outside of the company in choosing the outsourcing partner leads to a decrease in the effects of the non-economic reasons for the outsourcing decision and accordingly to an increase in the benefits of the outsourcing for the company.

**Hc:** Reducing political influence in choosing outsourcing partner leads to a decrease in effects of the non-economic reasons for the outsourcing decision and accordingly to an increase in the benefits of the outsourcing for the company.

Independent variable *the non-economic reasons for outsourcing decision* was introduced as a result of the previous studies of the author on the subject of the outsourcing (Case study Elektroprivreda HZ HB and MH Elektroprivreda RS Trebinje; Letica, Dujmović, 2011). Mentioned research showed that lack of a legal framework and politically orchestrated relationships with the outsourcing partners significantly affect the outsourcing decision and by that affect the results of the outsourcing process. If the outsourcing decision for certain activity is not made only on the basis of rational and economic criteria then the impact of this additional input in the decision must be corrected by introducing them into the model.

Identification and operationalization of the research variables are shown in the Table 1.

*Table 1: Identification and operationalization of research variables (by author)*

<p><b>Indicators of the dependent variable <i>the outsourcing benefits for the company</i>:</b>                  KO1 - focusing on the core activities                  KO2 - increasing business flexibility                  KO3 - focusing on the internal business improvement                  KO4 - improving the strategic positioning                  KO5 - solving problematic activities and functions                  KO6 - provides access to the latest technologies                  KO7 - enables innovation                  KO8 - reducing organizational risks                  KO9 - improves the performance of operations in terms of the technology</p>	<p><b>Indicators independent variable <i>the non-economic reasons (incurred as a result of an empirical study Letica, Dujmović, 2011, p. 221-232)</i>:</b>                  TN1a - the existence of the legal framework in the context of the specific company scope,                  TN1b - application of the legal framework in the context of the specific company scope,                  TN2a - the existence of the external pressures when choosing an outsourcing partner,                  TN2b - the existence of the political influence when choosing an outsourcing partner.</p>
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## 2.2. Content, spatial and temporal coverage of the research

Empirical research covers business entities in Bosnia and Herzegovina. The research is focused on the population of the medium and large enterprises. Companies that are under bankruptcy or liquidation proceedings, a non-profit companies and financial institutions are excluded from the research.

In current statistical review by *The Agency for Statistics Bosnia and Herzegovina* there are two different criteria's for the classifications of the enterprises – one according to the number of employees and the other according to the revenues, where medium enterprises are those with more than 20 million in the annual revenue and large enterprises are those with over 100 million annual revenue. The basic set of the companies for the research is shown in the Table 2.

*Table 2: Medium and large companies in Bosnia and Herzegovina  
 (adjusted in accordance with SPR Publication 30.06.2012, p.10-11)*

	Medium companies	Large companies	Medium companies	Large companies
	According to number of employees		According to amount of revenue per year	
Total	1080	191	313	67

The number of the employees is selected as a basic set for the research. The register of the business entities is taken by courtesy of the *Agency for Financial, IT and Intermediary services of Federation of Bosnia and Herzegovina* and through the Agency LRC Ltd. for the Republic of Srpska. Questionnaire is randomly sent to 255 address of business entities from basic set and the planned return has been 10% of the basic set or 20 large enterprises and 108 medium enterprises, a total of 128 companies that would make the research sample.

The survey was conducted from November 2012 to March 2013 on the territory of Bosnia and Herzegovina, and also included subjects who do not use outsourcing. The study included all subjects who are actively doing business a minimum of three years although 97% (88 of 90) of subjects in the reference sample was active in more than 5 years. Studied subjects who were and are in use of outsourcing and entered the sample had an active outsourcing contracts for the minimum of 3 years within the study period, while 96% of those who use outsourcing had active outsourcing contracts longer than 5 years (67 of 70). Companies that do not use the outsourcing and entered the sample are the companies whose managers said they are considering giving at least one business segment in outsourcing in the near future (20 of 90). The study was primarily focused on the obtaining a satisfactory sample in the terms of companies that use outsourcing.

### **2.3. Instruments of research and data processing methodology**

The empirical research was conducted by the questionnaire which was first sent to addresses of randomly selected 215 medium and 40 large companies from the basic set of 1080 medium and 191 large enterprises classified according to the number of employees - a total of 255 companies and 20% from the basic set of 1271 companies. Questionnaires were completed by executive managers of companies. After a month, the questionnaire was re-sent to email address with accompanying phone calls. Secondary or desk research was conducted through online databases and the regional university libraries. The questionnaire and the measurement scales are created by author of the paper on the basis of the relevant domestic and foreign literature. All collected data are encoded and entered into a single SPSS data base, then analysed with a large number of statistical techniques. Basic level of data processing is performed within the descriptive statistics to analyse important characteristics of the sample as well as calculation of the mean values for questions assessed by Likert's scale. Correlation analysis is done for the purposes of additional analysis of individual connections in the model. From advanced statistical methods The Confirmative Factor Analysis (CFA) and The Path analysis (PA) is used in the data processing. The goal of the factor analysis is to reduce the number of variables to a few (several) factors from which it can generate original correlation matrix (Rozga, 2010, p. 52). The path analysis or shorter PA, as an extension of the multiple regression allows to consider more than just one dependent variable at a given time and allows variables to be dependent in relation to one and independent in relation to others that are observed in the same model. In this analysis, we are not talking about the independent and dependent variables, but of exogenous and endogenous variables. Endogenous variables in the model are always monitored with e - code that says that the endogenous, i.e. in terms of the multiple regression of the dependent variable is always measured with lesser or greater

mistake. Path analysis is based on the same basis as the SEM (Structural Equation Modelling) analysis and the main difference comes from the fact that within the Path model it does not use latent but only observable variables, which implies that the latent variables are transformed into observable by calculating the average of the variables related indicators for each construct. The path analysis is a powerful technique of analysis, but is primarily intended for model testing and not for the construction and development of the same (according to Norman, Streiner, 2003, p. 159). The aim of path analysis is to verify whether the model fits the assumed relationships. If the model does not fit it does not mean that model is invalid, just that there are maybe some additional factors whose introduction in model can lead to the different results. This analysis clearly has an advantage in terms of the significance of the results obtained in comparison with the standard statistical techniques.

### 3. ANALYSIS AND DISCUSSION OF THE RESEARCH RESULTS

The data were collected for 90 companies in total, which in relation to the planned return of 128 companies makes a return of 70.31%, which is, in accordance with similar researches, a satisfactory return. From the 90 firms for which data were collected, 70 of them (77.8%) use outsourcing and 20 (22.2%) do not use it. According to the form of ownership majority of companies in sample are mostly privately owned (87.8%), while the remaining are state owned (6.7%), 4.4 % are in mixed private-state ownership or some other form of the ownership (1.1%). By the number of employees, these are mostly companies with up to 50 employees (17.8%) and companies with 50 to 249 employees (70.0%). Firms in the sample are mostly locally controlled (87.2%). 53 of them (58.9%) belongs to the group of the medium-sized enterprises while 37 (41.1%) in the group of the large enterprises. When preparing the data, checking of the validity for the entered data was done, logical analysis of the responses was also done and volume of missing values is determined. When entering data each variable is assigned the appropriate code (which corresponds with the operationalization of variables in Table 1). It is important to point out that former variables, for the purposes of the statistical Path analysis are now called constructs and what was marked as indicators are now variables that are measured via Likert scale.

*Table 3: Descriptive statistics for indicators of  
 The political influence and legislation (by author)*

Item	N	Mean	SD	Skw.	Kurt.
tn2a There were strong pressures from the outside of company in making a decision of the outsourcing partner	70	2.24	1.17	0.40	-0.93
tn2b Satisfying political and stakeholder relationship is more important than the competitive ability and other market and economic criteria in choosing an outsourcing partner	70	1.61	0.89	1.49	2.09
tn1a Legal framework for the company's business practice is defined and clear	70	3.56	1.26	-0.40	-0.69
tn1b The application of the legislation is consistent in business practice	70	3.64	1.32	-0.51	-0.84

Descriptive statistics for indicators of political influence and legislation shows that the largest number of respondents disagreed with the statement: *Satisfying political and stakeholder relationship is more important than the competitive ability and other market and economic criteria in choosing an outsourcing partner.*

Table 4: Descriptive statistics for indicators the benefits of outsourcing (by author)

	Item	N	Mean	SD	Skw	Kurt
ko1	Focusing on the core activities	70	3.61	0.86	0.28	-0.78
ko2	Increasing business flexibility	70	3.44	0.99	-0.53	0.46
ko3	Focusing on internal business improvement	70	3.54	0.93	-0.63	0.34
ko4	Improving the strategic positioning	70	3.34	0.92	-0.04	0.19
ko5	Solving problematic activities and functions	70	3.49	0.88	0.44	-0.62
ko6	Provides access to the latest technologies	69	3.33	1.09	-0.64	0.09
ko7	Enables innovation	70	3.14	1.01	-0.21	-0.06
ko8	Reducing organizational risks	70	3.09	1.06	-0.33	0.02
ko9	Improves the performance of operations in terms of technology	70	3.11	1.06	-0.23	-0.29

Descriptive statistics for the indicators of *the benefits of outsourcing* shows the uniformity of the average respondents' answers to all mentioned benefits.

Reliability of measurement scales is first analysed using Cronbach's alpha coefficient (preferably, this ratio is at least 0.7 but values above 0.8 indicate good reliability). Also, the indicators "alpha-if-deleted" and "item-to-total" correlation coefficients are applied with the aim of identifying any statements that affect the value of reducing the Cronbach alpha coefficient, as well as those that have a poor correlation with the total value of the respective measurement scale (values less than 0.3 are generally considered problematic). The results are summarized and presented in the Table 5.

Table 5: Results of reliability analysis (by author)

	Construct /variables indicators/	Cronbach alpha (N=90)	Cronbach alpha if item deleted
TN1	Legislation and legal framework /tn1a i tn1b/	.827	
TN2	Political influence / tn2a i tn2b /	.567	
KO	Benefits of outsourcing /ko1-9/	.900	

As can be seen from the above table, the coefficient of reliability was unacceptable for the construct "political influence."

Validity analysis was performed by creating a measurement model and implementing the confirmation factor analysis (CFA) to construct KO (benefits of outsourcing).

For estimation of the parameters within the CFA ML (maximum likelihood) estimation method was used and the results are presented in the Table 6. CFA was not done for TN1 and TN2 because those constructs each have only two indicators.

Table 6: CFA for KO construct (by author)

Item	Description	$\beta$	<i>B</i>	<i>SE</i>	<i>p</i>
ko2	Increasing business flexibility	0.688	1.000		
ko3	Focusing on internal business improvement	0.696	0.950	0.174	0.000
ko4	Improving the strategic positioning	0.708	0.953	0.176	0.000
ko5	Solving problematic activities and functions	0.476	0.616	0.164	0.000
ko6	Provides access to the latest technologies	0.828	1.329	0.217	0.000
ko7	Enables innovation	0.771	1.147	0.205	0.000
ko8	Reducing organizational risks	0.731	1.139	0.208	0.000
ko9	Improves the performance of the operations in terms of technology	0.807	1.255	0.206	0.000

The initial measurement model had a slightly less representativeness:  $\chi^2$  of the CFA was significant ( $\chi^2 = 64.50$ ,  $N = 70$ ,  $df = 26$ ,  $p < 0.01$ ),  $CFI = 0.887$ ,  $TLI = 0.844$ ,  $RMSEA = 0.145$ ,  $SRMR = 0.077$ . Eliminating variable ko1, representativeness is increased and the final model is:  $\chi^2 = 45.94$ ,  $N = 70$ ,  $df = 20$ ,  $p < 0.01$ ;  $CFI = 0.907$ ,  $TLI = 0.870$ ,  $RMSEA = 0.136$ ,  $SRMR = 0.055$ . Note that the RMSE exceeds the preferred 0:10 or less, which is probably due to the lack of adaptation of this indicator small samples (Tabachnick and Fidell, 2007, p. 717). Checking of the univariate/unilabiate distribution was done by calculating the index of symmetry (skewness), the index of curvature (kurtosis) and observing the frequency distribution histogram. For most of the variables that were measured attitudes, symmetry and kurtosis do not deviate significantly from zero.

The assessment of convergent and discriminant validity were done. Convergent validity was assessed on the basis of standardized load factors, composite reliability and extracted variance. Almost all standardized load factors for the conceptual model are greater than 0.5, indicating convergent validity. Only for variable ko5 - *solving problematic activities and functions* load amounted 0.48, which is somewhat lower than desirable 0.5.

Descriptive statistics for the variables that are intended to be used in The Path analysis is presented in the Table 7.

Table 7: Descriptive statistics for the variables that will be used for The Path analysis (by author)

	Description	N	Mean	SD	Skw.	Kurt.
TN1	Legislation and legal framework	70	3.60	1.19	-0.33	-0.77
KO	Benefits of outsourcing	70	3.31	0.75	-0.41	0.21
tn2a	Strong external pressures	70	2.24	1.17	0.40	-0.93
tn2b	Satisfying political and stakeholder relationships	70	1.61	0.89	1.49	2.09

The estimated standardized and non-standardized parameters are presented in the Table 8.

*Table 8: Standardized and non-standardized parameters  
 for the Path model (by author)*

Exogenous → Endogenous variables	$\beta$	$B$	$SE$	$p$
Direct effects:				
TN1 → KO	0.245	0.155	0.077	0.045
tn2a → KO	-0.318	-0.204	0.085	0.016
tn2b → KO	0.111	0.094	0.111	0.395

Note:  $\beta$  - standardized parameters,  $B$  – non-standardized parameters,  $SE$  – standard error, and Two-tailed  $p$ - value.

Legislation and legal framework (TN1) has a positive impact, but it is rather weak. External pressures (tn2a) have somewhat stronger although negative impact on the outsourcing decision. When it comes to making an outsourcing decision in order to meet the political and stakeholder relationship demands (tn2b) coefficient was again not statistically significant. In general, all presumed impacts (TN1, tn2a and tn2b) explain only 11% of the total variability within the variable "benefits of outsourcing" ( $R^2 = 0.11$ ).

#### 4. CONCLUSION

Specificity of conducting business in transition countries is certainly a lack of legal framework and inconsistency in legislation application, the existence of grey areas in business and the problems of the corruption in the form of various political and external interest pressures on decisions that should be influenced only by pure market logic. Before the final analysis of the paper hypothesis and its supportive hypotheses, should be noted that the 87.8% of the surveyed companies were privately owned, and only 6.7% is in the state ownership and 4.4% of mixed ownership. It is assumed that these political and external pressure effects are greater with higher share of state ownership in the company. The fact that the connection between these variables and the benefits of outsourcing is confirmed, even it is weak connection, in a situation where private companies are dominant in the market leads to conclusion that these pressures in practice are actually much more expressed then one should anticipate. Research has shown that there is a statistically significant positive correlation between the existence and the application of the legal framework and the benefits of outsourcing for company so the hypothesis **Ha** is confirmed. It was also shown that there is a statistically significant negative relationship between the external stakeholder pressures and the benefits of the outsourcing, so hypothesis **Hb** is also confirmed. However, we cannot say that there is a statistically significant correlation between political influence in the selection of outsourcing partner and benefits of outsourcing for the company. The relationship has negative direction but is too weak to be significant. Taking into account that these companies are mostly privately owned and while the legal framework and stakeholder connections are significant for the conclusion of a new contracts and in operating in general, political influences do not have such a strong impact especially if the owners are not part of the political structures, this is understandable. Accordingly, the **Hc** hypothesis is rejected. After having analysed the overall results for the hypothesis of the paper can be said that the same has been partially confirmed.

As the limitations of the research can be listed: the limitations of the sample, complexity of the research, difficulties in the data collection and survey method, the consequences of the constraints in the data processing and analysis of the data collected in the empirical research. Recommendations for the future research studies would include the need to conduct a more comprehensive survey of the observed relationships and the expansion of the present research with a larger number of the enterprises.

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## 7S MODEL AS A FRAMEWORK FOR PROJECT MANAGEMENT

**Kenan Spaho**

*Energoinvest dd Sarajevo, Hamdije Čemerlića 2, 71000 Sarajevo, Bosnia and Herzegovina  
kenan.spaho@energoinvest.ba*

### **ABSTRACT**

*Project management is new science discipline which can be considered as science of new age. This discipline is common for technical sciences as well as social sciences but definitely it is not possible to deal with it without basic knowledge about business economy, or to be clear without basic knowledge in management. For the purpose of this paper we will consider project as technical issue and try to make a framework for project management by using some elements from management. Definitely, it is not possible to do any kind of project without clearly defined methodology. So the purpose of this paper is to offer one approach in creating that methodology. So we decided to try to define the methodology of managing projects by using 7S McKinsey model which consists of next seven elements<sup>71</sup>:*

*Strategy. This is system approach and allocation of resources in order to meet the goals of company.*

*Structure. This is organization structure and relation of power and responsibility.*

*Systems. These are procedures and processes such as information system, production process, budget, and control process.*

*Style. This is the way how top management acts and spend the time in order to meet company goals.*

*Staff. This is human resource in company and the it behaves in organization culture.*

*Shared values. These are values which are common to all members of organization.*

*Skills. These are visible capabilities of company.*

*In this paper we will try to apply these elements on project management using science method in order to create framework for successful managing projects.*

**Keywords:** *7S model, project management, science method*

### **1. INTRODUCTION**

Modern business is based on project management and in order to realize project in successful way it is necessary to establish some rules. As illustration for this it is important to mention that ISO organization defined standards ISO 10006 and ISO 21500 in order to give directions for creating project management methodology.

Project management is a new science discipline which can be considered as science of new age. This discipline is common for both technical as well as social sciences, but definitely it is not possible to deal with it without basic knowledge about business economy, or to be clear, without basic knowledge about management. For the purpose of this paper the project will be considered as a technical issue (civil engineering, electrical engineering, mechanical engineering) and try to make a framework for managing these kinds of projects by using elements from business economy (management). The purpose of this paper is to offer an approach in creating a methodology of project management. The base for this will be 7S McKinsey model, which elements will be applied and tested on project management.

### **2. PROJECT MANAGEMENT AND 7S MODEL – LITERATURE REVIEW**

This part presents literature review for project management and 7S model. It will also present basics of project business as well as basics of 7S model and then try to link it together by

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<sup>71</sup> H. Weihrich, H. Koontz, *Menedžment*, Mate, Zagreb, 1998

using **science method**. **Science method** is based on using definitions from science literature as well as using science achievements unlike **empirical method** which is based on practical experiences either of other side or own experiences (Adapted from Grabovac, 2005).

## 2.1. Project business and project management

Here the basics of project business and project management will be presented, i.e. definitions of project and what project is by using process approach. Last part will show how project looks like as relationship between supplier and customer.

There are several definitions of project but for the purpose of this paper we will focus on three of it. The first one is that project is set of connected activities focused on realization of defined goals and it has limited duration (Žaja, 1993). According to another definition project is rounded, complete and complex undertaking which characteristics and goal can be defined and which must be completed in defined period, so it demands coordination of efforts of several divisions and employees employed in those divisions (Sajfert et al, 2006). And finally, according to ISO 21500 project is unique process consisting of set of coordinated and controlled activities with clearly defined date of start and closing, performed to achieve project objectives (ISO 21500:2012).

In order to understand the project business the process approach will be applied. This approach will help to understand why it is necessary to start the project, what makes influences on its realization, which resources are needed, and what the results of the project are. The process approach is shown in Figure 1.

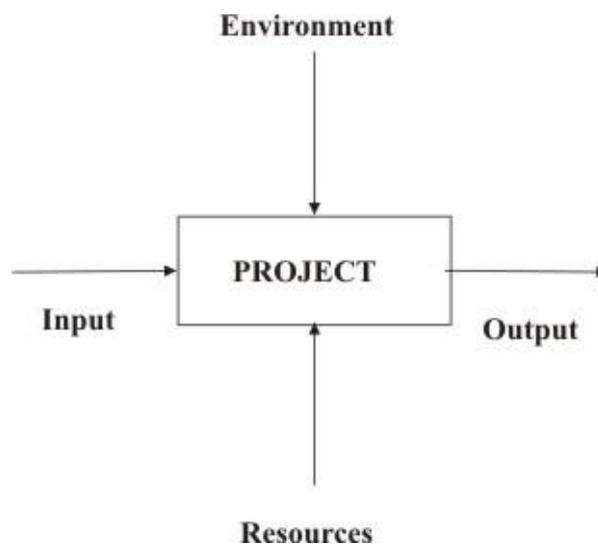


Figure 1: Process model of project (Adapted from Omazić/Baljkas (2005))

**Input.** Input is set of demands which must be met through realization of project. In world of business these demands are defined by customer through tender documentation or request for bid (Adapted from Spaho, 2010).

**Output.** Output is result of project realization. In accordance with tender documentation or request for bid suppliers define bid with complete project documentation as response to tender requests. In that way a lot of complex objects are built in world such as buildings, power stations etc (Adapted from Spaho, 2010).

**Environment.** This is business environment in which project must be realized. In a world of business we are not alone but in environment which imposes its own rules which we must follow during project realization. We discern three types of business environment (Tihi et al, 2010):

- **Macro environment** such as political, law, economic, demographic, cultural and technological environment;
- **Mezzo environment** such as competitors and publicity;
- **Micro environment** such as suppliers, agents and customers;

**Resources.** Resources represent the most important resources for successful realization of project. The most important resources are (Adapted from Mileković, 2004):

- **Human resources** such as employees with their knowledge, creativity, skills, psychological and physical capabilities, and their capability to gain new knowledge, skills and habits.
- **Resource of knowledge** which are inseparable from **human resources** because human resources can not contribute to development of business process and project realization without knowledge. That knowledge is in books, professional magazines, web source as well as in internal document.
- **Equipment** is hardware and software tools used by **human resources** in order to perform the processes in companies and projects using **knowledge resources**. Hardware is used making and testing products and software for acquisition and data processing as well as for modelling and analytical processes. Also, equipment is office material, furniture, computer equipment etc.
- **Infrastructure** is every installation what makes connection in company. Today the most important infrastructure is computer network which help us to do business activities better and sure.
- **Building and work area** is the places where the business processes and projects are done. Good working area is very important for effective and efficient realization of business activities and projects.
- **Financial resources** are money which company has in some moment. With this resources company start realization of project before it gets first payment defined in contract.

And finally, two approaches where project is treated as relation between supplier and customer will be presented. First approach is defined by Soudain and Deshayes (2006) where the authors make connection between marketing and project management, calling it the project marketing. The authors insist on four phases of project marketing as follow:

**Pre-project marketing.** In this phase supplier has the idea of project but not the customer. In this phase supplier identify target customer and makes contact in order to offer its project idea.

**Marketing at the start of the project.** In this phase supplier has potential customer and make influence on interesting sides for the project in order to get contract with customer.

**Ongoing project marketing.** In this phase the contract is signed and supplier negotiates with subcontractors as well as with customer in order to finish project on time or to enable delay if it is necessary.

**Marketing intended to create the conditions of a future project.** In this phase the supplier defines new project ideas and looks for new customers. In order to find new customer he uses its business network as well as customers found by then.

These phases are illustrated on Figure 2.

Second approach is defined by Kujala, Murtoaro and Artto (2002). Their approach is that every project can be considered as two parallel projects: from the customer's perspective as investment project, and from supplier's perspective as a sales and implementation project. The project consists of six phases as follow:

**Search phase.** In this phase customer makes decision about potential investments while supplier tries to identify relevant industry developments as project opportunities.

**Preparation phase.** In this phase customer makes feasibility study and publish public tender or send request for bid for potential suppliers. On the other hand supplier analyzes public invitation/request for bid in order to analyze if he can meet technical and commercial requirements required by customer.

**Bidding phase.** In this phase supplier prepares bidding documentation including technical documentation and commercial conditions. After getting the bids from potential suppliers the customer makes decision about the best bid.

**Negotiation phase.** After decision about the best bid supplier and consumer start negotiation in order to solve potential problems and make deal about some practical things. After that they sign the contract about project realization.

**Implementation.** In this phase supplier deliver complete project and supervise its realization. It is very important to identify and resolve on time any problem which can arise. Also, supplier makes training of consumer's personnel for managing new object and prepares possible after-sale service.

**Transition phase.** In this phase supplier and consumer make evaluation of project realization and build up knowledge for future projects.

These phases are illustrated on Figure 3.

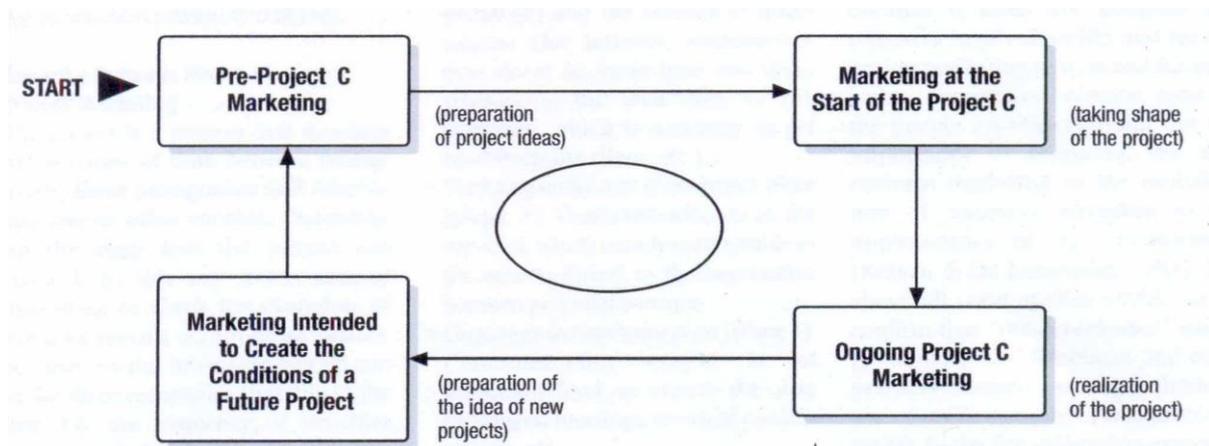


Figure2: Phases of project marketing (Soundain and Deshayes, 2006)

## 2.2. 7S model

One of the most useful frameworks ever developed for understanding an entire organization is the classic “7S Framework” (Waterman et al, 1980). This framework is developed by consultants from McKinsey & Company and consists of next seven elements (Gabarro, 2010): **Strategy.** Strategy refers to the way in which firm's competitive advantage will be achieved. It is essential that the top management have a clear and concise strategy for the organization. The strategy is not powerful source of influence unless it is constantly articulated.

**Structure.** Structure is basic architecture of the organization – the way in which tasks and people are divided and grouped. A firm's structure includes the division of labour,

coordination mechanisms, distribution of decision rights and organizational boundaries. Firm leaders have a very strong influence on a firm's formal structure.

**Systems.** Systems are formal procedures of the organization, including management control systems, performance measurement and reward systems, planning, budgeting, resource allocation systems and information systems. The systems play a critical role in influencing people's behaviour because they are the mechanisms that affect resources available for a given department and the processes by which individuals are rewarded and groups measured.

**Staffing.** Staffing includes how firm recruits and integrates professionals: how they enter the organization (their recruitments, selection and socialization into the values of the firm), and how they develop it.

**Skills.** Skills refer to the distinctive competencies that reside in the organization. Distinctive competencies can reside in a firm's staff, practice methodologies and protocols, management skills, and proprietary development or application of technology.

**Style.** Style is one of two dimensions of organization culture, and one of the least tangible of the 7S dimensions. Style refers to the norms how people act on and how they work and interact with each other, with clients, and with professionals from other firms on joint deals or matters. Style includes both operating style of firm members and the style of its top management.

**Shared values.** Shared values are second dimension of culture. This is widely shared set of core or fundamental values within a firm or practice that serve as guiding concepts of what is "right". To the firm members, shared values can have great meaning because they focus attention and provide broader sense of purpose.

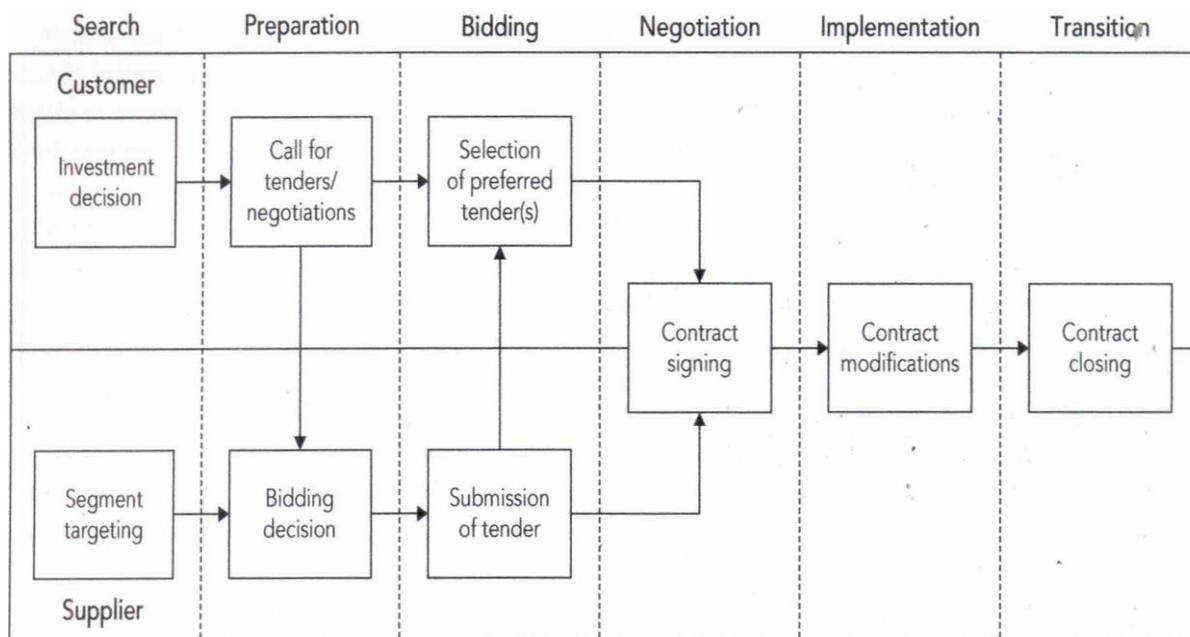


Figure3: Phases of project sales (Kujala et al, 2002)

### 3. IMPLEMENTATION OF 7S MODEL ON PROJECT MANAGEMENT

This part will apply above presented framework on project management using science method, meaning it will try to adapt original 7S framework on project management in order to present the most important elements of successful project management.

### 3.1. Strategy

Here the two approaches in creating project management strategies will be presented. Srivannaboon (2006) insists on Porter's generic strategies: cost leadership, differentiation and focus strategies. The point of these three strategies is to use one of the first two mentioned in order to focus on the market we choose. Despite the fact that Porter insists on choosing one generic strategy, Srivannaboon insists on combination of cost leadership and differentiation strategy calling it the best cost strategy. As a result the Srivannaboon's approach offers these three strategies for project management:

**Cost leadership**, in order to gain competitive advantage and increase market share by being the lowest cost producers in industry;

**Differentiation**, in order to position company on market with a distinct identity that satisfies the desires of the customers.

**Best cost**, the combination of two above mentioned strategies.

In addition to that, Porter's strategies Patanakul and Shenhar (2012) insist on Mintzberg approach to strategy defined with 5 Ps: **plan**, a direction how to get from here to there; **pattern**, of consistent behaviour over time; **position**, created by a different set of activities which results in a unique set of products in particular markets; **perspective**, a fundamental way of doing things; and **ploy**, a specific manoeuvre intended to outwit an opponent or competitor. The authors think that project strategy should be a rich construct that could help organizations and managers initiate, plan and execute a project with the intention of achieving business results and long-term sustainability. So, they suggest the following framework for project management strategy (Figure 4):

**Perspective.** It is background, the environment, the reason **why** we initiate project, and overall objective, and defines the concept that will guide the project's experience.

**Position.** It is position part involves **what** we expect to get once the project has been completed.

**Plan.** This part of project strategy involves **how** we are going to achieve project results as well as the behavior needed to get there.

**From the perspective of investor/consumer** the best strategy is based on **Mintzberg's approach** because when launching investment project it is necessary to know **why** the project is launched, **what** goal investor/consumer wants to reach and **how** he is going to reach it.

**From the perspective of supplier**, the best strategy is based on **Porter's approach** because on the market it is the most important to offer **good product with acceptable price**.

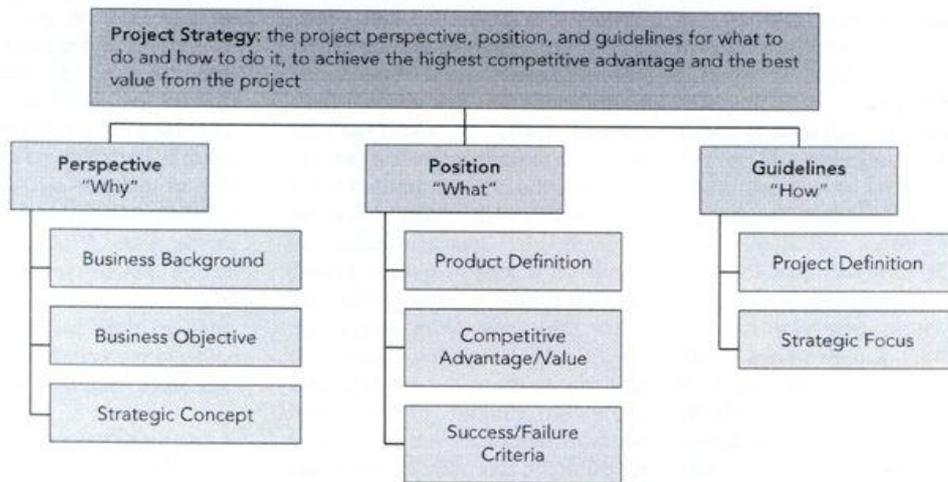


Figure 4: Project management strategy upon Mintzberg (Patanakul, Shenar, 2012)

### 3.2. Structure

Project structure can be integrated in traditional organization structure, many times in functional organization structure, or it can be additional organization structure integrated in existing classic organization structure, functional or divisional (Sikavica, 2011). Sikavica, also, distinguishes two types of project organizational structure:

**Individual project organization**, where project has manager which is directly responsible to the top management, but there is no project team or group for realization of project. This structure is presented on Figure 5.

**Pure project organization**, which is applied for realization of big and complex projects. In this type of organization the projects are independent of functional organization structure. This structure is presented on Figure 6.

Beside these two types of structure, Hauc (2007) defines **matrix organizational structure** as combination of individual and pure project organization. In this structure employees are responsible to their functional management as well as to the project management. This structure is presented on Figure 7.

In the end it is significant to mention that the practical experiences have shown that matrix organization is most frequently used in realization of projects which are not multidisciplinary but multidisciplinary projects, where the most suitable is pure project organization.

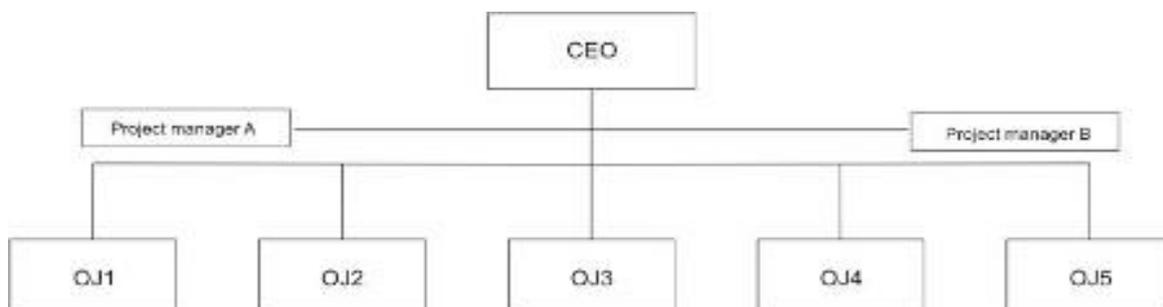


Figure 5: Individual project organization (Adapted from Sikavica, 2011)

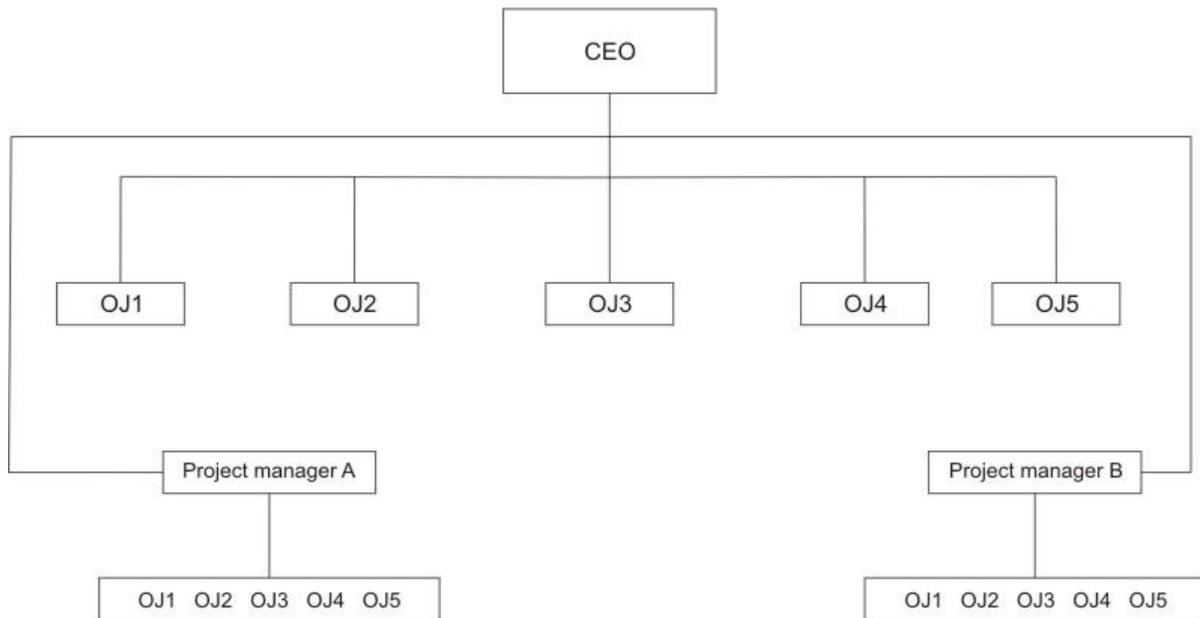


Figure 6: Pure project organization (Adapted from Sikavica, 2011)

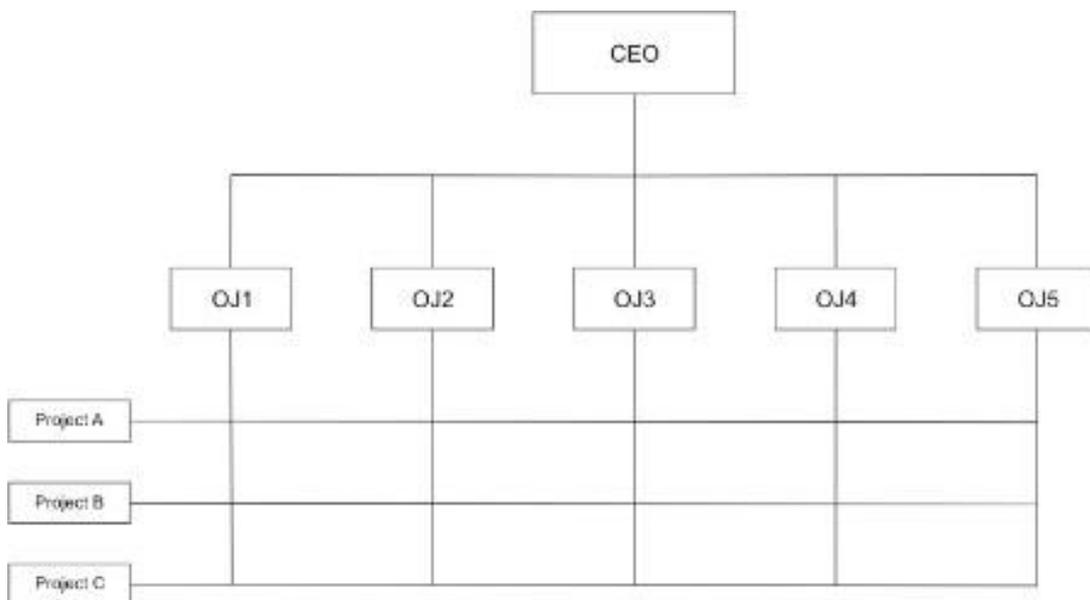


Figure 7: matrix project organization (Adapted from Hauc, 2007)

### 3.3. Systems

It is important to plan project correctly in the beginning in order to finish it on time so there is no need to make corrective actions. For that reason the focus here will be on system of planning as well as on control system. Concept of planning project must be unique and must include next phases (adapted from Omazić, Baljkas, 2005):

- **Product analysis of project process;**
- **Defining project goals,**
- **Defining project volume;**
- **Creating structure for dividing activities in project;**
- **Creating Gantt chart as well as network diagram;**
- **Identification of roles and responsibilities;**
- **Estimation of key parameters of project;**

- **Budgeting and estimation of costs;**
- **Levelling and optimizing resources;**
- **Identification and estimation of risks;**

On the other hand Hauc (2007) distinguishes next project plans:

- **Basic plans**, which are connected with planning of time, costs and resources;
- **Support plans**, which help us to enable more successful and more effective/efficient project management;
- **Connecting plans**, which enable connecting project realization with annual business plans;

Regarding control system, the three critical success factors for success defined in EFQM project excellence model will be presented (adapted from Westerweld, 2003):

**Project results.** Project results are measured with three elements, budget (cost), schedule (time) and quality. Every project must be finished on time, with low costs and to meet quality requirements from customer.

**Appreciation by the client.** Every client initiates the project to fulfill a specific need. It is expected from the client to define criteria which can show if that need is fulfilled. These criteria must be presented to supplier in tender documentation/request for bid.

**Appreciation by project personnel.** The workers on project will be concerned with reaching their personal goals as well as good working atmosphere. It expected the personnel to be satisfied during the work, protected from conflicts, to have healthy and secure working conditions etc.

**Appreciation by users.** Users are concerned with their overall influence in the project and the functionality of the end product.

**Appreciation by contracting partners.** Contracting partners try to make a profit at project. They are also concerned with getting new orders and learning possibilities.

**Appreciation by stakeholders.** These are parties which are not involved in the project but have a large influence, such as environmental groups, citizens and government agencies. These parties manage their specific interest.

### **3.4. Staffing**

In order to realize project correctly it is necessary to choose adequate employees. There are no unique criteria for recruiting employees so the two models will be presented here which can be base for recruiting employees: Rodger's plan of seven points (Alec Rodger) and Fraser's (John Munro Fraser) framework with five points (Weightman, 2004). These two models are presented in Table 1.

*Table 1: HRM models frequently used (Weightman Jane, 2004 p 106)*

<p><b>The seven point plan</b></p> <p>Physical make-up: health, appearance, bearing and speech                  Attainments: education, qualifications, experience                  General intelligence: intellectual capacity                  Special aptitudes: mechanical, manual dexterity, facility in use of words and figures                  Interests: intellectual, practical, constructional, physically, active, social, artistic                  Disposition: acceptability, influence over others, steadiness, dependability, self-reliance                  Circumstances: any special demands of the job, such as ability to work unsocial hours, travel abroad, etc</p>
<p><b>The five-fold grading system</b></p> <p>Impact on others: physical make-up, appearance, speech and manner                  Acquired qualifications: education, vocational training, work experience                  Innate abilities: quickness, of comprehension, aptitude for learning                  Motivation: individual goals, consistency and determination in following them, success rate                  Adjustments: emotional stability, ability to stand up to stress, ability to get on with people.</p>

For the purpose of efficient and effective project realization it is expected from top management of company to engage human resource department for creating team for project realization.

### 3.5. Skills

Since the project business is more oriented on industrial market where there are not much customers, it is very important to be **customer oriented** (ISO 10006) in order to **keep/manage the customers**. These customers are called **key clients** with next characteristics: **large purchasing power, complex behavior through buying** as well as **readiness for long-term partnership** (Džober, Lankaster, 2006). In order to manage key clients the same authors propose:

- **To develop long-term relationship through direct communication;**
- **To negotiate about all key questions in business relationship;**
- **To develop good interpersonal relationships;**
- **To follow main competitors in order to offer better service;**
- **To follow contract realization;**
- **Fast service to customer through team work in company;**

As seen from the above analysis, as well as through analysis of project marketing and project sales, important skill in project business is **business negotiation**. In economy, especially at industrial market, business negotiation is one of the most important sources of competitive advantage (adapted from Tomašević-Lišanin, 2004). In that context it can be considered that business negotiation is a process working to reach an agreement that is mutually satisfactory

to both customer and supplier (Manning, Reece, 2008). Business negotiation is often complex process including several participants, requiring series of decision to be made and last longer than the ones conducted in business – to – customer markets (Križman-Pavlović et al, 2013). There are three types of negotiation (Dobrijević, 2009):

**Distributive/competitive negotiations.** This type of negotiations belongs to “old school” of negotiations and consideration that the gain of one must be the lost of other side. It is possible to get good results with this approach but it is also possible to destroy good business and human relations. This approach is also known as “win – lose” strategy.

**Integrative/cooperative negotiations.** Unlike distributive/competitive approach this approach is based on interests of all participants in negotiations. The point is to find common base in order to make acceptable agreement for all. In these negotiations the participants have two tasks: to make common gain and to make a gain for himself.

**Harvard model of negotiations.** This is principle negotiations developed in order to make correct solutions in efficient and friendly manner. This model insists on focusing on interest not positions and on offering more alternatives as possible results of negotiations.

What is the most important is that one must have good relations with suppliers and customers for long – term. It is possible only through permanent communication. From that we can conclude that despite what model of negotiation we use, the strategy must be win – win.

### 3.6. Style

As seen from definition of 7S framework, style as element of the framework is a wide term. Hence, for the purpose of this analysis, the focus will be on style of project leadership. Leadership is process of influence on other in order to direct their efforts to reach specific goal (Petković et al, 2008). What is common for all definitions is that leadership is activity for shaping behaviour of people in organization (Petković, 2011). Janićijević (2008) represents five researches about leadership. First one is research from **Iowa University** which identified three styles of leadership:

- **Autocratic style**, where leader makes decision and takes responsibility.
- **Democratic style**, where leader lets employees to present their opinion but in making decision leader’s opinion is crucial.
- **Laissez faire style**, where leader lets members of organization to make decision.

Second research is from **University of Ohio**. This research defines two styles of leadership: **initiating structure** and **consideration**. **Initiating structure** assumes that leader defines and structures roles and tasks to members of organization in order to reach organization’s goals. **Consideration** style assumes that leaders are oriented on interpersonal relationships and they try to reach the goal by delegating authorities and making confidence on both sides.

Third research is from **University of Michigan** where two dimension of leader’s behaviour were discovered: **product oriented** and **employee oriented**. **Product oriented** leaders are focused on working tasks and help employees in its realization. **Employee oriented** leaders are focused on interpersonal relationships and good environment in organization. **This research prefers employee oriented style.**

Blake and Mouton have used second and third research and constructed graphic presentation of potential managerial styles called “**managerial grid**”. This grid has two dimensions (Figure 8), **care for people** and **care for production**. As it is visible from the figure the best

position is 9.9 because the leader shows care for both dimensions while position 1.1 is bad because the leader is out of managing production as well as managing people.

And finally, Rensis Likert, upon his research, defined next four styles of leadership:

**Exploitive – authoritative style.** In this style leader has no confidence and respect to employees. Leader makes decision alone and informs employees clearly and resolutely. The decision must be realized without more questions.

**Benevolent – authoritative style.** This style is little bit different then the first one because leader takes cares about employees and tries to explain his decisions. This style is like relationship between father and children.

**Participative style.** In this style leader makes limited consultation with employees. He trusts employees but not completely. He considers their suggestions but makes decision on his own.

**Democratic style.** This style assumes complete confidence in employees. Leader arranges meeting when it is necessary to make important decision. He presents problem and on the end accept opinion of majority.

For project management it is the best to focus on Likert's styles. The best choice is combination between benevolent – authoritative and participative style because practical experiences have shown that it is not good if project manager is neither too authoritative nor too democratic.

### 3.7. Shared values

This term is wide but for the purpose of this paper the focus will be on corporate social responsibility and application of its principles on project management.

There are several approaches to corporate social responsibility. The first described we bethe Friedman theory (1970) where the managers are carries of corporate social responsibility. This theory is known as **agency theory**.

Another theory, referring to the stakeholders, is mentioned in a paper by Donaldson and Preston (1995). According to this theory, it is very important for a company to be engaged in activities which will be perceived by non-financial stakeholders as important, and in order to ensure their support. This theory is known as **stakeholder theory**. The most important stakeholders are (Sisek, 2001):

- **Competitors**
- **Creditors**
- **Customers**
- **Employees**
- **Government**
- **Shareholders**
- **Society**
- **Suppliers**
- **Managers**

Carroll (1991) developed a **pyramidal theory** of corporate social responsibility. According to this theory, despite the fact that the most important goal of the company is profit, every company has an economic, legal, ethical, and philanthropic social responsibility. According to this theory, the economic responsibility has the impact on other components of social responsibility. Whereas legal responsibility assumes respect of rules and law, ethical responsibility means that the company has obligations towards consumers, employees, investors etc. And finally, philanthropic responsibility means that the company has to act like a corporate citizen and, as such, be involved in programs for promoting human welfare and good will.

Another theory is the **resource based theory** (Hart, 1995) which includes ecological social responsibility, meaning that the ecological responsibility can be a very important element or resource in sustainable competitive advancement.

And, finally, there is an approach of **corporate philanthropy** developed by Porter and Kramer (2002) introducing two implicit assumptions of corporate social responsibility. The first is that social and economic objectives are regarded as separate and distinct, so that a corporation's social spending comes at the expense of its economic results. The second is that corporations, when addressing social objectives, provide no greater benefit than is provided by individual donors.

For every project it is important to be responsible to stakeholders as it follows (adapted from Sisek, 2001):

- **Competitors**, in a way to be fair in behaviour on market;
- **Creditors**, to be sure partner and to pay back on time loans;
- **Customers**, to offer product which will meet customer's requirements.
- **Employees**, to enable adequate possibilities, to enable fair and honest payment, to enable health and security work conditions;
- **Government**, to follow the law;
- **Shareholders**, to make profit, to enable effective price of share for long – term;
- **Society**, security, environment, social contribution;
- **Suppliers**, to pay on time, to establish long – term relationships;
- **Managers**, to make profit, more authority;

It is expected from companies to introduce standard ISO 14001 as a guarantee of taking of environment and ecology. This standard can give important competitive advantage on market. Project managers are responsible for implementation of ISO 14001 during project realization.

It is expected from top management to be the “agent” of corporate social responsibility in a way to follow corporate philanthropy and make donations for society as well as to be responsible to consumers and suppliers in order to have them for future projects.

#### 4. CONCLUSION

The purpose of this paper was to offer the framework for successful project management. Creation of this framework was based on McKinsey 7S model and science method. A combination of literature analysis (science method) and elements of 7S model offered one approach to successful project management. The analysis showed that project business is complex and needs wide range of knowledge from engineering to business economy.

In the end it must be emphasized that the most important thing in project business is to have confidence between supplier and customer. It means that both must be open and honest from the beginning, because only in that way it is possible to build long-term business relations. At first, it is good to make business arrangement on small business project in order to see if it is possible to trust potential business partner. If that confirms to be a case, it is possible to start larger business agreements and consequently long-term relations.

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## DESIGN THINKING AS A COURSE DESIGN METHODOLOGY

**Blaz Zupan**

*University of Ljubljana, Faculty of Economics, Slovenia  
Kardeljeva ploščad 17, 1000 Ljubljana, Slovenia  
blaz.zupan@ef.uni-lj.si*

**Rok Stritar**

*University of Ljubljana, Faculty of Economics, Slovenia  
rok.stritar@ef.uni-lj.si*

**Anja Svetina Nabergoj**

*University of Ljubljana, Faculty of Economics, Slovenia  
anja.svetina@ef.uni-lj.si*

### ABSTRACT

*Education in entrepreneurship has been receiving a re-assessment at higher education institutions over the past decade. Several problems have been identified in the delivery and contents of current entrepreneurship courses, and therefore both scholars and practitioners have called for a redesign of courses. We studied the development of a new entrepreneurship course through a descriptive chronological case study. By looking at the process of redesign it is evident the process was very similar to the Design Thinking problem solving methodology and we discuss the application of Design Thinking methodology in redesigning a novel action-based entrepreneurship course. The course design literature already states that prevailing analytical course design methods are not particularly suited to redesigning courses when no universally accepted strategies exist for achieving learning goals most effectively. Moreover, Design Thinking arguably addresses several problems of existing course design methods. This course design is marked by teaching teams rather than single teachers per class; by the students' engaging in practice rather than simply mastering theory and writing theoretical business plans; by students' being assigned a problem space rather than a narrowly defined problem; by involvement of industry coaches, partners, guest speakers; and by an emphasis on human-centeredness. The general aim of this paper is to initiate a process of evaluating Design Thinking as a method of course design for possible use on different courses across disciplines and to explore how the approach fits into established course design approaches.*

**Keywords:** *course design, design thinking, entrepreneurship education*

### 1. INTRODUCTION

*"I was appalled by the results that the traditional business plan approach to teaching entrepreneurship was generating. The method had been in use for more than 15 years at Faculty of Economics, University of Ljubljana, with hardly any evidence of positive effects in terms of raising entrepreneurial awareness or number of student startups. It was obvious that we need a change in our teaching approach"* (senior faculty member, 2014).

The situation described in the quote above is too often the case in higher education (Hytti & O'Gorman, 2004; Neck & Greene, 2011). Thus, it is not surprising that from the early 2000s, teaching entrepreneurship at higher educational institutions has been receiving reassessment and numerous calls for a change of paradigm, values, and ways of doing things (Gibb, 2002; Kuratko, 2005). Specifically, the criticisms exposed that: (1) contents, which are delivered to students, are seldom supportive of what entrepreneurs actually need to know and do (Collins, Hannon, & Smith, 2004), (2) educators should be teaching contents through practice rather

than solely through theory (Neck & Greene, 2011), (3) programs do not have the intended effect and sometimes even lower students' entrepreneurial intentions (Oosterbeek, van Praag, & Ijsselstein, 2010; Piperopoulos, 2012), (4) programs do not improve students' cognitive entrepreneurial skills (Huber, Sloof, & Van Praag, 2012), and (5) that entrepreneurship courses have no impact on graduates' new venture performance (Chrisman, McMullan, Ring, & Holt, 2012). Entrepreneurship education still fails to recognize the role of teams (Laukkanen, 2000) and a multidisciplinary approach (Pretorius, 2008), does not sufficiently emphasize developing right-brain creative capabilities (Kirby, 2004), uses obsolete methods (Hytti & O'Gorman, 2004) which teach about the theory of entrepreneurship rather than experiencing practical entrepreneurial experiences, and often fails to recognize the individuality of each entrepreneur (Kirby, 2004).

The educational systems of Eastern European countries began including entrepreneurship education in their curricula only after these countries transitioned from the socialist system to market economies (Zahra & Welter, 2008). From then on, little changes in how to teach entrepreneurship has been made, which results in outdated educational programs, inadequately educated and inexperienced faculty, lack of theoretical and practical understanding of what entrepreneurs need, and, consequently, the absence of any measurable impact of entrepreneurship education curricula on students' entrepreneurial performance (Fayolle & Gailly, 2009).

Since a clear need exists for a re-assessment and redesign of entrepreneurship curricula, we explore a case of course re-design, which has happened at the Faculty of economics, University of Ljubljana. The purpose of this paper is to evaluate how a new course evolved in 8 years and discuss what course design method was used. This paper is intended to serve as a reflection and a call to curriculum designers to rethink their own practices of conceptualizing curricula.

## **2. METHODOLOGY**

To explore the development of a new course and to better understand how and why the changes in the entrepreneurship course design unveiled we narratively study how an action-based entrepreneurship course was redesigned at the Faculty of Economics, University of Ljubljana (FELU), in the period between 2006 and 2013. We use a single case study methodology (Lea, 2004) that strives to document the procedures of a particular event so as to enrich the thinking and discourse regarding development of educational theory by systematic and reflective documentation of experience (Stenhouse, 1988; Yin, 2003). The most common use of the case method is for exploratory research designs (Dodd, 2002; Shavelson & Townes, 2002). Exploratory case study is initial research that aims to look for patterns in the data and come up with a model within which to view this data. In this type of research, you would first collect the data and later try to make sense of it (Yin, 2003). The aim of the approach is to produce new concepts and hypotheses that can later be tested with deductive methods (Eisenhardt & Graebner, 2007). We choose such a design as exploratory case studies are more likely to fit with reality and be relevant than one formed by combining insights from prior literature (Eisenhardt, 1989) and searching for fresh perspective and insights in a traditional research field (Mäkelä & Turcan, 2006). To gain a rich insight into the process of evolving curriculum design and to map the process, we gathered evidence from different sources: faculty members involved in designing and teaching the course, students, and class documentation (including syllabi and class materials). Using a data triangulation methodology, we established validity of results and built a sound case for discussion (Carey & Matlay, 2010; Erzberger & Prein, 1997; Farmer, Robinson, Elliott, & Eyles, 2006).

*Data Collection Overview*

Source of data	Type of data	Number
Faculty members	In-depth interview with senior faculty	2
	In-depth interview with junior faculty	4
Students	In-depth interviews with students	32
	Student feedback surveys	47
Class material	Syllabus analysis	4

To provide a rich description of how the course emerged, the data were studied in a chronological manner. Special emphasis is placed on the description of key events that triggered the process of course redesign. Elements of iterations of the new course design are described. We are however well aware of the limitations such an approach has for generalization and theory building and therefore employ analytic generalization with respect to the findings. The single descriptive case study approach is analogous to experiments performed in the physical sciences, where statistical representativeness on a certain population is not claimed and yet a contribution to a general theory of the phenomenon is sought (Yin, 2003).

### **3. CASE STUDY: DEVELOPMENT OF AN ACTION-BASED COURSE AT FELU**

The history of entrepreneurship education at the University of Ljubljana, Slovenia, dates back to the late 1980s when first graduate and then undergraduate courses in entrepreneurship were offered as part of an accredited curriculum at the Faculty of Economics.

#### **3.1. Identifying the Need for Redesign**

First, courses aimed at teaching students the basic approaches to business planning were developed around a textbook by Timmons and Spinelli (Timmons & Spinelli, 1994). One of the professors who designed and taught the first entrepreneurship class stated, “The primary goal of the first entrepreneurship classes at FELU was to publicize the idea that we need small- and medium-sized private companies for a well-functioning economic system.”

Later, numerous elective courses and a full-time masters and doctoral program were added to the curriculum, all following a similar business-model-guided design. This was well in line with the teaching of entrepreneurship in other universities worldwide (Honig & Karlsson, 2004). The undergraduate business-model-based course *Introduction to Entrepreneurship* had several positive attributes: (1) inducing students to use knowledge from other business fields, (2) promoting teamwork, (3) thinking creatively, (4) teaching presentation skills, and (5) teaching students to solve complex business problems using a holistic analytical approach (Stritar & Drnovšek, 2006). Students and teachers responded favorably to the class, assessing it positively. With a yearly attendance of 120 or more students, it is now one of the program’s central courses. However, throughout the years, several weaknesses and challenges of basing a teaching approach on a business model have emerged. A faculty member noted:

*“At the beginning there was a lot of enthusiasm and the business plans that students presented were interesting. However throughout the years we found out that hardly any business ideas were actually put into practice, the innovativeness of the ideas was falling, and students were more focused on perfecting the technical side of the documents instead on developing their business ideas.”*

In order to better understand the effects of the current teaching approach, pre- and post-studies were conducted to analyze students' intentions to start their own businesses. These revealed that the course had no influence on the entrepreneurial intentions of the participating students (Stritar & Drnovšek, 2006) and constituted a turning point for the entire FELU teaching team. Although all knew intuitively that changes had to be implemented if future entrepreneurs were to be nurtured (as opposed to business students just being taught how to write business plans), the quantitative data from the study was surprising. Around that time, one of the senior faculty members attended a conference on entrepreneurship for engineering students and was introduced to the emerging program of innovative pedagogy at Stanford University. He reflects on what turned out to be a pivotal event:

*“Few days later I was driving home from a meeting with a friend from one of the main research institutions in Slovenia and he knew one of the professors at Stanford. This was on Thursday and on Sunday I was already at Stanford taking pictures and trying to gather as much information as possible about their ways of teaching. Their methodology offered a different teaching approach as it was based on a trial and error prototyping approach, emphasizing interdisciplinary and innovative thinking.”*

The decision was made to redesign one of the smaller courses offered to 3<sup>rd</sup> year undergraduate entrepreneurship majors according to the problem-solving technique used at Stanford. However, the teaching team had no specific literature or guidelines on how to adapt it and implement it into entrepreneurship pedagogy. The teaching team therefore used an empathy based trial and error approach without using any specific course design methodologies. In the following section we narrate the processes and methods used by the teaching team to design the course.

### **3.2. Empathy**

As the principal goal of redesigning the course was to make students more entrepreneurial, a complex and somewhat ambiguous task, and since it lacked experience in designing action-based courses, the teaching team started with a systematic process for understanding the expressed and latent needs of clients for the entrepreneurship program. In order to develop a comprehensive curriculum and teaching methodology, the teaching team had to gain empathy with such different stakeholders in entrepreneurial education as students, educators, and seasoned entrepreneurs. Over a period of three months, the teaching team conducted a series of interviews with students at the UL, ran weekend workshops with faculty members and entrepreneurs to help map the skills and behaviors needed in successful entrepreneurship, test the exercises they developed to train skills and mindsets and studied the syllabi and curricula of existing entrepreneurship programs. At the same time as gaining insights from prospective users, the teaching team also studied and analyzed best practices and key findings from other schools that were applying similar pedagogical approaches, including Potsdam University, Darden Business School, Stanford University, UC Berkeley, University of Toronto, and others. The teaching team also engaged with so-called extreme users, in this case a small group of students that expressed above-average entrepreneurial intentions, had their own entrepreneurial ideas, and had a clear goal to start a company after graduation. The goal was to understand student values and motivation in order to design pedagogical approaches that could help other students become more entrepreneurial. Additionally, senior faculty members called for a series of expert meetings with key stakeholders, including entrepreneurship researchers, practitioners, students, policy makers and numerous academic guests from the arts and sciences. Structured brainstorming sessions were conducted in heterogeneous groups in order to generate ideas of what the future of entrepreneurship education should look like.

As an entrepreneur who was also part of the early redesigned Entrepreneurship courses in 2007 commented: "Students had to realize that the entrepreneurial process does not start with a wish to earn money but with a clearly identified problem and a viable solution to this problem. Using observation, prototyping, and refining, you develop the actual solution and test it in real life."

To the surprise of the teaching team, the established mindset of the typical FELU business student still favored working for a large company or governmental institution. Students felt that starting their own companies would take great courage, energy, and support to actually go against the odds of failure to do so.

With comprehensive empathy findings and review of 9 other problem based curricula, the teaching team developed the first curriculum to be used in one undergraduate entrepreneurship course. The teaching team introduced an undergraduate "entrepreneurship project" course to be offered once a year to all undergraduate students at FELU in the 3<sup>rd</sup> year. The class spans over 15 weeks with class sessions meeting twice a week for two hours. Typically, the class has an average enrollment of 80 students. Since the major course redesign, the class has been offered eight times between 2006 and 2013 and continues to be the cornerstone entrepreneurship class at FELU.

### **3.3. Prototype and Test**

Since the first redesigned course was offered in 2006, numerous changes were made to its deployment. Taking into consideration the business school course design model (Debnath, Tandon, & Pointer, 2007) and the key ingredients that can be used to motivate students (Williams & Williams, 2011), after analyzing the past curricula these changes can be grouped into five segments:

#### **3.3.1. Student**

Since the educators have no influence on the enrolment process, they cannot choose who enters the course and who does not.

#### **3.3.2. Teacher**

Looking at the number and type of mentors, several changes were made since 2006. One notable change that persisted was the number of educators and mentors which is always 2 or more per class. In the beginning, the classes were held by senior faculty members however as several younger faculty members became familiar with the delivery methods, they increasingly became involved in classes and have, by 2010, held classes on their own. Type of mentors was also tested and looking at the changes in curricula it is evident that mentors from smaller companies and sole proprietors were increasingly invited over mentors from larger companies. An interesting development was that teachers increasingly visited various conferences where they improved their knowledge about recent developments in novel entrepreneurship pedagogies.

#### **3.3.3. Content**

Looking at the curricula it is surprising to see that the content changed annually, as two consecutive course iterations were never carried out in exactly the same. The content ranged from external problems from the business community on which the students worked to individual projects that had to be envisioned by students themselves. As is evident from the curricula, projects that had to be envisioned by students became prevalent, especially as these were 3<sup>rd</sup> year entrepreneurship majors who were expected to show an entrepreneurial mindset. Students were increasingly given a choice on how to run their projects and who to team up with to increase relevancy and making content relevant to real life. More and more focus was put on developing competencies rather than acquiring knowledge. In the first iterations students used textbooks and were assigned readings however in the latter iterations the use of readings was abandoned and students were assigned individual projects aimed at enhancing

their competencies. The technology used varied from old-fashioned paper based methods to development of proprietary software to support team work and handing in assignments to the use of Google documents file system.

#### **3.3.4. Method/process**

The method was, from the beginning, aimed at self-learning and experiential learning. The students were increasingly encouraged to work on meaningful projects, public presentations, use of modern technologies and to work intensively for shorter periods instead of sporadic work during the whole semester. In 2014 a Startup weekend initiative was deployed with very promising results. Positive social interactions, where students extensively communicate with their peers and teachers even on some more personal topics were also increasingly used.

#### **3.3.5. Environment**

Several experiments were carried out by teachers in terms of physical and mental environment. To create an effective environment the teaching team increasingly offered tutoring, acquired 2 prototyping rooms at the campus, created situations where students had a chance to produce physical prototypes and similar. Students were increasingly empowered to design their own projects and to work with various stakeholders.

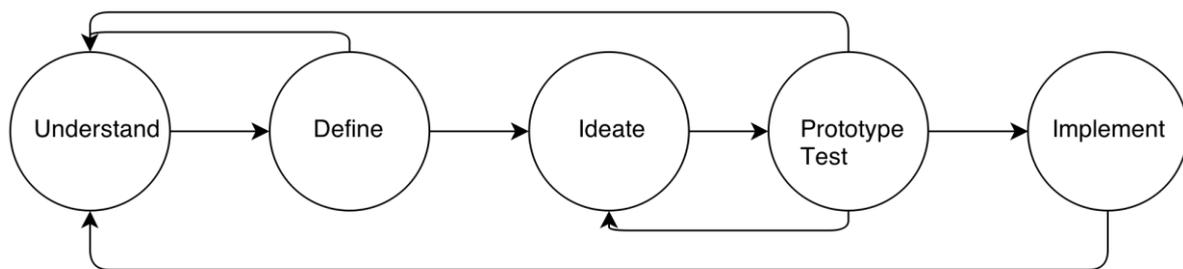
Reflecting on the past eight years of developing a course the team observed numerous parallels between the course design process and Design Thinking – a problem solving methodology used in the redesigned entrepreneurship course. Even though the teaching team was not using any specific course design models they were designing a course by intuition and by using the same principles they were using in the classroom as a teaching methodology.

### **4. CAN DESIGN THINKING BE USED AS A COURSE DESIGN MODEL?**

Course design is methodologically well covered, with different goals and techniques, and has been evolving as a field for over 50 years (Tyler, 1950), probably since the time of renowned Greek philosophers Socrates, Plato, and Aristotle. Not surprisingly, educators have identified general design skills as a valuable tool in course design (Falvo & Urban, 2007) and have come to the realization that designers in all fields, including course design, use very similar methods (Hokanson, Miller, & Hooper, 2008). Many course design models have been labeled, however, as somewhat outdated (Visscher-Voerman & Gustafson, 2004) as they do not rely intensively on understanding and empathy for identifying actual needs of students, are lacking holisticsity (Van Merriënboer & Kirschner, 2012), neglect the importance of prototyping (Tripp & Bichelmeyer, 1990), neglect the effect of diverse teaching–learning situations and teams (Booyse, 2010), and focus to a great extent on use of textbooks and transfer of obsolete knowledge (Shawer, 2010). The methodology of solving problems through the process known as Design Thinking spread from business, where numerous organizations used it to increase sales and profitability (Ward, Runcie, & Morris, 2009), to academia when some of the leading design, engineering, and business schools adopted it as a teaching method.

Design Thinking is a cyclical process having an established sequence of steps to be followed and repeated to ensure a viable solution. The steps in the Design Thinking process flow begin with exploring the problem space from a human-centered perspective to gain an understanding of the problem and ends with prototyping, testing, and implementing the final solution. In general, steps should be followed as listed, but going back, rethinking, and re-iterating is highly encouraged to improve prototype or solution quality or simply to gain a different perspective on the problem.

*Figure 1: The design thinking process*



*Adapted from (Stanford University, 2007)*

Several mindsets have also been identified as an important part of Design Thinking methodology (Brown, 2008; Fraser, 2007; Nussbaum, 2004; Rauth, Köppen, Jobst, & Meinel, 2010):

- Human centered: People are the source of inspiration and focus of problem solving.
- Mindful of process: Design thinkers employ an iterative methodology to explore numerous possible solutions and learn from failures.
- Empathetic: In order to successfully solve an individual's problem, that individual's feelings, thoughts, and attitudes must be observed, experienced, and understood. Storytelling is an important tool with which to communicate observed user needs.
- Fostering of a culture of prototyping: Process is experimental and iterative, builds on past experience, and tests intermediate solutions.
- Biased toward action: All skills and tools should be practiced.
- Radical open-minded collaboration among disciplines (Higgins, Maitland, Perkins, Richardson, & Piper, 1989): Multidisciplinary teams will produce better results if Design Thinkers have the ability to build on ideas of others.
- Integrative thinking: Using abductive reasoning (Martin, 2007) dramatically improves existing products.
- Optimistic: There is always a solution out there.
- Challenging of constraints and supportive of creative solutions: Obstacles and constraints need to be challenged in order for creative and sometimes highly unorthodox solutions to succeed.

Taking into account the critique of entrepreneurship education in general, which also critiques the methods and which was one of the basic reasons for redesigning a course, and problems of traditional course design methods we have identified several benefits of using Design Thinking as a possible course design method.

*Figure 2: Problems of traditional course design methods and critique of entrepreneurship education: How Design Thinking fits in*

Problems of traditional course design methods		Design thinking mindsets		Critique of entrepreneurship education	
More understanding and empathy	← Addressed by 1, 3	1	Human centeredness	Addressed by 1,6,7 →	Not recognizing the role of teams
Lack of prototyping	← Addressed by 4, 5	2	Mindful of process	Addressed by 2,4 →	Obsolete methods
Lack of holisticity	← Addressed by 1, 2, 6	3	Empathy	Addressed by 2,5 →	Learning about, not for
Effect of diverse learning situations and teams	← Addressed by 5,6	4	Prototyping	Addressed by 1,3 →	Not recognizing the individuality of each entrepreneur
Focus on use of textbooks and the transfer of knowledge	← Addressed by 7,9	5	Bias toward action		
		6	Collaboration	Addressed by 4,9 →	Lack of development of creativity
		7	Integrative thinking		
		8	Optimism	Addressed by 6,7 →	Multi disciplinarity
		9	Challenge constraints		

Although researchers have identified some of these shortcomings and proposed alternative approaches, only partial solutions have been offered, among them inclusion of prototyping (Tripp & Bichelmeyer, 1990). Design Thinking might offer a holistic solution as a promising contemporary source of innovation-oriented course design (Hong & Sullivan, 2009) which fosters learning rather than teaching (Loughran, 2013; Whetten, 2007).

Several similarities between traditional course design methods and Design Thinking support the use of the latter as a course design method. Additionally, it seems particularly suited to educators wishing to make this methodology part of their curricula as they should become proficient in using it and must serve as role models in its implementation. To become proficient in Design Thinking as a course design method, Design Thinkers' skills, tools, mindsets, and processes can be applied and practiced by developing a course whose purpose is, in turn, to develop these same skills in students.

## 5. CONSLUSION

As the environment is changing rapidly (Chapin et al., 2009) new teaching styles have emerged in the past decade, and so innovation in course design approaches is called for. While Design Thinking has been recognized as an effective teaching methodology (Rauth et al., 2010), it has not been assessed systematically as a course design methodology. In the case study provided, we demonstrated that, by using Design Thinking in course design, the educators also became the practitioners of the same methodology they were attempting to teach their students. The key mindsets the teaching team developed were (1) treating a course as an ever-evolving prototype, (2) empathizing extensively, (3) rapidly responding to different impulses from students and consequently altering the prototype, and (4) changing the role of faculty members to not just deliver content but also to offer active support to student teams.

Additionally they have involved a wider array of stakeholders from the business community to contribute to course design, and their involvement has increased the employability of students and provided for a wide array of applicable skills (Cox & King, 2006).

While wider application of Design Thinking in course design is being considered, it should be noted that its framework is similar to those of other existing course design methodologies and, as such, can be readily applied as a course design tool. Educators familiar with Design Thinking could apply it relatively easily, not just as a teaching methodology but also as a course design tool. We cannot claim the universality of Design Thinking as a course design methodology, but we encourage educators at entrepreneurial programs faced with a similar set of circumstances to combine its mindsets and tools with those belonging to their existing methods in order to provide a more relevant and well-tailored course delivery.

### **Applications**

The study presented above extends the current body of literature in the field of course design by adding methodological steps that bring the course design process closer to the users. It offers a novel application of the Design Thinking methodology which is traditionally applied with developing new products but has to our knowledge never been systematically assessed as a course design methodology. In addition to that, prototyping has usually been used for products and services. Complex processes are rarely studied and modified through prototyping as they are a composite conglomerate of interactions, interests and expectations among several different stakeholders. Each segment of the course, eg. content or environment, needs to be prototyped separately, keeping in mind that the course is a mosaic of different segments and connections between them. The balance among segments is delicate and requires constant reassessment.

From the methodological perspective the application of Design Thinking methodology to course design does not require fundamental changes in the way courses are currently designed yet offers an additional tool set of approaches that might significantly improve the process.

It also enables course designers to develop in-depth understanding of not only of the subject delivered but also how potential participants interact with the topic. Which could result in course designs that are more successful in achieving the course goals and more satisfactory to all stakeholders. As the Design Thinking methodology is a continuously iterative process, the use of Design Thinking as a course design methodology provides constant motivational triggers for further pedagogical development of the lecturer which prevents monotony which of.

### **Limitations**

Course planning is part of wider curriculum planning, and we did not address the reshaping of the curriculum which would be an integral part of long-term developments in higher education (Briggs, Stark, & Rowland-Poplowski, 2003). The proposed alternative use of Design Thinking as a course design methodology was intended to indirectly add to students' existing skills and mindsets. However, studies show that motivation, which we did not explicitly address, should also be developed through course design (Hardré, 2003). A longitudinal study on how entrepreneurial intentions changed between students taking this course and a control group whose members did not would greatly enrich this study. Such studies are currently under way. It is also unclear to what extent this type of pedagogy can be replicated at different universities, at different levels of education, and in designing courses having different contents.

### **Future research**

First, we need to verify the applicability of Design Thinking approach of designing courses at university level. We need to assess if tools and approaches used with traditional DT are directly applicable with course design and develop a possible new tool set for course design.

We are aware of specifics of the educational process at different levels of educational system. Motivation and discipline of university level students are different than at other levels of educational system therefore we would need to assess the usability of the proposed course design methodology for lower levels of the educational system.

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# THE IMPLEMENTATION OF RFID TECHNOLOGY IN THE INDUSTRIAL CLUSTER AS AN INDICATION OF ENTREPRENEURIAL AND SUSTAINABLE DEVELOPMENT

**Boguslaw Bembenek**

*Rzeszow University of Technology, Faculty of Management, Poland  
bogdanb@prz.edu.pl*

**Teresa Piecuch**

*Rzeszow University of Technology, Faculty of Management, Poland  
tpiecuch@prz.edu.pl*

**Bozydar Ziolkowski**

*Rzeszow University of Technology, Faculty of Management, Poland  
bozydarz@prz.edu.pl*

## ABSTRACT

*The article presents strategic role of technology as one of the major elements of intellectual capital in the process of creating competitiveness of an industrial cluster. There has been indicated the need for the implementation of new technological solutions in a cluster, so that this organisation can function and develop efficiently. The authors concentrate on the characteristics of the example of innovative technology RFID, which, to their mind, can contribute to more effective realisation of the processes in cluster companies and to the creation of added value in integrated supply chains. They also emphasise that the implementation of this kind of innovation ensues from entrepreneurial behaviour. While analysing multitudinous benefits resulting from the implementation of this process and technological innovation in a cluster in terms of the concept of sustainable development, they state that it constitute one of the key ways of narrowing development gap and distinguishing cluster's companies from their competitors in the conditions of a turbulent environment.*

**Keywords:** *cluster, entrepreneurship, technology, sustainable development, competitiveness*

## 1. INTRODUCTION

Great innovative vigour of enterprises has become necessary in new socio-economic conditions, including the conditions of knowledge-based industry. The companies which are incapable of introducing innovative changes can experience serious difficulties in satisfying the increasing demands of the market. Thus, the situation in question should motivate many business entities to more active participation in clusters within R&D.

Technology industrial clusters, as an example of intelligent organisation, are orientated towards permanent generation of products, processes, technological and organisational innovations, as well as the ones that enable better fulfilment of the key stakeholders' needs in the domestic and foreign markets and also the creation of the competitiveness of their members. Innovation has no wider economic significance until it is practically used, however, clusters do not encounter problems with commercialisation and diffusion of innovation. These structures – naturally developing the eco-system of entrepreneurship – as a result of partner cooperation of diverse entities form the sectors of: business, science and business environment – provide entrepreneurs (particularly the ones from SME sector) with a real chance to commonly create new knowledge, transfer it and constantly acquire it from the environment (a model of open innovation) at lower costs. Entrepreneurial organisational culture of a cluster is created as a result of: partner relations between cluster members, the promotion of proper and commonly accepted patterns of behaviour, common learning and

motivating to cooperation, gaining common benefits and flexible management. It proves to be an effective way of reducing barriers to knowledge development and technology transfer, including the barriers of: full and partial trust, cultural patterns, environmental and motivational barriers as well as the barriers of reputation and power.

The article aims to identify and present various aspects of entrepreneurship and sustainable development within the scope of the implementation of Radio Frequency IDentification (RFID), i.e. an innovative technology that enables the creation of permanent competitive advantage in the conditions of a turbulent environment, in the companies of an industrial cluster. The research thesis assumes that there are mutual dependencies between the implementation of RFID technology and entrepreneurship and sustainable development.

In the present theoretical considerations and empirical research on RFID phenomenon little attention has been paid to the issues of entrepreneurship and sustainable development. Thus, the gap in the holistic perception of the above mentioned technology and the aspect of entrepreneurship and sustainable development has been treated in the present paper as a significant object of research. Therefore, it was justified to ask the research question: whether there any perceptible significant dependencies between RFID technology and the elements of entrepreneurship and sustainable development and what their final type is. The paper presents the selected theoretical considerations within the subject. They constitute a fragment of the analysis of the conditions of the companies' investment decision-making within the scope of the implementation of RFID system that is presently conducted by the authors. The researches that will be carried out until June 2015 are realised within the scope of the scientific project "*Synthesis of autonomous semi-passive transponder dedicated to operation in anticollision dynamic RFID systems*". The intention of the team is, inter alia, the verification whether the decision on the implementation and the maintenance of new solutions in the area of RFID technology in an enterprise ensues from entrepreneurial attitude and behaviour of its managers or it is a result of the pressure of the competition and the necessity of maintaining a proper level of operational efficiency (Jankowska-Mihulowicz *et al.*, 2014, p. 56).

## **2. THE ROLE OF TECHNOLOGY FOR THE COMPETITIVENESS OF CLUSTERS**

Clusters are an example of a complex socio-economic organisation, which evolves in time and space. It is also an effective mechanism serving the centralisation of resources in a given location that is conducive to regional development, including intelligent regional specialisations. R.M. Gibbs and G.A. Bernat (1997, p. 19) indicate that industrial cluster is a group of establishments located within close geographic proximity of one another, which either share a common set of input needs, or rely on each other as supplier or customer. According to V. Anbumozhi, industrial clusters are defined as geographic concentration of companies in a specialized field that cooperate with local community to efficiently share resources leading to improved economic gains and equitable enhancement of environmental quality<sup>72</sup>. The importance of these agglomerated companies is their creation of an entrepreneurial environment in which knowledge and new ideas are shared, leading to economic development at a regional and national level (Breznitz, 2013, p. 30). The heterogeneous entities functioning in industrial clusters frequently conduct a complementary business activity, earning profit from commonly realised projects, facilitated information flow, knowledge and technology transfer, organisational learning. Therefore cluster is not only the localized concentration of linked industries but the particular process that leads to the

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<sup>72</sup> Industrial cluster characterized by: predominance of small and medium industrial enterprises, with few household enterprises, uses mechanical and electrical equipments for the mainstream production process, mostly uses hired labor; decision-making powers often vest with the lead entrepreneur, products are for various industrial and commercial purposes (Anbumozhi, 2007, p. 15).

development of the interaction and functional relationships between firms and other stakeholders (Wasimarif, 2012, p. 73).

In the economic literature the concept of industrial clusters usually refers to two main types of clusters: vertical clusters made up of industries that are linked through buyer – seller relationships; and horizontal clusters, that include industries which might share a common market for the products, use a common technology, labor force skills and similar resources (Oigigbe *et al.*, 2012, p. 225). S. Breznitz (2013, pp. 31-36) suggests that clusters are created differently and operate in many ways:

- clusters differ from one another in terms of their composition and their level of industrial competitiveness,
- clusters can be formed in many different locations, not all can grow, develop, and sustain,
- cluster success depends on many factors (internal and external),
- successful clusters have shown that knowledge transfer between firms is one of the most important factors affecting cluster growth and development,
- ability to develop an industrial cluster in one industry is not a guarantee of success in another industry (each industry has its own peculiarities and requirements),
- firms locate in a cluster to benefit from joint availability of resources, ability to reduce costs and to create access to factors of production (physical resources, knowledge, logistics, labor force, markets, etc.),
- clusters that are not sustainable - do not enjoy the benefits of external economies and hence disintegrate over time.

According to M. Porter (1998, p. 79) clusters represent a kind of new spatial organizational form in between arm's-length markets on the one hand and hierarchies, or vertical integration, on the other. G. Scheer and L. von Zallinger (2007, p. 30) argue that clusters are mostly very heterogeneous systems, consisting of a number of member businesses and partners whose information, communication and cooperation has to be structured and organised, because organisational structure of a cluster is of central importance, as formal organisation and rules for cooperation are giving the cluster its binding nature and ensure transparency and accountability for its members. Another important factor for cluster development is the innovation and the continuous exchange of information by (Boja, 2011, p. 38):

- direct transfers based on technology cooperation or acquisitions,
- indirect transfers through workforce migration or by permanent analysis and observation of the competition,
- indirect transfers through spin-off by supporting new businesses based on ideas and technologies resulted from research,
- a common infrastructure used in innovation by rapid transfer of knowledge with the support offered by universities and research centres.

Many researchers believe that industrial clusters shall contribute to regional development by enhancing the competitiveness of clustered firms through the generation of Marshallian externalities, a better observability and comparability of competitors or an improved knowledge production and diffusion (Titze *et al.*, 2014, p. 164).

The enhancement of competitiveness in particular industries, domestic and international markets as well as shortened product and technology life-cycles force the development and the implementation of new technologies. Dynamically technological change creates new products, new jobs, and new industries and it transforms or destroys others (Waits, 2000, p. 36). It is technology that is an extremely significant element of creating competitive advantage of clusters and their members in the conditions of a turbulent environment. Cluster members can independently create and implement new technologies owing to the common research and development work, particularly, within the scope of the cooperation of the representatives of the sectors of business and science. They can also purchase the existing

patents and licences and adapt them to their own needs when necessary. R. Baptista suggested that technological innovation is the heart of the dynamic process of cluster growth, accessed by new firm entry and incumbents' growth (Kuah, 2002, p. 209). The notion of technology in the literature on the subject is defined variously, therefore (Wahab *et al.*, 2012, p. 62):

- technology is mainly differentiated knowledge about specific application, tacit, often uncodified and largely cumulative,
- technology as the theoretical and practical knowledge, skills, and artifacts that can be used to develop products and services as well as their production and delivery systems,
- technology is conceived as firm-specific information concerning the characteristics and performance properties of the production process and product design,
- technology is always connected with obtaining certain result, resolving certain problems, completing certain tasks using particular skills, employing knowledge and exploiting assets,
- technology as the intangible assets of the organisation is rooted in the routines and is not easy to transfer due to the gradual learning process and higher cost associated with transferring tacit knowledge,
- the concept of technology does not only relate to the technology that embodies in the product but it is also associated with the knowledge or information of its use, application and the process in developing the product.

The quality of technology applied in industrial clusters decides on the level and the quality of their intellectual capital. Certainly, not every technology influences the development of cluster's intellectual capital. What is important in this scope are the key technologies that are not very popular in industry, which bring benefit to those subjects of a cluster that use them more quickly and efficiently than their competitors.

The development of cluster's innovative activity, perceived as an entirety of scientific, research, technological, organisational, financial and commercial activities that lead to the implementation of the new or the improvement of the existing technologies, products, processes and systems, is possible, *inter alia*, through knowledge transfer, including technologies. The choice of external know-how sources, access to the channels of technology transfer, the assessment of their usefulness and the evaluation of costs and benefits should be consistent with cluster's development strategy, as those factors can decide on the success or failure of this organisation. B.H. Hall and B. Khan argue that technology adoption involves a series of individual decisions to start using the new technology, and often entails considerations about the uncertainty of its benefits, as well as the uncertainty of the costs associated with its adoption (Silvestre *et al.*, 2014, p. 272). The fundamental methods of gaining innovative technology in a cluster comprise: formal technology transfer (through formal contracts for purchasing licences, production lines, patents), informal technology transfer (through purchasing investment goods, components, technical consultation) and the development of personal infrastructure of R&D sphere in a cluster. The scope, scale and the level of technology diffusion in a cluster and its environment to a great extent depend on: social capital, communication infrastructure, the level of other clusters' technological advancement, the quality of the offer prepared by technological parks and entrepreneurship incubators that strictly cooperate with industry and R&D sector, as well as technological knowledge, research potential, production advancement, financing sources, system of entrepreneurship and innovativeness support, openness to cooperation with the competition (cooperation), and the state of connection with global economy. It is crucial that partner cooperation in a cluster exceeds information exchange – it should be an active technological cooperation in joint research teams, based on using common knowledge, technologies, machinery, devices, etc.

### 3. ENTREPRENEURSHIP IN THE AREA OF INNOVATION IMPLEMENTATION – THE CASE OF RFID TECHNOLOGY

Innovations and entrepreneurship are the notions that are strictly related to each other. It was emphasised by J. Schumpeter, who regarded innovations as a tool in entrepreneurs' hands, which is conducive to the creation of wealth (Malerba *et al.*, 1996, pp. 451-454; Elliott, 1980, pp. 45-68). An interesting vision he developed was the vision of economic world that was based on innovations and entrepreneurship. He thought that innovation process ensues from competition on the market and that only an enterprise that introduces innovations can be called entrepreneurial. He treated innovations as endogenous (incorporated in the economic system) forces, a source of creative destruction, causative powers of the development of enterprises and the entire economy. Owing to this powers, there are created "new combinations", which lead to entrepreneurial actions. It is innovations that constantly destroy old ways of exploitation through the creation of new, more perfect ones that facilitate progress and development. A follower of Schumpeter's concept – P.F. Drucker expressed similar opinion; he claimed that an enterprise that fails to introduce innovations inevitably go out of date and decline (Lewicka *et al.*, 2013, p. 578). Furthermore, he stated that innovation that consists in organised, rational work gives new opportunities for creating wealth to seemingly unproductive resources. It becomes a source of progress, development and sustainable growth (Ramachandran, 2013, p. 4).

An environment that is conducive to innovation implementation are clusters, which are innovative structures themselves and through the integration of a number of partners in one network, and networking various scattered resources, have greater possibilities of implementing new innovative solutions. The subjects engaged in cluster structures (entrepreneurs, scientific and research institutions, institutions of business environment and others) can achieve higher level of innovativeness, which ensues mainly from the possibility of knowledge diffusion and close partner relations based on trust, intensifying pressure on innovations and simultaneously decreasing the costs of the implementation of new ideas (Ketels, 2003, p. 4).

An excellent example of an innovative solution, which can be adopted by technology clusters, is Radio Frequency Identification (RFID)<sup>73</sup>, which is called an innovation of the 21<sup>st</sup> century. It serves the storage, marking, recording and automatic identification of various objects by means of short radio waves. This solution is based on wireless data exchange by means of RFID label (also called: transponder, tag, identifier, marker), and a reader (decoder). It is also a technology consisting in automatic object identification on the basis of the information being decoded in a computer system by means of specialised electronic devices with a database of the objects. RFID systems comprise the following fundamental elements (Wasniewski *et al.*, 2011, pp. 235-245; Orłowski *et al.*, 2008, pp. 9-21):

- identifiers, tags, transponders, self-adhesive labels – it is a radio broadcasting and transmitting device, which sends signal containing coded identification data only in response to a radio signal at a particular frequency. Each transponder is made up of a chip and an antenna placed on an appropriate base or in an appropriate carrier. The integrated

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<sup>73</sup>The history of identification techniques goes back to relatively old times. Probably, the prototype of the present RFID was IFF system ("Identification Friend or Foe"), used during World War II by the British. Transponders (tags) transferring information were placed on tanks, planes and allowed taking decision on a possible attack or its abandonment. A bit later, on 20th October 1949, N. Woodland and B. Silver from Dexter Institute of Technology patented the so called "bull's eye code" (it denotes a target in a shooting range, which was reflected in the signs of the invented code) – a prototype of the present system of barcodes. 25 years later – on 26th June 1974, at 8.01 in a Supermarket "Marsch" in Troy, Ohio, USA, there was bought the first product by means of a barcode. The majority of the currently used systems of automatic identification have been devised and implemented in the last 20 years. A considerable interest in RFID systems dated 2004 (Godniak, 2004, p. 441; Jechlitschek, 2006, p. 2).

circuit of a transponder contains processor, memory and radio transmitter. There can be additional elements placed in the carrier, i.e. a temperature sensor and a battery, serving as a power source;

- readers – these are radio transmitting devices; their transmitters emit energy by means of antennas, which is used to activate transponders; in some systems also the signals of the commands that control transponders and/or modify data encoded in transponders' memory. Their receivers demodulate and decode data transmitted by transponders. The receiver of transponder's signal decode data and can send them to a system computer through a cable (only stationary readers) or radio signals;
- communication and application software.

RFID is a solution that replaces commonly used barcodes; it is modern and has a range of so-far uncommon application possibilities<sup>74</sup>. Thus, it is a product innovation understood as a new, more perfect solution that can be used in a production process. It is also a technological innovation as it comprises new products and processes as well as substantial technological changes in products and processes introduced deliberately to obtain strictly determined benefits. RFID possesses the features of an innovation as (Baruk, 2006, p. 10):

- it is a deliberate and a positive change in the present state, proposed by a human,
- it can be used for the first time in a given enterprise since it is a new solution that has not been used in such a version so-far; presently, it is not available on the market,
- the changes that ensue from its implementation comprise: new choices, processes, different work organisation and management methods,
- owing to its implementation it is possible to satisfy present and future needs of the economy and the constantly growing demands of the market and clients,
- as a result of its implementation there are expected certain technological, economic and social benefits,
- it is a means of attaining development objectives by economic organisations,
- it becomes a vehicle for technological progress, improves the functioning of the processes used in various types of units; it is also conducive to productivity,
- it produces positive economic effects, facilitates competition and the improvement of enterprise's position on the market,
- its implementation requires certain technological, market, economic and socio-psychological knowledge.

In the literature on the subject innovation implementation is perceived as a sign of entrepreneurship. Innovations, likewise entrepreneurship, are conducive to wealth creation, influence enterprise's development and the possibilities of achieving strategic goals. In the case of the implementation of technology influencing the functioning of the entire enterprise, contributing to wealth creation and affecting its strategic position, in the long term, one can talk about strategic entrepreneurship, the dimensions of which comprise: a specific spirit of entrepreneurship that creates entrepreneurial culture, entrepreneurial leadership, strategic management of human resources, the use of creativity in the approach to problems and innovation implementation (Ireland *et al.*, 2003, pp. 963-989). Similarly, in the present paper, it has been assumed that innovation implementation in contemporary enterprises ensue from entrepreneurial attitudes and behaviour of management staff. Detailed research conducted within the scope of the project "*Synthesis of autonomous semi-passive transponder dedicated to operation in anticollision dynamic RFID systems*" will surely verify this thesis. In a turbulent environment, the development and the implementation of innovation result not only

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<sup>74</sup>For instance: RFID does not require direct visibility of the readers or the participation of a human being; it is possible to use RFID even in very difficult conditions in which it is impossible to use barcodes; RFID reader can read up to a few hundred of transponders within a second; RFID transponders give various ways of data protection, which is not possible in the case of barcodes (Orlowski, 2008, p. 21).

from entrepreneurship but also competitiveness, quick (rapid) technically-technological development (the so-called techno-globalism) and the need for constant improvement to be better than other companies from the same industry.

#### **4. THE BENEFITS FROM THE IMPLEMENTATION OF RFID - IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT**

RFID solutions enable the generation of multiple benefits. As they concern every sphere of socio-economic life, it is necessary to determine a wide scope of the analysis conducted in this context. A comprehensive characteristics of potential benefits is possible, among others, owing to the application of the concept of sustainable development (called interchangeably with the term of eco-development)<sup>75</sup>.

In the theory of economy, there have been proposed various approaches to sustainable development. In the researches on this issue, there was frequently emphasised the role of a selected aspect of eco-development, i.e.: economic, social or environmental (Ziolkowski, 2012, pp. 282-295; Madej, 1994, pp. 55-60; Zaufal, 1986, pp. 17-24). The most comprehensive ones, right from the beginning emphasised the needs satisfied equally, identified within the scope of the three above-mentioned dimensions, i.e. social, economic and environmental. Simultaneously, it was connected to lack of mutually negative influence of every dimension, as exemplified by the definition proposed by Brundtland Commission in 1987, which states that sustainable development is a kind of socio-economic development that “seeks to meet the needs and aspirations of the present generation without compromising those of the future generations” (United Nations, 1987, pp. 15-26). The last of the presented interpretations of sustainable development constitutes a reference point for the research conducted in the present publication.

In spite of unassailable benefits of such a wide comprehension of the concept in question, presently, it is difficult to comprehensively diagnose the progress within the scope of sustainable development in the world. It ensues chiefly from the complex and extremely detailed nature of the phenomena investigated within a particular dimension. Hence, international research on the issue of eco-development focuses on selected products/technologies, sectors or organisations. An example of an approach to the characteristics of sustainable development that has been focused in such a manner is also the analysis conducted in the context of RFID technology, implemented by enterprises from various sectors and also by clusters.

It is worth noticing that the benefits resulting from the implementation of RFID solutions depend not only on the type of the applied RFID technology but also on the domain and the way of using them (Jankowski-Mihulowicz, *et al.*, 2008, pp. 911-918; Jankowski-Mihulowicz *et al.*, 2013, pp. 1-10). In the highly developed countries, RFID implementation is treated by enterprises as a considerable economic asset that enables the creation of competitive advantage. It is proved by the excess demand for passive RFID identifiers – one of the most popular RFID labels, which has lasted for a few years (Jankowska-Mihulowicz, 2014, pp. 11-18). The benefits of RFID ensue directly from the creation of the so-called Internet of things that shapes the environment called an ambient intelligence. Looking at the implementation of RFID from the viewpoint of positive effects it generates, there has to be mentioned its role in the coordination and integration of the process of supply chain management. Due to a considerable facilitation of information flow, RFID generates economic benefits as it saves time, materials and work, owing to the reduction of coordination and transaction costs between the partners of a supply chain – it results from integrated decision-making process (Clemons *et al.*, 1993, pp. 9-35). Social benefits resulting from the implementation of RFID in

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<sup>75</sup>The interchangeable use of these two terms is legitimised not only by the practice but also the conclusion that ensue from scientific discussion on the subject (Kistowski, 2003, p. 10).

a supply chain comprise: a decreased number of mistakes concerning the volume and time of sale, better monitoring (serving, among others, the improvement of health and safety in food industry), quicker response of the management staff to the needs of suppliers, producers, wholesalers and consumers owing to facilitated forecast of the level of demand and production planning (Ha *et al.*, 2014, pp. 553-561; Kumar *et al.*, 2006, pp. 739-750; Kelle, 2005, pp. 41-52; Karoway, 1997, pp. 32-35). Environmental benefits from RFID implementation mainly include reduced demand for fossil fuels for transport, which ensues from the substitution of traditional methods and communication channels with the solutions of wireless communication.

The results of the research on the implementation of RFID technology into the concept of smart cities indicate the possibility of faster provision of the services to a user owing to the communication by means of the computers connected to a common Internet network (Chen, 2013, pp. 167-178). Being in the possession of a mobile opens to a client a door to every piece of information encoded in the form of RFID. The chance of doing routine actions immediately (i.e., receiving a shopping list created by a fridge that monitors its stock, or calling a taxi without the necessity of dialling or making a call) constitutes an incontrovertible social benefit, identified as time-saving and the improvement of life comfort. It also creates economic benefits since enterprises that use RFID make savings, for instance, owing to the resignation from the maintenance and the development of telephone services. Environmental benefits complement eco-development nature of RFID and are expressed, inter alia, in reduced use of electric power that comes from fossil fuels.

A range of benefits included in the assumptions of sustainable development are created in the concept of using RFID technology in household appliances. Presently, special RFID labels are able to store information on technical parameters of every device, as well as date of purchase, servicing and final use, during the entire life cycle of a product. It creates real possibilities of determining the level of deterioration of a product, which can translate into differentiation of recycling fees returned to consumers and enterprises (Lee *et al.*, 2012, pp. 339-345).

The nature of the sector of enterprises and clusters, requiring expansion-orientated development, encourages them to constantly improve their innovativeness. Already available RFID innovations constitute a group of development conditions, on the basis of which every organisation creates its own strategies, and thus, potential expansion possibilities. Knowledge on innovations in one industry constitutes an intrinsic element for the development of other sectors, which copy and adopt proven patterns. Despite the fact that the examples of using RFID presented in the paper will not be useful for every organisation, they indicate the ongoing changes and stimulate to business reflection on the directions of future development. It can be assumed that in the group of the presented applications, every enterprise and every cluster will find at least one inspiring solution. In spite of the identification of the presented benefits that ensue from RFID implementation, the broad applicable scope of the technology in question has not been fully discussed, therefore, it stimulates detailed research on the presented issue in the future.

## 5. CONCLUSION

The clusters that can create and implement new technologies and that are characterised by an ability to constantly adapt to the changes occurring in their environment, can be ahead of the occurrences, which enforce changes and prepare for them consciously. Clusters that fail to develop in technically-technological way can face serious problems with satisfying constantly growing demands of the market, including competition.

The presentation of the benefits that ensue from real or potential RFID implementation by cluster enterprises proves enormous potential of this technology in the context of sustainable development. Nonetheless, it has to be remembered that the presence of RFID, which gives

the chance of industrial expansion, is related to certain threats. Therefore, the implementation of RFID technology requires comprehensive analysis of macro- and micro-environmental conditions, aiming to determine their future impact, at least, in social, economic and environmental dimensions.

The literature research that has been conducted supports the thesis that it is possible to indicate dependencies between the implementation of RFID technology and entrepreneurship and sustainable development. RFID constitutes a group of such solutions that facilitate simultaneous achievement of the three objectives that serve to satisfy social, economic and environmental needs. Hence, it is possible to attain enterprise's economic aims but not to negatively influence the society or the environment. Eco-development nature of RFID technology causes that socio-economic development is not just a game with score 0-0 but win-win, which brings benefits to all stakeholders. Therefore, in certain circumstances, some types of RFID systems are considered a specific kind of eco-innovations, called effectition.

Pro-innovation orientation can be a source of enterprises' key competences, which enable gaining and maintaining a permanent competitive advantage in the conditions of sustainable development. Hence, contemporary enterprises not only should, but have to be open to innovations and novelty; they should response to signals and the challenges of the market, and should be ready to implement adaptation changes. They have to develop their innovativeness, ensuring professional management, creating specific organisational culture and organisational conditions that will be attractive for the people who show innovative are entrepreneurial tendencies. It is crucial to make it possible to build permanent competitive advantage on the market. In contemporary innovative enterprises, particularly the clusters that are considered an environment that is highly conducive to innovations; innovations and entrepreneurship should overlap, acquire a specific dimension, becoming a benchmark of activity, vitality and openness to changes.

Presently, in more and more complicated conditions of external environment and fierce competition, enterprises seek opportunities to gain competitive advantage in a certain area of the market. It is possible owing to the implementation of new innovative solutions that improve company's situation and decide on the improvement of its viability. An example of such a solution is the above mentioned innovative Radio-frequency identification system (RFID), which, as a radical innovation, substantially changes the way of realising a number of business processes in contemporary companies, particularly the ones that operate in industrial clusters.

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**Note:** This work is the result of authors' participation in the Project: "Synthesis of autonomous semi-passive transponder dedicated to operation in anticollision dynamic RFID systems", grant of Polish National Centre for Research and Development, No. PBS1/A3/3/2012, NCBR.

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## MARKETING RESEARCH IS PATH TOWARDS THE DEVELOPMENT OF AGRICULTURE IN KOSOVO

**Agim Zuzaku**

*European University of Tirana, Albania  
azuzaku@gmail.com*

### **ABSTRACT**

*Market research as a segment or main part of marketing, is very important for business development, and the possibility of creating a new way for developing agriculture, in particular small farms in Republic of Kosovo. The purpose of this theme is to explore the willingness of farmers to invest in marketing research, in order to develop their farms, according to the policy of the Ministry of Agriculture, Forestry and Rural Development of Kosovo.*

*The objective of the survey is to assess the preference structure and the willingness of farmers to pay for marketing research services. We will analyze determinants of the willingness to pay (WTP) showed a significant positive relationship between WTP, household income, and other household characteristics such as education.*

*Market research often spreads consultancy, generating ideas or solving problems. Good research often includes all these elements. This is also a time of change for the market research industry and for this reason it is difficult to determine its limits clearly (Keegan, 2009).*

*To convert successfully any business idea into higher capital gains, it is important for farmers to understand and to determine the fair value of their investment. For this reason, it is important thesis that we will discuss how investing in market research proves the usefulness or profit for farms, agriculture in generally and rural development.*

*General condition and performance of agricultural production sectors affected by the structure of very small farms and high level of land fragmentation, limited use of modern production techniques, irrigation and storage capacity (storage) (Ministry of Agriculture, Forestry and Rural Development, 2010). Other sectors with great potential for growth and job creation in rural areas (beekeeping, medicinal plants), have a long tradition in Kosovo, but lack the financial means to invest in equipment, food security and trade (marketing) (Ministry of Agriculture, Forestry and Rural Development, 2013).*

**Keywords:** *Agriculture, Farm, Marketing research, Rural Development, Willingness-to-pay*

### **1. INTRODUCTION**

General condition and performance of agricultural production sectors in Kosovo, is influenced by the structure of very small farms and high level of land fragmentation, limited use of modern production techniques, irrigation and storage capacity (storage). Currently there is a general lack of quantity and quality of raw materials (milk, meat, eggs, fruit and vegetables), to meet the processing needs of the sector and the domestic market. Other sectors with great potential for growth and job creation in rural areas (beekeeping, medicinal plants), have a long tradition in Kosovo, but lack the financial means to invest in equipment, food security and trade (marketing). Lack of agricultural machinery is a weakness common to all agricultural sectors.

Competitiveness of farms and their products is limited due to low production efficiency and high cost of production. State standards on the farm (public health, environmental protection, animal welfare, labor safety, etc.) are not fully implemented. The main reasons for this situation are the lack of investment in modern machinery and technology, which will enable achieving the best standards (Ministry of Agriculture, Forestry and Rural Development,

2010). Also, the situation of the agricultural sector contributes to non-investment in marketing in general, and in particular market research. Agricultural production is distinguished for seasonal character and geographic concentration in the regions, which in most cases are located far from consumers. The agricultural products should be collected, be selected and sent to market, or stored for later use. In this way, as a result of the characteristics of agricultural products and the production process based marketing launch activities, such as packaging, transportation, processing etc. Uncertain market of products and payment of products ordered is what they fear the producers of agricultural products. Another problem faced by producers, prices are relatively low and volatile products and the incomes generated from their sale. Small agricultural producers are faced with high production costs, and therefore the higher the market price of the product. These factors unable to be competitive in the market equally with large agricultural producers and imported products. For this reason, happens to be directed to the production of other products who have given in the market providing safer and better price. As a result, the consequences are reflected in future years, when creating surplus production, and in this way, and with market problems are faced producers. In that direction is needed to undertake certain activities which include market analysis, tracking status and promote safe production. Precisely defined marketing activities properly, are key to ensure producers can market their products safe (Georgiev & Nacka, 2014). Market research all over the world in general has gained the confidence of companies and annual revenues of more companies that offer market research services are growing. The annual turnover of the global market research in 2012 had an increase of 3.2%. While annual turnover for 2012 was US \$ 39 084 million (ESOMAR Industry Report, 2013). However, in Kosovo is a different situation, since there is not the will of companies to invest in market research. This is even more pronounced for farmers and agricultural businesses.

## **2. PURPOSE AND OBJECTIVES OF THE STUDY**

The purpose of this topic is to encourage farmers and agricultural businesses to invest in market research in order to promote the development of agriculture and economic development of the country.

The objective of this study is to measure the perception of farmers' willingness to pay for marketing services in general, and in particular for market research. In this way we would have faster growth in agriculture and also developing companies that provide marketing research services. In Kosovo Ministry of Agriculture, Forestry and Rural Development through several programs offers extension services to farmers. However, it is not known how long it will last that farmers receive free services. And we do not know whether farmers are willing to pay for extension<sup>76</sup> services.

The main question the study raises is:

How much affect, market research in the development of agriculture and how farmers are willing to pay for the services of marketing research?

- Are you willing to pay for business plans?
- Do you invest in marketing?
- Did you conducted any market research?
- Are you willing to pay for market research?

All the answers we will find within the research that we have conducted with farmers involved in the research.

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<sup>76</sup> Extension, in general terms, is a function that can be applied to various areas of society. It operates in the industrial, health and education sectors, as well as agricultural and rural development. Originally derived from «university extension» (Mosher 1976), the term «extension» is therefore applicable to various areas of development. Agricultural extension operates within a broader knowledge system that includes research and agricultural education.

The hypothesis of this paper is: Marketing Research increase farmers' income by affecting the agricultural development.

### **3. DEFINITIONS ABOUT MARKETING RESEARCH**

"Marketing research" is many times called the "Market Research", causing much confusion in terms of what these terms actually mean. In the book "Fundamentals of marketing research" author Tony Proctor has only dealt with market research. Author Proctor explained that the term market research is just one element of marketing research, which includes the full range of activities of research and evaluation undertaken by marketing professionals to guide them, in making decisions (Proctor, 2005).

Taking into account diversity that exists in the market research industry and various models that researchers adopt, it is difficult to give a precise definition of market research and all practitioners agree with. Market research often spreads consultancy, generating ideas or solving problems. Good research often includes all these elements. This is also a time of change for the market research industry and for this reason it is difficult to determine its limits clearly (Keegan, 2009).

Green and Tull have defined marketing research as follows:

*"Marketing research is the systematic and objective search for, and analysis of, information relevant to the identification and solution of any problem in the field of marketing".*

The key words in this definition are: systematic, and objective analysis. Marketing research seeks to set about his task in a systematic and objective way. This means that a detailed and carefully designed research is developed in which each stage of the research is specified. A plan such research is considered adequate only if specifies: the research problem in clear and precise terms, the information needed to address the problem, the methods that will be employed in gathering information and analytical techniques that will be used to interpret it (FAO, 1997).

To successfully convert any business idea into higher capital gains, it is important for farmers to understand and to determine the fair value of their investment. For this reason, it is important thesis that we will treat it as investment in market research proves the usefulness or profit for farmers.

### **4. THE SIGNIFICANCE OF MARKETING RESEARCH IN AGRIBUSINESS**

In the process of marketing research is more important to appear:

- right product or service,
- appropriate buyers,
- in the right place,
- at the right time,
- the right price,
- with proper promotion of the product.

Overall, in the past, decisions depended on farmers to produce mostly marketing system in agro-food industry. Assumed that the market will absorb what farmers produce and nature. However, current trends indicate that this is not the case in agricultural production. In today's decisions farmers what to produce and marketing system affects consumer decisions. Accordingly, agricultural producers must produce what the market requires and appreciates, despite what they have always produced. This means that the approach towards marketing and customer approach can obviously lead to an increase in product market through the harmonization of production with customer demand (Georgiev & Nacka, 2014).

"Marketing research does not take decisions and does not guarantee success." Marketing managers can requests for advice from marketing research specialists, and it is important that

research reports should specify alternative courses of action and success probability, where possible, of these alternatives.

However, there are marketing managers who make the final decision, not the researcher. The second observation, that marketing research does not guarantee success, it is simply a recognition of the environment in which marketing takes place (FAO, 1997).

## **5. METODOLOGY**

### **5.1. Sample description and survey design**

Data collection was done by face to face interviews with farmers in October 2014. We use the method of face-to-face interviewing because it has several comparative advantages from other techniques. Every survey method used has limitations, and the use of face-to-face interviews for data collection is no exception. Though it is the oldest method, face-to-face interviews are widely used for data collection. There are also well-tested techniques for designing questions for these interviews.

The first rule we use to design the questionnaire is to fit the chosen method. Since we usually use the face-to-face/personal interviewing technique we try not to undermine the personal character of the sample unit, goals of the project and other factors.

The other rule is to keep the questionnaire as short and simple as possible. More people will complete a shorter questionnaire, regardless of the interviewing method. If a question is not necessary, we do not include it.

We start with an introduction or thanking the respondent for taking time to answer our questions. Then, the interviewer states who we are and why we want the information in the survey, encouraging the people to complete your questionnaire.

The research was conducted with a random sample of 274 farmers in all municipalities of Kosovo. Interview schedule based on a structured questionnaire. The main questions that characterize research except demographic section, consists of the following questions: Farm gross income (last 12 months)? Did you received grants from the government or municipality? Did you ever applied for grants? Who has wrote your business plan? Are you willing to pay for business plans? Do you invest in marketing? Did you conducted any market research? Are you willing to pay for market research? Do you think that still should support farmers through government grants? Have you registered your farm as a business? Do you pay personal income tax?

## **6. RESULTS AND DESCRIPTION**

Descriptive statistics was used to analyze the socioeconomic features of farmers while the Binary Logistic Regression model was used to capture the factors determining farmers' willingness to pay for Marketing Research. The choice of explanatory variables was based on literature on past studies and the characteristics found among the respondents. Table 1 presents distribution of socio-demographic characteristics of the farmers. The research is made 91.6 percent in rural areas or with farmers that lives in rural area. Majority of respondents was male (71 percent). Over half of respondents are with completed high school (55.8 percent). About 43 percent of respondents are ages 35-44. By age 15-34 years, respondents were about 20 percent. More than half of respondents 52 percent are with household size 1-3. Another part of respondent 45 percent are household size 4-6. Farm size dominate 0 – 1.5 ha with 43.4 percent.

*Table 1: Distribution of socio-demographic characteristics of the farmers (Author, 2014)*

<b>Residence</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Rural	251	91.6	91.6	91.6
	Urban	23	8.4	8.4	100.0
	Total	274	100.0	100.0	
<b>Gender</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	79	28.8	28.8	28.8
	Male	195	71.2	71.2	100.0
	Total	274	100.0	100.0	
<b>Marital status</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	238	86.9	86.9	86.9
	Single	36	13.1	13.1	100.0
	Total	274	100.0	100.0	
<b>AGE</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15-24	37	13.5	13.5	13.5
	25-34	18	6.6	6.6	20.1
	35-44	118	43.1	43.1	63.1
	45-54	62	22.6	22.6	85.8
	55+	39	14.2	14.2	100.0
	Total	274	100.0	100.0	
<b>Household size</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-3	144	52.6	52.6	52.6
	4-6	124	45.3	45.3	97.8
	7+	6	2.2	2.2	100.0
	Total	274	100.0	100.0	
<b>Education</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Elementary Schools not completed	8	2.9	2.9	2.9
	Elementary School completed	12	4.4	4.4	7.3
	Secondary School not completed	12	4.4	4.4	11.7
	Secondary School completed	153	55.8	55.8	67.5
	High school not completed	43	15.7	15.7	83.2
	High School completed	14	5.1	5.1	88.3
	Faculty completed	32	11.7	11.7	100.0
	Total	274	100.0	100.0	
<b>Farm size</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0 - 1,5 ha	119	43.4	43.4	43.4
	1,5 - 3 ha	65	23.7	23.7	67.2
	3 + ha	90	32.8	32.8	100.0
	Total	274	100.0	100.0	

### 6.1. Description of the Research

We have used subjects' willing to pay for market research as the dichotomous criterion variable and their gender as a dichotomous predictor variable. I have coded gender with 0 = Female, 1 = Male, and willing to pay for market research 0 = "No" and 1 = "Yes". Our

regression model will be predicting the logit, that is, the natural log of the odds of having made one or the other decision. That is,

$$\ln(\text{ODDS}) = \ln\left(\frac{\hat{Y}}{1-\hat{Y}}\right) = a + bX$$

, where  $\hat{Y}$  is the predicted probability of the event which is coded with 1 (willing to pay) rather than with 0 (not willing to pay),  $1 - \hat{Y}$  is the predicted probability of the other decision, and X is our predictor variable, gender. Farmers (N = 274) were asked to pretend that they are willingness to pay for marketing research services.

Table 2: Classification Table <sup>a, b</sup> (Author, 2014)

	Observed	Predicted			
		Are you willing to pay for market research?		Percentage Correct	
		No	Yes		
Step 0	Are you willing to pay for market research?	No	0	73	.0
		Yes	0	201	100.0
	Overall Percentage				73.4

a. Constant is included in the model.

b. The cut value is .500

The Table4 output is for a model that includes only the constant. Given the base rates of the two decision options (73/201 = 73.4% are expressed that are willing to pay for marketing research, 26.6% expressed against, and were not willing to pay for marketing research services).

Table 3: Variables in the Equation (Author, 2014)

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 0 Constant	1.013	.137	54.936	1	.000	2.753

Under Variables in the Equation you see that the intercept-only model is  $\ln(\text{odds}) = 1.013$ . If we exponentiate both sides of this expression we find that our predicted odds  $[\text{Exp}(B)] = 2.753$ . That is, the predicted odds of farmers who are willingness to pay 2.753. Since 201 of our subjects are willingness to pay and 73 decided to not pay, our observed odds are  $201/73 = 2.753$ .

## 6.2. General Research Results

From the research, it is evident that grants from local or central level have received only 42 percent, from 75 percent that have applied for grants. However, 99 percent agreed that should be continued to supporting through grants from the government that farmers can compete in the market and develop their business activities. About 40 percent of farmers surveyed, declared that the project proposals for grant application write himself, from 37 percent of respondents that declares that in writing project proposals has helped agricultural advisor from the municipality, and only 23 percent have paid an expert to write a project proposal. However, 75 percent agree and are willing to pay for this service. The bad news is that only 29 percent of farmers have invested in marketing.

*Table 4: Results from field research (Author, 2014)*

<b>Do you receive advisory services-Extension?</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	27	9.9	9.9	9.9
	Yes	247	90.1	90.1	100.0
	Total	274	100.0	100.0	
<b>Did you received grants from the government or municipality?</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	159	58.0	58.0	58.0
	Yes	115	42.0	42.0	100.0
	Total	274	100.0	100.0	
<b>Did you ever applied for grants?</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	70	25.5	25.5	25.5
	Yes	204	74.5	74.5	100.0
	Total	274	100.0	100.0	
<b>Who has wrote your business plan?</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I wrote the business plan	109	39.8	39.8	39.8
	Municipal Advisor for Agriculture	101	36.9	36.9	76.6
	I paid an expert	64	23.4	23.4	100.0
	Total	274	100.0	100.0	
<b>Are you willing to pay for business plans?</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	66	24.1	24.1	24.1
	Yes	208	75.9	75.9	100.0
	Total	274	100.0	100.0	
<b>Do you invest in marketing?</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	195	71.2	71.2	71.2
	Yes	79	28.8	28.8	100.0
	Total	274	100.0	100.0	
<b>Do you think that still should support farmers through government grants?</b>		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	2	.7	.7	.7
	Yes	272	99.3	99.3	100.0
	Total	274	100.0	100.0	

## 7. CONSLUSION

From this research study may conclude that farmers are willing to pay for marketing research services, but still need government support through grants that contribute to the development of agriculture in general. This fact argues that this awareness farmers are willing to pay for marketing research services, but do not have their financial sustainability. Referring to the

research results, until now in marketing investments are very small and the farmers do not dedicate great importance.

It should be noted that the system of agricultural marketing is a complex dynamic process which is under the influence of a range of global phenomena and constantly undergoing changes. To maintain the market place, but to be even more competitive, agricultural producers must enter to advanced marketing activities, to apply modern methods of marketing models and to concentrate production in meeting customer requirements through: product manufacturing differentiated with specific attributes, participation in segmented markets, greater dependency on agribusiness, applied science production, investment in innovation and access to information systems.

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