

Mystical Economics

“The world envisioned by Economics resembles the Garden of Eden, where everything came from God, the pre-primordial sin people having nothing else to do but wait for the natural rhythms, set by the invisible hand, which is moved by the will and the power of the Creator.”

The theoretical construct of Economics based on the assumption of self-regulation has, apart from a logical inconsistency coming from the depletion of the subject-object cognitive relationship, multiple epistemic inadequacies. Essentially, the latter ones derive from the belief that inter-subjectivity is not the explicit source of economic processes. The vision of Economics on its own object starts thus from the hypothesis that the origin of phenomena is extra-human, the link with the components of the human condition – labor, work, action – is over-determined, while the evolution of reality occurs by itself. By accepting this way of understanding, we find ourselves in the same undefined relationship like in the case of gravity: we can clearly see that it is an universal force, which is manifested objectively, we cannot oppose it, we do not know where it comes from or what causes it.

This cognitive perspective is as much curious as it is dangerous. It is curious because it is not in accordance with the rational method of knowledge, specific to social sciences; it is dangerous because it assumes inaction as the essence of rational space. Thus, the world envisioned by Economics resembles the Garden of Eden, where everything came from God, the pre-primordial sin people having nothing else to do but wait for the natural rhythms, set by the invisible hand, which is moved by the will and the power of the Creator.

Human action, both the individual and the social one, constitutes the fundamental element in the space of economic rationality, being the one which gives sense to the wealth-producing system. As such, setting the explicative model of Economics in something other than the sphere of temporal and contingent meanings of the human action – as a transactional formula of inter-subjectivity, interested in utility – signifies a betrayal of the epistemic constitution of Economics. This happens even more so as there is an insistence on the relevance of the self-regulation of the present system of wealth production, which is centered on capital, by diminishing the weight carried by the role of the subjective factor, hypostatized both individually and inter-individually (socially) as the main agent for the way things work.

There seems to be a skewing of the scientific perspective coming from the direction of eroded disputes on the divine right for the control of power, this time transfigured into the unique principle for structuring the space of economic rationality. In a spectacular way, the ethos of the political order influences the arrangements of the economic order so profoundly that even the architecture of economic cognition

conforms to its precepts. The founding of the rules of wealth production on the faith in the legitimacy of power not only perverts the rational fundament of economic knowledge, it also turns into derisory any logical principle. Thus for the conceptual construct of Economics only the expectations of power become sufficient. The operating space of the principles of power becomes absolute through the fusion with the oligopolitical space of wealth, the result being the most active source for the reproduction of the vision on the implacable, self-driven march of the economy.

All possible exaggerations fit into such a paroxysmic exaggeration, with the invariable goal of maintaining the faith in the divine powers of the capital factor, of guaranteeing the labor force's natural right to capitalization. The capitalist option does not need these exaggerations of its superiority, not only because the alternatives have failed anyway, but in order to be able to strengthen its efficiency by leaving open the possibility of the alternative. The theories which are bringing forward the theme of superiority – the human gene origin of capitalism, for example – apart from discrediting the rational objectives of the equality of chances, transform biological inequality into a principle of immutable social stratification.

Even if this is the state of the matter, there still cannot be neglected the consequences carried by such a vision in the plane of the destabilized configuration of economic reality, brutally present in the polarized structure of society. The unidimensional economic projection over the social body sharpens the dichotomist constitution of the society in which potentially yielding action is genetically reserved for 20% of individuals, while “inaction” is natural for the 80% (whom is offered the solution called tittytainment). In terms of wealth the proportion carries even more polarizing values in the real world.

There is no doubt that it is impossible for the polarization to be replaced by the equal access to resources, but a balancing is necessary starting from the reconstruction of the vision through lessening the antithetic principles generated by the natural combination of capital and labor in wealth producing systems. The superiority of the capitalist form of economy would lie in the sui-generis capacity of balancing the inter-human relationships on wealth.

However, this balancing does not take place by itself, it does not stem from the economic system's coverage of space and time or from its objective existence. This wonder is made possible only through the concerted action of the agents which hold a role in the production of wealth. This is done through subjective implication, in the rational manner suggested by the evaluation through the cost-benefit method of analyzing the motivation of an action.

Casting aside this evaluation as non-necessary, on the grounds that things take their own course anyway, is contrary to the rational spirit and counterproductive to the social system based on the underlying rationale of individual freedom, which is the socially validated action.

Marin Dinu

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Study Regarding Fiscal Policy – Corporative Social Responsibility Correlation

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Abstract. *In the context of globalization, the lack of stability of the production factors raises a public issue regarding the corporation's implications in social responsibility actions. Thus, the fiscal policy promoted by corporations can and will influence corporate social responsibility actions and the fiscal aggression can be considered socially irresponsible, through costs associated to fiscal obligations non-payments. Starting from different controversies about the correlation fiscal policy-corporative social responsibility, regarded both from the corporation or state point of view, the authors are trying to formulate their own opinion about this correlation upon a Romanian sample.*

Keywords: fiscal policy; corporate social responsibility; fiscal aggressiveness; corporation.

JEL Codes: D22, H26, K34, M14.

REL Codes: 9B, 11Z.

1. Introduction

Corporate social responsibility has been approached in many ways, from which we mention the author's Holme and Watts (2006) that have stated that the corporate social responsibility is a business's continues engagement to act ethically and contribute to the economical development by improving, at the same time, its employee's and their family life quality, as well as the local community and society, in general. The European Community Commission (2001) has formulated another opinion according to which the corporate social responsibility is an concept through which companies are deciding whether they will contribute or not to a better society and a cleaner environment, by integrating social and environmental preoccupations in their business and stakeholder's interaction. The general goal of corporate social responsibility is to create higher life standards for both inside and outside stakeholders (shareholders and potential investors, managers, employees, clients, suppliers and other business partners, environment as well as national and international authorities) and, at the same time, maintaining the corporation's profitability.

Although, corporate social responsibility is not perceived as an influence factor upon fiscal policy, fiscal obligations are obligatory payments levied upon a company revenues and/or wealth and from which are beneficiating the persons that have not a direct economical, financial and social interest with the companies involved in paying these fiscal obligations (non-shareholder and non-employees).

In recent years, the corporate social responsibility as well as the fiscal policy, the fiscal aggression and their correlation have been on the researchers agendas (Avi-Yonah, 2009, Desai, Dharmapala, 2006, Williams, 2007, Frank et al., 2009, Lanis, Richardson, 2011, Watson, 2011).

In a recent study Lanis and Richardson (2011) suggest that corporate social responsibility is an important influence factor upon a corporation fiscal aggressive behaviour through its administration board. The two authors are stating that independent directors (the ones that are not part of the administration board) are more receptive to the company's needs and so they will try to influence the administration board decisions through aggressive fiscal policies.

Empirical researches (Frank et al., 2009) are defining fiscal aggression as a specific administration method of the imposable profit with the aim of reducing the profit tax calculation base. The fiscal aggression is combining

legal and less legal fiscal planning activities. Furthermore in the international literature the fiscal aggression is often referred to as fiscal evasion.

In other studies (Watson, 2011) the term “fiscal aggression” is used with the sense of “fiscal avoidance”, in order to underline the strategy followed by the company, through fiscal avoidance the author understanding the general relationship between revenues and taxes that includes a larger spectrum of carefully fiscal planning strategies from the usual, perfect legal, ones to the less legal and more aggressive activities. The fiscal aggressiveness is defined as a form of fiscal avoidance that includes various transactions with the aim of reducing the owed profit tax. In analysing the fiscal aggressiveness, the author is especially interested in the barely legal fiscal avoidance strategies, because these are the most aggressive and risky ones, as compared with the omnipresent and low risk ones.

In a larger context we can appreciate that the fiscal policy promoted by a company as regard to its profit tax can and will influence its corporate social responsibility actions and by this the general society, and the fiscal aggressiveness can be considered socially irresponsible through costs associated with lower fiscal payments to the state budget. There are different points of view as regard to how can a company involve itself in corporate social responsibility actions. For example, Watts and Zimmerman (1990) are suggesting that the corporative social responsibility is a non-legitimate manager’s attempt to impose shareholders revenues without their consent, which leads to a managers behaviour that is not understood by the shareholders.

2. Aspects regarding the dilemma corporation – corporative social responsibility actions – fiscal policy

International studies show that taking into consideration taxes and contributions major impact upon a corporation’s activity, advocates for social responsibility are preoccupied by the fiscal policy trend in taxing companies (Desai, Dharmapala, 2006). Thus, in USA, according to the fiscal authority, were in 2002 collected 153.6 billion USD as taxes from corporation while the fiscal deductions were just 10.3 billion USD (Desai, Dharmapala, 2006).

New fiscal policy tendencies (Desai, Dharmapala, 2006) are driving corporations to apply new methods, more or less legal, in order to relax the fiscal burden, but these methods are attracting social responsibility advocates attention, because they are strong sustainers of transparency in determining fiscal obligations owe to the state budget. The fiscal pressure has been

determined as percentage of fiscal obligations in GDP or as the difference between accountable profit and fiscal profit or as the effective tax level.

Traditionally, incorporating the fiscal policy into a social responsibility agenda has been blocked by the existing pressures between stakeholders and state's institutions collecting fiscal obligations. Because fiscal obligations are perceived as a transfer between stakeholders and state, for a corporation is very difficult to make public their value (Desai, Dharmapala, 2006).

The correlation between corporation – corporative social responsibility actions – fiscal policy has been generally presented in Reuven Avi-Yonah's (2009) paper, the author synthesizing three approaches as regard to this correlation, as follows:

1. Corporation – artificial entity

This type of corporation is created by the state, this one offering the necessary conditions to operate on the market, the protection of property rights and the infra-structure and qualified personnel. Thus, corporations are obliged to take social responsible actions without any fiscal advantages deriving from these social actions. Furthermore, these corporations have no need to apply aggressive fiscal policies in order to diminish their state obligations because the state is their maker and the one providing the necessary conditions so that the corporations can normally function and, in return, the state expects them not to create supplementary burden.

2. Corporation – real entity

In this approach the corporation acts just like a human person with rights and obligations. The corporate social responsibility activities are not especially requested by the state but are encouraged when they take place, these actions showing the society wellbeing. This approach is generally spread among managers.

3. Corporation – network of contracts

In the mid '90's (Avi-Yonah, 2009) corporations attitude versus social responsible actions has changed as their main objective has changes towards shareholders wealth maximization. Thus, corporate social responsible actions are representing an illegal shareholders taxation, because these actions are not correlated with the corporation long term objective. But this approach regarding the corporative social responsibility actions and their impact upon taxation may lead to strategic behaviours. Thus, taxes are considered costs, and, as all costs, they must be reduced to minimum, because corporations are aiming to minimize taxes and maximize capitalisation as defined through the report profit/action.

Corporations fiscal burden can be, generally, estimated using the effective tax quota determined as a ratio between the profit tax quantum and the gross profit (Richardson, Lanis, 2007, Vintila et al., 2010) or as a report between the profit tax quantum and the operational cash-flow (Gupta, 1997, Richardsdon, Lanis, 2007). Thus, the effective tax quota is more relevant than the statutory one because the statutory quota does not reflect the actual fiscal burden because it does not take into account the fiscal stimulants (reduced imposable bases or different fiscal treatment for different revenues and expenses) offered by the fiscal authorities (Vintila et al., 2010).

In a study (Watson, 2011) realized upon 10.000 data (corporation-years) collected from the US companies between 1995 and 2008 a reverse relationship between corporative social responsibility and fiscal aggressiveness is established. The author is trying to quantify the level of aggressiveness per corporation taking into account the fiscal facilities stating that the most aggressive and valuable fiscal strategies have as effect accountable and fiscal differences. The fiscal aggressiveness is measured through three indicators from which two indicators are showing the differences between accountable and fiscal values (one indicator is showing the differences between accountable and fiscal profit and another one is showing the differences between accountable and fiscal residual values, differences that are coming from fiscal strategies rather than profit's financial management) and the third indicators is the effective tax quota for a five years horizon. Generally, this study is showing that between corporative social responsibility actions and fiscal aggressiveness is a reverse relationship and the social responsible actions are affecting the company's fiscal statements.

3. Study regarding the correlation between corporative social responsibility and fiscal policy; example for Romanian listed corporations at the Bucharest Stock Exchange

Starting from previous researches (Desai, Dharmapala, 2006, Williams, 2007, Avi-Yonah, 2009, Lanis, Richardson, 2011, Watson, 2011) this study aims to empirically investigate if a corporation approach regarding the corporative social responsibility actions is influencing its level of aggressiveness, for listed Romanian companies at the Bucharest Stock Exchange.

Using financial statements for 40 Romanian listed companies for 2010 we have examined the association between corporative social responsibility and fiscal aggressiveness. We aimed at testing the hypothesis sustained by

researchers in this domain (Lanis, Richardson, 2011, Watson, 2011) that have stated that companies more involved in corporate social responsibility actions are less fiscal aggressive while social irresponsible corporations are presenting a higher fiscal aggressiveness.

In order to analyze the correlation between corporate social responsibility and fiscal aggressiveness, as a measure for fiscal aggressiveness we have used the effective tax quota, and a measure of the implication level in corporate social responsibility actions we have used the corporate social responsibility index, determined (Moscalu, Vintila, 2012) according to data from annual reports.

The effective tax quota has been determined as the ratio between the profit tax and the gross profit, information for determining this tax being available in the annual reports for the analyzed corporations. For our 40 corporations sample we have eliminated three because these have presented negative effective quotas, so we have been left with 37 corporations.

Corporate social responsibility index has been determined by analyzing 40 Romanian listed companies upon the Bucharest Stock Exchange from both first and second category, grouped in five activity sectors. For all 40 companies there have been collected information regarding: (1) corporate social responsibility (information collected from the annual reports and web sites); (2) financial information from 2008 until 2010 (information collected from financial statements and the financial synthesis from the Bucharest Stock Exchange site); (3) market information (information collected from the Bucharest Stock Exchange site). Then, the companies have been evaluated according to 42 criteria grouped in five categories, as follows: (1) reports regarding sustainability or environment and integrated management systems; (2) environment management; (3) products and services; (4) health and work security; (5) society and human rights. The first category evaluates the implications of a corporation in social responsibility actions and includes 10 evaluation criteria. The second category is formed by 9 evaluation criteria regarding the environmental management, while the third category evaluates the quality management as regard to products and services through a set of seven evaluation criteria. The fourth category is evaluating the corporation policy as regard to its employees and includes six criteria, while the last one is also the largest one including 10 evaluating criteria regarding the corporation engagement in respecting human rights. Starting from these five categories we have determined for each corporation five individual indicators, one for each category (the indicators have been determined by reporting the number of

realized criteria to the total criteria afferent to each category) and the general indicator (corporate social responsibility index) has been determined as the five individual indicators average.

In our analysis beside the dependent variable (the effective tax quota) and the independent variable (corporate social responsibility index) there have been included other factors that can influence the aggressiveness level, grouped in two categories: factors influencing the effective tax quota tested in profile researches (Gupta, Newberry, 1997, Nicodeme, 2001, Richardson, Lanis, 2007, Vintilă et al., 2010) as well as factors influencing corporative governance.

The study's results are limited because the public information regarding listed Romanian companies are limited for both implications in corporative social responsibility activities and effective tax quotas.

In order to better present the Romanian framework a seven independent variables model has been tested, the model verifying all the statistical hypothesis. The model is:

$$ETR_i = \alpha_0 + \beta_1 \times PSC_{it} + \beta_2 \times GROWTH_{it} + \beta_3 \times TROUBLE_{it} + \beta_4 \times CEOTEN_{it} + \beta_5 \times LEV_{it} + \beta_6 \times INVINT_{it} + \beta_7 \times CINT_{it} + \varepsilon_{it}$$

where:

i = corporations (1-37);

t = the financial year (2010);

ETR = effective tax quota;

PSC = corporate social responsibility index with value from 0 to 1;

GROWTH = corporation's growth measured as total assets relative modification for the two years before the analyzed one;

TROUBLE = dummy variable that will be 1 if the company had registered at least three annual losses in the last six years before the analyzed one and 0 if not;

CEOTEN = the period (years) since when the general director is occupied this function;

LEV = leverage, determined as the report between long term debt and total assets;

CINT = report between immobilizations and total assets;

INVINT = report between stocks and total assets;

ε = error term.

The variables have registered the following values as shown in the Table 1:

Table 1

Model's variables								
	ETR	CEOTEN	CINT	GROWTH	INVINT	LEV	PSC	TROUBLE
Mean	0.161233	8.540541	0.585035	0.013644	0.112477	1.700415	0.446358	0.162162
Median	0.166447	6.000000	0.456722	0.013404	0.102884	0.543051	0.440952	0.000000
Maximum	0.624836	21.00000	3.200862	0.574003	0.607849	11.57684	0.911429	1.000000
Minimum	0.000000	1.000000	0.013320	-0.341949	0.000000	-5.191178	0.057143	0.000000
Std. Dev.	0.160492	6.982496	0.661878	0.154481	0.116711	3.680221	0.213701	0.373684
Skewness	0.845637	0.552402	3.068552	0.739774	2.244686	1.443505	0.085544	1.833089
Kurtosis	3.277622	1.878256	12.43588	6.775019	9.937118	4.873318	2.365693	4.360215
Jarque-Bera	4.528613	3.821639	195.3289	25.34474	105.2620	18.25973	0.665409	23.57369
Probability	0.103902	0.147959	0.000000	0.000003	0.000000	0.000108	0.716982	0.000008
Sum	5.965603	316.0000	21.64628	0.504827	4.161635	62.91534	16.51524	6.000000
Sum Sq. Dev.	0.927273	1755.189	15.77096	0.859118	0.490376	487.5851	1.644053	5.027027

Source: own calculation.

In order to test if the independent variables are statistically significant we tested the critical probabilities (P-value or prob). If the associated probability is under the working relevance level (1%, 5% or 10%) we then reject the null hypothesis and the coefficient is statistically significant. If the probability is higher than the relevance level than the null hypothesis is accepted and so the coefficient will not be statistically significant and its value will be 0.

Using the E-views software the regression results are as follows:

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CEOTEN	0.005098	0.004027	1.266184	0.2155
CINT	-0.012984	0.036475	-0.355955	0.7245
GROWTH	-0.618631	0.203509	-3.039827	0.0050
INVINT	-0.509599	0.250711	-2.032618	0.0513
LEV	0.011608	0.008000	1.450914	0.1575
PSC	-0.089358	0.113633	-0.786371	0.4380
TROUBLE	-0.231819	0.064710	-3.582426	0.0012
C	0.248783	0.072421	3.435248	0.0018
R-squared	0.420858	Mean dependent var		0.161233
Adjusted R-squared	0.281065	S.D. dependent var		0.160492
S.E. of regression	0.136081	Akaike info criterion		-0.962323
Sum squared resid	0.537023	Schwarz criterion		-0.614017
Log likelihood	25.80298	Hannan-Quinn criter.		-0.839529
F-statistic	3.010581	Durbin-Watson stat		1.477582
Prob(F-statistic)	0.016694			

The “F” test is measuring how well the independent values are explaining the dependent value. As in the case of “t” test, the software program is reporting the test value and its associated probability. If the probability value is under the working relevance level then the null hypothesis is rejected meaning that at least one of the regression coefficients is statistically significant.

Another indicator showing if the econometrical model is well specified is R^2 . This indicator shows how much from the total variance of the dependent variable is determined by the independent variables. R^2 will take values between 0 and 1, and as closed to 1 its value is as better specified the model will be. Every time a new independent variable is introduced, correlated even a little with the dependent variable, R^2 will increase in value, but at the same time an independence degree is lost. Thus, a better than R^2 way to measure if the model is correct is adjusted- R^2 this test taking into consideration the independent variables number included in the regression model (Codirlasu, 2007).

If the regression analysis is focused upon evaluating the connection between two or more variables (just like in our case) and not upon realizing prognosis, it is not important that the R^2 and the adjusted- R^2 values are high.

For our model the “F” test is registering a satisfactory probability (under the working relevance level of 5%) and the R^2 value is low, meaning that there are other variables influencing the effective tax quota.

According to associated probabilities for independent values we can state that two variables (for a 5% significance threshold) and three variables (for a 10% significance threshold) from the seven variables are statistically significant (TROUBLE, INVINT and GROWTH), while the others, with higher probabilities, are not statistically significant.

We can see that the empirical results of this regression analysis for Romanian listed companies are not showing the existence of a correlation between the fiscal aggressiveness and the corporative social responsibility, the critical probability (prob) associated to the independent variable coefficient is very high, the coefficient being considered, statistically, with a 0 value.

4. Conclusions

The lack of correlation between fiscal aggressiveness and corporative social responsibility can be explained not only by the lack of an aggressive behaviour among Romanian listed corporations, but by the specific fiscal regulation in the analyzed period as well as by the diminished interest as regard to corporative social responsibility activities in the Romanian business

environment, because this concept is still fresh on the market, being introduced just in the early 2000 by multinational by promoting innovative concepts and products.

By exception, in the analyzed period, Romanian fiscal regulation were stating the payment of a minimum profit tax whether the legal person was realizing a fiscal profit (if the profit tax determined using the fiscal profit was under the minimum tax the legal person was oblige to pay the minimum profit tax) or a fiscal loss (under normal conditions this situation would have permitted the profit tax payment postponement until the fiscal loss was totally recovered from future profits).

The study has some deficiencies due to the lack of information as well as the unpredictable Romanian market character. Romanian companies have a fiscal behaviour that can be hard to identify as a tendency and the corporative social responsibility activities are not currently integrated in ordinary corporation's functions. In the future we intend to adjust the model by enlarging the data base (introducing RASDAQ listed corporations into analysis) as well as by expending the effective tax quota influence factors (such as research and development expenses in total turnover, foreign (external) operations, political decisions) or by considering other ways to quantify the fiscal aggression and/or corporative social responsibility.

As a general conclusion we state that no matter the theory adopted as regard to the correlation between type of corporation – corporative social responsibility actions – fiscal policy, an fiscal aggressive behaviour is not justifiable in order to make from reducing taxes the main goal of corporation. On the other hand the state can embrace the role of fulfilling on its own some corporative social responsibility actions or it can delegate the private sector in realizing them if it is more efficient in doing so. But, in a market economy, the state can, rarely, impose to private agents to realize corporative social responsibility actions and none of the presented approaches suggests that the state, through legal measures, is forcing corporations to act so.

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References

- Avi-Yonah, R., "Taxation, Corporate Social Responsibility and the Business Enterprise", *Comparative Research in Law & Political Economy*, Research Paper no. 19/2009, Toronto: Osgoode Hall Law School, vol. 5, no. 3
- Codirlășu, A., "Econometrie aplicată utilizând EVIEWS 5.1", *note de curs*, *Programul de Master Specializat Managementul Sistemelor Bancare*, 2007, ASE București
- Desai, M., A, Dharmapala, D. (2006), "CSR and Taxation: the missing link, Leading Perspectives", Harvard University, http://www.people.hbs.edu/mdesai/D+D_BSR.pdf
- Filipescu, O.M., Moscalu, M., Vintilă, G., "The Influence of Profit Tax on Company's Financial Structure", *International Conference, third edition, Ecological Performance in a Competitive Economy, Bucharest, Proceedings PEEC 2011, Revista Quality-access to success*, Journal Year 12, no. 125, 2011
- Frank, M. M., Lynch, L., Rego, S., "Tax Reporting Aggressiveness and its Relation to Aggressive Financial Reporting", *Accounting Review*, Vol. 84, No. 2, 2009
- Gupta, S., Newberry, K., "Determinants of the Variability in Corporate Effective Tax Rates: Evidence from Longitudinal Data", *Journal of International Accounting and Public Policy*, 16, 1997
- Holme, L., Watts, P. (2006). *Human Rights and Corporate Social Responsibility: Making Good Business Sense*, Geneva: World Business Council for Sustainable Development
- Lanis, R., Richardson, G., "Effective tax rate and social responsibility", *Session: Disclosure and Tax Aggressiveness*, 2011, American Accounting Association Annual Meeting, Denver, Colorado
- Moscalu, M., Vintilă, G., "Study Regarding the Determinants of Corporate Social Performance for a Sample of Romanian Listed Companies", *Metalurgia Internațional*, nr. 3, in press 2012, RMF Scientific Publishing House
- Nicodeme, G., "Computing effective corporate tax rates: comparisons and results", *MPRA Paper 3808*, 2001, University Library of Munich, Germany
- Richardson, G., Lanis, R., "Determinants of the variability in corporate effective tax rates and tax reform: Evidence from Australia", *Journal of Accounting and Public Policy*, 26, 2007
- Vintilă, G., Armeanu, D., Filipescu, O., Moscalu, M., Lazăr, P., "Fiscal policy impact upon european and national entrepreneurial environment", *Theoretical and Applied Economics Supplement*, Vol. 11th International Conference Financial and Monetary Stability in Emerging Countries, 2010, General Association of Economists from Romania
- Vintilă, G., Armeanu, D., Lazăr, P., Moscalu, M., "Study regarding the impact of the corporate social responsibility upon firms's financial performance", *10th International Conference Finance and economic stability in the context of financial crisis, Theoretical and Applied Economics*, 2009, Supplement Finance and Economic Stability in the Context of Financial Crisis
- Watson, L., "Social Influences on Aggressive Accounting: The Impact of Corporate Social Responsibility on Tax Aggressiveness", *Session: Disclosure and Tax Aggressiveness*, *American Accounting Association Annual Meeting*, 2011, Denver, Colorado

Watts, R.L., Zimmerman, J. L., “Positive accounting theory: A ten year perspective”, *The Accounting Review* 65 (1), 1990, pp. 131-156

Williams, D. (2007). *Developing the Concept of Tax Governance*, KPMG’s Tax Business School, London, UK

<http://www.kpmg.co.uk/pubs/Tax%20Governance%20Feb%2007.pdf>

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Investment Activities of Businesses and the Use of European Financial Support in the Czech Republic at the Time of Crisis

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Abstract. *This article is focused on investment activity during crisis period. It is obvious that investment decreased in time of depression because businesses postponed or reduced their investment. Business units looked for steps which they should have implemented. The most common step was reducing investment. On the other hand they mobilized their internal sources which could be supported by additional money sources such as financial support programmes because crisis period is characteristic of low availability of sources such as bank loans etc. The fifth enlargement of the European Union brought need of new Cohesion Policy which was implemented in the Czech Republic into operational programs which are introduced. The Operational Program Enterprise and Innovation is used for testing a hypothesis if we can trace the impact on applications of financial support according to external change of economic conditions.*

Keywords: investment activity; recession period; cohesion policy; operational programs; Czech Republic.

JEL Codes: E200, G010, M200.

REL Codes: 11D, 14A.

1. Introduction

This paper describes situation of Czech Operational Programs which are part of Cohesion Policy of the European Union. It combines Cohesion Policy with investment activity during economic crisis of recent years. This article confirmed that financial support programmes could be an additional source of money for financing investment during crisis period. First chapter is introduction followed by the chapter two which describes investment and current situation of investment activity. Second chapter uses macroeconomic data as well as survey of Czech Chamber of Commerce which shows corporate opinions on current situation and outlooks. Third chapter is dedicated to Cohesion Policy of the European Union and Czech financial support programmes which are called Operational Programs. Last main chapter is the chapter four which discuss our research question. We are testing hypothesis if we can trace the impact on applications of financial support according to external change of economic conditions. Results of our hypothesis are discussed and supplemented by possibilities of future research in conclusion.

2. Investment

Investment activity can be discussed on the macroeconomic as well as on the microeconomic level and it is very important topic on both levels. Regular investment in company development or at least in recovery of assets and technologies is the only possibility how to ensure a sustainable company growth. It is same with the whole national economy.

In macroeconomic theory investment is the amount of assets which are not consumed but are to be used for future production of consumer goods or other capital goods (Synek, 2011). How the investment activity is of great importance we can show by classical production function which is illustrated on Figure 1. Classical production function describes dependency between production quantity and the amount of capital. The amount of capital is independent variable in this case and we can increase the amount by investment process. The dependent variable production quantity is on the axis y and the more capital the greater production quantity. Classical production function opens a question how it has been with product supported by investment for several recent years.

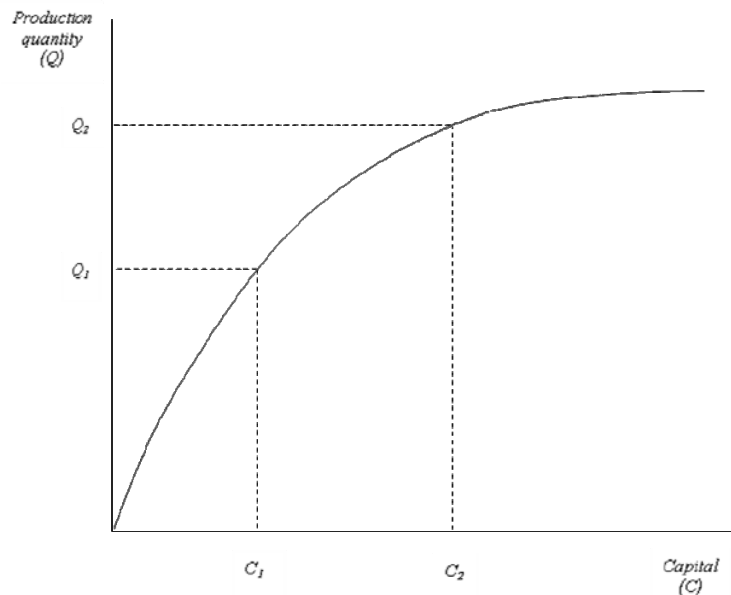


Figure 1. *Classical production function*

2.1. Macroeconomic data

The component of investment is very sensitive part of gross domestic or national product. Many papers were devoted to economic crisis recent months. If we look at Czech macroeconomic data it is obvious that decrease in gross domestic product we can observe in 2009 although the end of the year 2008 is connected with decrease in the production of machinery and connected industry branches. Investment in response to the economic cycle fell dramatically down in 2009. The recovery came in 2010 but the amount of gross investment did not change significantly. Gross domestic product in 2010 is still lower than in 2008 but if we compare that with value of gross investment we see that the situation is same. Gross investment is lower but the difference is even higher for gross investment. That has to mean that other components of GDP such as consumption, government expenditures or net export cover dramatic decrease in investment activities. Czech commented macroeconomic data is displayed in Table 1. All data except inflation is counted in millions of CZK in current prices.

Table 1

Selected Czech macroeconomic data

	2007	2008	2009	2010
GDP (mil. CZK)	3,662,573	3,848,411	3,739,225	3,775,237
Gross investment (mil. CZK)	1,091,542	1,113,805	898,373	947,100
Gross fixed investment (mil. CZK)	989,608	1,031,182	927,465	922,952
Inventories (mil. CZK)	98,487	79,050	-32,957	20,110
Inflation (%)	2.8	6.3	1.0	1.5

Source: Makroekonomická predikce, 2011a and Makroekonomická predikce, 2011b.

We have shown development of Czech investment but international comparison is needed. Table 2 contains information about gross domestic product and gross fixed investment in EU 27 and three selected countries. Hungary, Poland and Slovakia have been selected as countries which have comparable economic conditions and same history as transition economies in the region of Central Europe. Table 2 illustrates that gross domestic product in 2010 increased in comparison with the year 2009. Only Slovakia reached higher GDP 2010 than GDP 2008. Deeper analysis of gross fixed investment shows us that conclusions valid for the Czech Republic are valid for our whole sample except Hungary. Hungarian situation is even worse because since 2008 investment has decrease every year.

Table 2

Selected European macroeconomic data

	2007	2008	2009	2010
GDP (mil. EUR)	12,400,902.0	12,484,420.7	11,761,587.4	12,257,461.4
Czech Republic	131,908.6	154,269.7	14,449.8	149,313.3
Hungary	99,430.5	105,545.1	91,402.5	97,094.8
Poland	311,001.7	363,153.7	310,418.2	354,310.0
Slovakia	54,810.8	64,500.1	62,895.5	65,887.4
Gross investment (mil. EUR)	2,625,795.7	2,617,075.1	2,226,002.2	2,260,957.2
Czech Republic	35,641.0	41,336.6	35,084.7	36,503.4
Hungary	21,659.8	22,901.6	18,889.2	17,447.1
Poland	67,058.4	80,836.5	65,775.3	70,401.5
Slovakia	14,357.4	15,973.6	13,024.8	14,615.5

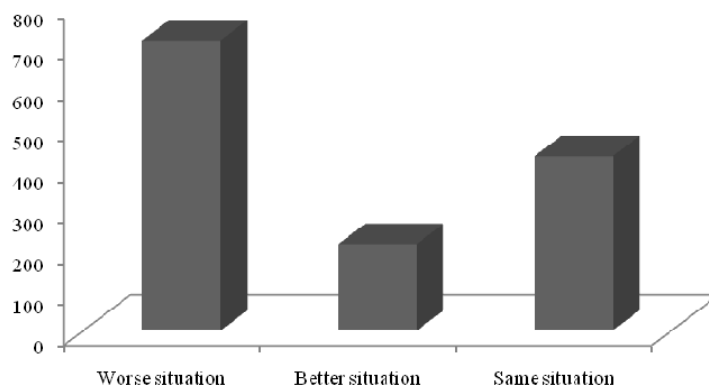
Source: Eurostat a and Eurostat b.

2.2. Future development

Until now we have commented past development but we should also put emphasis on future trends. It seems that the future will not be bright. It is hard to say that we live in post-crisis period because the second wave of crisis is probably coming. It could be demonstrated by macroeconomic data or

investment mood across businesses. Conclusion of Dubská (2011) is that the risk of further economic slowdown has intensified. She uses all available macroeconomic data for first two quarters of 2011 in the Czech Republic. Consumption is still low because households save. Ratio of sales growth is insufficient. On the other hand gross fixed investment has recovered. The end of the year 2010 was connected with last investments in renewable energy sources thanks to legislation. But the growth has stayed also in 2011 when the most important activity is investing in machinery. In numbers it means that growth of Czech gross capital investment was 3.6% in second quarter 2011 although growth of European gross capital investment was only 1.9% in same quarter.

Czech Chamber of Commerce realized its survey in October 2011. The sample consisted of 1,350 Czech businesses. The conclusions are not optimistic. Almost one half of businesses emphasizes fewer orders and one fifth has difficulties with poor solvency of customers. Business units answered also the questions about their expectations of the year 2012. Figure 2 shows results. Over 700 companies expect worse situation next year comparing with actual year. It is not positive because they are preparing plans which include on the first place reducing of investment (48.2%), followed by lower increase in wages (31.4%)



Source: Survey Czech Chamber of Commerce, October 2011.

Figure 2. *Corporate expectations of the year 2012*

3. Structural or cohesion policy of the European Union

The fifth enlargement of the European Union followed by the accession of Bulgaria and Rumania means that regional disparities are greater than even before. Disparities lead to social and political problems. There could be

detected economic, moral and political reasons why we try to solve disparities and practice cohesion policy which has its critiques as well as supporters. Molle (2007) writes that admirers say European cohesion is the cement that holds the construction of the EU together.

Cohesion policy has economic and social impacts. Traditional targets were economic stability, reducing unemployment, economic development of regions which have specific geographic location or use their potential insufficiently. It should decrease differences in economic and social level of regions in the European Union. It means concrete that this policy should correct inadequate structures of industry, agriculture and services. Cohesion policy is common for the whole European Union. It is based on unified principles and uses common sources.

Cohesion policy has been dramatically reformed for the period 2007-2013 because of enlargement in 2004 which caused greater disparities than even before. Orientation of policy was changed. Traditional topics as regional development and employment stayed but policy started emphasize also competitiveness and development of rural areas. General principles named by Boháčková and Hrabánková (2009) are following:

- more attractive Europe and its regions for investors and employees;
- knowledge improvement and innovations for growth;
- creating more and better job opportunities.

According to Lisbon strategy and conclusions of Summit in Goteborg priorities were changed. We can detect three objectives or pillars of cohesion policy for the period of 2007-2013. The first objective is Convergence Objective which should accelerate convergence of less developed member countries and regions. Steps should include investment in tangible assets and human capital, innovations, development of knowledge society, improving the ability of adaptation to economic and social changes, growth of environmental quality etc. This support is temporary and will be finished in 2013. Objective Regional Competitiveness and Employment completes Convergence Objective. It is for regions which cannot apply for money from sources which are used for Convergence Objective because these regions are too rich for convergence criteria. The last objective is European Territorial Cooperation. All regions near borders are included.

3.1. Czech financial support programmes

Most of financial support programmes in the Czech Republic used European Union funds and therefore we will pay attention to them and the second incentive is off course discussing structural policy. The European funds

general consist of Structural Funds and Cohesion Fund from which € 26.69 billion should come to the Czech Republic for the running program period of 2007-2013 (source: Information about EU Funds). Another possibility could be European Agriculture Fund for Rural Development which is not part of Structural Funds or Cohesion Fund and its targets are the competitiveness of agriculture, food producing, forestry or development of rural areas.

There are four major groups of programmes for the period of 2007-2013 which are financed thanks to Structural Funds or Cohesion Fund:

- Thematic Operational Programs;
- Regional Operational Programs;
- Operational Programs Prague;
- European Territorial Cooperation.

These groups contain together 26 different programmes. Support programmes are based on Objective 1, 2 and 3. Data set with which we work contain only programs fulfilling Objective 1 and 2 and represents 19 different programs. Some of programs which fulfil Convergence Objective are focused on regions, other on concrete themes. Regional operational programs are designed for the cohesion regions on the level NUTS II. Under specific themes you can imagine transport, environment, enterprise and innovation, human capital and employment etc. Objective 2 covers the Capital City of Prague with two operational programs which cannot apply for money of Cohesion sources. Objective 3 is European Territorial Cooperation and these programs are excluded. It is necessary to emphasize that this error is negligible because the amount of EUR € 0.39 billion is assigned to the European Territorial Cooperation objective in the Czech Republic. This amount represents 1.5% of whole budget for running period across all programs.

The amount of money which can be used by operational programs looks huge but it does not have to mean that there are many potential beneficiaries. Operational programs are a big giant to raise funds. By 7th September 2011 70,620 applications have been submitted in the amount of 1,115.8 billion CZK (source: Monthly Monitoring Report). Less than half of projects have been accepted. It is time to answer a question how many projects have been exactly supported. Supported projects are distinguished into three groups – cancelled projects during their implementation, already finished projects and ongoing group. Table 3 shows how the projects are divided into specific groups according to different operational programmes. It is necessary to say that numbers are current because the latest update came from 8th September 2011.

Table 3

Current number of beneficiaries of Operational Programs

Operational programmes	Number of projects			
	All	Cancelled	Finalized	Ongoing
Integrated Operational Program	6,942	81	5,349	1,512
OP Czech Republic-Poland	1,638	25	699	914
OP Transport	130	---	63	67
OP Human Resources and Employment	3,120	20	7	3,093
OP Enterprise and Innovation	6,586	528	2,162	3,896
OP Prague Adaptability	486	6	66	414
OP Prague Competitiveness	209	11	105	93
OP Fishing	630	26	17	587
OP Technical Assistance	105	4	43	58
OP Research and Development for Innovations	73	---	---	73
OP Education for Competitiveness	5,733	2	7	5,724
OP Environment	3,578	2	1,733	1,843
ROP NUTS II South-East	543	7	385	151
ROP NUTS II South-West	552	7	308	237
ROP NUTS II Moravia-Silesia	489	4	273	212
ROP NUTS II North-East	537	5	271	261
ROP NUTS II North-West	291	10	131	150
ROP NUTS II Central Bohemia	490	7	253	230
ROP NUTS II Central Moravia	538	4	419	115
All programmes	32,670	749	12,291	19,630

Source: own elaboration based on data: List of beneficiaries.

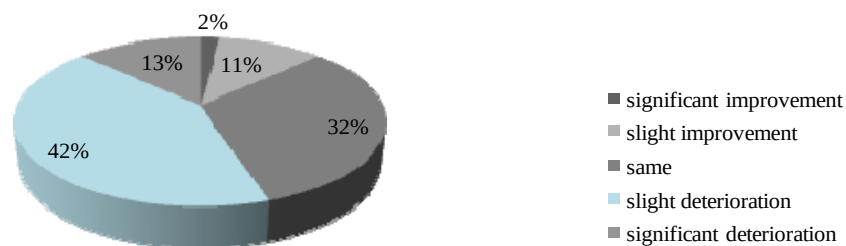
4. Research question

This chapter will represent research question which is set up as hypothesis. We will look for available data which helps us prove hypothesis. Research question has arisen thank to change of economic conditions.

4.1. Situation

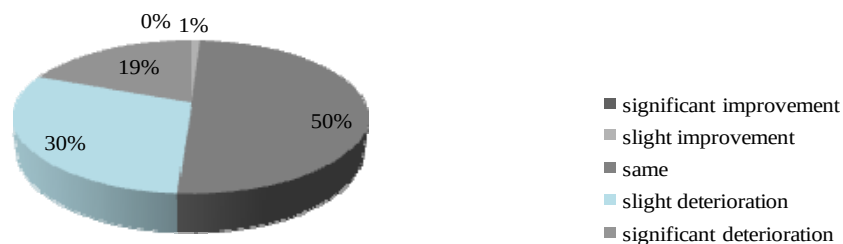
Cohesion policy and as well as Czech Operational Programs were prepared for the period of 2007-2013 when time of economic growth was forecasted. The authors Boháčková and Hrabánková (2009) also see that European funds started relatively successful economic growth and connected positive structure of gross domestic product which is an important indicator of the success of socio-economic changes. Since the end of the year 2008 in Europe we cannot speak anymore about bright economic situation because global crisis came to Europe. Macroeconomic indicators have already been discussed in the chapter 2.

Economic situation was completely different. Business units faced a lack of sales, insolvency of customers, low availability of additional financial sources or exchange rate risk. Results of survey of the Faculty of Business Administration, University of Economics, Prague proved all these troubles. The Faculty of Business Administration did two phases of a survey – one in March 2009 and the second in June 2009. In the first phase of survey 80 Czech companies were included and in the second phase 200 business units. For this article we are interested in the question “Possibility of obtaining funds for investment”. Business units had five possibilities for choosing – significant improvement, slight improvement, same, slight deterioration and significant deterioration. Companies were asked in March 2009 and June 2009. Results are shown in Figure 3 and Figure 4. It is obvious that conditions for obtaining funds for investment deteriorated. On business level the answer could be unconventional sources – internal sources such as human capital or external sources such as financial support programmes.



Source: Kislingerová, 2009a.

Figure 3. Possibility of obtaining funds for investment in March 2009



Source: Kislingerová, 2009b.

Figure 4. Possibility of obtaining funds for investment in June 2009

4.2. Hypothesis

We have seen that market conditions dramatically changed since 2008. It came to our mind a question if we can trace the impact on applications of financial support according to external change of economic conditions. The hypothesis could be written as “due to economic conditions the impact on applications is detected”. It is necessary to specify the impact. We do not reflect possible changes of application forms or other institutional changes. We take into account only decrease or increase of applications and accepted projects.

4.3. Data set

If we want to take into account increase or decrease of applications or accepted projects we definitely need data set. Unfortunately everything what we would like to analyse is not available. For free we can get only data set which consists of all projects which have been accepted. It means that we cannot analyse number of applications. Our data set which is available includes over 30,000 items (concrete, 32,670). Under each item we can imagine one unique project which is characterised by its name, applier and its identification number, amount of money, name of operational program and status of project (finalized, cancelled or ongoing).

We have not solved who appliers or beneficiaries of support could be. The sample of beneficiaries is very heterogeneous because projects can be presented by municipalities, regions, ministries, entrepreneurs, owners of transport infrastructure, non-profit organizations, schools, research centres and others. We would like to see the impact of economic conditions and therefore it is the best to choose a group of appliers which is directly exposed to market conditions. In our case the group which is directly exposed are entrepreneurs – classical profitable business units. We do not have the possibility to sort our data because data set does not include any characteristic which would help us. Identification number itself is only identifier which does not distinguish economic subjects.

It seems that we are still at the beginning of our work and we cannot go further. Only possible solution would be sort out our items one after another. It would take ages because there are over 30,000 items and for each we would have to find legal form. We have turned our attention to actual operational programs. We have to choose a program which is big enough and majority of its beneficiaries are profit businesses.

4.3.1. Chosen program

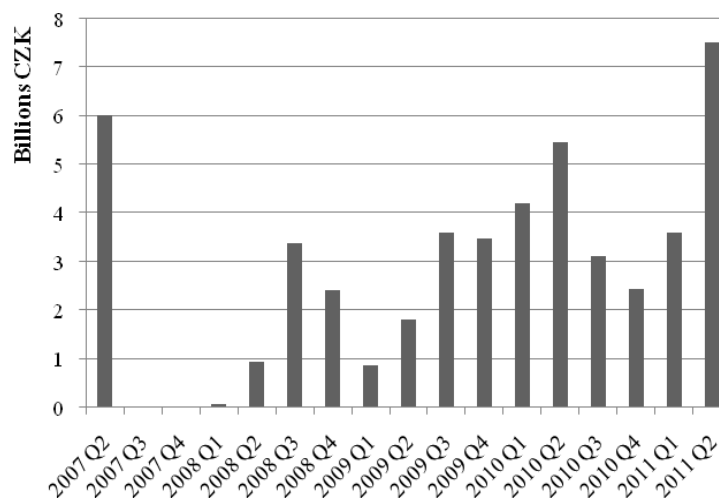
Operational Program Enterprise and Innovation has been chosen for several reasons. According the Table 3 it is the second biggest program. The name and focus of program prove that this program is designed exclusively for profit organizations and it should support ideas which are needed in crisis period. Many companies survived hard times thanks to innovation and launching new products or services. In terms of finances, it is the third largest Czech operational program which should get from the EU funds, the amount of EUR 3.04 billion. In addition, the program financing is to be increased by another EUR 0.54 billion from the Czech public resources. The Operational Program Enterprise and Innovation includes seven following priority axes:

- Establishment of firms (0.4% of program budget);
- Development of firms (25.7% of program budget);
- Effective energy (11.7% of program budget);
- Innovation (25.8% of program budget);
- Environment for enterprise and innovation (30.2% of program budget);
- Business development services (3.3% of program budget);
- Technical assistance (2.9% of program budget).

Source: Operational Program Enterprise and Innovation.

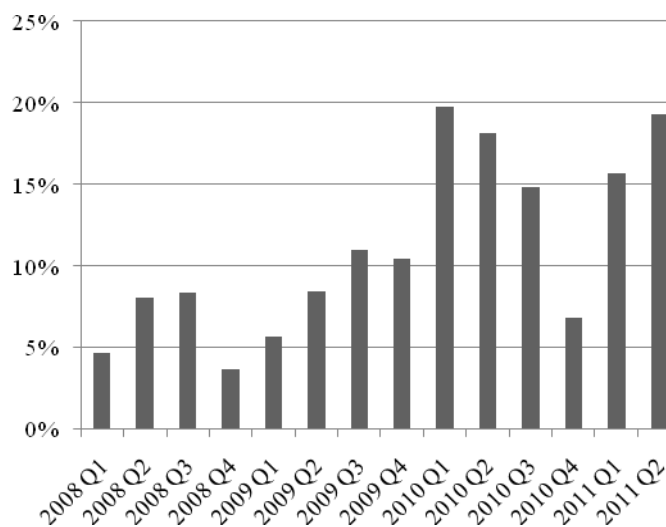
4.4. Results

Results of our work are two figures mentioned below. First we tested value of acquisitions of allocation for Operational Program Enterprise and Innovation. The greatest acquisitions can be detected for second quarter 2007 and second quarter 2011. But significant increase is also typical for the period third quarter 2009 – second quarter 2010. It means that Operational Program Enterprise and Innovation was really possible additional source of money for companies during crisis period. Results from first figure are supported by next figure which shows that in first two quarters of 2010 share of our program was nearly 20%. Unfortunately the results are not enough significant for confirming our hypothesis.



Source: own elaboration.

Figure 5. Value of acquisitions of allocation –
Operational Program Enterprise and Innovation



Source: own elaboration.

Figure 6. Share Operational Program Enterprise and Innovation
in the increase of value of acquisitions of allocation
across all operational programs since 2008

Problems of confirming hypothesis are connected with these topics – the time series, available data set and announcement of application invitations. Our time series is too short and it does not allow statistical testing. We had available only data set of beneficiaries and if we had data set consisted of all appliers we would be able to come to more significant conclusions. The last factor is announcement of application invitations which is done by the government. Influence of the government is very strong as second quarter 2007 and second quarter 2011 show. The government is the last distance which takes decision if the project will be accepted or rejected.

5. Conclusion

This article focused on investment activity during crisis period and Czech Operational Programs which are part of European Cohesion Policy. Unfortunately we have not proved our hypothesis because we do not have adequate data set for behaviour of business units. Although our data set could be enough for testing governmental behaviour. Fund distribution depends on governmental decisions and their announcement of application invitations. Government may even change the terms during program period. Until now we have not collected all operational documents because there are twenty different operational programs and each has its own documentation and terms which have to be fulfilled.

But we have confirmed that financial support programmes could be an additional source of money for financing investment during crisis period.

The article is one of the outputs from the research project “Analysis and evaluation of investment projects financed from European funds” registered with the Internal Grant Agency of University of Economics, Prague under the number F3/32/2011.

References

- Boháčková, Ivana, Hrabánková, Magdalena (2009). *Strukturální politika Evropské unie (Cohesion Policy of the European union)*, 1. edition. Praha, CH Beck. ISBN 978-80-7400-111-6
- Dubská, Drahomíra. “Česká ekonomika - na prahu nového útlumu? (Czech economy - on the threshold of a new depression)”, Paper presented on the conference *Nová ekonomika, nové přístupy?*, 21.10.2011, Prague

- Kislingerová, Eva et al. (2009a). *Nová teorie ekonomiky a managementu organizací a jejich adaptační procesy (New Theory of Economy and Management in Organizations and Their Adaptation Processes)*, Survey of Faculty of Business Administration, University of Economics, Prague
- Kislingerová, Eva et al. (2009b). *Nová teorie ekonomiky a managementu organizací a jejich adaptační procesy (New Theory of Economy and Management in Organizations and Their Adaptation Processes)*, Survey of Faculty of Business Administration, University of Economics, Prague
- Molle, W. (2007). *European Cohesion Policy*. 1. edition. Taylor & Francis Group, 2007. ISBN 0-203-94527-1
- Synek, Miloslav et al. (2011). *Manažerská ekonomika (Managerial Economics)*, 5. revised and compiled edition, Praha: Grada Publishin. ISBN 978-80-247-3494-1
- GDP and main concepts*. 2011. Eurostat a
<http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?sessionId=9ea7d07d30db182b7ae8ad524198b15a89bac2b7aedd.e34MbxeSaxaSc40LbNiMbxeMc3yLe0?tab=table&plugin=1&pcode=tec00001&language=en>. [cit. 10-23-2011]
- Gross fixed capital formation* (2011). Eurostat b
<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00011&plugin=1>. [cit. 10-23-2011]
- Information about EU Funds* <http://www.strukturalni-fondy.cz/Information-about-EU-Funds> [cit. 10-23-2011]
- List of beneficiaries 2011. <http://www.strukturalni-fondy.cz/getdoc/2eec9b32-0674-48ba-a419-90fa51db8823/Seznamy-prijemcu?lang=en-GB>, available 09.09.2011
- Makroekonomická predikce (Macroeconomic prediction)*. 2011a. http://www.mfcr.cz/cps/rde/xbcr/mfcr/Makroekonomicka-predikce_2011-Q3_C-2.pdf, [cit. 10-19-2011]
- Makroekonomická predikce (Macroeconomic prediction)*. 2011b. http://www.mfcr.cz/cps/rde/xbcr/mfcr/Makroekonomicka-predikce_2011-Q3_C-1.pdf, [cit. 10-19-2011]
- Monthly Monitoring Report* 2011. <http://www.strukturalni-fondy.cz/Stav-cerpani/Mesicni-monitorovaci-zprava>, [cit. 10-23-2011]
- Operational Program Enterprise and Innovation* <http://www.strukturalni-fondy.cz/getdoc/665a13aa-e1ff-484d-ab28-84e90b454c89/OP-Podnikani-a-inovace>, [cit. 10-23-2011]
- Programs 2007 – 2013* <http://www.strukturalni-fondy.cz/Programy-2007-2013>, [cit. 10-23-2011]
- Tuzemské firmy cítí dopad finanční krize a tratí na ní miliony korun (Domestic firms feel impact of financial crisis, and it runs on millions of crowns)* 2011. Survey of Czech Chamber of Commerce, October 2011. <http://www.komora.cz/hlavni-zpravy/tuzemske-firmy-citi-dopad-financni-krize-a-trati-na-ni-miliony-koron.aspx> [cit. 10-23-2011]

Organisational Behaviour Influence Elements in the New Economic Paradigm

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Abstract. *The premise on which this paper is based is determined by the damaged reputation capital of most Romanian companies. The causes which generate poor organisational behaviours are identified and analysed. The media coverage of the Romanian organisations' behaviour is also highlighted. The methodology used for developing the research was based on interdisciplinary triangulation, respectively approaches from the perspective of behavioural economics, of management-marketing and of organisational sociology. The research techniques used are trend analysis and secondary data investigation materialised in studies and reports of international bodies.*

Keywords: organisational behaviour; behavioural economics; new economics; advertising; media coverage of the Romanian organisations' behaviour.

JEL Codes: D22, M21, M37.

REL Codes: 5K, 14H, 14K.

1. Introduction

The new economy as new historical-economic phenomenon, found under a multitude of names: post-industrial society, information society, technological civilisation, post-capitalist society, knowledge and information based economy, demonstrates that we are in the process of formation and perfection of the new cognitive paradigms and patterns (Niculescu, 2006), of the need for conceptual reconstruction of economics (Dinga, 2009, pp. 37-38), of the growing importance of consciousness patterns and of spirituality (Dobrescu, Ioan-Franc, 1997, p. 152). The destruction of the “old economic mechanism” and the emergence of the “new economy” requires the solving of a sensitive issue, that referring to the direction of evolution towards a new form of existence, towards the ideal defined by the intersection of reason and human soul with nature (Dinu, 2011, p. 350). We chose to analyse in the following pages, from among the meanings of the future changes frequently analysed in the context of the economic crisis, those which are directly related to our subject. Thus, due to the fact that progress in the new economy is based on information and knowledge, it is necessary to change companies’ management into a social-key function, responsible for achieving the best results, while the human, intellectual capital, the basic factor of the business organisation in the new economy will be developed through organisational credibility. It is important to mention that in the new economy the intangible vales have primacy. This is where we identified the need to address the topic of organisational behaviour in relation to corporate reputation. Our paper does not aim to analyse organisational behaviour from a conceptual perspective as it is defined in various specialist studies: “as a field of study that investigates the impact that individuals, groups and their structures have on organisations and for which improvements are suggested to streamline the respective organisation” (Boboc, 2003, p. 16), but aims to critically analyse the deficient organisational behaviour which has caused many negative effects in economy and society. The study follows the requirements of the economic practice in which organisational behaviour cannot be separated from the managerial one except for a purely methodological purpose.

These concrete facts are also found in the concerns of the European Union on improving the current state of corporate management. In early April 2011, the European Commission launched in public consultation the proposal for a green paper on corporate governance, noting the need to find the best methods in this direction (European Commission, 2011).

The research opportunity is determined by the damaged reputation capital of most Romanian companies, by their poor image both within the country and abroad. Because both the image and, especially, the company’s reputation

represent the reflection of the corporate identity among the publics with whom they interfere during the course of business, any improvement strategy in this direction starts from within towards outside, that is to say from the organisational behaviour. The media coverage of the Romanian organisations' behaviour excels in harsh invectives against management, against the objective to obtain profit at any cost, minimising the promotion of sustainable economic policy. The Romanian organisations' reputation is in the process of being compromised in the public opinion because of the accusations of convenience, corruption, and robbing. In order to investigate this hypothesis our paper presents in its last part a quantitative research through the content analysis technique.

Given the diversity of organisations and given that in the specialised literature there are multiple taxonomies, it should be mentioned that this study takes into account the business organisation, the companies (especially the economic ones) (Boboc, 2003, p. 35). Since in the modern market economy the corporations are large companies which through their power and position on the market have an important role in a country's economic life and even on the global market, in the case of large international corporations (Dobrotă, 1999, p. 137), the research will also be focused on them.

The scientific research methodology used for this paper is based on interdisciplinary triangulation involving approaches from behavioural economics, management – marketing and organisational sociology. In terms of research techniques we used content analysis (Kippendorff, 2004). The content analysis was accomplished based on the articles from the online Economic & Financial category, with most visits, according to the Audience and Internet Traffic Study (AITS). The trend analysis was selected from among the various types of content analysis (Chelcea, 2004, p. 227).

2. Epistemological configuration of organisational behaviour in behavioural economics

The current economic crisis has precipitated the economists' concerns to discuss the stability of the structure and the foundations of economic science. Was the economic system built on the wrong basis? This is one of the questions to which illustrious people from the field of economic science and practice are currently trying to find an answer. The theoretical construction of homo oeconomicus, most probably originally used by Pareto (Pareto, 1971, pp. 12-13), but developed and promoted by Adam Smith and the paradigm of the invisible hand had, over time, many critics: from the economists of the Austrian School Veblen (2005), Keynes, Simon (1997, p. 277) who have questioned his

understanding of the macroeconomic forecast, to other Nobel prize laureates and other scientists who have imposed themselves as notoriety. The existence of homo oeconomicus only methodologically and not in the real economy and the loading of progress with the objective function of maximising wealth are considered the causes of the necessary changes in the assumptions of economics (Dinu, 2007).

The utility function which is at the basis of his choices was accused of ignoring the social values, that homo oeconomicus can become unethical by focusing exclusively on maximising the utility of his actions, encouraging selfish behaviours and discouraging altruism and equity, being mainly extrinsically motivated. Nevertheless, perhaps the most present and daunting critique refers to the economic actors' limited rationality. Reality has shown that people are often irrational, self-destructive, they repeat the same mistakes, they do not evaluate risks appropriately, they make decisions based on emotions and not necessarily on rational stimuli, and they are obsessed rather to obtain immediate rewards than to ensure their long-term welfare.

Such behaviours limited from a rational point of view are demonstrated by economists especially in correlation with the income factors, investment, capital market, consumer behaviour, spending and saving. For example, one of the forerunners of introducing the notion of irrationality in economy, Irving Fisher, shows the dependence of the impatience factor on the income distribution on time and of the irrational behaviour based on the pressure of the current needs which cover the future needs (1907, p. 95). Simon, Nobel Prize winner for economics in 1978 for the study of the decision making processes in the economic organizations and partisan of introducing the notion of subjective rationality in the economic behaviour, also explains why this notion is crucial. He quotes Weber and Popper who considered that the main task of the social sciences and even one of the main sources of legitimacy is the attempt to substitute rational explanations for irrational explanations of the behaviour produced naturally by knowledge (Simon et al., p. 126).

In this context, behavioural economics has emerged from the need to study the determinants of the economic actors' behaviour in the real economy and not in the rational one which, most times, does not exist in practice. Personalities such as Shiller (2005) and Thaler, the favourites for the ultimate prize in economics in 2010 for the theories on the financial analyses from behavioural perspectives, Shefrin (2002 and 2008), Shleifer (2004), Statman (2010) as well as other Nobel Prize winners for economy in 2002 for the introduction of a perspective on psychological research in economics, especially with regard to the assessments and decisions in case of uncertainty, Kahneman (1982) and Smith (2000) have made important contributions in the

field. Their thought-provoking demonstrations start from certain realities: the markets' anomalies would not occur under investors' rationality; the fall of the shares due to investors' irrational exuberance, etc. and they aimed, among others, at identifying the ways in which risk can be influenced by regret, the effects of the investors' feelings on the market, etc. In 1988 Shefrin and Thaler developed the saving model theory of the behavioural life-cycle which demonstrates that people prefer immediate gratification and not long-term balanced consumption and expenditure (Urse, 2009).

In 2008 the economist Ariely presented the most frequent forms of human irrationality. In his book, considered best seller by the New York Times, he analyses, among others, the rationality of the decisions people make when they meet the words Free and Zero, virtually overlooking any disadvantage, by buying the products they did not need under the spur of these stimuli (Ariely, 2008).

3. Towards what do organisations tend in the rush to make profit?

Through exploiting the subjective irrationality or rationality elements of the economic behaviour, more and more companies seeking to sink the individual in a hypnotic state: the state of consumer, resort to advertising, as a manipulative factor. By getting away from its main function, that of informing, in the rush to make higher and higher sales and to make similar profits, advertising has increasingly started to create confusion among people through false needs, by imposing a false representation of reality, emphasizing narcissism, hedonism and individualism. Based on sociological, psychological knowledge of the human individual, on his/her behaviour, advertising is a real factor of influence. We exemplify in this respect an eloquent parable that circulates in advertising: a blind man was begging on Brooklyn in a spring, near a sign that read: "Help me, I am blind." Hardly had he got a few coins. It only took a creator of advertising to turn the sign and write: "It is spring outside; I cannot enjoy seeing it!", and the coins began to flow into the beggar's hat.

Advertising was originally designed to adjust the economic system ensuring the flow of production to consumption, drawing attention to certain quality products and services. Lately, however, advertising has accelerated the artificial obsolescence of objects and has developed certain areas of production, giving false dimensions to economic progress.

Since advertising reaches the emotional side of the human being, there occurs the issue of morality and ethics of the involved economic agents' behaviour. Ever since 1923 Bernays (2003, p. 103) had noted how after the proletarianization of workers capitalism went to the proletarianization of the

consumers. Building on the theories of his uncle Sigmund Freud, Bernays developed the possibilities of inciting to consumption in the industry world through advertising and public relations. Bernays appreciated that “physical solitude is a great terror for the gregarious animal, and the belonging to a herd gives it a sense of security. In humans, this fear of loneliness causes a desire for identification with the herd and with its views.” And yet the gregarious animal, after entering the herd, wants to share its opinions, Bernays recommends therefore the communicators to resort to individualism and to always speak to the consumer about his desire. From informing, advertising moved to persuading, and then from the clandestine persuasion to conducted consumption. Advertising sells trust, perfection and seduction and we believe that we obtain them once we purchase a product (Guénon, 2008, p. 43). Brune (1996, p. 7) stated that this pursuit of pleasure causes what could be called the mechanics of pleasure; it is reduced to the condition of a simple reaction, permanently controlled by stimuli. In such conditions, the presence of pleasure becomes more important than its quality. “Advertising invites us in a world of abundance in which objects rush to comply with our will.”

Is there Culiănu's opinion a radical view (1996, p. 218) which considers the whole world a huge commercial machine in which trade is an end in itself? “Life in the world of capitalist nihilism is a purely commercial accident, which serves or not to the extent to which it succeeds more or less to develop trade. The human being is either a trader, who knows how to use his/her life, or a negotiable entity, that is to say something that will serve anyhow the purposes of Commerce, but of which this ideal may also deprive itself. Someone's passion for something is useful only to the extent to which it is properly oriented, that is to say it has good commercial results. Faith, to the extent to which it can be exploited. Hope, because it is subordinated to it. In this world which breathes trade through its every pore, there is no room for anything else, except with the risk the person's physical or mental destruction. (...) everything is changed into or made equivalent to goods, all things use exchange, they are negotiable. (...) Philanthropy, godliness, kindness, temperance, all these are excluded from the commercial world, because they are inconsistent with the laws of exchange. Capitalist nihilism, which is the reduction of reality to the size of Trade, has as effect a radical madness of the human being, respectively his/her reduction to an object of commercial manipulation. (...) The world is turning into a huge commercial machine in which trade is an end in itself.” It certainly is a tough way of expression which we share only partially. But the current economic crisis, having, according to some authors, profound connotations, is regarded as a moral crisis of humanity. The fact that most companies do not encourage the promotion of sustainable policies that would

internalize the negative externalities, the main economic imbalances do not require the establishment of a new economy?

How can the organizations' behaviour be classified in the context in which they use subliminal advertising to manipulate consumers' behaviour by infiltrating the messages in their subconscious? Although he had captured long before the interest of some researchers, E. Potzel discovered as early as 1917 that certain phrases hidden in a powerful sound reach the subconscious and have a strong influence on people. Packard, American lawyer and journalist, addresses for the first time the influence of the subliminal messages in mid-twentieth century. His simple experiment not with very relevant results opened, nevertheless, the path to new research. After psychologists demonstrated the influence of subliminal messages, through which the body records and responds to the stimuli which reach its absolute minimum threshold, companies began to use them to promote products or services in advertisements. Packard, inserted for six weeks during a film which was running at the New Jersey cinema, at a too high speed, which could not be registered consciously, the messages: Drink Coca-Cola and eat popcorn. Surprisingly, but not for the savvy, the sales of these products have increased in significant numbers (Packard, Miller, 2007). Although the technique is prohibited by all laws in the world of broadcasting, subliminal advertising is the invisible weapon through which some companies discipline their consumers, making them dependent on their products. Subjugating thus this manipulation technique, the message is injected into the human brain in a split second, with the effects on the consumer behaviour of millions of people.

All the global trends in the advertising campaigns for incorporating the social media, the emergence of global virtual communities with hundreds of millions of members worldwide, the revolution of the social media reflected in the growing interest of consumers and, consequently of the business environment, with spectacular results shown in figures and statistics, have opened an unprecedented way to the companies that, in their excessive pursuit of profit, use flash subliminal advertising. In this context Brune (1996, p. 19) considers that to be effective, the advertising language bypasses our rational defence system, it "tends to anaesthetize intelligence through a thousand and one rhetorical processes, while striving to increase the recipient's credulity, luring him with the pseudo-evidence of the image, it stimulates and manipulates the public's emotions, keeping the fiction genres and prompting viewers to a critical attitude, it spreads traps to the consciousness caught in a network of voices and songs."

4. Research on the attitude reflected in the media concerning the behaviour of Romanian companies

As quantitative research method the study of written documents was used through the content analysis technique. The aim was to determine the attitude reflected in the press about the behaviour of Romanian companies. The content analysis was achieved based on the articles of the online Economic & Financial category, with most visits, according to the Audience and Internet Traffic Study (AITS) (Table 1).

Table 1

Website	Category	Company	Listing	Visits	Single customers
www.zf.ro	Economic & financial	Mediafax Group	282.008	98.316	63.151
www.wall-street.ro	Economic & financial	Internet Corp	180.783	62.255	50.693
www.avocatnet.ro	Economic & financial	Legalnet Media	159.691	56.328	46.077
www.capital.ro	Economic & financial	Evenimentul Zilei si Capital Publishing House	141.405	66.200	51.001
www.money.ro	Economic & financial	Q2M Interactive Advertising	132.269	64.892	50.373

Source: Audience and Internet Traffic Study, (online), available at: http://www.sati.ro/index.php?page=rezultate_site#nespecificat.

The registration unit that has been categorized and placed in the scheme of analysis was the article that contains the keyword Romanian companies. The period under review was January 1, 2007 – January 1, 2011, and data collection was carried out from July 1 to August 15, 2011, monitoring 863 articles.

Of the various forms of content analysis, trend analysis was selected (Chelcea, 2004, p. 227). Thus, the neutral attitude, favourable or unfavourable, could be highlighted in relation to the Romanian organisations, reflected in the press. Highlighting the trend was performed for the years analysed, using the formula:

$$AT = F - D/L,$$

where:

AT – trend analysis index;

F – number of favourable units;

D – number of unfavourable units;

L – number of units in relation to the topic.

The result was thus the evolution of the opinion expressed in mass - media, on the Romanian companies, necessary to continue the research on the Romanian companies' organisational behaviour (Table 2).

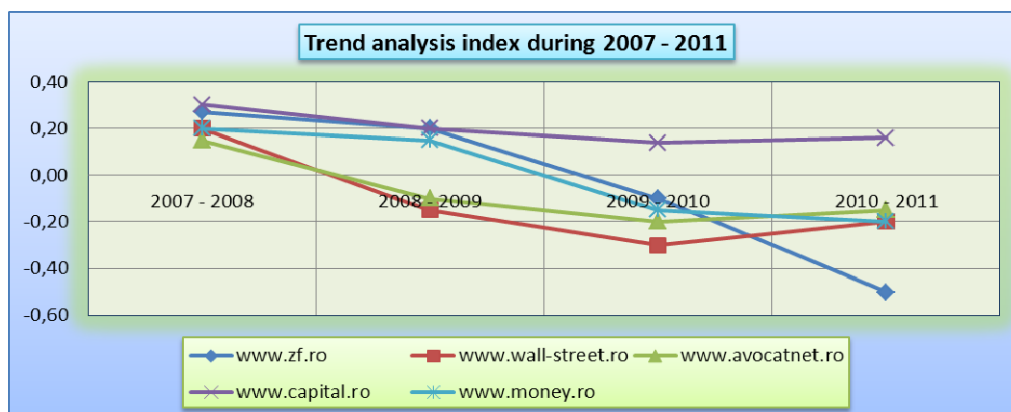
Table 2

Trend analysis index during 2007-2011

Website	Trend analysis index 2007-2008	Trend analysis index 2008-2009	Trend analysis index 2009-2010	Trend analysis index 2010-2011
www.zf.ro	0.27	0.20	-0.10	-0.50
www.wall-street.ro	0.20	-0.15	-0.30	-0.20
www.avocatnet.ro	0.15	-0.10	-0.20	-0.15
www.capital.ro	0.30	0.20	0.14	0.16
www.money.ro	0.20	0.15	-0.15	-0.20

Source: date processed by the author.

The resulting trend indicators show an impairment of the attitude towards the Romanian companies in the specialised media, in all five sources analysed. However, there are some differences in the proportion of favourable articles to the detriment of the unfavourable ones. Thus, in the years in which the trend analysis index was negative, the number of unfavourable articles exceeded that of favourable articles. The most unfavourable situation, illustrated in Graph 1, is recorded in the electronic edition of the Financial Newspaper, between January 1, 2010 - January 1, 2011 and the most favourable in the Capital between January 1, 2007 - January 1, 2008. The Capital magazine also puts emphasis on itself through the fact that none of the years under review concerning the number of unfavourable articles exceeded that of favourable articles.

**Figure 1.** Trend analysis

The main conclusion from this analysis is the speeding up of the production of certain changes in the behaviour of the Romanian organizations reflected in the restoration of corporate reputation.

The monitoring of the general, economic and financial news Websites, in addition to the measurable aspects reflected in the quantitative research, has also focused on:

- identifying the good practices of successful Romanian companies;
- observation of the main causes that determine organisational behaviours that generate poor corporate reputation;
- identifying the main obstacles faced by the companies in the Romanian business environment;
- the research of the results of the main studies of the Romanian companies, conducted by international organisations, public opinion research institutes, national and regional organisations offering consulting and auditing services, entrepreneurial research forums, etc.

The following classes of conclusions have resulted:

➤ *Performing companies and industries with development potential*

- The consulting services and audit Company PricewaterhouseCoopers assesses, as a result of a recent study, that in the next 15 years the number of new multinationals with mainly Romanian capital will boost. It could rise to about 190, a number comparable to those in Hungary or Ukraine, but lower than in Poland, which could reach 290, or Russia - 930. The most attractive industries are those benefiting from brand recognition and competitive advantages. These could be the food industry, the light industry, that of equipment for the oil industry and the software field. Among the best known companies that have already expanded their business abroad, the following were mentioned: Softwin, BitDefender, Rompetrol, Petrom, Policolor, Jolidon, Tender group (Deloitte Central Europe, 2011).
- Regarding the hierarchy of the biggest companies in Romania, they come from the energy sector, consumer goods and transport industry, manufacturing and telecommunications industry. The top 500 companies in Central Europe, made in 2010, includes Romania on the 5th position, containing 33 top companies. The most favourable positions held by the Romanian companies were occupied by Petrom – 25th position, Automobile Dacia – 48th position and Rompetrol – 70th position (Forbes, 2011).

- One area with great potential that can be better exploited by the Romanian companies is the IT field. As if defying the crisis, in 2010, the Romanian software exports have increased to a total value of 500 million Euros. A positive example is the award given by Google to a Romanian company that created one of the best applications for the Android system phones.
- *Obstacles which influence organisational behaviour in the Romanian business environment*
 - The Deloitte Central Europe study, as a result of an analysis made based on the predictions and opinions of 190 financial and executive directors and of the largest companies in six Central – Europe states: Romania, Poland, Hungary, Czech Republic, Slovakia and Croatia, show moderate optimism concerning the business environment. According to the business confidence index (Deloitte Business Sentiment Index – DBSI), the Romanian companies, on the one hand, are among the most optimistic in Central Europe concerning the general outlook of the national economy, and, on the other hand, their leaders are the most pessimistic about the financial prospects of the companies, only 15.4% expect an improvement, compared to Poland – 76.7% (Deloitte Central Europe, 2011) (Nicolescu, Haiduc, Nancu, 2011).
 - A study conducted by the National Council of Private Small and Medium Enterprises in Romania, in October 2008 - March 2011 and presented in the White Paper on SMEs in Romania in 2011, reflects a worrisome situation of the Romanian business environment generated by the crisis, by the fall in demand and the application of certain measures, such as increasing the VAT to 24%. Thus, in the analysed period, 24% of companies have gone bankrupt or have reached the state of bankruptcy, 44.4% of the Romanian SMEs have limited their activity, while only 12.6% recorded increases.
 - As a result of the harsh measures applied in the fiscal area, the number of companies with Romanian capital that have settled their headquarters in Bulgaria has increased eight times in the last five years, according to the National Revenue Agency of Bulgaria. As such, in 2010, more than 272 Romanian companies have submitted tax declarations on profit to the Bulgarian tax authorities, compared to only 33 firms in 2006.
 - A survey conducted by the World Bank in six countries in Eastern Europe: Romania, Bulgaria, Turkey, Hungary, Lithuania and Latvia, in

which 1,686 companies participated, reflects the fact that in Romania there was the highest rate of firms closed during the two-year period from the break of the crisis, respectively 17.6%. An aspect specific to Eastern Europe, illustrated by the survey, was the way in which the global crisis manifested itself, which was not primarily a financial crisis as in the Western countries, but a crisis manifested in the fall in demand and in the industrial production capacity. The study has also reported the significant reduction of the number of employees. In Romania, over 50% of companies have made layoffs and more than 15% of the Romanian companies have been having trouble paying salaries. Romania's difficult situation is also generated by the fact that a third of companies do not use internal funds or the profit to finance the labour capital. This has resulted, in half of the companies, in debt arrears.

- The ranking on the ease of doing business⁽¹⁾ – “Doing Business 2011”, conducted by the World Bank places Romania on the 56th position, one position down as compared to the previous year. In a ranking including 183 countries, Romania is situated below the Baltic countries or other countries, such as: Macedonia, Armenia, Azerbaijan and Tunisia, the most important negative factor for the Romanian business environment being the elimination of the minimum tax. However, due to simplifying the insolvency of firms and of the procedures for obtaining the construction permits, Romania manages to top economies such as the Czech Republic, Turkey, Poland, China, Italy, Greece, Russia, Brazil and India. The report of the European Bank for Development and Reconstruction - Transition Report 2010, Recovery and Reform, reflects the deficiencies in the Romanian business environment, the main obstacles for businesses in Romania being: payment and tax administration system, low skilled labour and corruption. We appreciate that all these deficiencies have direct influences on the organisational behaviour of Romanian companies (BERD, 2010).

➤ *Organisational behaviour influence elements which generate poor corporate reputation*

- The new economy encourages the development of companies' intangible assets. Brands represent a valuable capital for companies, already demonstrating the correlation between the product's brand image and the country's image. Thus, we consider important to mention that in 2010 Romania lost nine positions, being ranked 92 out of 110 in the country brand ranking (Country Brand Index) developed

by BBC World News and FutureBrand which analyses the complexity, the dynamics and the benefits of the events of nations as brands. Romania is the worst positioned EU member in this ranking. The only countries that Romania tops are: Rwanda, Sierra Leone, Mozambique, Ethiopia, Cameroon, Nicaragua, Ukraine, Algeria, Sudan, Bangladesh, Senegal, Libya, El Salvador, Nigeria, Congo, Pakistan, Iran and Zimbabwe (Future Brand, 2010).

- The “quite blurred” image abroad keeps away the foreign investors who have the financial funds for the purchase of Romanian companies, leading them to believe that it is not the time for business in Romania. According to one of the companies that manage one of the largest private capital funds groups in Central and Eastern Europe, the investment funds were available for Romania, in 2010, with about 400-500 million Euros.

➤ *Causes which generate poor organisational behaviours in human resources*

- The study Attitudes towards work in Romania, conducted in 2008 by the Soros Foundation, highlights some relevant aspects that may influence organisational behaviour: only one in ten Romanians totally agrees that the workplace gives him/her a high income or opportunities for getting promoted. At least 40% of the employed are in the situation in which their need for safety is not met, while for 58% the workplace does not provide income to meet their desires. More than half of the respondents, respectively 54%, prefer to work in a large firm and approximately half, respectively 51%, want to work for a public company. Another worrisome situation with impact on organisational behaviour, that the study presents, results from two types of behaviours to which the private companies with Romanian capital are prone: the employees who work without a work card or who work for a lower salary than the real one from the work card. On the other hand, based on another study on how multinationals are perceived, we can draw conclusions on the best practices that can be used by the Romanian companies in relation to the human resource: the possibility to advance in their careers, the attention towards the employed manifested by providing modern work spaces, non-financial benefits, as well as higher wages on the basis of ensuring a workplace culture, according to which the salary can grow only if productivity also increases accordingly, resulting in performance (Soros, 2008).

- Another study, reiterated here due to the effects on organisational behaviour of the Romanian companies, was conducted by the European Agency for Safety and Health at Work in the EU States, as well as by Croatia, Switzerland, Norway and Turkey, through interviews with 28,649 managers and 7,226 people responsible for the security and health of workers on the new and emerging risks. The study was conducted due to the influence of psychosocial risks: work-related stress, violence and harassment on human relationships and also on productivity and work quality. The survey findings reflect an unfavourable situation of the Romanian companies. Although 67% of them have experts in work safety, only in 29% of the Romanian companies there are psychologists, and the experts in ergonomics in even less, respectively 16%. At the opposite pole we find Finland and Sweden. In these countries, in 77%, respectively 68% companies, there are specialists in work ergonomics. And in Ireland and Great Britain, unlike the southern European countries, except Spain, there is a high degree of awareness; companies are adopting measures for psychosocial risk management (European Agency for Safety and Health at Work, 2010).

5. Conclusions

The conclusions drawn from the research reflect both the causes of poor organisational behaviour that revolve around: maximising the profit without taking into account the sustainable development of the firm; the unstable business environment that requires immediate solutions from the authorities; the low importance given to the development of intangible values; the public opinion often hostile to the Romanian products reflected in a country brand poorly positioned in the international rankings, minimising the importance of human capital, also highlight the effects of organisational behaviour. We mention the ones that were best outlined: the low scores of the financial and environmental performance reflected in the European charts, the poor adaptation to the dynamics and turbulence of the business environment, a poor organisational credibility.

Therefore, we present, along with other causes and effects of organisational behaviour of Romanian companies, some suggestions for their adaptation to the requirements of the new economy:

- An area with potential for the Romanian companies, which substantially leverages the intellectual capital in line with the

requirements of the new economy, is that of information and communications technology;

- Intensifying the efforts to develop the intangible values of companies: brand, image, public relations, corporate reputation that can provide competitive advantages, in line with promoting a policy of organisational credibility;
- The concern to a greater extent for the sustainable development of Romanian companies, in harmony with the environment to enhance the quality of life, by reference to eco-efficiency;
- Urgent settlement by the authorities of the numerous problems from the Romanian business environment;
- Increasing the involvement in minimising and subsequently in neutralising the adverse public opinion not through global programs which, as shown by practice, did not have the best results – we refer here to the campaigns Eternal and fascinating Romania, to the program Made in Romania, Romania always surprising, Fabulospirit, etc.; but through the concerted efforts of companies and public authorities, as the image of products reflects on the image of organisations, which in its turn reflects on the image of the country;
- The establishment of human capital as a key factor of business organisations, in convergence with the directions of the new economy.

We agree with the reflections according to which the current economic mainstream has some problems, that the economy's scaffolding must be rebuilt, that we need changes in the assumptions of economics, because as long as the moral laws are broken and the human society is governed only by self-interests, it will collapse.

We mention that for a far greater rigor, our future research directions are considering both an empirical research based on a questionnaire applied in the Romanian companies, as well as on qualitative research through the study of documents which provide information about behaviour, formal structure, economic status, but also the documents aiming at the acts of communication and the organisational image, such as: the company's regulations, its status, its flow chart or mission statement. All these are subsumed to the overall objective of identifying how organisational behaviour must work both inside and outside the company to determine performance in terms of reputation, with consequences on corporate sustainability.

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Note

⁽¹⁾ Until recently an indicator of competitiveness BM rankings.

References

- Agencia Europeană pentru Securitate și Sănătate în Muncă, 2010. „Săptămâna europeană pentru sănătate și securitate în muncă”. [online], disponibil la: < http://osha.europa.eu/ro/press/press-releases/european_week_safety_health_work_puts_spotlight_safe_maintenance>, [Accesat: 13. 11. 2011];
- Ariely, D. (2008). *Predictabiliy irrational: The Hidden Forces That Shape Our Decisions*, New York, Harper Collins
- Boboc, I. (2003). *Comportament organizațional și managerial. Fundamente psihosociologice și politologice*, Vol. I, Editura Economică, București
- Bernay's, E. (2003). *Cristalizarea opiniei publice*, Editura Comunicare.ro, București
- Brune, F. (1996). *Fericirea ca obligație*, Editura Trei, București
- Chelcea, S. (2004). *Metodologia cercetării sociologice. Metode cantitative și calitative*, Editura Economică, București
- Culianu, I.P. (1996). *Religie și putere*, Editura Nemira, București
- Dinga, E. (2009). *Studii de Economie. Contribuții de analiză logică, epistemologică și metodologică*, Editura Economică, București
- Dinu, M. (2011). *Economia de dicționar. Exerciții de îndemânare epistemică*, Editura Economică, București
- Dinu, M., „Homo oeconomicus”, *Revista Teorie Economică și Aplicată*, 2007, [online], disponibil la: < http://www.dinumarin.ro/pdf/articole/20/homo_oeconomicus_ro.pdf>, [Accesat: 3. 08. 2011]

- Deloitte, „Business Sentiment Index”, 2011, [online], disponibil la: <http://www.deloitte.com/view/en_GX/global/services/58368753f8993210VgnVCM200000bb42f00aRCRD.htm>, [Accesat: 12. 11. 2011]
- Dobrescu, E., Ioan – Franc, V. (1997). *Afacerile – Mică enciclopedie*, Editura Expert, București
- Dobrotă, N. (1999). *Dicționar de economie*, Editura Economică, București
- Doing Business, „Making a difference for entrepreneurs”, 2011, [online], disponibil la: <<http://www.doingbusiness.org/reports/global-reports/doing-business-2011/>>, [Accesat: 06. 11. 2011]
- European Bank for Reconstruction and Development, „Transition Report 2010”, 2010, [online], disponibil la: <<http://www.ebrd.com/downloads/research/transition/tr10.pdf>>, [Accesat: 14. 10. 2011]
- Fisher, I. (1907). *The rate of interest: its nature, determination and relation to economic phenomena*, The Macmillan company, New York
- Forbes, „Lista celor mai puternice companii din România”, 2011, [online], disponibil la: <http://www.forbes.ro/Lista-celor-mai-puternice-companii-din-romania_0_2113.html#>, [Accesat: 10. 11. 2011]
- Future Brand, „Country brand index”, 2010, [online], disponibil la: <http://www.futurebrand.com/wp-content/uploads/2010/11/CBI_BBC_2010_execsummary.pdf>, [Accesat: 19. 09. 2011]
- Guenon, R. (2008). *Criza lumii moderne*, Editura Humanitas, București
- Kahneman, D., Slovic, P., Tversky, A. (1982). *Judgement under uncertainty: Heuristics and biases*, Cambridge, Cambridge University Press
- Keynes, J.M. (2008). *The General Theory of Employment, Interest and Money*, Atlantic Publisher, New Delhi
- Krippendorff, K. (2004). *Content analysis: an introduction to its methodology*, Thousand Oaks, CA: Sage
- Nicolescu, O., Haiduc, I.C., Nancu, D. (2011). *Carta Albă a IMM-urilor din România – 2011*, ediția a IX-a, Editura Sigma, București
- Niculescu, N., „Economia bazată pe cunoaștere – noua economie?”, *Revista Economie Teoretică și Aplicată*, 2006, [online], disponibil la: <<http://store.ectap.ro/articole/17.pdf>>, [Accesat: 10. 08. 2011]
- Nobelprize.org, *Prize lecture*, 2010, [online], disponibil la: <http://www.nobelprize.org/nobel_prizes/economics/laureates/1978/simon-lecture.pdf>, [Accesat: 13. 08. 2011]
- Packard, V., Miller, M.C. (2007). *The Hidden Persuaders*, New York: Ig Pub.
- Pareto, V. (1971). *Manual of Political Economy*, Ed. A.S. Schweir and A.N. Page, New York
- Popescu, D. (2010). *Comportament organizațional*, Editura ASE, București
- Shefrin, H. (2002). *Beyond greed and fear: understanding behavioral finance and the psychology of investig*, Oxford University Press, Oxford
- Shefrin, H. (2008). *Ending the Management Illusion: How to Drive Business Results Using the Principles of Behavioral Finance*, McGraw – Hill Publisher, New York
- Shiller, R. (2005). *Irrational Exuberance*, Princeton University Press, New Jersey
- Shleifer, A. (2004). *Ineficient markets: an introduction to behavioral finance*, Oxford University Press, Oxford
- Simon, H. (1997). *Models of Bounded Rationality, Empirical grounded economic reason*, vol 3. The Massachusetts Institute of Technology Press, Cambridge, MA

- Simon, H., Egidio, M., Viale, R., Marris, R.L. (2008). *Economics, Bounded rationality and the cognitive revolution*, Edward Elgar Publisher, UK
- Smith, V. (2000). *Bargaining and Market Behavior – Essays in Experimental Economics*, Cambridge University Press, Cambridge
- Soros, „Atitudini față de muncă în România”, 2008, [online], disponibil la: <http://www.soros.ro/ro/comunicate_detaliu.php?comunicat=81>, [Accesat: 09.09. 2011]
- Statman, M. (2010). *How Investors Really Want: Discover What Drives Investor Behavior and Make Smarter Financial Decisions*, McGraw – Hill Publisher, New York
- Urse, L., „Lecturi și reflecții pe marginea unei probleme și a unei dezbateri”, *Revista Calitatea Vieții*, 2009, [online], disponibil la: < <http://www.revistacalitateavietii.ro/2009/CV-3-4-2009/11.pdf>>, [Accesat: 11. 08. 2011]
- Veblen, T. (2005). *The Theory of Business Enterprise*, New York: Cosimo Inc.

Effects of the Trilemma Policies on Inflation, Growth and Volatility in Bulgaria

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Abstract. *This paper finds evidence of the trilemma for Bulgaria, suggesting that exchange rate stability, monetary independence and free capital mobility are binding and constrained. The policy combination of exchange rate stability and monetary independence has been prevalent. More exchange rate stability increases the growth rate of real GDP whereas more monetary independence or free capital mobility reduces the growth rate. The inflation rate, inflation volatility and output volatility are not affected by either one of the three trilemma policies.*

Keywords: impossible trinity; three trilemma policies; inflation; economic growth; volatility.

JEL Codes: E44, E52, F31, F36.

REL Codes: 8E, 8F, 8H.

1. Introduction

Many countries would like to achieve exchange rate stability, monetary autonomy and financial openness in order to reduce exchange rate volatility, adjust interest rates or the money supply to stimulate a sluggish economy or cool down an over-heated economy, and attract foreign investments. The trilemma or impossible trinity of international economics suggests that only two of these three policies can be achieved at the same time (Ghosh, Gulde, Ostry, 1997, Edison, Klein, Ricci, Sløk, 2002, Prasad, Rogoff, Wei, Kose, 2003, Levy-Yeyati, Sturzenegger, 2003, Eichengreen, Leblang, 2003, Frankel, Schmukler, Serven, 2004, Shambaugh, 2004, Obstfeld, Shambaugh, Taylor, 2005, 2009, 2010, Henry, 2006, Kose, Prasad, Rogoff, Wei, 2006, Prasad, Rajan, 2008, Aizenman, Chinn, Ito, 2008b, 2011a, Aizenman, Ito, 2012, and others). The US achieves monetary autonomy and free capital mobility and allows the exchange rate to fluctuate freely and to be determined by market forces. Countries in the Euro zone choose exchange rate stability and free capital mobility and allows the European Central Bank to make monetary policy decisions. China pursues exchange rate stability and monetary independence and places some restrictions on capital mobility.

This paper tests the trilemma and examines potential impacts of these three trilemma policies on inflation, economic growth, inflation volatility and output volatility for Bulgaria. The study of this subject is significant as low inflation, economic growth and stability are among the most important macroeconomic goals. To the author's knowledge, none of the previous studies has used the latest data for free capital mobility or financial integration (Chinn, Ito, 2006, 2008, Aizenman, Chinn, Ito, 2011b) to examine the relationships between inflation, economic growth, inflation volatility and output volatility and these three trilemma policies for Bulgaria

Several recent studies have examined the related subjects. According to Frankel, Schmukler and Serven (2004), although several large advanced countries can select their own rates over the long run, most other countries with flexible exchange rates react fully to international interest rates in the long run. In the short run, countries with flexible exchange rates respond to international interest rates with slower speed, suggesting that they possess some degree of monetary autonomy.

Using a large sample including several East European countries, Obstfeld, Shambaugh and Taylor (2005) show that the trilemma can be considered as a guide for macroeconomic policy framework. Countries without pegging exchange rates and capital controls would retain sufficient amount of monetary

autonomy whereas countries pegging exchange rates and not having capital controls would lose significant monetary autonomy.

Using a large sample of 179 countries including Bulgaria, Aizenman, Chinn and Ito (2008b) find that for developing countries a more stable exchange rate results in more output volatility and higher inflation, and more monetary autonomy causes higher inflation. Aizenman, Chinn and Ito (2011a) reveal that a more stable exchange rate increases output volatility and investment volatility whereas more monetary independence reduces output volatility and that a more stable exchange rate or more free capital mobility reduces inflation whereas more monetary autonomy results in a higher inflation. Aizenman and Ito (2012) show that the three macroeconomic policies in emerging economies are converging toward a middle ground as they pursue managed exchange rates supported by large amounts of international reserves, some degree of monetary independence, and restrained financial openness. These emerging economies experience less output fluctuations whereas emerging economies with relatively low international reserves as a percent of GDP would suffer relatively high output fluctuations if they select policy divergence.

Căpraru and Ihnatov (2011) examine whether different exchange rate systems would affect monetary autonomy based on a sample of eight new EU countries outside of the Euro zone. Bulgaria is one of the countries. They find that countries with fixed or intermediate exchange rate systems are less sensitive to ECB's interest rate than countries with floating exchange rate systems and that countries with intermediate exchange rate systems preserve more monetary independence. It suggests that countries with flexible exchange rate systems have less monetary independence than countries with fixed or intermediate exchange rate systems.

2. The model

Extending Aizenman, Chinn and Ito (2008b, 2011a), Căpraru and Ihnatov (2011), Aizenman and Ito (2012) and other previous studies, we can express the trilemma equation as:

$$C = f(EX_t, MP_t, CM_t) \quad (1)$$

where:

C = a constant,

EX = exchange rate stability,

MP = monetary independence, and

CM = free capital mobility or financial integration.

If the goodness of fit in equation (1) is relatively high, it suggests that these three policies are binding and constrained. An increase in the value of one of the trilemma policies will reduce the value of one or both of the other policies. Note that equation (1) is written in the general form because different functional forms such as the linear, log-log, log-linear and linear-log relationships will be considered and tested.

We can use equation (2) to test potential impacts of exchange rate stability, monetary independence and free capital mobility on the inflation rate, the growth rate of real GDP, inflation volatility and output volatility:

$$Y_t = g(EX_t, MP_t, CM_t) \quad (2)$$

where:

Y stands for one of the following dependent variables:

π = the inflation rate,

GR = the growth rate of real GDP,

IV = inflation volatility, and

OV = output volatility.

More exchange rate stability is expected to stabilize the currency value and price level, reduce uncertainty, and help economic growth. On the other hand, more exchange rate stability may increase or reduce inflation or inflation volatility, depending upon whether the pegged anchor currency would appreciate, depreciate or be volatile. Depending upon monetary easing or tightening, the timing and the magnitude, more monetary independence may increase or reduce the inflation rate, the growth rate of real GDP, inflation volatility and output volatility. More capital inflows are expected to increase aggregate demand and the supply of funds, reduce lending rates, help economic growth, and may increase or reduce the inflation rate or inflation volatility. However, large amounts of abrupt capital outflows would reduce aggregate demand, destabilize an economy, cause currency depreciation, hurt economic growth, and may increase or reduce the inflation rate or inflation volatility (Chinn, Ito, 2008b, Aizenman, Chinn, Ito, 2011a, Aizenman, Ito, 2012).

3. Empirical results

EX, MP and CM are obtained from Aizenman, Chinn and Ito (2008b, 2010, 2011b) and Chinn and Ito (2006, 2008) and have values ranging from zero to one. A higher value of EX, MP or CM indicates more exchange rate stability, monetary independence or free capital mobility. EX is represented by:

$$EX = [1 + \sigma(\Delta \log(e)/0.01)]^{-1}, \quad (3)$$

where:

σ and e stand for the standard deviation and the nominal exchange rate. MP is measured by:

$$MP = 0.5 - c(r, r^*)/2, \quad (4)$$

where c , r and r^* stand for the correlation coefficient, the money market rate in Bulgaria and the money market rate in the US. CM is derived from the information regarding the requirement of the surrender of export proceeds, the presence of multiple exchange rates, and restrictions on current and capital account transactions, which are detailed in the *Annual Report on Exchange Arrangements and Exchange Restrictions* published by the International Monetary Fund. π is represented by the percent change in the consumer price index. IV is represented by the standard deviation of the inflation rate over a five-year period. GR is measured by the percent change in real GDP. OV is measured by the standard deviation of GR over a five-year period. The consumer price index and real GDP are obtained from the IMF.

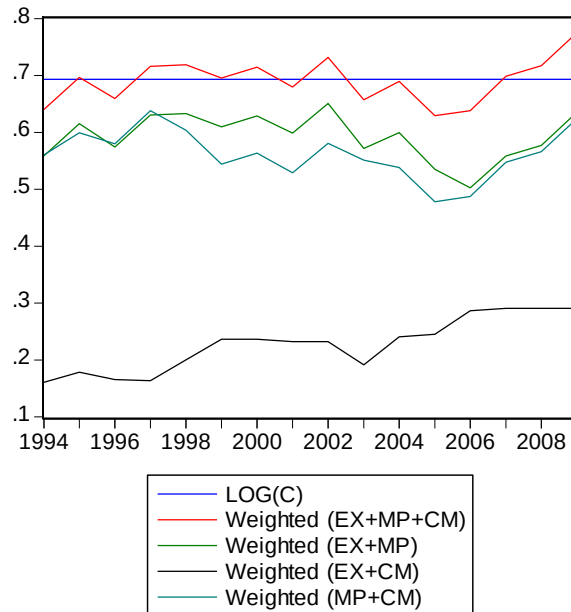
Table 1 presents estimated parameters, t-statistics and values of R-squared for the linear, log-log, log-linear and linear-log relationships in the trilemma equation. In order to test different functional forms and avoid any zero value after the transformation into the logarithmic scale, a value of 1 is added to each of EX, MP and CM. A value of 2 is chosen for the constant. The Newey-West method is used if consistent estimates of the covariance and standard errors are required. As shown, values of R-squared are relatively high, and all the coefficients are significant at the 1%, 5% or 10% level. Hence, there is support for the trilemma. A comparison of these four different functional forms suggests that the log-linear regression has the lowest values of the mean absolute percent error and Akaike information criterion. Based on the mean absolute percent error, the linear, log-log and linear-log regressions rank second, third and fourth, respectively. Based on the estimated coefficients, it appears that the Bulgarian authorities place more weight on monetary independence than exchange rate stability or free capital mobility.

Table 1

Estimated regressions for the trilemma test

	Exchange rate stability	Monetary independence	Free capital mobility	R ²	MAPE	AIC
Linear	0.218 ^b (2.726)	0.918 ^a (12.370)	0.202 ^b (2.109)	0.9970	4.363	-1.212
Log-log	0.304 ^b (2.788)	1.167 ^a (10.037)	0.295 ^c (2.066)	0.9782	7.732	-1.344
Log-linear	0.076 ^b (2.726)	0.318 ^a (12.370)	0.070 ^b (2.109)	0.9970	3.019	-3.331
Linear-log	0.876 ^b (2.788)	3.367 ^a (10.037)	0.551 ^c (2.066)	0.9782	11.302	0.775

Notes: Figures in the parenthesis are t-statistics. Superscript lower-case letters a, b and c indicate that a coefficient is significant at the 1%, 5% or 10% level. There is no intercept in the estimated regression. In the log-linear form, the dependent variable is transformed into the logarithmic scale. In the linear-log form, the independent variables are transformed into the logarithmic scale. Sample period: 1994-2009.

**Figure 1.** Analysis of policy combinations

Based on the log-linear regression, Figure 1 presents different policy combinations. The policy combination of exchange rate stability and monetary independence has been prevalent since 1998. Note that, in recent years, the policy combination of monetary independence and free capital mobility has moved closely with the policy combination of exchange rate stability and monetary independence, suggesting that these two different policy combinations may be considered when economic conditions have changed and demand a change.

Table 2 presents estimated regressions for the inflation rate, the growth rate, inflation volatility and output volatility. As the table shows, the explanatory power is relatively high for the regression of the growth rate and relatively low for the regressions of the inflation rate and inflation volatility. The inflation rate, inflation volatility and output volatility are not affected by either one of the three trilemma policies. On the other hand, the growth rate is positively affected by more exchange rate stability and negatively influenced by more monetary independence or more free capital mobility.

Table 2

**Estimated regressions for the inflation rate, the growth rate,
inflation volatility and output volatility**

Dependent variable	Exchange rate stability	Monetary independence	Free capital mobility	Constant	R ²
Inflation rate	-274.314 (-1.435)	559.316 (1.105)	155.742 (0.736)	-34.513 (-0.118)	0.370
Growth rate	5.662 ^c (1.736)	-14.668 ^c (-2.063)	-5.471 ^c (-1.950)	7.508 (1.300)	0.514
Inflation volatility	179.255 (1.196)	525.324 (1.441)	-239.656 (-1.463)	-109.586 (-0.531)	0.334
Output volatility	-2.969 (-1.109)	6.781 (1.680)	-1.606 (-0.744)	3.892 (1.056)	0.446

Notes:

Figures in the parenthesis are t-statistics. Small letter c indicates that a coefficient is significant at the 10% level. Sample period: 1994-2009.

4. Summary and conclusions

This paper has found support for the trilemma for Bulgaria. It suggests that there is a tradeoff among exchange rate stability, monetary independence and free capital mobility. More exchange rate stability raises the growth rate whereas more monetary independence or more free capital mobility reduces the

growth rate. The inflation rate, inflation volatility and output volatility are not influenced by either one of the three trilemma policies.

There are several policy implications. In testing the trilemma, different functional forms need to be considered. The widely used linear relationship may result in larger forecast errors than other functional forms. It would be beneficial for Bulgaria to pursue more exchange rate stability in order to raise the growth rate of real GDP. Monetary policy may need to be evaluated as more monetary autonomy reduces the growth rate and does not result in other positive outcomes. As the sample size increases in the future, these regressions may need to be re-estimated in order to determine whether the conclusions may change.

References

- Aizenman, J., "The Impossible Trinity (aka The Policy Trilemma)", *The Encyclopedia of Financial Globalization*, UCSC and the NBER, May 2010
- Aizenman, J., M. Chinn, D., Ito, H., "The "Impossible Trinity" Hypothesis in an Era of Global Imbalances: Measurement and Testing", University of Wisconsin & the NBER Portland State University, *UCSC & the NBER*, November 29, 2008a
- Aizenman, J., Chinn, M.D., Ito, H., "Assessing the Emerging Global Financial Architecture: Measuring the Trilemma's Configurations over Time", *NBER working paper series*, Working Paper 14533, December 2008b, <http://www.nber.org/papers/w14533>
- Aizenman, J., Chinn, M.D., Ito, H., "The Emerging Global Financial Architecture: Tracing and Evaluating the New Patterns of the Trilemma's Configurations", *Journal of International Money and Finance*, 29, 2010, pp. 615-641
- Aizenman, J., Chinn, M.D., Ito, H., "Surfing the Waves of Globalization: Asia and Financial Globalization in the Context of the Trilemma", *Journal of the Japanese and International Economies*, 25, 2011a, pp. 290-320
- Aizenman, J., Chinn, M.D., Ito, H., "The Trilemma Indexes", April 17, 2011b. http://web.pdx.edu/~ito/trilemma_indexes.htm
- Aizenman, J., Ito, H. (2011a). *The 'Impossible Trinity,' the International Monetary Framework, and the Pacific Rim*, Forthcoming in I. N. Kaur and N. Singh ed., *Handbook of the Economics of the Pacific Rim* (Oxford University Press)
- Aizenman, J., Ito, H., "Trilemma Policy Convergence Patterns and Output Volatility", manuscript, UCSC, 2011b
- Aizenman, J., Ito, H., "Trilemma Policy Convergence Patterns and Output Volatility", *NBER working paper*, NBER, January 2012
- Aizenman, J., Glick, R., "Sterilization, Monetary Policy, and Global Financial Integration", *Review of International Economics*, 17, 2009, pp. 816-840
- Aizenman, J., Lee, J., "International Reserves: Precautionary versus Mercantilist Views, Theory and Evidence", *Open Economies Review*, 18, 2007, pp. 191-214

- Aizenman, J., Marion N., "International Reserves Holdings with Sovereign Risk and Costly Tax Collection", *Economic Journal*, 114, 2004, pp. 569-591
- Aizenman, J., Sengupta, R., "The Financial Trilemma in China and a Comparative Analysis with India", *UCSC and the NBER; IFMR*, India, November 2011
- Calvo, G., "Monetary Policy Challenges in Emerging Markets: Sudden Stop, Liability Dollarization, and Lender of Last Resort", *NBER working paper*, No. 12788, 2006
- Căpraru, B., Ihnatov, I., "The effect of exchange rate arrangements on transmission of interest rates and monetary policy independence: evidence from a group of new EU member countries", *Scientific Annals of the "Alexandru Ioan Cuza" University of Iasi – Economic Sciences Section*, 58, 2011, pp.71-81
- Cheung, Y.W., Ito, H., "Cross-sectional Analysis on the Determinants of International Reserves Accumulation", *International Economic Journal*, 23, 2009, pp. 447-481
- Chinn, M.D., Ito, H., "What Matters for Financial Development? Capital Controls, Institutions, and Interactions", *Journal of Development Economics*, 81, 2006, pp. 163-192
- Chinn, M.D., Ito, H., "A New Measure of Financial Openness", *Journal of Comparative Policy Analysis*, 10, 2008, pp. 309-322
- Edison, H.J., Klein, M.W., Ricci, L., Sløk, T., "Capital Account Liberalization and Economic Performance: A Review of the Literature", *IMF Working Paper*, Washington, D.C.: International Monetary Fund, May 2002
- Eichengreen, B., Leblang D., "Exchange Rates and Cohesion: Historical Perspectives and Political-Economy Considerations", *Journal of Common Market Studies*, 41, 2003, pp. 797-822
- Frankel, J.A., Schmukler, S.L., Servén, L., "Global Transmission of Interest Rates: Monetary Independence and Currency Regime", *Journal of International Money and Finance*, 23, 2004, pp. 701-733
- Ghosh, A., Gulde, A., Ostry, J., "Does the Nominal Exchange Rate Regime Matter?", *NBER Working Paper* No 5874, 1997
- Henry, P.B., "Capital Account Liberalization: Theory, Evidence, and Speculation" *NBER Working Paper*, No. 12698, 2006
- Kose, M.A., Prasad, E., Rogoff, K., Wei, S.J., "Financial Globalization: A Reappraisal", *IMF Working Paper*, WP/06/189, Washington, D.C.: International Monetary Fund, 2006
- Levy-Yeyati, E., Sturzenegger, F., "To Float or To Fix: Evidence on The Impact of Exchange Rate Regimes on Growth", *The American Economic Review*, 93, 2003, pp. 1173-1193
- Jeanne, O., "The Triffin Dilemma and the Saver's Curse", prepared for the 4th Santa Cruz Institute for International Economics (SCIE), *Journal of International Money and Finance Conference*, September 23-24, 2011
- Kaminsky, G., Schmukler, S.L., "Short-Run Pain, Long-Run Gain: The Effects of Financial Liberalization", *World Bank Working Paper* No. 2912; *IMF Working Paper* No. 0334. Washington, D.C.: International Monetary Fund, October 2002
- Kose, M.A., Prasad, E., Rogoff, K., Wei, S.J., "Financial Globalization: A Reappraisal", *IMF Working Paper*, WP/06/189. Washington, D.C.: International Monetary Fund, 2006
- Mankiw, N.G., "The Trilemma of International Finance", *New York Times*, July 1, 2010. <http://www.nytimes.com/2010/07/11/business/economy/11view.html>
- Mundell, R.A., "Capital Mobility and Stabilization Policy under Fixed and Flexible Exchange Rates", *Canadian Journal of Economic and Political Science*, 29, 1963, pp. 475-485

- Obstfeld, M., Shambaugh, J.C., Taylor, A.M., “Financial Stability, the Trilemma, and International Reserves”, *American Economic Journal: Macroeconomics*, 2, 2010, pp. 57-94
- Obstfeld, M., Shambaugh, J.C., Taylor, A.M., “Financial Instability, Reserves, and Central Bank Swap Lines in the Panic of 2008”, *NBER working paper*, No. 14826
- Obstfeld, M., Shambaugh, J.C., Taylor A.M., “The Trilemma in History: Tradeoffs among Exchange Rates, Monetary Policies, and Capital Mobility”, *Review of Economics and Statistics*, 87, 2005, pp. 423-438
- Prasad, E.S., Rajan, R. “A Pragmatic Approach to Capital Account Liberalization”, NBER Working Paper #14051, June 2008
- Prasad, E.S., Rogoff, K., Wei, S.J., Kose, M.A., “Effects of Financial Globalization on Developing Countries: Some Empirical Evidence”, *Occasional Paper 220*, 2003, Washington, D.C.: IMF
- Shambaugh, J.C., “The Effect of Fixed Exchange Rates on Monetary Policy”, *The Quarterly Journal of Economics*, 119, 2004, pp. 301-352

Non Security – Premise of Cybercrime

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Abstract. *It is presented the concept of cyber crime. There are detailed the vulnerabilities of IT applications. There are listed the types of Internet fraud. There are analyzed the predisposing factors of cyber crime. There are identified the deficiencies of the security systems. It is build a model for information security management.*

Keywords: cyber crime; applications; vulnerabilities; skimming; phishing.

JEL Code: C63.

REL Code: 9J.

1. On-line applications and cyber crime

The informatics application defines computer software designed to automate and increase efficiency of human activities in both the virtual and real environment. The applicability domain of the software products starts from simple processes such as forms' loading and printing and continues with complex processes that are part of software technology such as the electronic product manufacturing stages.

The main role of a computer application is to take over and facilitate the work of the human factor. Also, using computer applications it is assured users access to products and services.

In the online services, computer applications take the user interaction component, assuring him the possibility of documentation of products, of choosing the desired products, and the possibility to pay the products, but within the on-line control operation should be interposed human factor, its role being to provide transport between online store and customer. Computer applications are based on a set of software and hardware components, the hardware components are providing the equipment necessary for the application functionality and the software components assure the application's programs. A computer system consists of: computers, data transmission systems, other hardware components, software, processed data, personnel operating the computer, theories underlying processing algorithms (Ivan, Ciurea, 2009).

Internet, as a large computer network, is developing each year in explosive rate, becoming the base of all informatics' technology. The Internet is an information "network of networks" gathering thousands of unrelated networks coming from dozens of countries. It is a virtual network consisting of a growing number of LANs (Local Area Network-LAN) – public and private wide area network (Wide Area Network – WAN), regional and national networks interconnected (Ivan, Apostol, 2003, pp. 32-38).

Amount of information stored and accessible on the Internet is growing rapidly. Research on the Internet topology shows that in the apparent chaos of the Internet there are independent scale and self-organization characteristic. Thus, Barabasi et al. (2000) show that *www* diameter, defined as the shortest average distance between two sites, was in 2000 more than 19 links. Because of logarithmic dependence Internet volume, even a 1000% increase in the number of links *www* will not rise above 21.

Internet, as a network, continues to provide development support. Technologies and applications provided through the *World Wide Web* evolve into an alert rhythm, providing both variety and utility. Currently, most services from the real world find their virtual equivalent, accessible via the Internet, the

main advantage of the Internet is time saving, because the process of accessing services is automatically and it is not necessary to be present in a given geographical area in order to access Internet services.

But the Internet has some shortcomings that are generated not necessarily the technology itself, but rather by the human factor. The shortcomings are related to the confidentiality of information that is circulated through the Internet. Because of the complexity and heterogeneity of systems that are interconnected via the Internet, it is difficult to ensure full confidentiality of information, considering that it is sufficient that at some point in one of the systems considered safe to be discovered a vulnerability allowing unauthorized access to that system resource.

The first incident based on the exploitation of vulnerabilities in operating systems was recorded in 1988 with the advent of an application that was created for scientific purposes, for determining the size of the Internet; this application is called Morris Worm⁽¹⁾. The reason why the application was considered dangerous is the fact that the spread in the network and run automatically without user permission, exploiting certain vulnerabilities of operating systems, existing the possibility that someone would use this application to collect information personal. There was an increase of incidents of this kind and then a variety of other types. Along with a increasing amount of data presented on the Internet grew, the cyber attacks have taken a larger area.

Electronic theft has become a permanent presence for storage, processing and transmission data in the online environment. Today, the concept of cyber crime is a form of criminal activity which consists in obtaining confidential data, and data access for applications like banking, e-commerce applications or information on credit cards, using data manipulation techniques identity of a person or an institution.

Electronic deception the most common and best known method of cheating by electronic means is *phishing* operation, a procedure whereby a user of electronic financial services is misled to communicate confidential information to unauthorized persons. This information is used later to gain access to the victim's bank accounts to withdraw money from these accounts or to pay for various services and products. Techniques and methods used by criminals are the most diverse. For example, bank customers are contacted by phone for a specific bank and are asked the identification codes for access to their accounts, justifying the need to update the data bank's computer system.

Another way often used through the Internet is sending official-looking e-mails which advise users to access certain websites with which are then collected personal data of users. These websites are copied, the technical term is cloned site, at the graphic level, usually after the official websites of financial

institutions, easily fooling the average user. Phishing operation gained momentum with widespread of the online banking services due to the possibilities arising from the opening of the Internet, and the lack of an organization to regulate and control access to financial transactions. Another factor contributing to the success of phishing attacks is naive users combined with the lack of adequate training on how to use and protect personal information.

As illustrated in Figure 1, based on statistics provided by RSA⁽²⁾, the number of phishing attacks is increasing as there are new tools that facilitate the creation and development of phishing attacks. These tools provide offenders who have very strong knowledge of computers access to advanced technology, and therefore it is normal to the number of attacks since the number of individuals who launch these attacks increases.

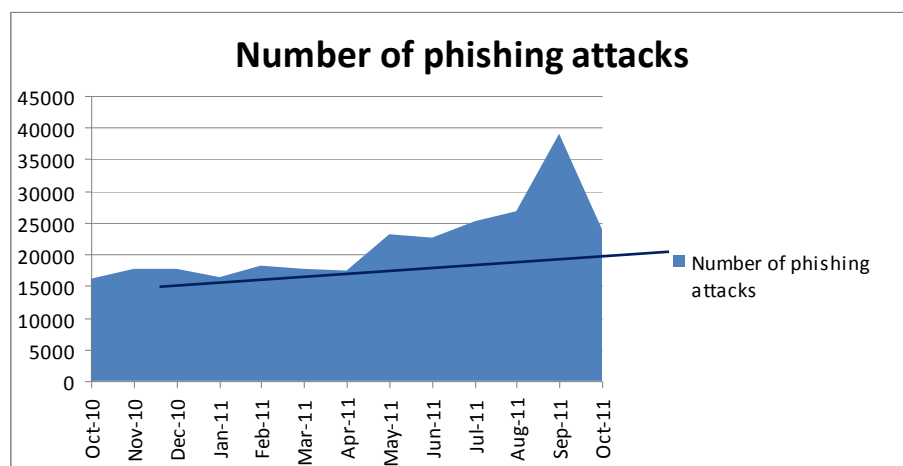


Figure 1. *The evolution of phishing attacks in 2011⁽²⁾*

These sets of tools called phishing kits evolves and becomes an industry. If some time ago who thought and implement mechanisms phishing was the one who actually launch attacks, currently phishing solutions are implemented by well organized groups that sold on these sets of tools to those who are willing to use them and ready to pay for them.

A set of specialized tools for phishing attacks include:

- one or more specialized computer programs used to create a database with e-mail addresses which are used to reach targets attack;

- one or more software or plug-in for web browsers that can be used in a Man-In-The Middle architecture to check in real-time the validity of information provided by the user;
- scripts that are used to determine system specifications used by the victim, these specifications is limited in most cases at: screen resolution, Internet browser version, the time zone in which the user is located, etc.;
- automated tools that scan sites used as the target of the attack, for automatic extraction of graphic symbols, HTML sources and other elements used to help generate further authentication pages that are graphically identical with the original page.

As shown, the trend is the developing of multi-level criminal structures, which makes it more difficult to identify and remove items that are based on this type of crime. However, with automation and use of templates attacks becomes possible to create security solutions to identify phishing attacks before they affect end users. Most security solutions providers have added in the existing modules additional mechanisms to detect unauthorized access (Intrusion Detection System) to monitor content that is displayed by Web browsers, as well as modules for filtering electronic messages (Spam Filters) to reduce risk user to receive electronic messages from servers that are considered high risk. Going forward, creating a viable architecture for rapid detection and stop this type of attack requires the use of collaborative mechanisms between security solutions, so that when a security solution detects a phishing attack template, that template to be distributed in real time to other security solutions. Currently this is done easiest using solutions from the same manufacturer, the main reason why is more difficult to implement an architecture that allows inter-operation solutions from several manufacturers derives from the fact that there is no protocol or a way to inter-operate between different solutions for security vendors, and also because is involved the human factor, through the need to form a working group bringing together several companies producing security solutions for establish a standard for storing information about phishing attacks.

Architecture options for intercommunication between two or more security solutions are the option to connect peer-to-peer interconnection option through servers' zonal coverage. The two architectures are shown in Figure 2 and Figure 3.

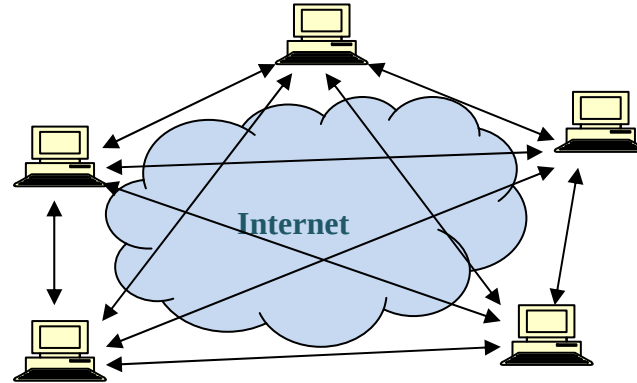


Figure 2. *The peer to peer configuration*

Note that for peer-to-peer architecture, in order to avoid loops by propagating the same template multiple detection methods, it is necessary to identify the protocol level, to determine when there is a need for a particular template.

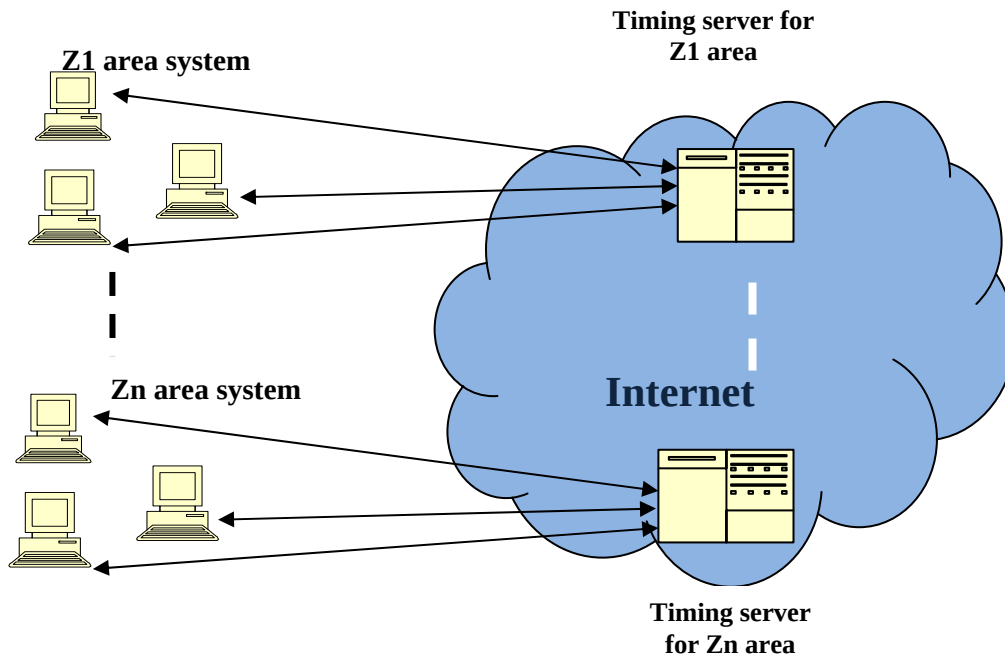


Figure 3. *Configuration with synchronization patterns through regional servers*

Solution with servers' regional advantage is the fact that more easily adapts to current security solutions compared to solutions using peer-to-peer model, primarily because it does not generate a dependency between existing security solutions, but based on a fixed structure of the information on the synchronization server. In this way each manufacturer is free to implement and optimize solution as end-user wants.

Another aspect that is treated differently to optimize resources and effective solutions in a server-based architecture area is related to the fact that cyber attacks vary in intensity and complexity from area to area as illustrated in Figure 4, where is the distribution of phishing attacks globally, the graph is made on the same data set as that used in the graph in Figure 1. Another thing shown in Figure 4 is that most attacks are directed towards the citizens of countries with developed economies and the banking systems are quite advanced and have reached a degree of maturity.

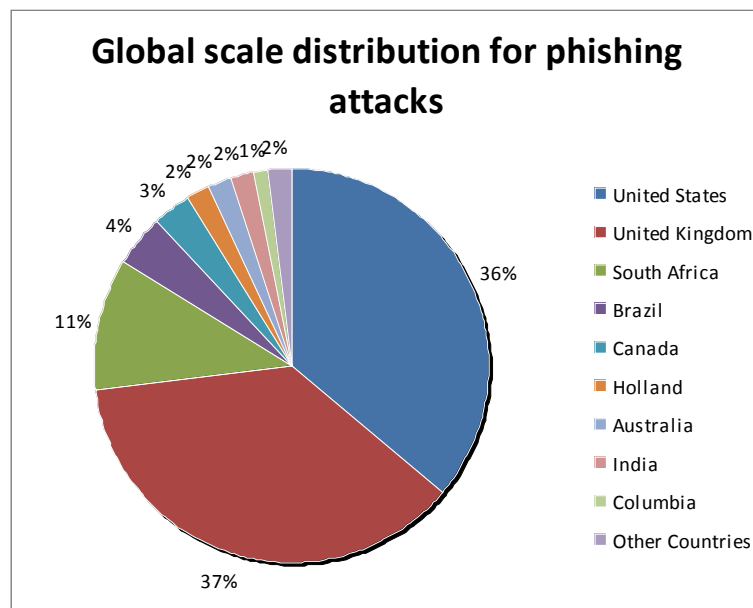


Figure 4. *The globally distribution of phishing attacks⁽²⁾*

Form all the methods of fraud over the Internet, phishing is one which requires that the attacker to be quite solid knowledge in computers and writing software in languages that allow access to any area of memory. Much of the fraud conducted over the Internet is based more on ingenuity and creativity in terms of deception than on their outstanding technical skills. These frauds

which depend on technical elements only to a lesser extent are quite difficult to control, using technical means (security solutions), and success or failure of these scams depend mostly on the human factor and its ability to identify fraud attempts. Are presented ways to defraud involving the technical elements used by a regular user of Internet.

Fraud by charging, by which the person concerned is required to pay in advance a series of taxes, will receive in exchange a certain amount of money or prize items. These fees are usually as processing fees, postage or fees for carrying out notarial acts. The victim pays these fees and receives nothing. The best example for this type of fraud are *Nigerian letters*, which the victim is important promise percent in exchange for helping to transfer large sums of money from a foreign country. In another scheme of fraud, the victim is convinced that won a major lottery, but that does not exist.

Fraud involving online auctions are conducted either by presenting auction sites a false object, which the offender belongs or does not meet the conditions set out in the notice, or by the fact that, after collecting money, the offender did not send product the transaction.

Fraud involving investments in which the offender submit a quote containing investment proposals requests for loans have certain services that are obtained as a result of an investment. Victims who send money as a result of receiving these e-mails will never get the promised services or goods of the offender.

Business fraud or Employment fraud type involves stolen identity, a scheme to refer to goods and counterfeit checks. The initiating fraud places a job on one of the sites with job offers from Internet. Those who respond are requested confidential personal information such as date of birth and social insurance number. They will then be used by the initiator fraud to buy goods on credit. They are sent to another person who answered the ad and was hired by the offender to receive merchandise. This return product to the originator fraud. Offender, which usually appears as a foreign company, pays the person who sent back check fake products that usually contain a higher amount than that required for shipping charges. The difference in money is transferred back to the person making the delivery of the offender, before the fraud is discovered.

2. Vulnerabilities in computer applications

The vulnerability of computer applications is given by the fact that information is lost, stolen, modified, improperly and illegally decrypted first source of vulnerability is given by the equipment used, the implemented software and database system used. Vulnerability is strictly related to

equipment reliability, equipment ensuring reliable and continuous operation parameters systems hosted on the improper equipment contributing to the improper operation.

Software vulnerability is given mainly by computer viruses, while vulnerability database is directly connected with unauthorized access to stored data and the destruction intentionally or by accident of the data.

The most common vulnerabilities of computer applications are given in Figure 5:

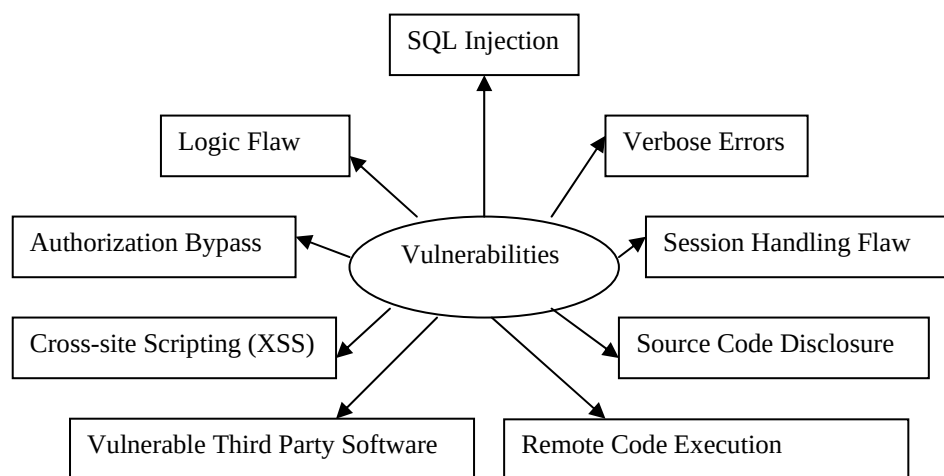


Figure 5. Types of applications' vulnerabilities

- *SQL Injection* is based on the fact that most web projects use databases to store and sort data. Structured Query Language (SQL) is used to access information from a database, its syntax differs slightly for different database servers, but SQL is a universal language suitable for all databases.

A vulnerability called SQL injection, SQL injection in short, occurs when an attacker enter any data in a SQL query or when, by injecting syntax, logic statement is modified in such a way as to perform a different action. The best way to defend against SQL injection routines are based on strong input validation.

Logic Flaw assumes that even for the simplest web application development requires a large amount of logic for each stage. This logic provides an opportunity for logical errors and logic errors provides a very basic range of attack, but are overlooked because they are scanned with specialized programs in identifying vulnerabilities.

Logical errors occur when the programmer or web developer doesn't consider all the effects it has on the application code written by him.

Authorization Bypass is based on the process of determining whether a user using a certain identity has permission to access a resource or not, and after checking granting him access to that resource is in accordance with system policies, regardless of the identity his real called authorization.

Vulnerabilities related to authorization and access appear anywhere in the web application, and refers to what happens when an attacker has access to a resource that would normally have access only authenticated users or who have certain privileges in those applications

- *Cross-site Scripting (XSS)* XSS is an attack technique, used to force a webpage to display a malicious code (written usually in HTML (Hypertext Markup Language)/JavaScript (also called malware)), which is then executed in a user's browser. This type of attack does not target server Web site (this is just a host), but malicious code is executed directly in the browser, because the real target of the attack is the user.

To infect a browser, must be visited a page that contains malicious JavaScript!

- *Vulnerable Third Party Software* assumes that applications taken from other companies or other users are considered safe by default. Many web applications from third parties are uncertain. For protection in these cases is advisable to check and test applications taken from third parties.

- *Session Handling Flaw* includes aspects of data handling user authentication and session management of its assets. Authentication is a critical process of this aspect, but even the strongest authentication process is undermined by the errors of management functions to verify credentials, including: changing passwords, forgotten password recovery function, the function of remembering passwords by application web updates accounts and other related functions. To avoid such problems, for any functions related to account management, user must then log in, even if it has a valid session id.

Internet user authentication requires at least a username and password. There are safer ways to market type authentication hardware and software based encryption and biometric tokens, but they are not very popular due to high costs of purchase. A wide range of errors related to accounts and session management resulting from the compromise of user accounts or system administration.

Verbose Errors they are not really a type of attack, but error messages are usually containing complete paths and file names, descriptions for the database schema, errors connected to the applications back logic and the environment where they are running.

A typical form used for authentication requires for the user to complete two fields (user name and a password), other applications, though, are asking for more information (birthday, PIN code). When an authentication process fails, there are applications that are detailing the cause of failure which can generate security issues and can ease the success of a brute force attack.

- *Source Code Disclosure* is a frequently encountered coding error, which more obvious in script based languages that are meant for web applications. This can be exploited by an attacker to obtain the source code for the application and configuration files through HTTP. Many of the web pages make available for the user files to be downloaded by using dynamic web pages. When the web browser asks for a page, that page will be executed on the server returning the result the web browser, so dynamic web pages are pieces of code that are being executed/interpreted on the server before returning any result to the user's browser. If the web application is not secure enough it is possible for an attacker to be able to download pieces of the source code, allowing him to create an image about the logic behind the application and identify the way that the web application is handling the requests, the parameters for these requests, database schema, potential vulnerabilities in the code, so having the source code makes it easier for an attacker to prepare his attacks on a given application.

- *Remote Code Execution* this kind of vulnerabilities allows the execution of an arbitrary set of instructions, in the security context of a legitimate application. Considering that these instructions set is being controlled by an attacker, these vulnerabilities are becoming very dangerous, especially in the cases where the vulnerable applications have access to the operations that are being executed at the operating system level.

Vulnerabilities diminution when speaking about informatics applications is being done by imposing measures of access control and the increase of applications' reliability. All these are being done by having a cost attached and this cost is becoming less significant when the measures are being taken during the design and implementation phases for the system.

It is considered:

S – the users set, composed by elements $s_1, s_2, \dots, s_i, \dots, s_{NU}$;

NU – number of users;

A – the set of records in the database, containing elements $a_1, a_2, \dots, a_i, \dots, a_{NA}$;

NA – number of records in the database, that are part of set A;

H – set of executable instructions for the software product, containing elements: $h_1, h_2, \dots, h_i, \dots, h_{NH}$;

NH – the number of executable instructions for the software product;

$F(X,Y)$ – analytical function for computing the difference between X and Y sets, with $[0; 1]$ codomain; if $F(X,Y) = 0$ then the two sets have no common element; the more $F(X,Y)$ becomes closer to 1, the more the two sets are alike; the more $F(X,Y)$ becomes closer to 0 the more the two sets are different;

$G(s_i)$ – function defined on S taking values in S , corresponding to behavioral changes for the users;

$D(a_i)$ – function defined on A , taking values in A , that corresponds to the changes in the content of the database records;

$C(h_i)$ – function defined on H , taking values in H , which corresponds to the changes in the source code of the application.

Usually, functions $G()$, $D()$, $C()$ have a definition based on resources that are being used for doing changes, some of them controlled by the application's administrator, some others controlled by those that introducing non-secure elements. For each of these functions a graph will be assigned.

Identifying vulnerabilities means finding, on the graph associated to each application, those edges that are producing changes over the sets S , A , respectively H , changes that are being appreciated both by the administrators and the users, like having undesired effects over the objective for which the application was built for.

Considering a set $T = \{t_1, t_2, \dots, t_i, t_{i+1}, \dots, t_{NT}\}$, where NT is the number of time moments and it will assigned to the sets S , A and H , time moments, so that $S(t_i)$ represents the set of users at the moment t_i , $A(t_i)$ represents the set of records in the database at the time moment t_i and $H(t_i)$ represents the set of instructions that are included in the application at the moment t_i .

Function $F(X,Y)$ establishes, in this context, if there are differences between the same sets at different time moments, which imposes the next relations to be calculated:

$$F(S(t_i), S(t_{i+1})) = k_1;$$

$$F(A(t_i), A(t_{i+1})) = k_2;$$

$$F(H(t_i), H(t_{i+1})) = k_3.$$

Depending on the values that were calculated for k_1 , k_2 , k_3 and depending on the graphs' edges that led to these values it will be concluded if the transformations are the result of some transaction made through the application or they are the effect of the non-security.

3. Ways to reduce insecurity

Reducing the insecurity is being resumed, most of the times, to covering vulnerabilities either by updating vulnerable applications, either by using some third party specialized applications that are offering protection against zero-day

attacks. The zero-day attacks that are often encountered are those that are using SQL Injection techniques and that most of the time are exploiting vulnerabilities that are coming from the development and quality assurance processes, so the first measure that can be taken in order to reduce this kind of vulnerabilities involves directly the awareness of the people involved in the development process so that they can see the necessity of avoiding situations where the user is allowed to indirectly create dangerous SQL queries, by using the information that is introduced in the forms without have strong validations enforced.

In the development stage the following techniques are being used for eliminating or reducing the risks related to SQL code injection:

- use of prepared statements;
- use of stored procedures;
- validation for the inputs received from the user, before effectively using these to build SQL queries;
- use of ORM frameworks (Hibernate, Entity Framework, etc.).

These techniques can come with additional time at the beginning of the development, due to the need of extra analysis and the need of having a structured code from the beginning, but long term, the use of these kind of techniques reduces the costs of development, maintenance and update for software applications.

The use of security applications capable of preventing SQL injection attacks introduces, most of the times, additional processing, and this fact will affect the performance of the application in the cases where an intensive usage is needed.

Another class of vulnerabilities with a serious impact, in a compromised system, is represented by remote code execution. This type of vulnerability appears most of the times due to the way the code in different informatics applications, “buffer overflows” problems being those that are allowing arbitrary code execution that will initiate remote attacks.

The code that initiates the attack is usually a TCP/IP client that connects to a remote server, from where it will receive different commands that will be executed on the host system, so the attacker will get to have unlimited access to the resources from the compromised system.

The attacks that are using buffer overflow techniques rely on binary code execution from the data segment. This has permitted for some new hardware technologies to be developed in order to prevent the execution of code from the part of memory assigned for data usage *DEP – Data Execution Prevention* and they are implemented at the micro-processor level, by using methods for

marking executable memory areas, and any attempt to execute code from outside that area will be blocked.

Another technique used for execution of remote code is based on exploiting web servers configuration vulnerabilities, so that Denial of Service problems are being generated, the information associated with the users of the web applications is being compromised together with the entire functionality inside the web applications that are hosted on the vulnerable web servers.

Taking into consideration that the possibility of executing remote code has a main action vector, the existence of a network link, no matter if that is an internal network or Internet, the options that we have for protecting against this kind of threats is to use specialized software applications that are able to monitor the traffic, firewall and Intrusion Detection Systems.

Vulnerabilities found in the operating systems have the largest target pool, first of all due to the fact that each modern device that is capable to run a informatics system has an underlying operating system. The important providers for operating systems are releasing security updates at least once a month, for covering the problems that are being discovered in the different usage scenarios, after constantly watching and analyzing the way that the systems are being used. Microsoft, for example, the company that develops the Windows operating systems, provides security updates for the users in the second Tuesday of a month and this day was named by the IT specialists the Patch Tuesday.

Together with update patches, the company also provides Information Bulletins where the technical details and the reasons for which those updates are needed. These updates are being distributed to the OS users automatically or by manual update, being recommended to have the system configured to run automatic updates with an update interval set for at least once a day.

So, for increasing the security and reducing the possible vulnerabilities it is very important for the operating system to have the latest updates. In a large organization with a high number of informatics systems it must be implemented a strategy and the things need to be organized for taking this updates. This is necessary, first of all, to avoid the overload of the external network connection and the overload for the update servers, as these things will just generate problems, by the simple fact that the systems will be unable to get the updates in time and they will be exposed for unlimited time against the possible threats that are covered by the update patches.

The most efficient way to avoid the overload for the external connection is to use one or more internal servers for the update process, the purpose for these servers is to take the updates from the original update servers and to

ensure that they are safely distributed in the internal network of the organization. In Figure 6 we have the structure that we discussed.

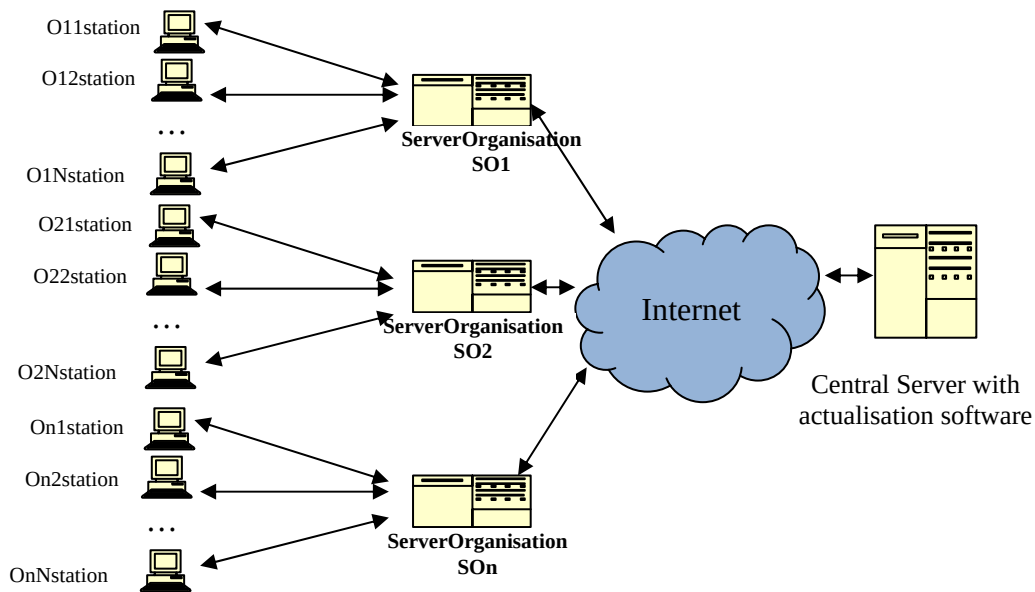


Figure 6. Tree structure for offloading the update servers

Using an internal server increases the efficiency of the way the internal and external resources are being used, by reducing the traffic on the external connection and the time needed for getting the updates.

4. Predisposing factors of cyber crime

Cyber crime is justified, most of the times, by huge financial earnings with relative low effort in a short period of time. This type of criminality is based on different vulnerabilities, discovered within the software applications that were created to facilitate and improve activities specific to the humans, but it is equally generated by the naivety of the people that are using these applications. Software applications are usually very complex, both from the point of the logic that is implemented and from the point of the functionality, and this fact leads to situations where not all of the variables that affect the functionality are taken into consideration and in this way the vulnerabilities and the security problems related to data handling arise.

So, one of the factors that contributes on creating security breaches and favoring the cyber crime is actually the complexity of the software applications

and the large number of functionalities that is being implemented inside these applications, the more complex an application is, the more chances to find security breaches.

Most of the times the users are those that are making the life of cyber criminals easier, showing more than naivety when they are engaging in financial transactions with persons or companies that they don't know and for which they don't have any guarantee. From the factors of cyber crime that are mostly dependent on the human factor we enumerate:

- Usage of on-line payment methods in unsecured working environments;
- Providing personal information on dubious websites;
- Not using specialized sites for certain activities, sites that have a high degree of certification;
- Paying in advance, without having the confirmation that the products were actually sent;
- Providing additional personal information, when this information is not really needed to validate the transaction.

Paying more attention to the information that is requested when completing a transaction, reading all the conditions involved, verification of the websites that are used for e-commerce will contribute on reducing the number of people that being cheated in the electronic environment.

The main cause for online cybercrime is related to the human factor. Regarding this aspect, it is necessary to increase the level of awareness regarding the danger that comes from the electronic theft. One that know this kind of frauds will be more careful when navigating the Web. The education of the user in order to prevent these methods of committing frauds is one of the first steps for effects diminution. Have a better knowledge for the danger that he is exposed, the user will be able to analyze that he has when accessing a website. It is well known the fact that many were cheated through false promotions where they were asked to transmit a given message in order to gain some benefits, in fact those messages were recharging the cards for mobile phones, owned by the crooks. Understanding and being aware of the danger to be robbed by electronic means the user will avoid providing identification information to unknown people.

Technically speaking the factors that are contributing on creating security breaches are generated by the fact that, during the development process for the software applications, the attention paid to security aspect is very low, the attention being directed more on the correctness of the implementation from the logical point of view, compared to the functionality requirements.

Releasing the software products on the market without packing the binary code, that is the result of the source code is another factor that has an important contribution in reducing the effort that cyber criminals are putting for compromising a software application. Packing the binary code involves encoding the executable code in such way that when someone will try to disassemble/decompile the executable code it will not be able to easily understand the logic behind and more important it will not be able to identify possible vulnerabilities in the code.

Additional to packing the executable binaries, it is also recommended to sign the applications with digital certificates, allowing the users to identify the situations where different components of the application were replaced (after a virus infection for example), allowing to a potential attacker to execute his commands in the context of a legitimate user/administrator, increasing the abilities that the virus has for spreading on even more systems and do more damage. So having applications that are not digitally signed is another risk factor.

Knowing the factors that promote insecurity allows the development of techniques and methods to cope with and prevent attacks.

5. Deficiencies for the security systems

Security systems that are used for protecting information systems are also informatics applications, being exposed to security threats in the same way as regular applications, the difference being that most of the security applications have their own mechanisms implemented for protecting against tampering attempts, considering actions as trying to force the termination of the processes included in the solution, code injection, etc.

Most of the times, security systems are complex systems, that require advanced technical knowledge for implementation; this a reason for which it is possible to have security flaws inside security systems, and examples can be found even for the most important players on the security solutions market. Security systems are usually specialized on certain types of attacks and vulnerabilities and most of the times they will not offer 100% protection against cyber-attacks, thereby most of the times it is necessary to use many security solutions for protecting a system and getting a higher degree of security. The systems that are widely used are those for detecting and preventing malware infections, with a mechanism that implies detecting the infections based on some signatures included in a local database that should be synchronized daily with a central database being updated by the security laboratories.

The number of malware applications created each day, reached 73000 in march 2011, according Panda Security⁽³⁾, which makes this protection mechanism to lose its efficiency, due to the large volume of information that needs to be updated and distributed to the users and if consider the fact that at some point there will be users that have wrong configurations, and they will not be updated in time, we have already some obvious issues with this approach.

Even if we assume that at some point the synchronization is up to date, it is highly unlikely that these updates will cover all of the new malware applications, so this approach will always lead to situations where the cyber criminals are one step ahead. For this reason, some of the antivirus providers have started to provide solutions that are based on detecting the behavior of the applications in order to identify malware actions. This technology is called *Behavior-Based Malware Detection* and is most of the times implemented by using heuristics methods.

This technology is still under-developed and it is usually used together with the conventional methods, based on signatures. One of the problems that is often encountered in the behavioral implementations is related to the false alarms (False Positives) because there is always possible that a normal application to reproduce partially or totally the behavior of a malware application.

The efficiency of anti-malware systems, E, will be determined based on at least two factors:

- Correct detections percentage
- Undetected threats percentage

using the following formula

$$E = \begin{cases} [PAC + (100 - PAN)] / 2, & PAN <> 100 \\ 0, & PAN=0 \end{cases}$$

PAC – correct alerts percentage, from the total number of alerts;

PAN – undetected threats percent.

Starting from this way of measuring the efficiency of a security system it can be established if the system fits the needs or not.

Security systems deficiencies are dependent by the nature of the informatics systems where the security components are integrated. In the case of banking systems, most of security deficiencies are showing up due to the naïve user's behavior, due to the wrong way of handling personal and confidential information and especially from implementing incomplete security

procedures that will not respond in real time to external challenges received by the informatics systems.

Having a vision to prevent security issues and to implement safety procedures that will run in new situations will reduce security breaches.

In the informatics systems it must be taken in consideration the implementation for a procedures regarding the response time, which will help identifying the true owner of the accessed data.

Going over the boundaries of the preset times enables the execution of some safety applications that will even inform a human operator that will validate the problem. Implementing the procedures based on the response times, will ensure a minimum time for manipulating the data used for accessing the system, the delays being specific to situations were unauthorized persons try to access the systems. Also, mixing procedures based on access times with procedures based on having unique access keys will lead to a superior securing for informatics systems.

Also, linking procedures based on access times using procedures based on unique introduction of access keys lead to superior security of the informatics' systems.

6. Conclusions

According to a recent study of the Symantec company⁽⁴⁾, from the financial point of view, the annual loses, seen at a global level, that were caused by cyber crime were evaluated to 114 billion dollars, on this we need to add also the indirect loses that were generated as a consequence of the security incidents recovery. So as we can see the non-security generates a series of problems that eventually, in the case of companies, will be directly reflected in financial loses.

There is no perfect security system that will ensure in the same time total protection for all classes of users, but using the right security systems, dramatically reduces the possibility for the information to be compromised. It is very important that each user to be aware of the risks that he is exposed to and to choose the security system that offers protection according to his needs. It is needed that the scientific research to generate new techniques, methods and instruments that will prevent the effects of insecurity, and also to foresee the new challenges and to be one step ahead by prevention. As it can be seen the cyber crime got through many evolution stages, starting from a simple attack on a computer, using a computer virus, reaching to attacks over an entire economical branch. The danger of cyber crime is growing as it involves stealing information that is considered to be private and allows accessing to personal

resources of the people. In order to increase the protection over these attacks, caution must be taken from the first steps when creating informatics systems, reducing or eliminating the risk of propagation over the users that are using computing resources.

Notes

- ⁽¹⁾ Carnegie Melon Software Engineering Institute, Security of the Internet, Froehlich/Kent Encyclopedia of Telecommunications, vol. 15.
- ⁽²⁾ See RSA Fraud Report, Noiembrie 2011, <http://www.rsa.com/>
- ⁽³⁾ <http://press.pandasecurity.com/usa/news/creation-of-new-malware-increases-by-26-percent-reaching-more-than-73000-samples-every-day-according-to-pandalabs/>
- ⁽⁴⁾ See http://www.symantec.com/about/news/release/article.jsp?prid=20110907_02, accesat Ianuarie 2012.

References

- Barabasi A.L. et al., „Scale free characteristics of random networks: the topology of the world-wide web, *Physica A, Elsevier Science B.V.*, 2000
- Goloșoiu-Georgescu Ligia (2003). *Mijloace, modalități și instrumente de plată*, Editura ASE, București
- Ivan, I., Apostol, C., „Certificarea produselor program prin amprente”, *Revista Română de Informatică și Automatică*, vol. 13, nr. 1, 2003, pp. 32-38, ISSN 1220-1758
- Ivan, I., Ciurea, C., „Quality Characteristics of Collaborative Systems”, *Proceedings of The Second International Conferences on Advances in Computer-Human Interactions*, ACHI 2009, February 1-7, 2009, Cancun, Mexico, paper published by IEEE Computer Society Press and IEEE XPlore Digital Library, ISBN 978-1-4244-3351-3
- Ivan, I., Toma, C., „Testarea interfețelor om-calculator”, *Revista Română de Informatică și Automatică*, vol. 13, nr. 2, 2003, pp. 22-29, ISSN 1220-1758
- www.bnro.ro

The Economic Crisis and Working Capital Management of Companies

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Abstract. *This article aims to highlight the impact of the economic crisis in the economy at the microeconomic level. The crisis that began in 2007 as a financial crisis, naturally grown into an economic one. Reduced availability of capital has reduced demand from vendors. It also worsened the possibility of rational adaptation, because the company had to deal with only short-term problems and there was not the opportunity and time for strategic management. The biggest problems hit the long inefficient firms (that survived only thanks to temporary excess demand) and growth-oriented businesses, which focused only on short-term time horizon. Paradoxically, firms that have had long-term ineffective conservative financing coped relatively well with the crisis by releasing detainee excessive working capital. At present there is uncertainty and companies are afraid of further development, which, as shown in the article, leads to further problems with working capital.*

The article is elaborated as one of outputs of researching project New theory of economy and organizations' management and their adaptation processes registrated at MŠMT of the Czech republic under registration number MSM 6138439905.

Keywords: crisis; corporate finance; working capital; strategic management; operating management.

JEL Codes: G30, M31.

REL Code: 14B.

Introduction

The economic crisis was at first a shocking news, which hit the US and European countries were awaiting its direct impact, many politicians (certainly in the Czech Republic). Long after the outbreak of the crisis, many European politicians called the crisis a panic that the Czech and other European states do not need to concern about at the moment. For example, the Czech Finance Minister Miroslav Kalousek was talking along these lines (Kalousek, 2008: p. 4) even in October 2008 (once again awarded the prize for the best finance minister of Eastern Europe). The reason for optimism was the absence of the so-called "bad loans" because Czech banks went through the great credit crisis in 1997 and didn't have any major problems before the onset of the crisis. The volume of loans fell by 14%, which would not cause the liquidation of companies. Gradually, however, the situation showed that a small economy, whose industry is largely linked to the automotive sector, could not avoid problems. In 2007, capital base of companies was about a quarter higher than in 2000, as well as asset performance. What has also increased – though not so vastly – was the creation of added value in relation to performance. Although the equity capital of banks did not reinforce its position as much as equity capital of firms, the pre-crisis volume of bad loans was considerably lower in 2008 than in 2001. The strong corporate and financial sector allowed them to cope with the huge drop in foreign demand. According to Singer (Governor of the Czech National Bank) another positive aspect was the fact that Czech banks and companies were in many cases led by managers with valuable experience from previous crises.

The impact of the crisis on the Czech economy in data on the macroeconomic level and other assumptions

When monitoring the impact of the crisis in each country in comparison with other countries, the most commonly used measure is the HPD development (Gross Domestic Product), Figure 1 shows the development of the crisis reflected using the GDP scale. It is evident that the Czech Republic, like most other states hit by the decline in 2009, then followed the process of economic recovery. The slowing growth rate, indicated by the interim results of 2011 raises many questions:

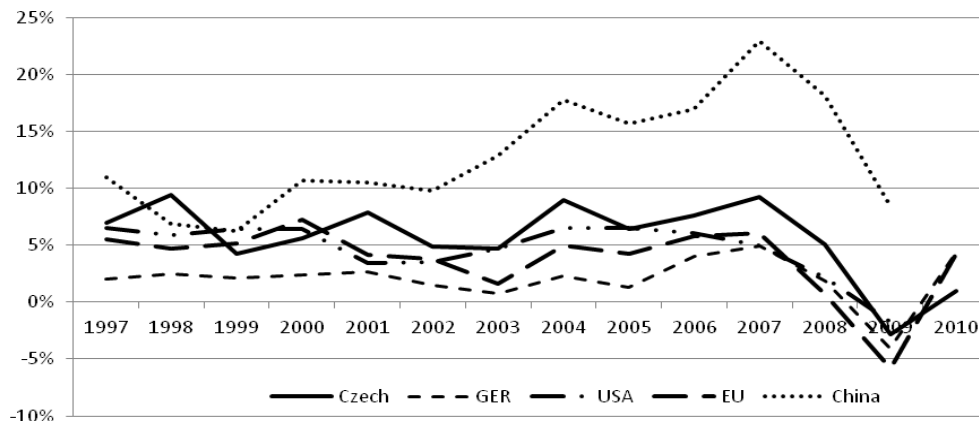
Should we expect another wave of crisis? (The "W" curve)

Will the second wave be any deeper or mild?

At the company level it is necessary to ask the following:

Are businesses ready for the crisis?

Do these businesses have the tools to continue to face adverse developments?



Source: own adaptation from OECD, 2011.

Figure 1. Development of GDP in recent years in selected countries

Czech Statistical Office tracks the so called confidence indicators in order to produce short-term predictions and analysis (Czech Statistical Organization, 2011).

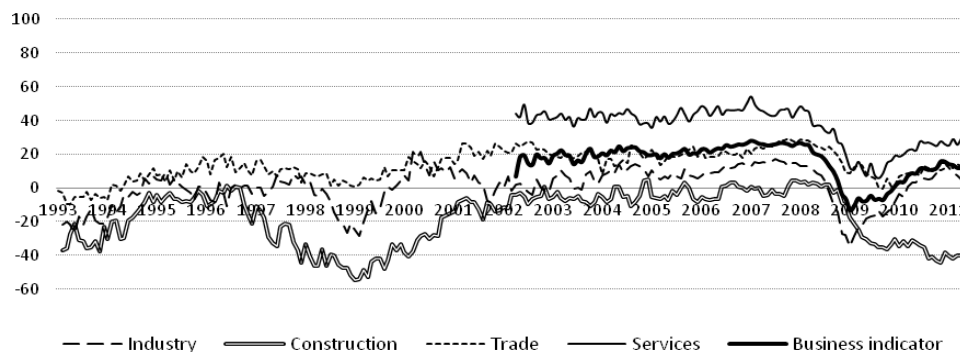
Business cycle surveys carried out in the enterprise sphere are an important source of information in the countries the economy of which is based on market relations; they provide information on expected tendencies in the development of main areas of enterprise economy in the nearest future. They are important especially because they show the atmosphere in enterprise environment and provide information well in advance and thus serve to identification of turning points in economy and provide information also for such areas that are difficult to describe by quantity data. In that sense business cycle surveys are organized and used in countries with developed market economy already for decades.

The branch confidence indicators are constructed as averages of seasonally adjusted weighted business cycle balances. The business cycle balance is the percentage difference between the responses “growth (+)” and “fall (-)”.

The confidence indicator for industry is the average of seasonally adjusted balances of three indicators (the assessment of total demand, assessment of stocks of final production, with inverted sign, and the expected development of production activity). The confidence indicator for construction is the average of two indicators (the assessment of total demand and the expected development of employment). The confidence indicator for trade is

the average of three indicators (the assessment of economic situation, assessment of stocks, with inverted sign, and the expected development of economic situation). The confidence indicator for selected services is the average of three indicators (the assessment of economic situation, the assessment of demand and expected demand).

The consumer confidence indicator is the average of four indicators (expected financial situation of consumers, expected total economic situation, expected total unemployment, with inverted sign, and savings expected in 12 months to come).



Source: own adaptation from Czech Statistical Organization, 2011.

Figure 2. *The development of confidence indicators in the Czech Republic*

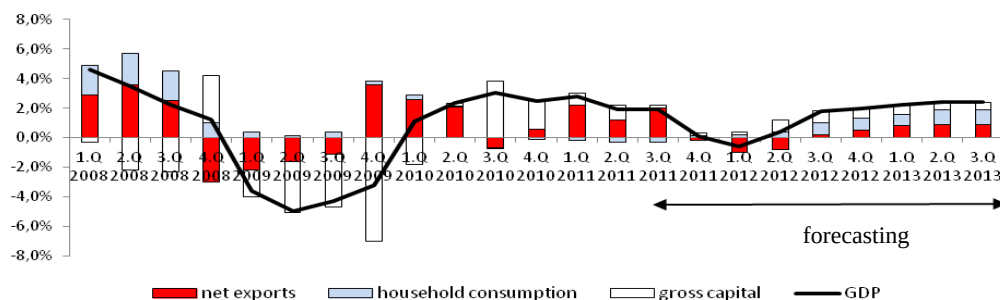
As we can see in Figure 2, the composite confidence indicator recorded stagnation and decline in recent months (the latest data is from September 2011). The reason for this is can be attributed to the stable pessimistic expectations in construction, but also a decrease in optimism in terms of Services, Trade and Industry. To illustrate the point, it is possible to point out the comparison how the expectations for the development of GDP in EU-27 are evolving (see Table 1). In addition to the OECD, which is lagging behind in their predictions, the table mirrors a clear pessimism of professional circles in comparison with previous predictions (data from September 2011).

Table 1

GDP forecasting				
Organization	Month/year of prediction	Predicted GDP growth for year 2011	Date of last prediction	Change from previous prediction
Consensual Forecast (CF)	9/11	1.7	8/11	-0.2
International monetary fund (IMF)	9/11	1.6	6/11	-0.4
Organisation for Economic Co-operation and Development (OECD)	5/11	2.0	11/10	0.3
Europe Commission (EC)	9/11	1.6	5/11	
European central Bank (ECB)	9/11	1.6	6/11	-0.3

Source: processed according to the sources stated in the table.

Predictions about future growth are quite sceptical. A good illustration of the Czech perspective may be provided using two options for further prediction: Figure 3 shows the prediction of GDP, according to Czech National Bank analysts, which expects a further decline in 2012, that the source of growth in 2013 will mainly be household consumption and net exports.



Source: own adaptation from Dubska, 2011 and Czech Central Bank, 2011, p.15.

Figure 3. GDP development – history and forecasting

It can be stated that the professional community and its predictions are definitely not optimistic and residents and businesses cannot expect a period of growth for another so-called post-crisis period, but rather a period of stagnation and decline.

Companies and crisis

The empirical research making at Faculty of Business Administration of Economics in Prague in a form of questionnaire investigation was done in the terms of the solution of research intention MSM 6138439905 “New theory of

organizations' economy and management and their adaptation processes". This investigation was done before the period of economic and financial crisis at the edge of year 2007 in chosen Czech enterprises (in total 252 well filled questionnaires were gained and elaborated). Each questionnaire contained 77 basic questions focused on enterprise's economy and management and other 15 questions aimed specially at logistics. Most questions were conceived so as the examined one could answer by choosing one or more possibilities or by a particular value if you like.

Our survey has shown that (adapted from Kislingerova, 2007):

- 48% of companies expected, that the management in a global world would bring them more opportunities but also more threats;
- 60% of companies said the unpredictable market environment played a significant role in their decision making;
- 86% had a turnover of assets greater than 1;
- 78% of firms considered as significant or crucial to monitor the speed of technological change;
- 65% of firms were focused on the technological level of products to be very important and 71% expected that it will be even more important in the future. 85% valued the level of technology as a significant factor;
- 58% of firms reported that the price of their products has a vast influence on their productivity;
- 80% of firms were primarily focused on monitoring the increasing degree of competition;
- But only 12% of companies considered the international capital movements to be a key issue.

These data suggest that, before the crisis, Czech firms focused on competition, growth, but focused more on the monitoring of technical parameters and core business (which is undoubtedly the right way of dealing with business). However, Czech companies did expect the decrease of demand and availability of capital – which is exactly what happened.

The firms used capital resources to finance their available funds, 69% of companies used bank loans, 57% of companies used lease financing-uncertainty and short term fluctuations were attempted to be resolved by address overdraft surprisingly often (51% of firms). During the growing economy period, the impact of risky behaviour of firms was not shown.

The overall business climate has meant that firms:

- expected further growth;
- improved technology;
- expanded capacity and

all for the money of lenders.

In the next period, they often had problems not only with unused capacity, but also the repayment of interest. The negative effect of operating leverage associated with the negative effect of leverage caused financial problems that sought for operative solutions. Provisions were therefore often sought in working capital, which was often in a given amount unnecessarily detained, but it was very difficult to release it.

For further development it was positive that 35% of companies had excess liquidity (> 2.2) and 32% of firms had high interest coverage (> 15).

Firms during the crisis

Within the research project MSM 6138439905 "New theory of organizations 'Economy and Management Processes and Their adaptation" in times of crisis we have repeatedly approached businesses with anonymous questionnaires, which should reflect their current situation and future prospects.

Questionnaires were filled in the second half of 2008, in the first half of 2009 and in the second half of 2009. (Kislingerová et al, 2009a, 2009b, 2010)

Respondents are not a representative sample of enterprises in the Czech Republic, the questionnaire concerns medium and large firms (Table 2).

Table 2

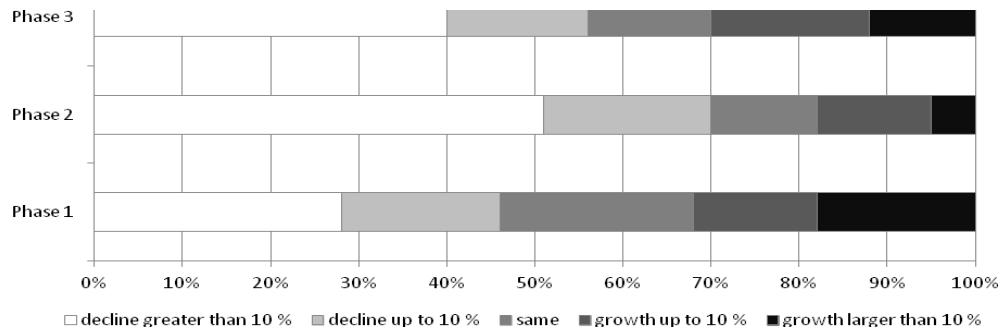
Structure of samples

– % –

Amount of employees:	Group 2008 (Phase 1)	Group 2009/I (Phase 2)	Group 2009/II (Phase 3)
Up to 10	13.8	7.6	4.3
10-49	15.0	10.6	9.9
50-249	33.7	31.3	33.3
250-499	8.8	15.2	17.0
500 or more	28.7	35.3	35.5

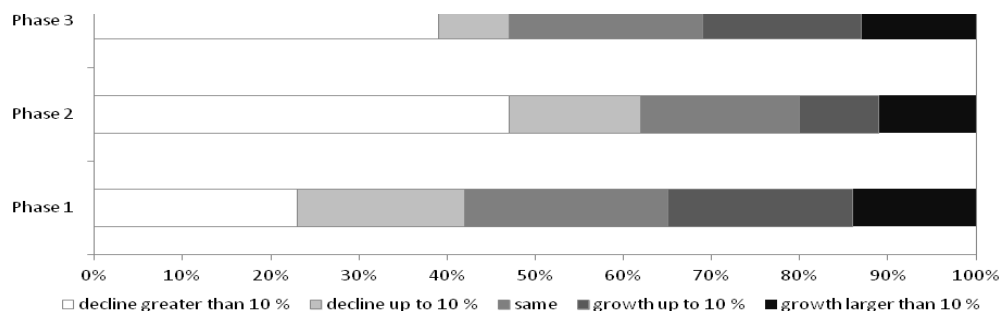
Source: own adaptation from Kislingerová et al, 2009a, 2009b, 2010.

Figure 4 and Figure 5 illustrate the impacts of the crisis on Czech firms using the indicators, which reflected the situation of demand and need for immediate solutions.



Source: own adaptation.

Figure 4. *The Volume of sales in Czech firms 2008-2009*



Source: own adaptation.

Figure 5. *Volume of EBT in Czech firms 2008-2009*

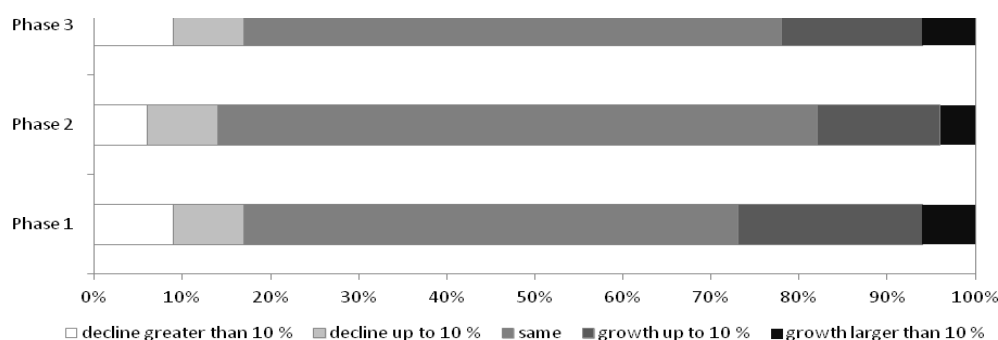
EBT in the first two phases decreases less than in the third one, because the company used the opportunity to sell unneeded assets – in the third stage, it probably did not have any more unnecessary assets.

Figures 6 and 7 illustrate the impact, or the response of companies on changes resulting from the crisis in strategic areas of production factors – human capital and productive resources.

Large companies with management that has already dealt with a crisis, approached the issue of long-term impact more carefully. We see it in the investment in research and development, which usually maintain the same level (Figure 6).

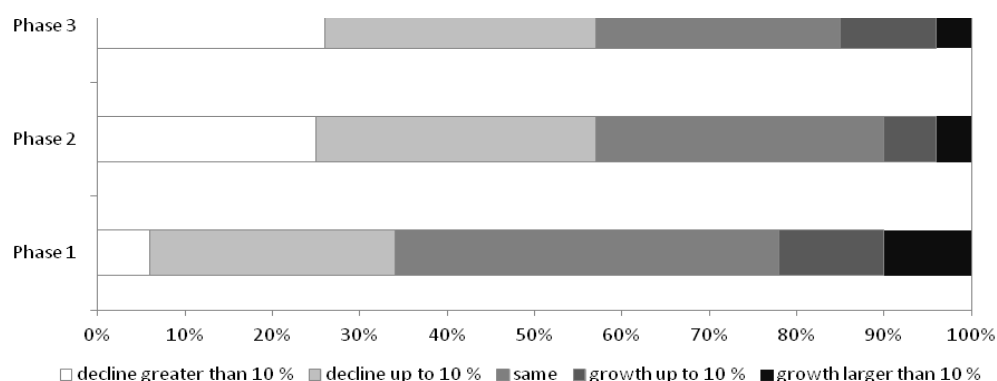
With similar responsibility, the companies addressed the issue of employees, where in the first stage the layoffs are probably related only to firms with a decline of more than 10% (up to 10% is a natural decrease – pension, maternity, etc.), i.e. 6% of firms. Unfortunately, in the second and third stage the situation was already untenable for the companies – they were also forced to reduce payroll costs.

They are still very careful in selecting appropriate employees.



Source: own adaptation.

Figure 6. Costs of research and development in the Czech companies 2008-2009



Source: own adaptation.

Figure 7. Number of employees in the Czech companies 2008-2009

The third phase included the question of how the situation has changed in the availability of finance.

Short-term resources (operational) and long-term resources (investment) were distinguished.

The opinions of companies are recorded in Table 3.

Table 3

Change in the availability of sources

Financing	– % –				
	Significant decline	Mild decline	No change	Mild improvement	Significant improvement
Short time	1	6	56	24	13
Long time	2	4	54	25	14

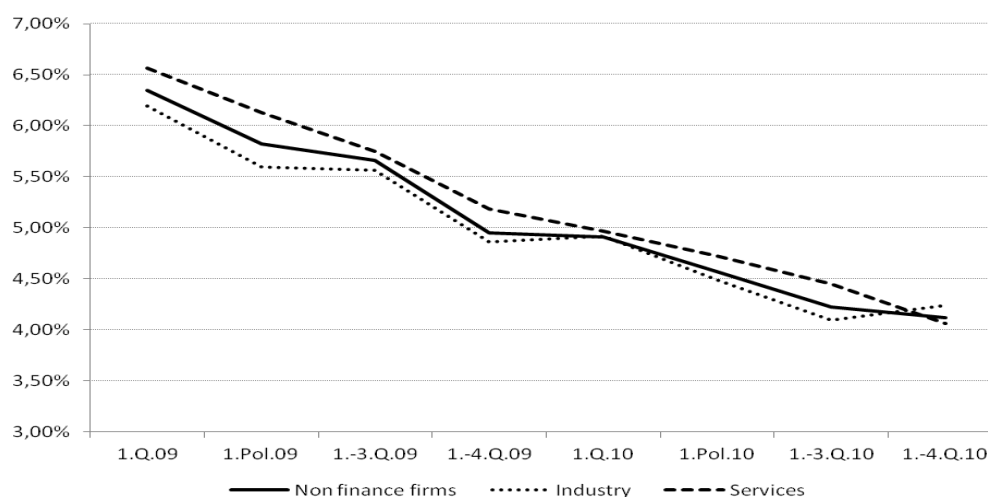
Source: own adaptation

It is very interesting, that:

- although in 2010 optimistic expectations no longer prevailed, opportunities to raise capital for funding are the same or worse,
- lenders do not see the difference between long term and short term finance.

This suggests that lenders (in the Czech Republic, mainly banks) still perceive a high risk and do not change their willingness to finance operating activities or businesses.

Figure 8 shows the change in the proportion of firms in the Czech short-term bank capital during the years 2009 and 2010.



Source: data from CZSO, 2010, 2011.

Figure 8. The share of short-term bank loans to finance the non-finance companies

Net working capital of firms decreases and they have no chance to escape from this situation.

The optimization of the financial assets and inventory has already occurred in the early stages of the crisis, short-term liabilities of the banking sector are still difficult to access, there is no other choice but to rely on supplier credits. However, because each firm wants to follow this process, the significant effect occurs only in terms of the constant increase in short-term liabilities and receivables due to distrust and pessimistic expectations.

Firms whose management was based on the use of their own resources, were previously described as conservative with inefficient financing, the crisis proved this attitude to be a significant competitive advantage because the old truths of cheaper foreign financing no longer apply. In case it is unavailable, it is not even cheap.

Banks have tightened their lending process, which is the reason for the unavailability of capital and the impact is especially felt by companies that do not have the capital provided by a strong parent company.

According to the KPMG survey from the year 2008 (Vojta, 2009, p. 59) 61% of companies reported that their top priority is active management of cash and 25% stated that a step towards improving the situation is the sale of unnecessary assets. However, this can be a long term solution.

In the survey (KPMG, 2008) CFOs of large European companies proposed to the firms during the credit crisis the following measures:

- Sale of unprofitable assets (37%);
- Reduction of credit limits to customers (43%);
- Negotiate longer payment of invoices (48%);
- Review the structure of liabilities (28%);
- Focus on ways to increase liquidity (32%).

Neither of the proposed action is effective in surface realization – there is no claim without debt.

The results of the survey were commented by the director of the legislative section chamber Boris Kucera: "The decline in moral causes secondary payment insolvency, will bring higher workload to courts, lesser success during insolvency proceedings and trade relations will return a few years back in time" (Vojta, 2009, p. 63).

The Chamber of Commerce survey conducted in October 2011 (Chamber of Commerce, 2011) indicates the current problems of enterprises and measures which will probably be forced to accept fewer orders and customer pressure on prices and maturity. Measures will influence the investments and personnel, hence will start to interfere with the strategic long-term prospects of companies.

I believe that this marks the cause or reason for concern about the future development (Table 4).

Table 4

Impacts of the crisis and other measures of firms

Impacts of crisis	% firms		Other necessary measures	% firms
Decline in demand	50		Reduction of investment	48
Pressure on the prices from customers	19		layoffs	20
Worse payment morale of customers	19		Restriction on wage	31
Losses from financial operations	3		Restriction on fees	24
			Restrictions on employee benefits	15

Source: adapted from Chamber of Commerce, 2011.

Working Capital (WC) Share/ in 2009-2010 revenue was stable at nonfinance companies – 14%. This amount is approximately optimized, as the generally recommended value is 10-15%. Firms had no reserves for optimization and further development was difficult.

Empirical investigations 2010

The survey took place at the website of the faculty between October 18 – November 1 2010.

The sample of respondents is not a representative match – the answers came from businesses that have passed the crisis actively and successfully: 96% expect that they might get into the process of insolvency proceedings and 55% expected production growth for 2011.

74% of monitored companies reduced costs, some (7%) by more than 30%. 19% of companies said they cannot afford or see no scope for further cost reductions.

17% strengthened equity capital through activity of the owner, most companies (60%) focused on the operation, monitoring flows of money in the company in order to avoid lack of capital due to the unavailability of credit.

General impact of the crisis also shows that even after the crisis 46% of the companies have the same share on the market as before and 37% of respondents indicate that the number of competitors remains the same.

The greatest importance for the negative change in the competitive position of the company was attributed to:

- Decline in demand (important for 73%);
- Customers' inability to pay (important for 43%);
- Exchange rate volatility (important for 43%).

At the end of 2010 the companies linked a worsening, important for their further development to:

- Acquisition and customer retention (49%) and
- Inability to raise funds for operating activities (38%).

The postponement of investments was marked as the most effective (42% of firms) measure of operating activities.

In the area of receivables and liabilities, companies indicated that their short-term overdue payables rose in case of 9% of firms, while overdue receivables grew in case of 40% of firms.

Experts (Kislingerová, 2009c, pp. 179-180) evaluated that Czech companies suffered in the crisis mainly because of poor assessment of risks and reaction to the postponement of important actions.

Conclusion

Companies that survived during the economic recession have optimized the assets and increased the efficiency of financing through active management. The first stage dealt with a rapid response in the operative field including the production, sale and financing of working capital. If the crisis continues, or even if the pessimistic expectations keep damping the willingness of banks to participate in corporate finance, companies lose the possibility of starting a new development and the economy will be further hampered.

References

- Chamber of Commerce, Czech Republic, "Survey Firms feel impact of crisis", 2011, Available at 22.10. 2011 online on <http://www.komora.cz/hlavni-zpravy/tuzemske-firmy-citi-dopad-financni-krize-a-trati-na-ni-miliony-korun.aspx>
- Czech Central Bank, "Zpráva o inflaci. (Report on Inflation)", Czech Republic, Prague, ISSN 1804-2400
- Czech Statistical Organization, "Data sets about firms, assets, liabilities, revenues confident indicators", 2011, Available at 20.10. 2011 online http://www.czso.cz/eng/redakce.nsf/i/business_cycle_surveys
- Dubská, D. et al., "Vývoj ekonomiky české republiky v pololetí 2011" ("Development the Czech republic economy at half year 2011"), Available online 22.10. 2011 on [http://www.brno.czso.cz/csu/2011edicniplan.nsf/t/0B00300844/\\$File/110911q2t.pdf](http://www.brno.czso.cz/csu/2011edicniplan.nsf/t/0B00300844/$File/110911q2t.pdf).
- Europe Commission, European Economy – Statistical annex, Spring 2011
- Kalousek, M., "Hovořit o krizi u nás je naprostý nesmysl: žádná tu není" ("Talking about crisis is nonsense: there is no such thing as crisis"), *Hospodářské noviny*, Prague, 6.10. 2008

- Kislingerová, E. et al., "Nová teorie ekonomiky a managementu organizací a jejich adaptační procesy" ("New Theory of Economy and Management in Organizations and Their Adaptation Processes"), *Survey of Faculty of Business Administration*, University of Economics, Prague, September 2007
- Kislingerová, E. et al., "Nová teorie ekonomiky a managementu organizací a jejich adaptační procesy" ("New Theory of Economy and Management in Organizations and Their Adaptation Processes"), 2009a, *Survey of Faculty of Business Administration*, University of Economics, Prague, March 2009
- Kislingerová, E. et al., "Nová teorie ekonomiky a managementu organizací a jejich adaptační procesy" ("New Theory of Economy and Management in Organizations and Their Adaptation Processes"), 2009b, *Survey of Faculty of Business Administration*, University of Economics, Prague, June 2009
- Kislingerová, E. et al., "Nová teorie ekonomiky a managementu organizací a jejich adaptační procesy" ("New Theory of Economy and Management in Organizations and Their Adaptation Processes"), *Survey of Faculty of Business Administration*, 2010, University of Economics, Prague, November 2010
- Kislingerová, E. (2009c). *Podnik v časech krize (Enterprise in times of crisis)*, 1. edition. Praha: Grada Publishing, ISBN 978-80-247-3136-0
- KPMG International, "The importance of preserving cash in downturn", 2008, Available 22.10. 2010 online on http://www.kpmg.com/CN/en/IssuesAndInsights/ArticlesPublications/Documents/cash_downturn_O_0811.pdf
- OECD, datasets available online at 20. 11 2011 on http://stats.oecd.org/Index.aspx?DatasetCode=SNA_TABLE1
- Vojta, J., "Konkurenční výhoda založená na řízení pracovního kapitálu v období ekonomické recese" ("Competitive advantage based on Working capital management in time of economic recession"), Dissertation thesis, 2009, University of Economics in Prague

Contributions to the Substantiation of the National, Original and Coherent Strategy of Interruption of the Involution of Romania's Agriculture

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Abstract. *In the conception and realization of this study we started from the global agri-food crisis with its main features (demographic explosion, hunger and loss of important areas of agricultural lands).*

By comparing the current agri-food condition of Romania, I have come to the conclusion that the involution of the agriculture of our country has specific characteristics (decrease in the number of Romanian population, inexistence of the national scourge of hunger, leaving areas of agricultural land out of the economic circuit, the net import of agri-food products from the member states of European Union).

The natural conclusion which imposed on the basis of the comparison shown was the need for a national, coherent and urgent strategy of interruption of the involution of Romania's agriculture.

In the final part I limited myself to the analysis of two elements of this strategy: the changing of the state of mind of Romanian peasantry, a positive attitude to work and the repair of the rupture between the attribute of the right of disposal of lands and the attribute of the right of use of the lands with economic, social and ecologic efficiency.

Keywords: demographic explosion/implosion; fatalistic preeminence (state of mind); agri-food crisis; agricultural economy/ rural economy; economic decentralization/ decision-making subsidiarity.

JEL Codes: B52, Q16.

REL Code: 15B.

Introduction

We conceived and wrote this paper based on the subject recommended and approved by the management of the Postdoctoral School as a factual analysis of the agri-food fields in România, as they are in the current conditions in the last two decades, mainly after the accession of Romania to European Union. The theoretical doctrinary aspects we used subsidiarily, trying to valorize especially some doctrines with heterodox character which helped me formulate appreciations of the new realities and find the most appropriate solutions for the resolution of the latest complex and difficult agri-food problems in our country.

Having in view the start and recent manifestation of the global agri-food crisis, we wanted to present the agri-food problems the world today has to deal with against the general background of manifestations of the agri-food crisis with planetary extension. For this purpose, based on reliable bibliographic sources, we presented in the introduction of this paper, in a succinct form, the main manifestations of the global agri-food crisis.

Then we reported the forms of involution of Romania's agriculture to the manifestations of the global agri-food crisis. By comparing the two sets of manifestations of the global agricultural crisis and the Romanian agricultural crisis, we formulated the conclusion according to which the agri-food crisis in Romania has specific forms, which means that its resolution (treatment) implies special solutions.

1. Agri-food problem – the most urgent global challenge (synthetic approach)

The current food crisis has already been received by the experts and the public as a threat to the whole mankind. This is not and will be less and less a misfortune that struck the poor countries of the world, especially the "overpopulated" countries of Asia and Africa. Such a threat has indeed a global extension and integrates the totality of social, economic, demographic, cultural and ecologic phenomena and processes. In fact, the multitude of manifestations of the global agri-food crisis was and continues to be to the attention of specialized international organizations and bodies.

a) It seems that the most obvious cause of the current food crisis is demographic growth, the growth in the number of people in the world. If in 1950 there were about 2.6 billion people, in 1975 this number reached over 4 billions, while in October 2011, this number reached 7 billion people. According to the demographic surveys carried out at country level, on continents and all over the world, in 2050, the population of Terra will exceed 9.3 billion people (Figure 1).

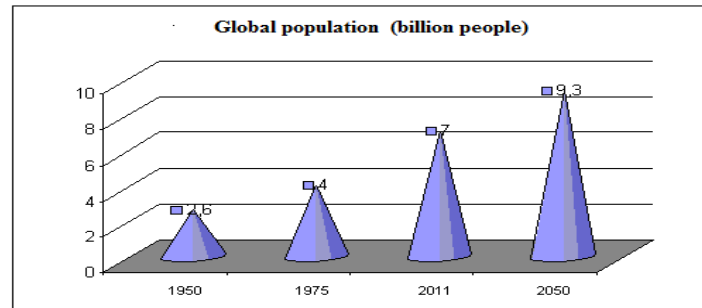


Figure 1. *Global population*

b) It is worth mentioning that the production of agri-food products is still insufficient at world level. We appreciate that now over 1.2 billion people face hunger. So, we will have to obtain surpluses of agri-food productions that assure the nutrition of 2.3 billion people in excess of the current population, but also supplementary quantities that have as destination the liquidation of the scourge of hunger on Earth. It is true that nowadays, in some economically developed countries there is an outrageous waste of agri-food products. Perhaps we can find solutions for bringing consumption in these countries to the healthy rational limits.

c) However great the technical scientific progress will be and however efficient their applications will be in the processes of production and processing of agri-food products, the land remains the basic production factor in agriculture. Yet, under these critical circumstances, there are massive removals of arable and agricultural lands from the economic circuit. It is about vast processes of desertification of lands under the influence of natural factors, but also harmful actions on the natural environment of people in their hunger for big and immediate profit. In parallel with such phenomena, the removal of large areas of lands from the agricultural circuit also takes place under the influence of creation and development of material infrastructure. Some experts say that if China developed its infrastructure to the current level of USA, it would have to remove from the agricultural circuit its entire agricultural land (Figure 2).

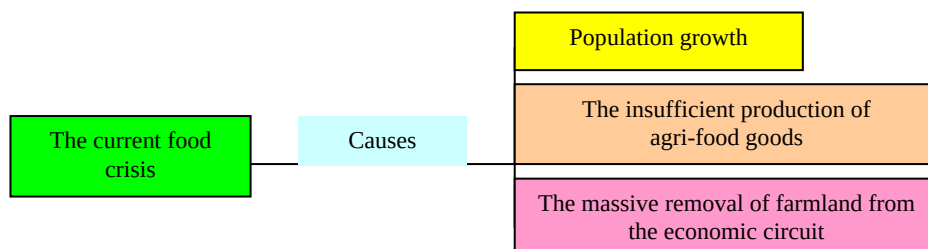


Figure 2. *The current food crisis*

2. The general agri-food condition of Romania at the crossroads between centuries and millennia. Specific forms of agri-food involution

If we try a succinct comparative analysis of the agri-food condition in Romania in the last decades by the general lines of the great challenges manifested at world level (demographic growth, extension of hunger scourge, the removal of large agricultural areas from the agricultural circuit, etc), we can draw the conclusion that in Romania there is no agri-food crisis. At a deeper examination of the social, economic and ecologic problems, the conclusion is different: the global agri-food crisis manifests in Romania in specific forms, not less painful for the Romanian people than those already aggregated in the global agri-food crisis. We will highlight below a few of the great processes that affect the normal course of things in Romania's agriculture.

The processes that we present below certify individually and collectively that the agri-food sector recorded in Romania a deep involution. Such a negative evolution was and is obvious both compared to the positive evolution of these sectors in the past decades and compared to the ascending trend of these fields in many countries of the world, especially in the West-European countries. Moreover, the involution of Romania's agriculture occurred just when the Romanian people and the so-called political class expected this vital sector to begin a new multiple development in the wider context of the so-called second modernity.

We present here only a few concrete elements of the unwanted situation of the involution of the agri-food production processes in Romania.

a) The population of Romania did not increase lately and by this indicator our country is not the first in the manifestations and causes of the global agri-food crisis. At the same time, the agri-food crisis is not expressed by the fact that the population of the country by 2-3 million people less numerous cannot be assured by agri-food products from its own production. We appreciate that almost two thirds of the food consumption of Romanians are covered by imports, mainly from the member states of European Union. The situation is hard to understand for many analysts and all the ordinary people.

The realistic optimistic appreciations made in the past regarding the agri-food potential of Romania are notorious. By the average agricultural area per capita (4,215 m²) and by the natural conditions of practicing an intensive agriculture, Romania could have provided the necessary food for a population twice or three times larger than the population of Romania. Without going into the details of this issue, we must mention that ever since the first decades of the twentieth century Romania became a great exporter of cereals, living animals and other agricultural products. Romania continued to have this status of net major exporter of agri-food products during the socialist agriculture. We should

also keep in mind that during that time the population of Romania recorded continuous growth.

Paradoxically, in the last two decades, the population of Romania significantly decreased (by over two millions) and its food is assured to a large extent by imports of agri-food products.

b) In the last decades in Romania there were no major removals of agricultural and arable lands from the economic circuit because of natural factors (desertifications, erosions, floods, etc.). On the other hand, large areas of lands belonging to the new landowners (local and foreigners, villagers and townsmen) were left unworked. In some agricultural years the areas left fallow represented about 35% of the fund of arable lands. The causes of such situation are several: the lack of specific machines with which the new landowners can work their lands; the sale by landowners of their owned areas to foreign citizens. We appreciate that almost one million hectares became the property of foreigners, many of them buying land in Romania not to work it, but to sell it afterwards at higher prices. There are also exceptions, there are some model agricultural farms of foreign citizens who professionally use the agricultural lands they bought.

c) As for the scourge of hunger, it has not yet reached the population of Romania. We like to believe the minister of agriculture who recently said that in our country people would not starve to death, as it happened in the fifth decade of the last century. Based on the facts shown above, can we say that food security is assured in our country? If we take into consideration only two possible changes of situations – the lack of financial resources to assure the massive imports of agri-food products and the return home of a number of persons from more than two million Romanians who work outside of the country – the problem of food security of Romania is not and will not be so secured.

What should we do then?

We propose to analyze the state of Romania's agriculture and of the rural economy in its deepness by taking into consideration the natural and human resources we have by relating this sector to the exigencies of a unitary economy in full process of modernization in the context of what the new modernity means (Figure 3).

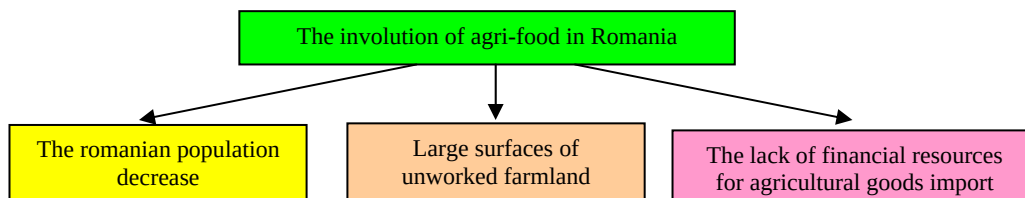


Figure 3. *The involution of agri-food production in Romania*

In conclusion, at this level of presentation of the agri-food state in Romania by reporting it to the global agri-food crisis, we make the following appreciation: in Romania it is necessary and urgent to adopt and substantiate a new national strategy of agri-food development which should have as starting point the deep (final) causes of the involution of these sectors, beginning with the forced process of socialist collectivization and continuing with the drawbacks of the Land Fund Law passed in 1992 etc.

This problem exceeds the possibilities of approach of one or the other Romanian political parties and cannot be left to the hands of the civil society alone.

The last statement has a sort of polemic character. A well-known economic analyst recently said that it takes time, a lot of well done work, wisdom, and investments in technologies and infrastructure. In other words, it is a very difficult problem. Without engaging the initiative and competence of the whole Romanian society in this project, we are discussing it in vain.

Who would be able to solve this difficult problem? The same author continued: “this hard work could be done by the civil society understood in the widest meaning of this syntagm: the priests from churches, the teachers from schools, the opinion leaders”.

For the successful resolution of the problems mentioned above, Romania can valorize the competitive comparative advantage that appeared by the accession of Romania to European Union. Therefore, in a special chapter (the first one) we did a succinct analysis of the current state of the agri-food sector and of the rural economy, analysis based on two comparisons: one at historical level, which targeted a few comparisons of the basic indicators of the state of current agriculture with realities which prevailed in the near and relatively far past of Romania; the other one at contemporary level, which will imply comparing the same indicators to the indicators that characterize the agriculture of EU, mainly the agriculture of certain European countries such as France, the Netherlands, Denmark, Italy, Spain etc.

On the basis of these comparisons, we will make proposals of substantiation of the national strategy of modernization and effectiveness of the agri-food sectors and of the rural economy of Romania in line with the nominal, real and institutional convergences with the same fields from some West-European member states of EU.

3. Coordinates of the new strategy of stopping the involution of Romania's agriculture and of its bringing on the path of multiple aggregate efficiency

Programmes and strategies of stopping the involution of Romanian agriculture had been adopted even before the accession of Romania to EU and after its accession. However, the results were insufficient, not to mention null and void. This was not because of programmatic provisions, but especially because of the lack of measures of transposition into reality and even because of the determined engagement of people in the agricultural sector, by the creative application of these measures at their workplaces.

a) It seems that a certain state of mind occurred, which could be called the preeminence of fatality. Our great philosophers, sociologists, psychologists speak of fatality as a state of mind of the peasant in these last years of the passage from socialist agriculture, from the cooperative peasant to market agriculture, to the modern agricultural phenomenon. This state of mind is linked to other negative influences assimilated in time by the Romanian people, such as division, grandomania, prostitution, bribery (tip).

For many foreign experts, for those that try to discover us objectively, Romania is eternally fascinating and paradoxical because they say that here is the place where you are always told that nothing can be done, but they often see that everything or almost everything can be done with the right people (for what they have to do, they learn to do well). A Dutch expert – Arjan Janknegt – rightfully noted that “the only limitation of Romania is the people”. As for agriculture, his appreciation Arjan has a real charge much larger than in other fields.

We do not want to fall on the slope of denigration of the Romanian peasant who was and continues to be to a certain extent the “sole of the country” and to say that he is lazy, uneducated and a thief as some foreigners and even some Romanian citizens say. The problem of the behavior of some of our peasants is much more complex.

- Some foreign friends tell us frankly: the Romanian peasants sit with their hands crossed and wail when they come to deal with the difficulties that appear and will continually appear. Our historical past, our almost unsurmountable hardships made us stop looking for solutions and fight the difficulties of the moment, considering them a fatality.
- Other authors say that from our “Communism”, the peasants (cooperators) learned how to “steal” from the collective fortune of all and nobody's, how to “complete” what they received “by the quantity and quality of work” in the former Agricultural Cooperatives of

Production. They did it symbolically, so that their neighbours should not say that they come empty-handed from work, “like some fools”.

- We also see that our new peasants enjoy too quickly the positive results they obtain and instead of investing them for the consolidation and permanency of these results they used them for luxury cars and houses. Of course, this can be placed into the state of mind of grandomania, which is like a temptation of the poor peasant who never dared to dream of something like this in the past.

That is why, I think that changing this state of mind should find its suitable place in the new programmes and strategies of interruption of the involution of Romanian agriculture. The problem is extremely difficult and requires a lot of time for resolution. But the action must be started urgently and with well chosen means, valorizing the great possibilities of informational society of knowledge. As a well-known expert said, to the historic process of wide scope the civil society must bring its contribution, including the school of all ranks, the church and all the religious cults of the country, the opinion leaders, etc.

b) For the integration of immediate, urgent measures of support of the agri-food sectors in the strategy of modernity of Romania

For the public at large, for the agricultural producers and the daily consumers of agri-food products, the problems that permanently concern them are: the perspective of the announced food crisis; the use of the whole land fund of the country and the funding of agricultural works in the new agricultural year; the financial crisis and the conditions of obtaining the production credits; the difficulties in accessing the funds for agricultural producers from the European Union. Indeed, these problems grew in the last years and seem to predict a dramatic food crisis. Therefore, each of these problems must be analyzed professionally and approached punctually by the authorities and experts, with the wider and more active participation of the economic agents involved.

Yet, as we well know, the agriculture and rural economy represented and continue to represent a national strategic sector in Romania. That is why, in the current situation of Romanian agriculture and Romanian village, they urgently need a proper treatment for the resolution of the current problems in a short (yearly) span of time, but in a wide perspective.

We do not aim to substantiate here and now our own strategy of modernization and modernity of the Romanian agriculture and village. The problem is much more complex. In fact, by studying it within the framework of obligations of Post-doctoral School, we learned that our experts had elaborated several variants of strategies for this purpose, strategies which I consider worthy of the attention of the political decision-making factors. But today, just like in the past, there are many internal and international circumstances which

fracture the link between theory and practice, between strategy and the policy of implementation of this strategy.

We shall refer below to the study carried out by a group of experts led by the Academician Păun Ion Otiman, in which are formulated the coordinates of a strategy of modernity of agriculture and rural economy, starting from what represents the second modernity of Romania and the precarious condition of its current agriculture.

The non-performance of the agricultural sector by a low annual agricultural production – as the authors of the study say – is caused first of all by the so-called weather-dependency of agricultural production. This dependency considerably increased following the degradation of the non-functionality of systems of irrigation built during the period 1969-1989.

That is why, the first investment priority in Romanian agriculture must be the investment in the rehabilitation and equipping of the systems of irrigation which should extend to an area of about 1.7 million hectares, in the shortest time as possible.

For the newly arranged areas we need feasibility studies by which we establish the technical solutions of water pumping and headrace, the costs of works, the profitability of the investment for the agricultural producers and the sources of necessary funds. In this context, the number one objective is Siret-Bărăgan Channel – as recently stated the Romanian minister of agriculture, Mr. Valeriu Tabără. One million hectares will have assured the stability of production – a production by at least 25-30% higher than the current multi-annual average. It will also reduce by 60% the costs of supply with water of agriculture.

Another strategic objective of great economic significance refers to the improvement of the structure of the costs of agricultural production. The current structure of costs and their great multi-annual fluctuations generate to a large extent the weak performance of Romanian agriculture. We are talking here about the extremely high weight of fixed costs in the culture of cereals. Thus, about 48% of wheat and 53% of corn are fixed costs by hectare regarding: basic mechanical works, the preparation of land for sowing, the maintenance of cultures, the harvesting. These works are carried out by independent economic agents (usually former mechanizers) who are directly responsible for the agricultural production. They are providers of services and hold the monopoly of works in the village or community in which they act.

Nowadays, in Romania, the agricultural economy represents over 60% of the rural economy which is made of the totality of social economic activities provided by the active population of villagers. On the other hand, only half of the agricultural activities are carried out by the landowners, the remainder being the prerogative of providers of services (mechanical and other). Such a situation

generates a great waste of potential of work from the population. The number of working days, respectively working hours provided every year is lower than in France, for instance.

The solution of substance and duration to this problem is the stimulation of investments in the rural environment to achieve the development of non-agricultural activities in the assembly of rural economy. It is noteworthy that in EU (15), in the rural area, the agricultural economy holds only 60- 65%, the remainder of 35% is represented by the non-agricultural rural economy. The reduction of the weight of agricultural economy in the whole rural economy from 60% at present to 35- 49% in an average span of time is indeed an extremely important strategic objective.

A solution of stimulation of investments in the rural area for the extension of SMEs that process primary agricultural products could be the creation of village-like industrial microzones, with county or regional financial aid, action which would fall in the process of economic decentralization and decisional subsidiarity.

Apart from the main economic effect – the increase of the gross added value by processing the agricultural raw materials, the investments in the non-agricultural rural economy also have the advantage that they lead to the creation of jobs, to the use of the work potential throughout the year and therefore, they assure the revitalization of rural localities, some of which are on the path of extinction.

Of course, there are also other problems of Romanian agriculture awaiting to be resolved by what we have already mentioned: the approach by immediate measures from the strategic perspective in the medium and long run.

4. Rupture between the attribute of the right of disposal and the right of use over the land

Since 1989, in Romania there was a historic rupture between the attributes of the ownership right over the agricultural lands, mainly between the right of disposal and the right of possession, on one hand, and the right of use of the object of the property, on the other hand. Such a rupture marked both the incomplete use of the agricultural land and the use of this land with low efficiency.

The direct cause of this rupture resides in the “weaknesses” of the Land Fund Law by which was decided the repossession on the old sites of the rightful owners on an area of up to 10 ha for each holder.

The experts in the field remarked the dysfunctions and ruptures generated by the application of that law at the same time with the almost total destruction of the patrimony of the former agricultural cooperatives of production.

The results of the application of Law no. 18/1991, without a well articulated strategy, led to the division of the retroceded areas of land, and

Romania became the country with the largest segmentation of agricultural exploitations in Europe. There were recorded 6.2 million producers of agricultural land, by 0.9 million producers more than in 1948. Out of the 6.2 million new owners, 43.1% were townsmen, 39.1% were employees and retired. So, only 17.8% of the new owners were active agricultural producers. We can say that only for the latter there is the premise necessary for realizing a union between the right of disposal over the land and the attribute of the right of use of the land.

Romanian and foreign experts said and proved that the main cause of collapse of vegetal and animal production in our country was and continues to be the great segmentation of agricultural and arable lands.

The food security of Romanian population continues to be affected as long as Romania became a net importer of primary agri-food products. Therefore, it is of major importance the elaboration of a coherent strategy of correction of the deep segmentation of property and exploitations by their concentration. Sustained efforts are necessary to find ways of optimization of the average sizes of agricultural exploitations. The problem is not at all simple because the negative effects of the Land Fund Law have consolidated and aggravated.

In order to achieve a beneficial social, economic and ecologic concentration of the use of agricultural areas that are individual property (over 70% per total) we need concrete measures of creation of profitable agricultural exploitations: cooperatives, family associations, agricultural societies with legal personality.

We completely agree to the proposals of experts that target the conception and promotion of a programme of foundation and support of new types of agricultural exploitations. It is about: cooperatives which exploit areas between 500-1.000 hectares; family associations made up over an area of 50-200 hectares; family farms of 30-60 hectares. These exploitations would express a higher degree of concentration with the right corollary – a higher and safer multiple efficiency.

A special concern should be the promotion of associations of cooperative type by the Western European model such as: centers of zonal management and professional information regarding the production and sale of products; popular banks and rural building societies; rural centers of export etc.

It is worth mentioning the foundation and support of county agricultural chambers designed to contribute to the implementation of a modern management in the activities carried out by the agricultural farms and peasant households.

All in all, with the same state of mind we started regarding the attributes of the ownership right over the land, we mention that it is of utmost importance the stimulation of those forms of organization of (public and private)

agricultural exploitations providing the chance of effectively using the natural and human resources that exist in the rural environment in Romania.

In the end, we could add that the expert economist must and can be involved in the effective use of the agricultural land concentrated in exploitations of optimal sizes depending on the geographic area. This is the only way we can say that the ownership over the land with all its attributes really exists and is not just a simple legal right.

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References

- Bulgaru, M. (2007). *Eficiența agricolă*, în *Cunoaște România – membră a UE*, Editura Economică, București
- Didier, M. (1994). *Economia. Regulile jocului*, Editura Humanitas, București
- Dinu, M., Socol, C., „Intrarea României în a doua modernitate. Potențialul de convergență”, *Economie Teoretică și Aplicată*, nr. 4/2006
- Dobrotă, N. (2005). *Consumul de resurse naturale al societății. Creșterea economică și dezvoltarea durabilă*, International University, București
- Georgescu-Roegen, N. (1979). *Legea entropiei și procesul economic*, Editura Politică, București
- Molănescu, Gabriela (2008). *Prețurile produselor agricole în România*, Editura Printech, București
- Oțiman, P.I. et al., „Dezvoltarea rurală și agricultura: oportunități de atenuare a crizei economico-financiare și de reluare a creșterii economice”, *revista Profitul agricol*, februarie 2009
- Șerbănescu, I., „Salvarea agriculturii României nu va veni de la UE”, *Jurnalul Național*, 15 martie 2009
- Tabără, V., „Pericolul foametei în lume”, *Jurnalul Național*, 19 iulie 2011-11-15
- *** Programul Național de Dezvoltare Rurală; Guvernul României, 2006
- *** World Development Indicators, 2010, www.worldbank.org.

The Swedish Model in Employment. Post-Crisis Solutions

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Abstract. *The Swedish model in the field of employment is part of the Nordic countries model focused on labour market flexibility in terms of a generous welfare system. This paper presents the characteristics of this model and its application effects in Sweden before and after the current crisis. According to specialized studies and registered indicators, Sweden has very good results in terms of general well-being, quality of life, employment of labour resources, being among the top countries. Thus, since the experience of the developed countries should be a benchmark for the developing countries, the purpose of the paper is to identify some measures that can be applied in Romania to improve employment, economic and social policies.*

Keywords: employment; occupational model of the Nordic countries; Sweden's labour market; economic crisis.

JEL Codes: J08, J21, O11.

REL Codes: 12G, 20A.

Introduction

According to international statistics, Sweden records very good results at the macroeconomic level, with positive implications on the quality of life and general welfare. These results are based on active policies applied to the labour market conditions, investment in education, investment in research and innovation.

The Swedish model of employment is part of the model applied by the Nordic countries (Denmark, Finland, Norway and Sweden), each country with some specificity in the occupational field. Using statistical cluster analysis, Gaard (2005) concludes that the Danish model is part of the north European regime, which also includes countries like the Netherlands and Sweden. This is applied differently in these countries regarding the degree of flexibility in labour market and generosity of unemployment benefits. Thus, it is justified the registration of different performance in employment in these countries.

The benchmark for the model applied in the Nordic countries in employment is represented by the Danish model of flexicurity. This is also called the Danish Golden Triangle which also includes and combines employment protection measures with ensuring generous unemployment benefits and active labour market policy implementation.

The Nordic countries model suggests that a flexible labour market can coexist with a generous social system, while maintaining low unemployment. In other words, this model involves reducing unemployment and applying high standards of social security for the unemployed people. But studies have shown that the success of the application depends on the Nordic model and the initial unemployment level but also the country's economic situation (Zhou, 2007).

The application of this model is quite expensive, the tax burden being quite high to finance the costs of labour market programs which also includes unemployment benefits. Thus, this model would be difficult to implement in a country with budgetary difficulties. However, the Nordic model can be studied and may be useful in improving employment policies for any other country. Indeed one can not copy a successful model so that any country to obtain very good results in one area, but the experience of developed countries can positively influence certain aspects of the economic and social policies in other countries.

The Swedish model in the field of employment

In the specialized literature it is widely discussed the efficiency of applying the Nordic model, and especially the Danish one also in other countries, more or less developed.

Wilthagen, Tros, and Van Lieshout (2003) define the flexicurity model as a strategy that aims to increase while labour market flexibility and employment security maintain a high level of employment. Bredgaard, Larsen and Madsen (2005) disagree with this definition, in their opinion the Danish model is not a real strategy but rather is the result of the historical and institutional evolution and social compromises. The same opinion is shared by Anderson and Svarer (2006) who question the success of this model in other countries. On the one hand it is considered that Denmark has a long experience in applying this model and the experience of other countries, like Sweden, Ireland and United Kingdom has shown that unemployment has been reduced by applying different social protection policies. On the other hand, very generous unemployment benefits can lead to moral hazard problems that could prevent achieving efficiency in applying the Danish model.

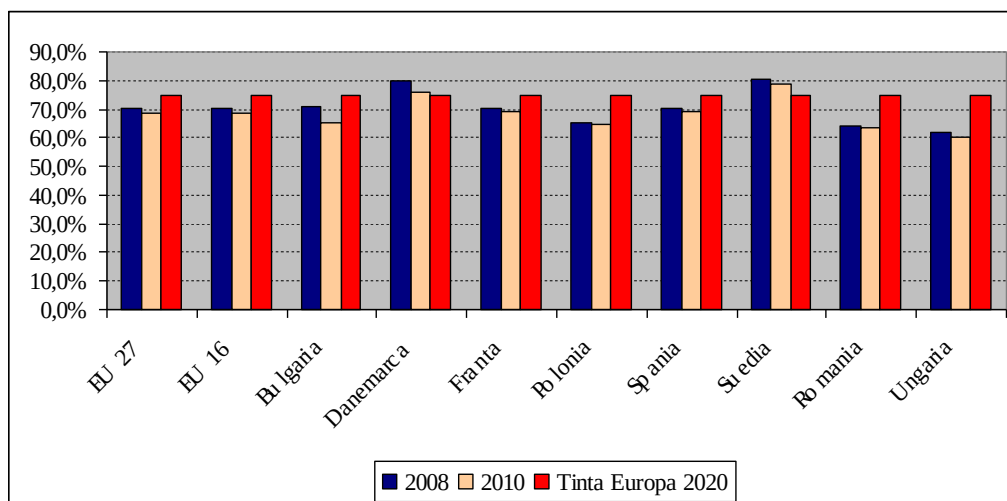
Sweden is similar to Denmark in terms of public sector size and generosity of the social protection system, but now has a more rigid labour market.

Labour market policies in Sweden have a long tradition of achieving agreements between professional associations and unions as well as active labour market policies. Employment policies are based, particularly, on active measures. Passive measures, especially unemployment benefits, were introduced relatively late and were not very generous at first. The Swedish state did not intervene too much in labour market regulation until 1970, but after this period there were introduced many laws regulating the labour market (De Beer, Schils, 2009).

Currently the active policies in the employment field applied in Sweden focus on two types of measures:

- measures aimed at stimulating demand and creating new jobs both in the public and in the private sector;
- measures on supply and they focus on training, vocational training programs and job placement programs.

The indicators registered on the labour market in Sweden show the efficiency of policies adopted both before the current financial and economic crisis and the means to overcome it. Among the specific labour market indicators, employment rate, long-term unemployment, access to employment the ratio between work and personal life stand out.



Source: Eurostat, 2010.

http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=t2020_10

Figure 1. *Employment rate (20-64 years), in 2008, 2010, reported to Europe Target 2020 (75%)*

In Sweden the employment rate is over 75%, exceeding the target of Europe 2020 both before the crisis (80.4% in 2008) and after the crisis (78.7% in 2010). If we analyze the situation recorded in the other countries shown in Figure 1, we see that the effects of the economic crisis on employment were strongest in Bulgaria, Spain and Hungary. The decrease of the employment rate in Romania due to the crisis led our country to be further away from the strategy of the Europe Target 2020 (75%), down from 64.4% in 2008 to 63.3% in 2010.

Long-term unemployment rate (unemployed for over a year) is only 1.4% in Sweden, even though unemployment benefit is generous and is offered for a period exceeding 300 days.

Measuring the access to employment, based on the sub-indicators employment and long rate unemployment places Sweden in 10th place among the OECD countries, accounting for above-average results.

Swedish employment policies put particular emphasis on achieving a balance between family and work life. Thus, the Swedes devote 65% of the day (15.5 hours) for personal care and leisure and working time is only 1,610 hours per year (Statistical Yearbook of Sweden, 2011)

Unemployment benefits are given as follows: the first 200 days it is 80% of previous earnings, while the average salary is around 3,500 Euros per month.

The next 100 days, unemployment benefits decrease to 70% of the previous earnings, and then unemployed people can sign up in Job and Development Guarantee program, which offers assistance in job search, during which unemployment benefits are 65% of the previous earnings.

These indicators show the efficiency of employment policies, which are correlated with the educational, social, environmental and health policies. According to the Index Better Life (calculated by the OECD), Sweden has among the best results both in the labour market field and in the educational, health, environment, quality of life field. For example, 91% of young people (25-34 years) have at least graduated from high school, the average of school years is 11.7 years, 96% of the Swedish people is based on the community's aid, 48% of Swedes have helped a stranger in the last month, average life expectancy at birth is 81.4 years; 79% of the population consider to have a high level of health, 83% of Swedes are pleased with their lives, 76% reported having more positive experiences in a day (pride, joy, rest) than negative (stress, sadness, boredom); air pollution is the lowest in the OECD countries. These are just some aspects captured by Better Life Index, calculated by the OECD (2011) for the member countries, highlighting the coordination of macroeconomic policies in Sweden.

Post-crisis solutions adopted by Sweden on the labour market

The Swedish labour market is characterized by high employment protection, generous unemployment benefits, high costs of implementation of labour market programs, and taxes on high income.

Employment legislation is approved by the parliament, but is supplemented by collective agreements and individual negotiations. Collective agreements complete the law both in wage setting and in the development of collective social insurance, in setting the working hours, working conditions, holidays or layoffs. This means that the law establishes certain basic conditions with regard to wages, working time, redundancies and leaves, which are valid if there are no collective agreements, or which are supplemented by these agreements, usually for the benefit of the employees.

The efforts to support employment growth and especially labour efficiency are made both at individual and at organizational and governmental level.

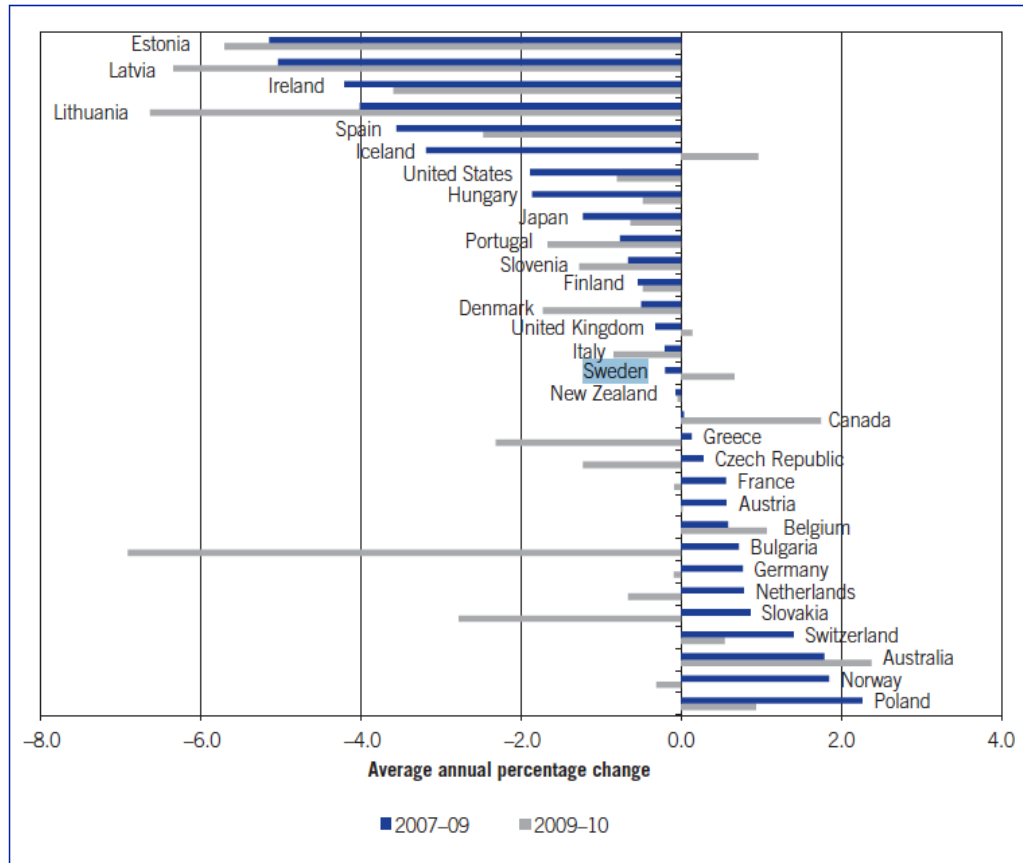
At the individual level the contribution of each individual consists of the investment in education, participation in lifelong learning, responsibility and ethics in carrying out the activities.

At the organizational level, Sweden is investing heavily in research and innovation, being one of the leaders in innovation, with results above the EU-27 average. For example, in terms of research and development expenditures in business, Sweden exceeds with 100% more than average of the same expenditures made at EU level-27. Romania achieves only 15% of these expenses. Also in Sweden companies invest in people through training programs and develop fields of intensive knowledge.

At the government level active employment policies are supported aimed at subsidizing the creation of jobs, organizing training and retraining courses, granting of subsidies to hire young people, offering support for small businesses and overcoming the crisis.

Active labour market policies include three categories of programs: professional training, employment programs and work practice programs. These programs expanded rapidly in Sweden after the crisis in 1990 and remained in smaller sizes until 2000. Over the last years there has been an increase in these programs, in order to overcome the current economic crisis, the latest budget of Sweden putting special emphasis on the active policies aimed at long-term unemployed and young people (Krueger, Lindahl, 2009).

If we analyze the annual changes in employment in Sweden before and after the current crisis, shown in Figure 2 we see a decrease of employment rate by more than 2 percentage points in 2007-2009, decrease that is recovered in the following period (2009-2010). Among the countries which recorded the strongest employment rate decreases in both periods analyzed there are Estonia, Latvia, Lithuania, Ireland and Spain. Countries that lost fewer jobs as a result of the crisis and which recovered some or all losses in employment are Sweden, Iceland and United Kingdom. Other countries had positive changes in employment, even if they were lower after the crisis. Among these countries are Switzerland, Norway, Belgium and Poland. Greece, Bulgaria and Slovakia registered strong declines in employment after the crisis, in 2009-2010.



Source: Global Employment Trends 2011, ILO, Geneva, 2011, p. 30.

Figure 2. Annual change in employment, 2007-2009
(annual average) and 2009-2010

The solutions adopted by Sweden in the labour market to reduce the decrease of the employment rate and improve labour market integration targeted:

- *measures concerning labour demand:*
 - subsidizing jobs by increasing subsidies to stimulate employment at the level of the local administrations;
 - non-salary cost reductions for employers, such as reduction for the employer's social security contributions;
 - postponement for the payment of the employer's social insurance with two months and for the payment of taxes up to 12 months;

- measures to stimulate demand for labour in the construction sector by creating a tax credit for repairs and maintenance;
- additional government investment in infrastructure to support employment in construction;
- *measures to help the unemployed people in finding a job:*
 - job search assistance for unemployed people, by expanding the job search programs and job placement programs;
 - increasing professional training programs;
 - incentives for exporters and small firms;
 - incentives for the development of new businesses, such as reducing the social security contributions;
 - income support for those who lose their jobs and those with low incomes;
 - fiscal measures to boost the net income of those with low wage;
- *measures to support professional training:*
 - professional training programs for employees and increasing access to education by increasing the number of free places at colleges and universities, increasing the financial support for students, continuing education programs;
- *other measures:*
 - the reduction of the taxation rate for most levels of income;
 - the reduction of labour income tax.

Among the active measures implemented in Sweden in the year 2010, the incentives to increase employment (61.7%) and rehabilitation and training programs have the biggest share (36%).

These measures applied to the labour market in Sweden were supported by other educational, social and fiscal policies, Sweden having experience in the coordination of macroeconomic policies and their constant support over time.

Conclusions

Based on the analysis carried out it can be concluded that Sweden has a positive experience in the field of employment, mainly due to active labour market policy implementation, which focused on investment in people, education and innovation.

Indeed, even for the same type of program, such as job search assistance, and training and retraining programs, there are differences from one country to another, both in the design, content and in their implementation. Nevertheless

knowing how to develop and implement these programs in the developed countries which have achieved positive results over time can be a milestone for the development of appropriate policies in the countries with less favourable experiences.

Thus we can take into account the beneficial effect of the active labour market policy implementation, which creates long-term positive results by increasing the number of jobs and work efficiency as well as workforce training in relation to labour market requirements, which are constantly changing. Also success in the sustainable development of an economy depends on the coordination of macroeconomic policies: occupational, educational, social, health and environmental protection.

For Romania, catching up with the developed countries can only be achieved by adopting a mixture of policies both at the organizational level, and at the national level, focusing on the investment in people and human capital development through education, research and innovation.

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References

- Andersen, T., Svarer, M., “Flexicurity – The Danish Labour Market Model,” *IMF seminar on Flexicurity*, 2006, Danish Central Bank, Denmark
- Beer, P. de Schils, T. (2009). *The Labour Market Triangle*, Edward Elgar Publishing Limited, UK&USA
- Bredgaard, T., Larsen, L., Madsen, P.K., “Two Decades of Structural Reforms in Denmark,” *CARMA Research paper*, 01, 2005
- Gaard, S., “Labour Market Regimes in Europe and Labour Market Performance,” *Finansministeriet Working Paper*, 13, 2005, Sweden
- ILO (2011). „Global Employment Trends 2011”, *ILO*, Geneva
- Krueger, A.B., Lindahl M. (2010). *An Evaluation of Selected Reforms to Education and Labor Market Policy in Sweden*, Princeton University & Uppsala University, Stockholm, Sweden

- OECD (2011). „Better Life Initiative”, <http://www.oecdbetterlifeindex.org>
- OECD (2011). „Economic Surveys: Sweden”, OECD
- Wilthagen, T., Frank, T., Lieshout, H. van, “Towards ‘Flexicurity’?: Balancing Flexibility and Security in EU Member States,” *Proceeding of the 13th World Congress of the International Industrial Relations Association (IIRA)*, 2003, Berlin, Germany
- Zhou, J., “Danish for All? Balancing Flexibility with Security: The Flexicurity Model”, *IMF Working Paper*, 2007, European Department, International Monetary Fund

Optimizing Human Resource Management within Companies Experiencing Accelerated Growth, in an Unstable Economy

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Abstract. *Nowadays the economy finds itself in a flurry of visions and of evolving conceptual instability. This framework carries exogenous pressures over companies and, mostly, over the individuals who form the working engine of the enterprise. If these pressures are not eased by the internal decision-making factors (the company's top management, mainly), they will escalate and if the top management doesn't find itself in accordance with the company's vision, its mission and the economic forecast then external pressures may become exponential internal pressures which lead to the destruction of the company which finds itself at the cross-point of the pressures.*

This paper presents a 360 degrees type of vision over all the factors making up the working and productivity ecosystem of a company and over the interactions between the human resource and technological evolution, the working perspective of the irrational and the bidirectional hierarchical relationships. We also try to define some of the possible standard traps which may influence short-term productivity and the company's medium and long term existence.

Keywords: human resource management, irrational perspective, technological perspective, productivity, feedback.

JEL Codes: L25, M14, M51, M52, M59.

REL Codes: 14C, 15D.

The perspective of the irrational in human resource management

The vision of the irrational over executive top management decisions on human resource is discussed in the first part of this paper. Considering the features of today's economy, there is a need for a real time response in solving any arising situation.

According to Dan Ariely (2010) the situation can be viewed as a football match in which the person responsible for making decisions has the ball and is in a strategizing position, closes their eyes, kicks and then looks: where will the ball go? If this procedure is followed for a thousand times, all solutions will be experienced, from the place of the kick to the end-destination (Sibony, 2011). In these conditions it is intuition who meets experience and the feedback becomes clear, thus we can consider that we are faced with a validation system for the requirements created for the recruiting of human resource within companies with accelerated growth.

Returning to our experiment, we can also highlight the idea of continuous learning: if, before opening the eyes, someone else would happen to catch the ball mid-flight and deflect its trajectory by 15 meters to either right or left. Within the initial decision-making factor this is where prediction intervenes, because it has to establish the end result, meaning that guaranteed performance becomes unclear following exogenous pressures (Ariely, 2010). We can use the other competing players on the field as an example of exogenous factors, as well as the weather and everything else which cannot be controlled through an internal hierarchy. This fact underlines the idea of experimentation with the working tools of human resource management and with the working strategy of corporate governance. Through experimentation new scenarios can be created to describe the character of employees in the long term and for their management by human resource departments (Torrington et al., 2011).

As an addition, we can fit into Dan Ariely's view a game based on trust, in which there are two players, A and B. A receives a stimulus of 100 dollars, with which he can do two things: take the money and go or give it to B. If the money are given to B, they will quadruple on the way and B receives 400 dollars. In his turn, B can give A 200 dollars or go home with all 400 dollars. If someone were put in A's situation and would consider B to be completely rational, then A wouldn't give up his first 100 dollars. The majority however passes the money onwards to B, while the most of the ones receiving it return 200 dollars to A, meaning that the majority of the population involved in economic activities relies on irrational principles (Ariely, 2008). Trust represents a pillar of society, and when applied to human resources it is part of a company's road to success.

The reverse situation in this game is where A offers the 100 dollars to B, and B leaves with the money; consequently A receives an offer of paying for revenge – for each dollar out of his pocket, two dollars will be taken off B. Two internal instincts form at this point: trust and revenge, each being irrational. History has taught us, though, that these two support the advancement of business, society and mankind. Out of these results we need to create an internal environment for a company which would prove attractive to the human capital it owns and for the one wishes to attract. For example, what if someone would live in a city populated by perfectly rational people, where each individual calculates their costs, benefits and manner of achieving them (Ariely, 2008). How much would perfectly rational people steal? Present day businesses which are not based in industries with exponential growth need to understand the irrationality of the ecosystem which creates their revenue, from clients to employees.

Motivation is an important factor which needs to be enhanced by human resource departments, as a proactive element in maintaining the human capital at maximum productivity. Money is important, but competition and self-accomplishment are elements which enhance the internal productivity of a company through the accelerated implication of human capital (Sibony, 2011). The productivity of human capital decreases in an accelerated way when a company finds itself in the budget-restructuring process and project cancelations, or on the brink of a merger or an acquisition, because the pressure of uncertainty reduces focus and increases the things employees complain about. In order to maintain a healthy climate with an elevated productivity they must be “empowered” by being given the chance of making themselves heard within the company and by being offered horizontal stimulants (improved image and internal recognition of ingenuity). Another way for de-stressing employees at times of incertitude is the implementation of new means of internal communication, with the goal of increasing employee connectivity and to reduce the anxiety caused by internal incertitude.

Among various solutions used by human resource departments in order to maintain a productive climate there may appear situations which create certain conflicts of interest. If someone would put themselves in the shoes of a Wall Street banker who could earn 5 million dollars per year from selling mortgage CDSs as medium-risk products, would no longer look at the banker’s position objectively – but would rationally argue that even though the products are not good, sustaining their benefits leads to a consistent annual gain, offering practically a new and unreal dimension to the situation (Sibony, 2011). The more complex and hard to stabilize are the working equation and its parameters, the more inconclusive becomes the problem, while the conflict of interest

cannot be observed even though it exists. As an example we can mention a situation encountered by Dan Ariely at a medical conference: he observed that, taken individually, each medic would claim to have never been faced with a conflict of interest; but the whole 2000 of them, when asked whether they think that the other members present have ever been involved in a conflict of interest replied that they all have, at least once (Sibony, 2011).

People who start from enter level positions before reaching the top, being successful on all levels, tend to function contrary to the standard working norms. The time-span between the entry level and the insuring of a top management position is directly related to self-confidence, but this confidence makes them act differently in situations which demand important decisions, the irrational being practically enhanced by the level of complexity in the decision.

The technical-evolutionist perspective on human resource management

Information technology is at its culmination point and experiences an exponential growth. To this it is added the intuition gained by the human resource working in development and forecasting departments within companies undergoing accelerated growth. But the possibility for forecasting the future is linear, not exponential. The human race is based on a system of evolution from 1 to n , going through each stage: 1, 2, 3, ..., $n-2$, $n-1$, n . But reality underlines the fact that information technology, such as computers and biomedical technologies grow exponentially: 2, 4, 8, 16 ... reaching 1 billion after only 30 stages.

Ray Kurzweil is one of the foremost futurologists in academia and one of the main exponents of biomedical technology development in the USA under all the presidents starting with Bill Clinton and also in Israel, working on renewable energy since 2008 (Foyen, 2011). Back when he was a student at the Massachusetts Institute of Technology (MIT), in 1986, the cost of one computer was approximately 20 million dollar, while today the same processing power multiplied by a thousand times can be found in an iPhone 4s mobile phone, for a price which is 40000 times cheaper, which gives an increase in processing power by a factor of 40 million per dollar spent. There is a big chance that the next 25 years will witness the same exponential growth, compared to today's technology.

This increase does not apply only to gadgets, but to any device which uses processing power. By the year 2029 the hardware replicating the complete logical system of the human brain, should be complete. The software component, the necessary intelligence for the functioning of the brain will rise exponentially until that moment, not only as an execution process but also as an

element for the evaluation of the processes initiated and executed by the brain, thus benefiting from an exponential process with accelerated growth in both areas (software and hardware). This double development leads to the possibility for the creation of the virtualized human brain. According to Ray Kurzweil, by the year 2045 global intelligence will grow exponentially by a factor of 1 billion compared to the present (Kurzweil, 2011). Biological intelligence is impressive, but physically limited, unable to experience accelerated growth; but non-biological intelligence will see exponential increases.

The fusion between biological and artificial intelligence has already begun, a smartphone being the first step towards this vision, followed by those who already have computers implanted in their bodies or their brains. There is the artificial pancreas which simulates to perfection the functions of the real organ. The human genome project is also an example of an exponential project: it was considered impossible because even though it had been planned as a 15-year-long implementation, after seven and a half years it had reached only 1% completion. Thanks to the system of exponential growth, there are only 7 stages between 1% and 100%, as opposed to the classical 100 stages. Starting with the 8th year there was an annual doubling of the rhythm, the project being completed 7 years later (Kurzweil, 2011).

Coming back to accelerated growth, we encounter two business models which see implementation in companies in need of future developed technologies, relying on an exponential rhythm of growth over two, three years or only after six months.

The companies which experience accelerated growth rely on coming across future performing human resource which would utilize processes belonging to future technologies and which will employ working methods thus conceived to require certain qualities from their employees (Foyen, 2011). However, future the planning done inside companies ignores disruptive technologies, such as the social networks which people did not use 5 years ago, or wiki pages and blogs. The world is constantly changing, but compared to five years ago the change is ever more accelerated. No one can produce accurate forecasts of what may be created or could happen in the near future, but it certain that communication technology will radically affect globalization, with such a profound change that communications will see an unprecedented development.

New future communication technologies are under the oligopoly of certain global producers, but this fact does not mean that the small or large businesses can't create a communicational environment, with employees open to cooperation and collaboration, an entrepreneurial environment through which

they may replicate the progress of those finding themselves in the competitive-advantage stage of company development – with an advantage created through human resource (Foyen, 2011). New companies which create disruptive growth, such as Google or Facebook are pioneers of new industries. This does not mean that older, established industries are exempt from making disruptive leaps. Companies such as IBM manage to reinvent themselves through the quality of their hired personnel and through new strategies aimed at creating new markets and new products, at the same time mitigating the new risk inside the company at large.

The internal development of an employee demands constant feedback

As an employee develops professionally and gains experience in the workplace, he undergoes coaching and mentoring programs which monitor his progress and provide the critique and feedback necessary for development and for maintaining and ascendant career trend (Sutton, 2010a). When the employee reaches a top management position or even that of CEO, the majority of his colleagues are, in fact, his subordinates. Even though he is being supervised by a board of directors, this is only done in general guidelines, the vision over his performance is achieved through the perspective offered the reports put in by the subordinate colleagues.

The more they advance in their career, the less coaching they receive and the general guidelines on their performance becomes sparse. They come to be isolated from constructive criticism because subordinates seek to avoid having problems with the executive management, shunning prompt feedback (Sutton, 2010b). In the organizations experiencing accelerated growth the top management is searching for economic efficiency, but from the point of view of optimizing the working system of the employees, while the offered feedback must refer to other components also, which may reduce the general efficiency of the system.

The most frequent criticism is found in the end-of-year reports and it addresses the top management's style of leadership, communication and interpersonal aptitudes. There is criticism of the top management's and of the CEO's strategy, tactical decisions and operational priorities. This criticism can touch on the style of business created by the employee and thus may be unconsciously rejected, therefore creating a need for an objective appraisal of the subjective feedback on both sides.

The accelerated-growth business – the coaching school of human resource

Executives in accelerated-growth companies are helped not by coaches but by the mentors who are found on the board of directors or outside the company. These mentors do not directly supervise the executive manager but only provide guidance following the latest reports about him (from the mass-media, from internal and external reports), so they cannot provide a 360 degrees view to cover all the blind spots in the business efficiency of the top manager (Sutton, 2010a).

A particular case is the study of accelerated-growth companies in the pharmaceutical industry. One case study from Harvard Business School depicts the situation of a pharmaceutical industry CEO who at one point was facing difficulties with the decision-making process in the board of directors (Amabile, Kramer, 2011a), from decisions on drug testing to the setting up of drug test (in a joint venture or in-house). Certain decisions are made according to the approach chosen, either by the European Commission or by the Food and Drug Administration. The CEO is routinely tasked with achieving consensus in between the company's departments on issues of development and implementation.

One of the mistakes a CEO makes is not accepting coaching advice from subordinates, because he sees himself as their coach, not the other way around. This managerial issue is inherited from the past when those who sought decision-making advice were seen as poor leaders and this was considered an unbecoming conduct for either side (Amabile, Kramer, 2012).

Over-involved top management, the killer of creativity and of productivity

Leaders or executive managers have the habit of undermining creativity, productivity and group cohesion by inhibiting the creative drive of employees in entry level and middle management positions (Amabile, Kramer, 2012).

A top executive's perspective over his own position is that its main goal is to forge the strategy as a competitive advantage, undermining the second task, that of helping to foster the progress of the people working for the organization and who are the de facto agents for the implementation of the strategy created by the top executives (Agrawal et al., 2010, pp. 378-389). A multi-year project published in 2011 by Harvard Business Review shows that the main motivator of people working in dynamic organizations is the progress achieved on meaningful projects (Amabile, Kramer, 2011b, pp. 70-80).

Another relevant aspect is that of the small successes won by middle and entry level employees, insuring a steady flux of emotions, motivations and perceptions which shape a person's reactions in the workplace. Life at the place

of work influences not only the wealth of employees but their life in general. People are more creative and more productive if they are pleased with themselves.

A recently published research by Harvard Business Review highlighted the fact that the managers on all hierarchic levels within companies undermine the vision of their immediate subordinates through their ideas and daily actions, by killing creative ideas and group spirit - through the continuous shifting of employees between projects before they are completed, thus removing the pleasure of seeing their work completed (Amabile, Kramer, 2011a).

At the executive level (C-level suite or seigniorage), managers exert a “butterfly effect” over the entire company because they hold little opportunities of instilling their vision directly and any action they take initiates a top-down change in behavior over the other members of the organization (Amabile, Kramer, 2011b, pp. 70-80). In order to understand the role held by the executive level, the McKinsey company did a study of 12000 emails of seven North American companies, out of which they extracted 868 elements coming from the executive managers.

The qualitative analysis on the conduct of the executive managers drew out four general traps which propagate over human resources from the top down. The people from the McKinsey consultancy have completed another reduced study on 669 executive managers across several countries and industries (Amabile, Kramer, 2012). They were interviewed about creating a top 5 of the most important things for the employees, these being stimulants, recognition, goals, interpersonal support and work progress. The latter qualified last on the chart, with only 8% of the votes, thus highlighting the problem of finality at the workplace - or rather the lack of it. The sense of purpose in the workplace and the measures taken to accentuate this feeling must come from the top of the company, but the first step has already been taken by recognizing the possible traps.

The number 1 problem – The signs of mediocrity

Client-oriented companies have top management teams which are based on an interdisciplinary entrepreneurial vision between business units. In theory, this type of management requires autonomous teams, whose functioning relies upon strictly defined resources in order to create new and innovative products. Even though the word which sums up the vision of client-oriented companies is innovation, in practice this is replaced with cost-reduction, which even though is not followed by interdisciplinary teams, it is implemented by the top management of companies. As an example we can look at an extract from an internal order from inside a client-oriented company (from a McKinsey study):

Today we learned that our team will concentrate on cost reduction for the next months instead on creating new products... It is becoming increasingly difficult to concentrate on cutting the money from the standard cost of a product. That is the single point over which we have control. Most of the time it is quality who suffers. It seems that our competition is ready to offers new products in a shorter cycle... We are no longer the leaders in innovation. We are the followers.

Product engineer, Karpenter company (producer of customized chemical solutions) (Amabile, Kramer, 2012)

This engineer may be classified as the result of the top management losing sight of the goal of employees. The Karpenter company presented in the McKinsey study is comprised from executives and middle managers who were tasked with the execution of bellow quality work. The problem of mediocrity erodes the system of human resources and lead to the destruction of the company from the inside-out. Companies dealing with these problems tend to become comfortable and complacent with their situation, which in the long term is a recipe for failure.

Problem number 2 – The unclear strategy

Experienced top managers look at any signals coming from outside the company and elaborate the strategy on the go. Among the signals they take into consideration are the strategy and positioning of the competition, market-crowding by the new competitors and the global economic context. These signals exogenously shape the strategy of the company in the medium and long term, and in theory this is a good thing. In practice though, the constant use of informational inputs by the top management and the imposition of constant changes in strategy lead to the creation of murky areas in the vision and the path the company needs to take, similar to the attention deficit disorder medical syndrome. Not allocating time for analysis and the insufficient rationalization of strategic decisions may lead to strategic shifts which are misunderstood by the employees and which do not fit into the logical roadmap, the end-purpose being obscured to the corporation at large.

Returning to our example, the Karpenter company had a big strategic drawback in the top management's, and especially the CEO's policy of continuously implementing the latest trends in management, turning corporate strategy into a system which created a loss of focus in the production lines and for the human resource involved, across all company divisions (Amabile, Kramer, 2012). Inside other companies there may appear situations where

certain divisions work at creating a new market strategy, which then suffers frequent changes in its development due to the top management's tinting of the company roadmap. Such on-the-fly shifting of coordinates leads to pauses in production and in the cohesion inside the company "trenches" (entry and middle level) which may cost the organization important human resources or, even worse, may disrupt the very mission of the company, which in the long term can only mean bankruptcy or a forced takeover (Torrington et al., 2011).

Problem number 3 – the obscuring of corporate problems

In their wish not to create continuous checks and other problems for their hierarchical colleagues (a the entry and middle level), situations have arisen where the top management is locked inside a protective bubble which keeps them away from the real problems inside the company, be it either at the strategic level or at the level of the human resources. In the company we use as an example we hold as the key culprit for the creation of such a protective bubble the complex system for the reporting of the basic functions of the company, from the holistic perspective of the top management (functionally dispersed costs and turnover are the starting point in the evaluation of a company) which is not sufficiently rationalized (both from a temporal perspective and a functional one) (Amabile, Kramer, 2012). At the moment when support and coordination become vague and undefined within an organization, its employees lose their focus on the quality of production (be that either in goods or services) and the feeling that they have a well defined purpose is dulled.

Problem number 4 – Farfetched goals which always seem unreachable

The development of well defined goals is one of the chief purposes of the top management. They need to be disseminated throughout the other hierarchical company levels, leading to the creation of the nucleus and protective belt of human resources which help the company grow. Within some companies, farfetched goals which fail to create a buzz among the people in the "trenches" may lead to a drop in the confidence in the company's vision and to the creation of a strategic void. If Google's mission is to "organize the world's information and make it universally accessible and useful", for other companies such missionary statements may appear as great examples of futility (Amabile, Kramer, 2012).

Looking at all the projects and their mission statements as being system innovations or new paradigms in development may lead to a drop in confidence

on the strategic vision of the company, especially if most of these goals have not been met. In order to at least reduce the science-fiction character of these mission statements, they must be divided into working structures to be met and achieved along the way (like milestones) and the company's employees from the entry and middle levels must be involved in defining them (Collins, Porras, 1996, pp. 65-77).

Visions such as the ones described above, even though they seem untested, have been used successfully in the year 2000 by the Xerox company. The economic situation in the USA at the end of the millennium was badly affected by the dotcom crisis and the CEO of Xerox followed the idea of transparent, bidirectional communication which took account of all the problems across all of the parties involved. Even though the external consultants were advising the company to enter Chapter 11 protection, the CEO has opened all internal communication channels and elaborated the medium-term strategy together with the middle and entry levels (George, McLean, 2005). The vantage point of the executive position or that of a member of the board of directors gives a panoramic vision over the discovery of new advantages for the organization and as such the implementation of a leadership vision is the best solution for creating an effect of functional unity (or singularity) and for motivating people to increase their dedication and productivity to the corporatist cause instilled in the company mission statement.

Conclusion

In order to avoid the problems encountered in the decision making process over the human resources and its evolution a complete, clear and transparent communication with employees is necessary, with the purpose of giving them the strategic clarity needed for maintaining the focus of the organization and for keeping the human resource available at a level which may represent a competitive advantage to the company. For maintaining a powerful strategy of innovation for the available human resource, the innovation process must be brought up for discussion at each meeting of the teams or divisions, or of the company as a whole.

Another point which must be raised is that of the employee's perspective, because this is the main working unit of the company and it must be exploited with the purpose of maintaining the focus and the productivity at an optimal level. Any decision taken with the top-down approach must be visualized from a bottom-up point of view.

The creation of proactive alarm systems to draw attention to the pauses in strategy before they appear is of capital importance. As a summing up of the

ideas resulted at the end of this research we have the necessity for the instrumentation of a company audit, with an interest in regulating and regularizing the economic circuit inside the company, based on the human resources involved and the free and unhindered decision within the corporation. The audit also has the role of offering a safe interval for the coordination of various domains such as marketing, sales and acquisitions (operations) which can be used as a general guide by the company's top management.

References

- Agrawal, S., Asplund, J., Harter, J., Killham, E., Schmidt, F., "Causal impact of employee work perceptions on the bottom line of organizations", *Perspectives on Psychological Science*, July 2010, Vol. 5, No. 4, 2010, pp. 378-389
- Amabile, T., Kramer, S. (2012). "How leaders kill meaning at work", *McKinsey Quarterly* – digital edition, January 2012
- Amabile, T., Kramer, S. (2011a). "The Progress Principle: Using Small Wins to Ignite Joys, Engagement, and Creativity at Work", Boston, Massachusetts, *Harvard Business Review*, August, 2011a
- Amabile, T., Kramer, S., "The power of small wins", Boston, Massachusetts: *Harvard Business Review*, May 2011, Vol. 89, No. 5, 2011b, pp. 70-80
- Ariely, D. (2010). *The Upside of Irrationality: The Unexpected Benefits of Defying Logic at Work and at Home*, Harper Collins Publishing, New York
- Ariely, D. (2008). *Predictably Irrational: The Hidden Forces That Shape Our Decisions*, Harper Collins Publishing, New York,
- Collins, J., Porras, J., "Building your company's vision", Boston, Massachusetts, *Harvard Business Review*, Vol. 74, No. 5, September/October 1996, 1996, pp. 65-77
- Foyen, L. (2011). "IT Growth and global change: A conversation with Ray Kurzweil", *McKinsey Quarterly* – digital edition, January 2011
- George, W., McLean, A., "Anne Mulcahy: Leading Xerox through the perfect storm", *Harvard Business School Case 9-405-050*, January 2005
- Kurzweil, R. (2011). *The Singularity is Near: When Humans Transcend Biology*, Penguin Group, New York,
- Sibony, O., "Dan Ariely on irrationality in the work place", *McKinsey Quarterly* – digital edition, February 2011
- Sutton, R. (2010). *Good Boss, Bad Boss: How to Be the Best... and Learn from the Worst*, Business Plus Publishing, New York
- Sutton, R., "Why good bosses tune in to their people", *McKinsey Quarterly* – digital edition, August 2010
- Torrington, D., Taylor, S., Hall, L., Atkinson, C. (2011). *Human Resource Management*, Pearson Education Limited, Essex

Modern Gravity Models of Internal Migration. The Case of Romania

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Abstract. *Internal migration, although less investigated than international migration, is a key mechanism for adjustment to regional economic shocks, especially when other tools prove useless. But this process has very complex factors of determination which can be economic, social, demographic, environmental, etc. Based on previous international studies, in the case of Romania the robust variables proved to be the population size, the per capita gross domestic product, the road density, an amenity index and the crime rate from a static perspective, and the previous migration, the population size and the amenity index from a dynamic perspective. The techniques I have employed in making this study are the Least Square Dummy Variables (LSDV, or the fixed effects method) and the Generalized Method of Moments (GMM, or the dynamic method) both applied to panel data.*

Keywords: internal migration; gravity model; panel data; fixed effects method; dynamic method.

JEL Codes: J61, R2, C33.

REL Codes: 9J, 9G.

1. Internal migration: approaches, typology, perspectives and theories

Migration is not a random process. It is a rational choice that implies two decisions: to migrate and where to migrate. The first represents the microeconomic approach, while the second refers to the macroeconomic approach. They are both independent and sequential decisions. The purpose of the micro approach is the individual's behaviour and the factors which influence its migration decision; instead, the macro approach refers more to places rather than people and to aggregate flows of migrants rather than individual ones. Migration comprises three main contexts:

- *spatial context* distinguishes between internal and international migration;
- *modelling context* distinguishes between micro and macro approaches;
- *context of the purpose* distinguishes between identifying the determinants of migration and exploring the consequences of migration (Etzo, 2008, pp. 1-27).

Migration can take two *forms*: speculative migration and contracted migration. The former consists in searching for a job in another place, while the latter is provoked by already finding a job in another place (Sillers, 1977, pp. 29-40). Molho (1986, pp. 396-419) considers that speculative migration is part of the job-search process whereas contracted migration is the result of this process.

In the literature there are two *perspectives on internal migration*: the disequilibrium perspective and the equilibrium perspective. The former argues that migration is due to the existence of regional salaries that do not clear (adjust, equilibrate) the market, whereas the latter considers that regional variations do clear the market. Although both views consider spatial variations of utility that underlie migration, they differ in the source and persistence of these variations (Greenwood, 1997, pp. 648-720).

As for *theories of internal migration*, the most important are the neoclassical theory, the job-search (or job-matching) theory and the Keynesian theory. In 1932, Nobel price winner, John Hicks, stated that "*differences in net economic advantages, chiefly differences in wages, are the main causes of migration*" (p. 76). This statement was the starting point of all modern analysis on migration and constitutes the basis of the neoclassical theory of migration. According to this, people decide to move only if expected gains exceed costs of moving (both monetary and non-monetary: transportation costs, foregone earnings during moving, psychic costs of leaving family and friends,

accommodation costs, etc.) (Borjas, 2008, pp. 321-364). If the neoclassical theory argues that migration takes place before finding a job at destination, the job-search (job-matching) theory argues that migration occurs after having already a job in hand. While job-search theory considers individual decision, job-matching theory considers aggregate decision. The human capital (neoclassical) model cannot explain by itself the migration process because it assumes that information is costless. So, the migration decision should be taken in two stages: first, to migrate or not, taking into account the costs involved; second, to accept or not a certain job (Jackman and Savouri, 1992, pp. 1433-1450). Finally, the Keynesian theory is critical against the neoclassical one due to the different view on money. Therefore, according to the Keynesian economists, labour supply depends not only on real wage (as argued by the neoclassical economists), but also on nominal wage. Thus, migrants are also attracted by high nominal wage regions. Moreover, if in the neoclassical approach migration reduces real wage disparities among regions, in Keynesian approach migration reduces rather unemployment disparities (Jennissen, 2007, pp. 411-436).

Migrants are not randomly sorted out because of differences in migration costs each of them bears and of the shape of income distribution in any two regions (origin and destination). Related to this last fact, the *selection of migrants* can be of two types:

- Positive selection, when:
 - migrants have above-average skills;
 - destination offers a higher rate of return to skills than origin;
 - migrants are chosen from the upper tail of the skill distribution ladder because origin “taxes” high-skilled workers and “insures” low-skilled workers against poor labour market outcomes.
- Negative selection, when:
 - migrants have below-average skills;
 - origin offers a higher rate of return to skills than destination;
 - migrants are chosen from the bottom tail of the skill distribution ladder because origin “rewards” high-skilled workers and “punishes” less-skilled workers.

Therefore, high-skilled workers choose regions with larger payoffs to skills while less-skilled workers choose regions with smaller payoffs (Borjas, 2000, pp. 1-21).

2. Gravity models and possible determinants of internal migration. Literature review

Newton's law about universal gravitation (1687) states that the attractive force between two bodies is directly related to their size and inversely related to the distance between them. Newton's law was applied to migration research by Lowry (1966, pp. 1-118) and Lee (1966, pp. 47-57). The basic gravity model can be applied to migration as follows:

- in mathematical form:

$$M_{ij} = g \times \frac{P_i^\alpha \times P_j^\beta}{D_{ij}^\chi}, \text{ or} \quad (1)$$

- in statistical form (in logs):

$$M_{ij} = \rho \times \log(g) + \alpha \times \log(P_i) + \beta \times \log(P_j) + \chi \times \log(D_{ij}) + \varepsilon_{ij} \quad (2)$$

where M_{ij} is the migration from region "i" to region "j", P_i and P_j the origin and destination populations, D_{ij} the physical distance between "i" and "j", α - β - χ elasticities, and g a gravitational constant. Newton considered that $\alpha = \beta = 1$ and $\chi = 2$.

Since Lowry (1966, pp. 1-118), the basic gravity model has been extended to the following form:

$$M_{ij} = \beta_0 \times \log(g) + \beta_1 \times \log(P_i) + \beta_2 \times \log(P_j) + \beta_3 \times \log(X_i) + \beta_4 \times \log(X_j) + \beta_5 \times \log(D_{ij}) + \varepsilon_{ij}, \quad (3)$$

where X_i is a vector of explanatory variables describing different features of the origin (i.e. push factors) and X_j is a vector of explanatory variables describing features of the destination (i.e. pull factors). Push factors are those characteristics of the origin place that encourage (discourage) out-migration (in-migration), such as low incomes, high unemployment, high prices, in general few opportunities for development. Instead, pull factors are those characteristics of the destination place that encourage (discourage) in-migration (out-migration).

As I have said before population size coefficients should return positive values, i.e. the more one region is populated, the higher will be the probability to migrate both in and out; on the contrary, distance influence migration decisions through costs of moving which increase with physical distance, thus distance elasticity being negative. Greenwood (1997, pp. 648-720) considers that distance elasticity of migration declines over time due to modern information, communication and transport technologies.

A very complex classification of internal migration determinants was made by Van der Gaag et al. (2003, pp. 1-141) which make the difference between “*those characteristics of individuals or households that are indicative of higher or lower propensities to migrate and those factors that actually determine whether a move takes place and which destination is selected*” (p. 12). Therefore, there are both selective influences (demographic factors) and determinants of migration. The demographic factors include mainly *age* and *sex*. If age is variable, sex is a constant. Migration tends to be higher for young children, decreases at school-leaving age and rises again at labour force entrance. Many studies insist that migration declines with age except for when older persons need family help or medical aid. Even though sex differences are not as significant as those between ages, the empirical evidence shows that women rates could be higher than men’ after the age of 16, after which could fall below men’ until the retirement age; finally, in older old age, female rates could again exceed those of males (for further details see Van der Gaag et al., 2003, pp. 1-141).

Migration determinants can be classified in: gravity variables, economic variables, labour market variables, real estate variables, environment variables and political variables. *Gravity variables* are population sizes, with positive influences, and physic distance, with negative influence. *Economic variables* could be numerous: gross domestic product per capita, newly created businesses, wages, etc. *Labour market variables* include: levels and/or rates of (un)employment, changes in working conditions, etc. *Housing market variables* act in the following manner: high prices of houses and low vacancy rates deter migration unless anticipated by potential migrants; size, structure and quality of residential stock affect level and type of migration, and also construction and demolition rates. *Environment variables* are those that affect quality of life both on short and long term, among these being terrain conditions (abandoned, vacant, greenfield, or brownfield), population density, degree of urbanization, social behaviour of local inhabitants, climatic conditions, leisure and entertainment activities, etc.. *Policy variables* refer to governmental subsidies, local taxes, defense spending, educational offer, urban area plan, or direct measures such as migration incentives and policies. One should bear in mind that there is no strict delimitation between these variables (Van der Gaag et al., 2003, pp. 1-141).

Instead, Borjas (2000, pp. 1-21), in *Economics of migration*, considers the following general determinants of internal migration:

- *Age*: younger people migrate more because they have a longer period over which they can benefit from the returns to migration investment, i.e. an increase in net gains.

- *Education*: highly educated people are eager to migrate because they are more efficient in assessing employment opportunities in various labour markets, thus reducing migration costs.
- *Distance*: the longer the distance the lower the incentive to migrate due to larger migration costs.
- Other factors: *unemployment* – the unemployed are more likely to migrate; suffers from endogeneity problems; *wage differentials* – potential positive impact is sensitive to selection bias problems.

In applying the gravity model represented above, almost all studies employed as dependent variable the gross migratory flows from origin “i” to destination “j”.

Anjomani (2002, pp. 239-265) carried out an analysis of US interstate migration and included as regressors the following variables grouped as follows:

- *Previous gross migration*, as a proxy for social networks or availability of information, it should impact positively; information decreases with increased distance and increases if in the past more people migrated from origin “i” to destination “j”; relatives and friends may facilitate the journey of the recent migrant by providing him initial accommodation and information about job prospects;
- *Economic variables*: regional income, employment rate, unemployment rate, local income tax;
- *Amenity variables*: population density, mean temperature, welfare benefits, criminality rate;
- *Demographic variables*: population size or growth, mean educational level, median population age.

As technique of estimation he used Two Stage Least Square (2SLS).

Ivan Etzo (2008, pp 1-29) investigated the determinants of interregional migration in Italy by using population size, distance between main cities, GDP per capita, unemployment rate, infrastructure index and crime rate in both origin and destination regions. The techniques employed were the Fixed Effects Vector Decomposition Estimator (FEVD) and the Generalised Method of Moments (GMM).

Ghatak et al. (2007, pp. 1-29) analysed interregional migration in Poland and employed variables such as GDP per capita, unemployment rate, number of dwellings per 1,000 inhabitants in “j”, number of students per 1,000 inhabitants in “i”, road distance between capital cities of “i” and “j”, density of road length in “i” and “j”, rate of infant mortality in both “i” and “j”. The technique used was the Seemingly Unrelated Regression Equations (SURE), and more precisely the Maximum Likelihood (ML).

Parikh and Van Leuvensteijn (2002, pp. 1-22) carried out a panel data analysis for the regions of Germany and employed variables like unemployment rate differential, unemployment rate, wage differential for blue-collar workers and wage differential for white-collar workers (in logs), differential in hospital and hotel beds per inhabitant, differential in per capita rented or owned housing, differential in rental price per km², distance between the main cities and differential in cost of living index. The econometric methods used were Least Square Dummy Variables (LSDV) and GMM.

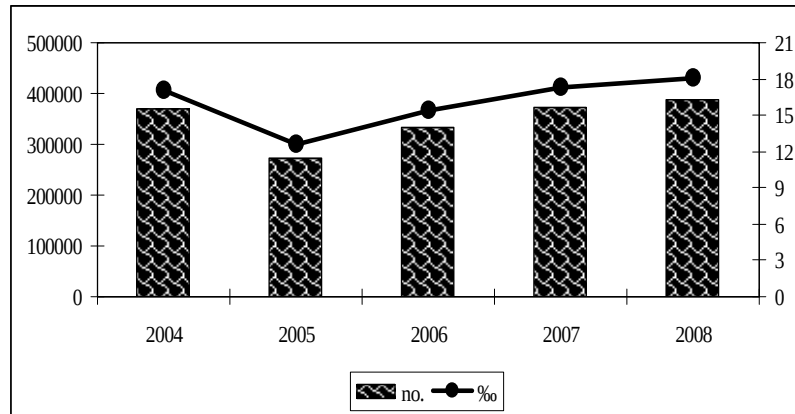
3. Internal migration in Romania. Statistical and econometric analyses

All data used in this empirical research are at NUTS 3 level, i.e. county level, because a regional analysis (NUTS 2) would involve serious problems of aggregation due to the different sizes and number of counties each region of Romania comprises. Hence, using NUTS 3 level one can assess movements across counties that would have been impossible to do using NUTS 2 level (Ailenei, Bunea, 2010, pp. 159-164). Therefore, the county analysis will be more relevant and precise.

The period under analysis is 2004-2008.

A. Statistical analysis

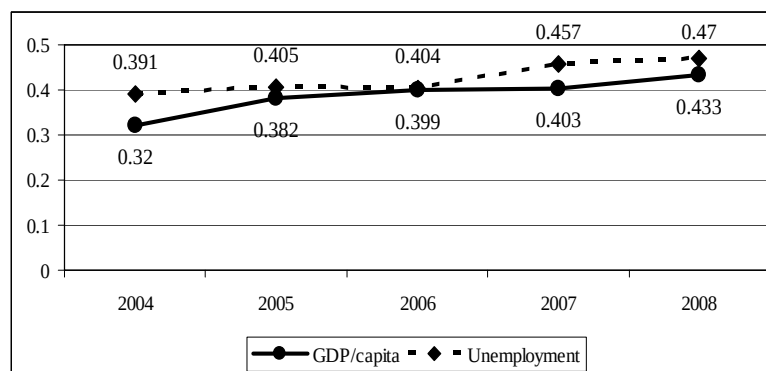
During the interval 2004-2008, Romania witnessed a constant increase in migration from 2006 to 2008, despite a fall in 2005. Therefore, the following absolute (and relative) values were registered: 367 th. (17‰) – 2004, 272 th. (12.6‰) – 2005, 334 th. (15.45‰) – 2006, 374 th. (17.35‰) – 2007, and, respectively, 389 th. (18.1‰) – 2008 (Figure 1). Migration rate (gross and/or net) is computed as the ratio of (a) gross/net migration for an area during a specific period to (b) its population in the previous period, multiplied by 1,000.



Source: Personal elaboration based on Romanian Statistical Yearbooks 2005-2010.

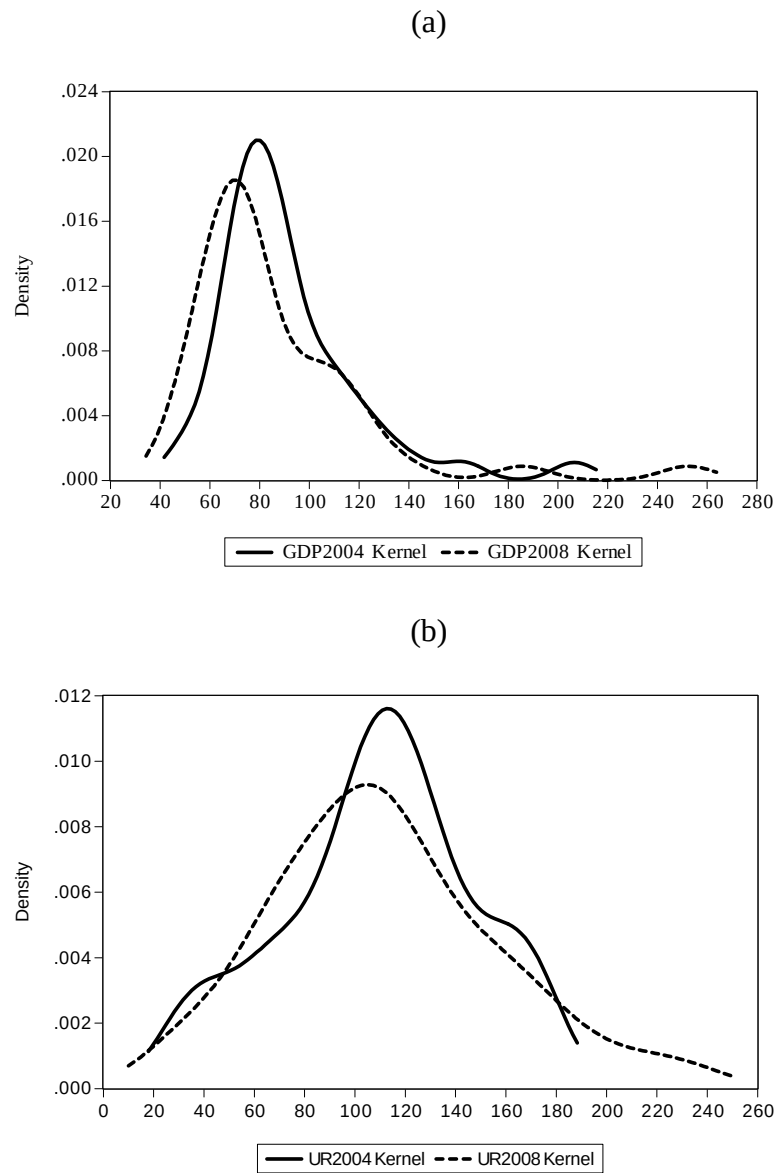
Figure 1. Gross migration (no. of migrants and rates)

Can this upward trend be explained by increasing differentials in county GDP per capita and/or county unemployment rate? Both GDP per capita and unemployment rate at county level experienced a divergence process (i.e. σ -convergence), as can be seen from the ascending evolution of their coefficients of variation (Figure 2). The kernel density distributions confirm the aforementioned trends (Figures 3(a) and 3(b)). These distributions are computed following the rule of Silverman (1986, pp. 1-22). First, I have transformed the values of GDP in relative terms, with national mean = 100, in order to facilitate comparisons and eliminate the impact of absolute changes over time (Ezcurra, Pascual, 2006, pp. 1-6). Hence, it seems that increasing migration may have its roots in increasing differentials among counties.



Source: Personal elaboration based on Romanian Statistical Yearbooks 2005-2010.

Figure 2. σ -convergence for GDP per capita and unemployment rate



Source: Personal elaboration based on Romanian Statistical Yearbooks 2005-2010 and using EVIEWS 7.

Figure 3. Kernel density distributions of (a) GDP per capita and (b) unemployment rate

Counties with the lowest real GDP per capita (2004 prices): Vaslui, Botoşani, Giurgiu, Călăraşi, and Teleorman with a total average of about 38,700 lei per inhabitant. Counties with the highest real GDP per capita: Bucharest, Ilfov, Timiş, Cluj, and Constanţa with a total average of about 114,800 lei per inhabitant. Counties with the highest unemployment rates: Vaslui, Mehedinţi, Ialomiţa, Teleorman, and Gorj with an average of 8.9%. Counties with the lowest unemployment rates: Timiş, Bucharest, Ilfov, Bihor, and Satu-Mare with an average of 2.3%.

Making a simple aggregation, on average, 10 counties with GDP per capita above national average (from a total of 11) had positive balances, whereas 27 counties with GDP below average (from a total of 31) had negative balances. As for unemployment, 10 counties with rates below national average (from a total of 16) had net inflows, whilst 22 counties with rates above average (from a total of 26) recorded net outflows. So, it seems that both high GDP per capita counties and low unemployment counties record net inflows while both low GDP per capita counties and high unemployment counties record net outflows.

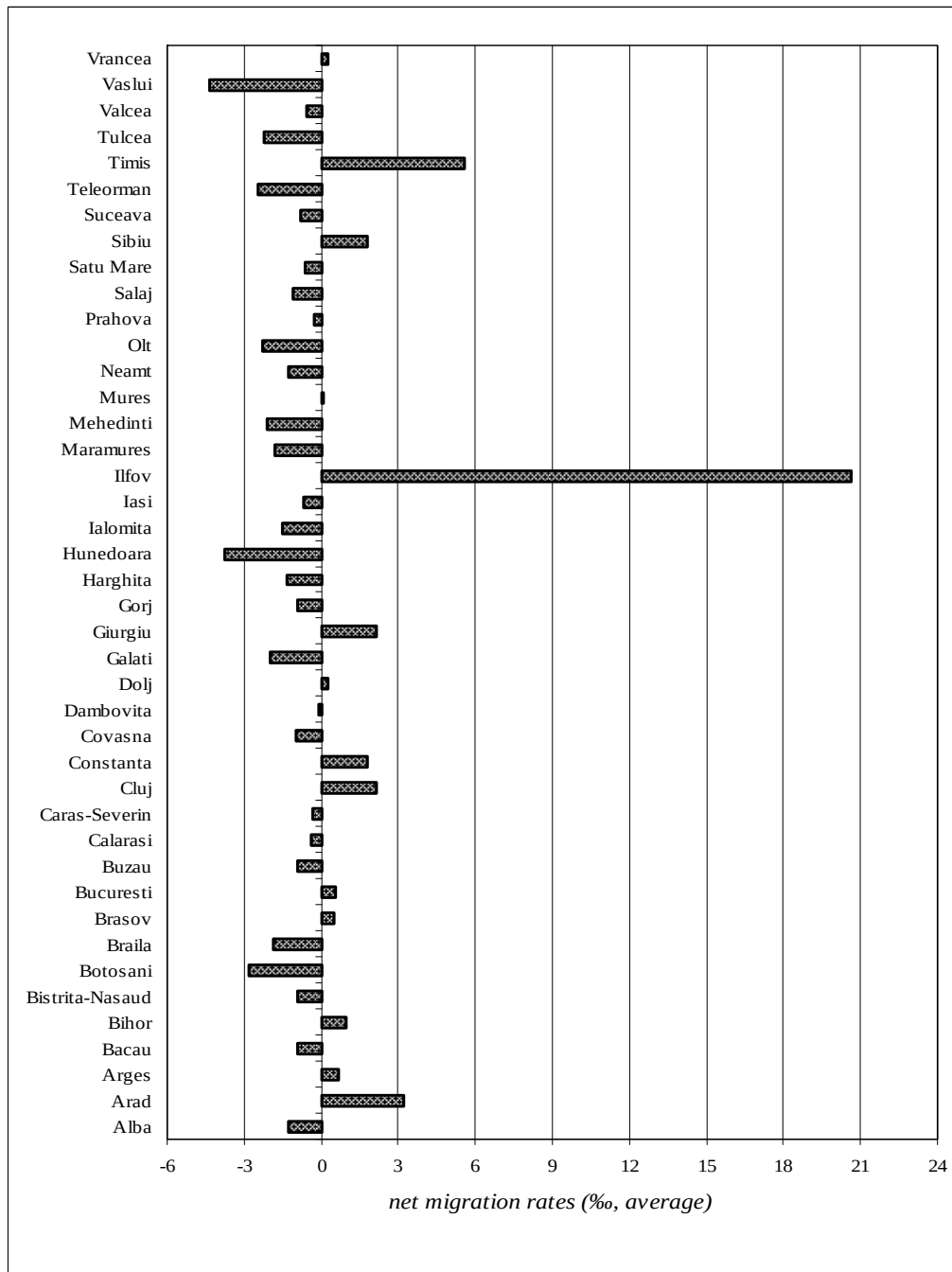
On average, Ilfov, Timiş and Arad were the counties that registered the highest positive rates: 20.6, 5.5 and, respectively, 3.2‰; while Vaslui, Hunedoara and Botoşani recorded the highest negative rates: -4.3, -3.7 and, respectively, -2.7‰ (Figure 4). As for the gross flows, Table 1 presents the counties with the highest and lowest rates.

Table 1

Extreme out and in-migration rates by county
- average 2004-2008 -

	Out-migration (‰)		In-migration (‰)	
minimum	Harghita	11.8	Harghita	10.4
	Covasna	12.2	Maramureş	10.7
	Maramureş	12.5	Brăila	10.9
maximum	Bucharest	22.2	Ilfov	34.4
	Gorj	20.0	Bucharest	22.8
	Vâlcea	18.8	Timiş	21.2

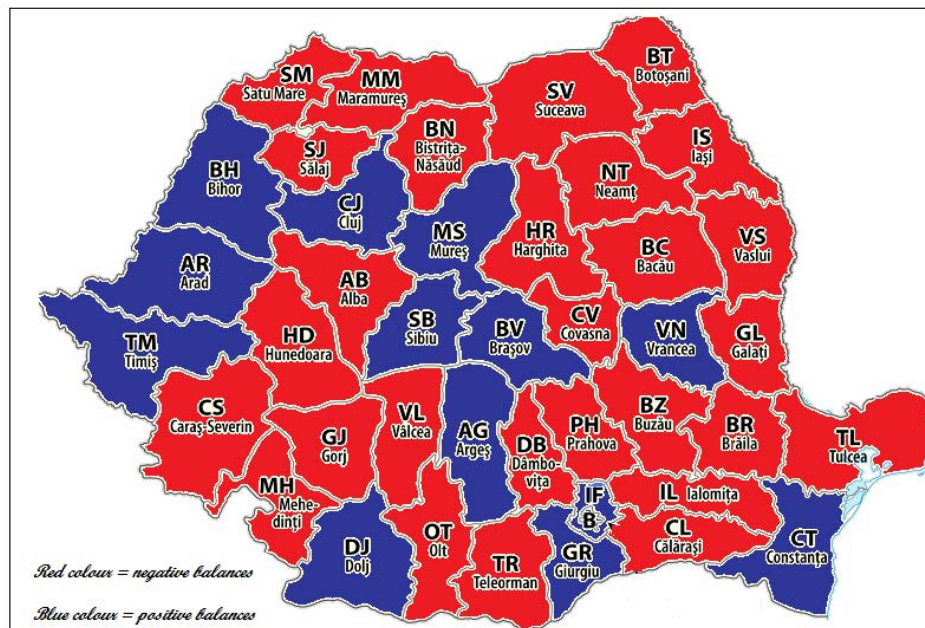
Source: Personal elaboration based on Romanian Statistical Yearbooks 2005-2010.



Source: Personal elaboration based on Romanian Statistical Yearbooks 2005-2010.

Figure 4. Average net migration rates by county 2004-2008

Next map counts 28 counties with negative balances and 14 with positive balances.



Source: Personal elaboration based on Romanian Statistical Yearbooks 2005-2010.

Figure 5. County map of migratory balances

B. Econometric analysis

This section employs a panel data technique whose main feature is that each observation varies both across time and across entities (i.e. counties) and it can take better advantage for omitted variables and individual heterogeneity (Baltagi, 2005, pp. 1-302, Wooldridge, 2002, pp. 1-735).

Unfortunately, for Romania we do not have available data for flows that go from the origin-county “i” to the destination-county “j” but only aggregate data for flows that enter or leave each county. This is why we cannot use model (3) but model (4) specified below. Another drawback is that we also lack data on labour internal migration but population internal migration. More precisely, population migration overestimates labour migration due to the inclusion of migrated retirees, children, students, and other people migrating because of marriage or divorce or any other reason except for job search. As a consequence, using population data instead of labour force data may underestimate the role played by economic variables (Decressin, 1994, pp. 231-257).

The next variables were included and tested in model (4) (all in logs and interpreted as elasticities to migration):

- dependent variable (MR): ratio in-migrants / out-migrants;
- independent variables:
 - POP: inhabitants of each county;
 - GDP: real GDP per capita (in 2004 prices) – proxy for wages;
 - UR: unemployment rate (number of registered unemployed divided by each county's active population) – proxy1 for the probability of finding a job;
 - ER: employment rate (number of civil employees divided by each county's total population) – proxy2 for the probability of finding a job;
 - HOUSE: private dwelling rate (number of private dwellings per 1,000 inhabitants);
 - EDU: university graduates per 1,000 inhabitants – proxy for competition;
 - URB: degree of urbanization (urban population divided by rural population);
 - AMN: amenities index (length of public sewerage pipes – km² + length of distribution pipes of natural gas – km² + length of drinking water supply network – km² + urban green spaces area – ha per 1,000 inhabitants) – proxy1 for infrastructure;
 - ROAD: density of public roads per 100 km² – proxy2 for infrastructure;
 - DEATH: infant deaths per 1,000 live-births – proxy for health care;
 - DENS: population density (number of inhabitants per km²) – proxy for crowding and congestion;
 - CRIM: criminality rate (number of persons definitively convicted per 100,000 inhabitants) – proxy for social behaviour.

All independent variables are lagged one period in order to avoid endogeneity problems or simultaneity bias. Greenwood (1985, p. 535): *“Migration is likely to respond with a lag to changed circumstances”*, because it takes time to acquire the necessary information.

This paper uses the following model:

$$MR_{it} = \alpha + c_i + \beta \times X_{it} + \varepsilon_{it}, \quad (4)$$

where c_i is the unobserved effect, i.e. characteristics that vary between counties but are constant over time, and X_{it} is the vector of all regressors (covariates) mentioned above.

Next table exhibits descriptive statistics for the variables aforementioned.

Table 2

Descriptive statistics for variables

Variable		Mean	Std. Dev.	Min	Max	Observations
SOLD	overall	1.01	0.26	0.70	3.05	N = 210
	between		0.26	0.76	2.46	n = 42
	within		0.06	0.72	1.59	T = 5
POP	overall	514,636.90	275,480.10	223,208.00	1,943,981.00	N = 210
	between		278,133.80	223,841.60	1,934,528.00	n = 42
	within		3,374.73	504,858.30	525,608.50	T = 5
GDP	overall	12,679.34	5,462.92	5,529.61	45,941.45	N = 210
	between		4,942.47	6,567.84	32,904.21	n = 42
	within		2,425.49	3,319.14	25,716.58	T = 5
UR	overall	5.68	2.28	1.30	12.10	N = 210
	between		1.97	2.02	10.46	n = 42
	within		1.18	1.94	9.42	T = 5
ER	overall	38.42	5.02	30.17	57.72	N = 210
	between		4.90	30.62	51.41	n = 42
	within		1.28	31.04	44.73	T = 5
CRIM	overall	259.21	97.23	70.00	743.00	N = 210
	between		65.09	118.80	402.80	n = 42
	within		72.79	28.41	622.41	T = 5
DENS	overall	277.31	1,227.72	29.30	8,168.00	N = 210
	between		1,239.64	29.58	8,117.20	n = 42
	within		4.36	248.21	328.11	T = 5
EDU	overall	6.60	10.03	0.06	51.22	N = 210
	between		8.43	0.13	37.45	n = 42
	within		5.56	-30.62	33.89	T = 5
URBZ	overall	132.09	150.23	12.06	1,000.00	N = 210
	between		151.59	44.93	1,000.00	n = 42
	within		5.34	91.06	152.53	T = 5
AMN	overall	7.47	4.55	1.21	27.14	N = 210
	between		4.55	1.59	26.63	n = 42
	within		0.64	5.65	9.72	T = 5
ROAD	overall	34.41	7.86	15.00	51.20	N = 210
	between		7.89	15.48	50.33	n = 42
	within		0.80	31.80	38.55	T = 5
HOUSE	overall	375.39	59.78	136.72	1,056.31	N = 210
	between		32.54	325.73	517.99	n = 42
	within		50.35	186.38	913.71	T = 5
DEATH	overall	14.17	3.62	6.40	26.40	N = 210
	between		2.39	8.32	19.18	n = 42
	within		2.74	7.27	21.39	T = 5

Source: Personal elaboration based on Romanian Statistical Yearbooks 2005-2010 and using STATA 9.

i. Static approach: Fixed effects regressions

First, let's introduce some information about Least Square Dummy Variables (LSDV) or Fixed Effects method. FEM assumes c_i to be deterministic, thus correlated with the covariates, and is based on the within estimation, i.e. each observation is within the county 'i' throughout the period. Instead, the random effects model (REM) assumes c_i to be stochastic (random), thus not correlated with the covariates and included in the error term. Another way put, the REM estimates are consistent only if c_i are independent or uncorrelated with the regressors or with the error term (Wooldridge, 2002, pp. 1-735). Applying Hausman test (1978) in order to establish the consistency of REM estimates, under the null hypothesis that $\text{cov}(X_{it}, c_i) = 0$, the output invalidated the consistency of REM.

I have employed STATA 9 and EVIEWS 7 to perform FEM regressions. After controlling for the population effect (significant), the significant variables turned out to be: real GDP per capita, amenity index, road density and crime rate (Table 3).

Table 3

LSDV estimates		
Variable	Value (prob>95%)	Interpretation
POP(-1)	1.74	A 1% increase in last year population increases current migration ratio by 1.74%.
GDP(-1)	0.07	A 1% increase in last year income per capita boosts current migration ratio only by 0.07%.
POP(-1)	1.89	A 1% increase in last year population increases current migration ratio by 1.89%.
AMN(-1)	0.17	A 1% increase in last year amenity index boosts current migration ratio by 0.17%.
POP(-1)	1.46	A 1% increase in last year population increases current migration ratio by 1.46%.
ROAD(-1)	0.44	A 1% increase in last year road density boosts current migration ratio by 0.44%.
POP(-1)	1.93	A 1% increase in last year population increases current migration ratio by 1.93%.
CRIM(-1)	-0.05	A 1% increase in last year crime rate diminishes current migration ratio by 0.05%.

ii. Dynamic approach: two-step GMM regressions

In using this method it is very important to make difference between strictly exogenous variables, predetermined but not strictly exogenous variables and endogenous variables, because they will be used as instruments in the

regressions with different lags. The *strictly exogenous variables* are those unaffected by past, current and future shocks/errors and all will be instrumented. The *predetermined variables* are those independent of current disturbances but possibly affected by past ones and will be instrumented with lag 1 and earlier; this is the case of all our covariates. Finally, the *endogenous variables* are those correlated with the current errors; these will be instrumented from lag 2 onward. GMM estimators are corrected for heteroskedasticity bias and endogeneity between variables (Roodman, 2006, pp. 1-51).

The following results were obtained using STATA 9. After controlling for the population effect (significant), the only significant variable turned out to be the amenity index. The valid instruments are the migration ratio from lag 2 onward, the population size and the amenity index both from lag 1 onwards. The robustness of the amenity index resides in the tiebout hypothesis: people “vote with their feet” in search of better provision of local public goods (Andrienko, Guriev, 2003, pp. 1-31).

Apart from the amenity index significance, results reported in Table 4 also reveal the importance of the social network theory, i.e. interpersonal relations due to friendship, kinship, or a shared community of origin which may help increasing migration due to the reduction in information asymmetry or in costs and risks (a shelter, food, available jobs, etc.) (Anjomani, 2002, pp. 239-265).

Table 4

GMM estimates

Variable	Estimate (prob > 95%)	Interpretation
MR(-1)	1.01	A 1% increase in previous migration ratio boosts current ratio by 1.01%. The social network effect is robust.
POP(-1)	-0.02	A 1% increase in last year population reduces current migration ratio by 0.02%.
AMN(-1)	0.06	A 1% increase in last year amenity index augments current migration ratio by 0.06%.
AR(1)	0.00*	First lag of the dependent variable is endogenous, i.e. there is serial correlation.
AR(2)	0.32*	Lags are exogenous, i.e. are valid instruments and there is no serial correlation.
Hansen test	0.16*	All instruments are valid or exogenous.
Difference-in-Hansen	0.28*	Joint validity of the full instrument set.
No. instruments	23*	Is smaller than the no. of observations, thus, the Hansen test is not weakened by many instruments.

*) All p-values.

4. Final remarks

In this paperwork I have tried to investigate on the potential determinants of internal migration in Romania using county data for the period 2004-2008. The main results pointed out significant impacts of population size, real gross product per capita, amenity index, road density and crime rate from a static point of view, and significant effects of previous migration ratio, population size and amenity index from a dynamic point of view. All variables returned the correct signs.

Following this study, I plan to search for other possible determinants and to apply additional techniques of estimation in order to compare different outcomes and obtain an accurate assessment as possible of our domestic migration.

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References

- Ailenei, D., Bunea, D., “Labour market flexibility in terms of internal migration”, *Annals of University of Oradea, Economic Science*, TOM XIX, no. 1, 2010
- Andrienko, Y., Guriev, S., “Determinants of interregional mobility in Russia: Evidence from panel data”, *Working Paper*, No. 551, 2003, The William Davidson Institute
- Anjomani, A., “Regional growth and interstate migration”, *Socio-Economic Planning Science*, vol. 36, 2002
- Baltagi, B.H. (2005). *Econometrics analysis of panel data*, ed. 3, John Wiley & Sons Ltd, Chichester
- Borjas, G.J., “Economics of migration”, *International Encyclopedia of the Social & Behavioral Sciences*, 2000
- Borjas, G.J. (2008). *Labor economics*, Ed. 4, McGraw-Hill/Irwin, New York
- Decressin, J.W., “Internal migration in West Germany and implications for east-west salary convergence”, *Weltwirtschaftliches Archiv*, vol. 130, 1994
- Etzo, I., “Determinants of interregional migration in Italy: A panel data analysis”, *MPRA Paper*, No. 8637, 2008, pp. 1-29, *University Library of Munich, Germany*
- Etzo, I., “Internal migration: a review of the literature”, *MPRA Paper* No. 8783, 2008, pp. 1-27, *University Library of Munich, Germany*
- Ezcurra R., Pascual P., “Factor decomposition of spatial disparities: The case of the European regions”, *Economic Bulletin*, vol. 18, 2006

- Ghatak et al., "Inter-regional migration in transition economies: The case of Poland", *Discussion Paper*, No. 7, 2007, pp. 1-29, School of Economics, *Kinston University*, London,
- Greenwood M.J., 1985. "Human migration: Theory, models and empirical studies", *Journal of Regional Science*, vol. 25, pp. 521-544
- Greenwood, M.J., 1997 – Ch. 12. "Internal migration in developed countries", in Rosenzweig, M. R. and Stark, O. (eds.), 1997, *Handbook of Population and Family Economics*, vol. 1B, pp. 648-720, Amsterdam, Elsevier
- Hicks, J.R. (1932). *The theory of wages*, Macmillan, London
- Jackman, R., Savouri, S., "Regional migration in Britain: An analysis of gross flows using NHS central register data", *Economic Journal*, vol. 102, 1992
- Jennissen, R., "Causality chains in the international migration systems approach", *Population Research and Policy Review*, vol. 26, 2007
- Lee, E.S., "A theory of migration", *Demography*, vol. 3, 1966
- Lowry, I. (1966). *Migration and metropolitan growth: two analytical models*, Chandler Publishing Company, San Francisco
- Molho, I., "Theories of migration: a review", *Scottish Journal of Political Economy*, vol. 33, 1986
- Parikh, A., Van Leuvensteijn, M., "Internal migration in regions of Germany: A panel data analysis", *Working Paper*, No. 12, 2002, European Network of Economic Policy Research Institutes
- Roodman, "How to Do xtabond2: An introduction to Difference and System GMM in Stata", *Working Paper*, No. 103, 2006, Center for Global Development
- Silverman, B.W. (1986). *Density estimation for statistics and data analysis*, pp. 1-22, Chapman and Hall, London
- Silvers, A., "Probabilistic income maximizing behaviour in regional migration", *International Regional Science Review*, vol. 2, 1977
- Van der Gaag, N. et al., "Study of past and future interregional migration trends and patterns within European Union countries in search of a generally applicable explanatory model", Report on behalf of *Eurostat*, 2003
- Wooldridge, J.M. (2002). *Econometric Analysis of Cross-Section and Panel Data*, MIT Press, Massachusetts

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The Financial Contribution of International Footballer Trading to the Romanian Football League and to the National Economy

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Abstract. *The purpose of the paper is to find out and to show how much money Romanian football has attracted from overseas (especially from Europe, the main sales market), as a result of footballer exports during 2006 and 2011. The data analysis wants to show if Romanian football makes more losses or profits as a result of footballer trading with foreign countries. The answer is given by some economic performance indicators, whose method of calculation is widely described in the methodology section, which indicates also the source of the primary data. The research reaches to the conclusion that footballer exports from Romania are insufficient (both qualitative and quantitative) in order to ensure the competitiveness of Romanian clubs in comparison to their Western-European counterparts. Another finding is that the average income from footballer exports is not even enough to cover the wages of some players. Thus, the research suggests that, next to the continuation of footballer trading, clubs should also seek to diversify their revenue sources. Next to the conclusions, the paper ends with a presentation of the research limitations and with suggestions for further research.*

Keywords: footballer trading; footballer exports; transfers.

JEL Codes: F1, J4, M3.

REL Codes: 10D, 12I, 14C, 14G.

1. Introduction

In order to ensure their existence and their development opportunities, Romanian football clubs need to diversify their revenue sources, one of them being footballer exports: selling football players (Romanians or foreigners) from Romanian clubs to foreign clubs. At a microeconomic level, such operations bring revenues to the clubs. At a macroeconomic level, it can be argued that footballer exports influence the whole financial structure of Romanian football. So, of the entire Romanian economy as well, because professional football is part of this economy.

The methodology section presents the general model of the research. First of all, there is an outline of the principles that make the research possible, then the source is presented from which the necessary data was obtained, next to how data was processed, and, last but not least, the methods for calculating the four indicators of footballing economic performance mainly used here are presented: the balance of trade, the gross exports, the net exports, and the exports of foreign nationality footballers after deducting the purchasing price (DPP).

The data analysis begins with an overview of the economic performance from the export of football players during the period under review, asking the question of the Romanian football's competitiveness compared to its Western-European counterpart, on behalf of a specific example. After presenting several successful footballer exports, the research addresses the theme of the possibility local clubs could have for improvement if they used „export-import” as a mechanism to draw revenue: the selling of a footballer for a higher price than his purchasing price.

A feature of football after the 1970's is the increased gap between revenues and wage bill, which puts clubs in the difficult situation of constantly seeking new and profitable revenue streams. If, up to the 1970's, clubs have managed to restrain player's wages at levels that could have been easily covered, the removal of the remaining maximum wages caps in Europe (Schmeh, 2005), complemented by the emergence of satellite television and by the Bosman Ruling, which gave footballers more bargaining power in relation to their clubs, has led to an explosion of athlete's wages after 1990. Not few are the cases of insolvency in the past two decades, and the clubs that target performance are forced to place an increasing emphasis on the economics of sport so that they can develop opportunities of getting more funding. Therefore, this article shall render its latter part to the idea of diversifying revenue streams,

considering the latter ones a necessity, a condition without which the Romanian football clubs today can no longer provide even their sustainability, not to talk anymore about development. In addition to conclusions, the article ends with limitations of current research and future research possibilities.

2. Methodology

The article builds on the existence of some specific principles of sports economy, which facilitate the analysis of data:

- Considering the football player to be a commodity for which there is supply and demand on the market. Some authors criticize the look at athletes as a mere commodity (Walsh, Giulianotti, 2007), but for the clubs that employ them, football players are not only human resources, but also assets that have a value and that can be traded. Polti (2005) believes that football players have two values. First, they have a virtual value, which they raise or lower through their evolutions on the field and which they hold as long as they are legitimated at a club. When the footballer is offered for sale, the virtual value turns into real value, with the footballer ready to being sold in return of money (financial value);
- Talent management, as one of the development models most applicable to the world of sports (Brady et al., 2008). One of the essential skills that a coach/manager must have is footballer recruiting (Beech, 2010). A manager must be able to build a winning team through the adjustments he brings to the squad. Adjustments can be made by two flows: the flow of outputs (sales of players from the club) and the flow of inputs (buying players, talent). Successfully managed, the flow of outputs can bring financial resources (out of the purchase price) to support the flow of inputs (talent acquisition expenses);
- Footballer trading, as one of sport's specific instruments (Roşca, 2010a, Roşca, 2010b). Footballer trading has a significant impact on the development capacity of a club. In football, talent is traded on a market which is characteristic to sports, namely the transfer market. Its activities resemble to those occurring in the stock market: countless players are sold from one club to another. It can be even talked about football capitalism: free movement of labor and capital, with footballers to be bought and sold easily. A decision with strong impact on the transfer market was the implementation of the Bosman Law in 1995 (Frick, Wagner, 1996, Simmons, 1997, Antonioni, Cubbin,

2000). The law gave players with an EU's state nationality the freedom to engage with whatever club in the European Union. For clubs, this meant the free movement of capital, which they could take advantage of in the trading of footballing labor, which also happened very soon. Polti (2005) shows that in the Western-European leagues, the percent of players bought from abroad in the total amount of players bought in a year raised from 21,2% in 1995/1996 to 37,2% in 2004/2005;

- For a club, the money collected from the sale of a player can generate significant revenues. But, as market equilibrium is one of the cornerstones of economy, the transfer market has to be offset, the gains of some clubs being joined by the losses of other. In reality, there are some clubs that gain from footballer trading and others that lose. At an entire league level, after incomes and expenditures of all clubs in a championship are accumulated, increasingly more leagues present negative figures;
- The existence, on the transfer market, of a footballers' selling price (even if zero).

So, there is a market where players are being bought and sold. There are also demand, supply, and prices. And there is internationalization, the existing market traders being football clubs worldwide. Romanian clubs are present and active in this market, making, next to internal transactions (sale and purchase of players to and from clubs in Romania; the sale is concluded between two Romanian clubs, regardless of the nationality of the footballer sold), import-export operations as well (the purchase of footballers from abroad and the sale of footballers from Romania to abroad).

2.1. The "pool" of Romanian football finances

The transfer sums enter a "pool" of money: the "pool" of Romanian football finances (money lost or sold as a result of footballer trading). The pool exists thanks to two streams. On the one hand side, there are the internal streams, in which revolves all the money used for the sale and purchase of footballers (revenues and expenditures) within the borders of Romania. For example, in the summer of 2011, Rapid Bucharest bought Cristian Oros from FC Brașov paying two hundred thousand Euros. The money is circulating through the internal flow, being traded between two clubs in Romania, only that the amount of money in the pool does not change. For the Romanian football, regarded as a whole, the sum of money is the same. Only the owner of the money is another one. In the case of Oros, money was transferred from Rapid

Bucharest to FC Braşov, but it still is in Romania. The value of the Romanian football finances can only change through the stream of external relationships. When a Romanian club buys a footballer from a foreign club, it pays an amount of money that leaves Romania and enters the accounts of the foreign club. On the contrary, when a Romanian club sales a footballer to a foreign club, it attracts money from the international market and makes it enter the Romanian economy.

Just as Economics is a science that does not attract or spend resources, these operations being made by economic agents on the market, so football is just a sport that, in order to receive or spend money, needs its most valuable (economic) agents: the clubs. According to Szymanski (2009), the club is the fundamental unit of football. Just as the economic agent is the actor who develops the economy, so the clubs develop football. Therefore, this research recorded the sales of footballers from Liga 1 to foreign clubs.

2.2. The period under review

The analysis takes into account five consecutive seasons, starting with 2006-2007 and ending with 2010-2011. Because of the “European” promotion-relegation system, not every year did the same clubs play in Liga 1, the worst ranked leaving their positions in the league’s next season to the clubs ranked best in the next lower league. Therefore, the study analyzes only Liga 1, the highest division of the Romanian football league. For the 2006-2007 season there were reviewed the sales made abroad by the eighteen clubs that played at that time in Liga 1. For the 2007-2008 season there were reviewed the sales also made by the eighteen clubs in Liga 1, only that the transactions of the relegated clubs were not followed any more, being replaced by the transactions of the promoted clubs. Another important aspect is that, for realizing the study, there were only recorded only the sales for which a Romanian club has received money in exchange to the player. So, three types of transactions are not subject to this study:

- those of the footballers who left for free (free agents), because their departure did not bring any amount of money into the country;
- those of the footballers who departed and in return of whom the buying club (foreign club) offered the selling club (Romanian club) another one ore more footballers in exchange (barter);
- those of the footballers whose transfer fee was not communicated.

In addition, there aren't taken into account the amounts paid to the agents or to the players as „signing fee”. Those payments are made in most of the cases, even when a footballer is sold for free (thus having a transfer fee equal to zero). Disregarding the payments to agents and players, the analysis takes into account only the transfer prices, built on the market at the intersection of the supply and demand of two clubs involved in a transaction. The transfer prices were collected from the www.transfermarkt.de website.

Footballer export can be made with Romanian or foreign footballers. Not the nationality of a player is important, but his employment at a Romanian football club, which can sell him abroad. For the Romanian footballers we will take into account only the amounts of money received from selling abroad, so the money that entered Romania from their exports, as the previous transactions were made between clubs in Romania, thus on Romanian football money. The only case when the purchase fee of a Romanian footballer would have significance is in the case of repatriation.

Instead, for foreign footballers, the purchase fees will also be considered (the fees paid to bring foreign footballers to Romania). The purchase fee is deducted from the sale fee (the sale from the Romanian club that brought him into the country to the foreign club). The result obtained shows either the profit or the loss that the foreign player brought to the Romanian football. The profit/loss of each foreigner sold from Liga 1 to abroad is added, obtaining a sum for the entire season. If the sum is positive, it means that the Romanian football has obtained profit from footballer trading, while, if the sum is negative, it means a deficit.

2.3. The calculation of the balance of trade, of the gross exports, and of the net exports

For each season at hand, the exports of Romanian footballers were added to the profits or deficits of the exports of foreign players. An annual balance resulted. Then, to calculate the gross exports, the transfer fees of all footballers – irrespective if Romanians or foreigners – sold from Liga 1 to abroad were added. The transfer fees for bringing foreigners to Romania were also not taken into consideration.

More relevant is the analysis of net exports, of the profits of Romanian football, not just of the incomes. To find the value of net exports, the buying fees (for bringing to Romania) of foreign footballers will have to be deducted

from the fees received by the clubs from their subsequent sale, obtaining, thus, a new indicator: the exports of foreign nationality footballers after deducting the purchasing price (DPP). In the case of Romanian footballers, the buying fee is deducted only if they were bought by a Romanian club from a foreign club. If the transaction took place between two Romanian clubs (whether the player was Romanian or foreigner), the transfer fee did not leave the Romanian economy.

After the export of a foreign player, a gross fee is obtained. But, it has to be considered that, for buying the footballer from a foreign country, a fee had to be paid, so an amount of money left Romania and entered the accounts of a foreign club. In the import-export operation, the Romanian football first of all pays (cost), and only then does it receive money (revenue), and only if it sells the player.

3. Data analysis

The total amount of the Romanian Liga 1 gross exports, between 2006 and 2011, is 90.61 million Euros, an average of 18.1 million Euros yearly. The best season was 2008-2009, when the gross exports accounted for 32.2 million Euros. Comparing the 90.61 million Euros revenues attracted by a bunch of 18 clubs over five years with the 94 million Euros which one single club, Manchester United, attracted in only one summer after the sale of only one player (Cristiano Ronaldo, to Real Madrid), a question may arise regarding the sustained competitiveness of Romanian clubs in European inter-club competition, when facing clubs from Western Europe.

In 2006-2007, the Liga 1 clubs generated net incomes of 6.61 million Euros from footballer exports. In the following season, the amount approximately 35%. Some of the reasons of the raise were the profit of 780,000 Euros from the sales of foreign footballers and the higher quantity of footballers who left the country: fourteen, as compared to eight, one year before. 2007-2008 was an interesting season for Steaua Bucharest, a club that made a profit of 2.2 million Euros from the sale of Cyrill Thereau to Anderlecht Bruxelles (the French was brought to Romania for 0.7 million Euros in August 2006, to be sold after only eleven months for 2.9 million Euros⁽¹⁾, but also a loss of 1.15 million Euros due to Elton, a Brazilian bought with 1.65 million Euros, and sold for only 0.5 million Euros to Al Nasr, as well as another loss of 0.3 million Euros through Andrey.

Throughout the league, the next season, 2008-2009, recorded the largest annual increase in net exports. The sales brought no less than 25.33 million Euros. Only 20% of the sales in that year brought losses, while 23 footballers made profits for the clubs that sold them. 2008-2009 was also one of the seasons in which the exports of Romanian footballers brought total revenues (25.45 million Euros) higher than those of the foreigners. 2008-2009 was one of the best season in the last years for the Romanian clubs that sold abroad, not less than six players bringing profits (for this statement to be made, the buying fee was taken into consideration, although the players were initially transferred from a Romanian club before being sold abroad. The rationale behind this computation was to find out the profits brought by the footballers to their club, irrespective from where they were initially bought from), according to the website www.transfermarkt.de: Adrian Ropotan (sold from Dinamo Bucharest to Dinamo Moscow for a profit of 3 million Euros), Ștefan Radu (sold from Dinamo Bucharest to Lazio Rom; 4.4 million Euros profit), Mirel Rădoi (from Steaua Bucharest to Al Hilal; 5.95 million Euros profit); Nicolae Dică (from Steaua Bucharest to Catania Calcio; 2.25 million Euros profit); Mihai Neșu (from Steaua Bucharest to FC Utrecht; 1.2 million Euros profit), and Cristian Săpunaru (from Rapid Bucharest to FC Porto; 4.5 million Euros profit).

The 2009-2010 season followed, and it proved to be one of the worst seasons of the last five. The export revenues plummeted to 3.81 million Euros. Although the quantity of footballers sold was higher (24) than in 2006-2007 (8) and 2007-2008 (14), the quality of the trading operations decreased, only 46% of the transaction made that season bringing profits (as compared to 75% in 2006-2007 and 85% in 2007-2008). One transfer was made at the break-even point, with Steaua Bucharest selling Ricardo for the same price it bought him, while twelve exports ment losses. An interesting fact is that 6.05 million Euros were collected from the sales of Romanian footballers, while the total net exports of foreign players were not higher than 4 million Euros. The difference was made by the loss of 2,232 million Euros due to the exports of foreigners after DPP, but also by the good operations managed with the sales of Gigel Bucur to Kuban Krasnodar (0.7 million Euros profit for Timișoara) and Dorin Goian to Palermo (0.7 million Euros profit for Steaua Bucharest).

3.1. The microeconomic development (of football clubs) based on an import-export model

2010-2011 was the season in which the footballing economic performance indicators used offered the best results, without any loss at the end of year results, a fact unseen in the other four years analyzed. The only drop as compared to the previous seasons was seen at the fees paid for the import of foreign players who were then sold in the 2010-2011 season: 3.6 million Euros, opposed to 11.8 million and 6.8 million Euros in the previous two seasons. But, it has to be taken into consideration that the fees for buying foreign players were paid in previous league seasons and that the total amount paid for foreigners in 2010-2011 is by 210% higher than that of 2006-2007 and by 30% higher than that of 2007-2008. Although small compared to other European championships, if we do not take into consideration the 2010-2011 season, the purchase fees paid by non-Romanian clubs to buy foreign nationality players from Liga 1 grew constantly from the summer of 2006 to the summer of 2010. It is a sign that, step by step, Romanian football began to recruit talent from abroad. Liga 1 began to be a station on the way foreign football players walk towards stronger clubs in Europe. Two examples are Constant Djapka and Alvaro Perreira. Djapka was bought at the age of 19 by Pandurii Târgu Jiu from the Norwegian club Sogndal Football, for 0.25 million Euros. Two years later he was sold to Bayer Leverkusen, a top team in Europe, while the Romanian team earned 1 million Euros. Perreira was sold to another top club, FC Porto, after he played for CFR Cluj for one year, accumulating 35 matches or 3,067 minutes. Perreira was brought to Romania from Argentina in exchange of 2.5 million Euros, and was later sold for 4.5 million Euros. As Djapka and Perreira show, foreign footballers are a commodity with plenty commercial opportunities for football club managers in Romania, who, by calculating well their import-export operations, could increase the revenues of their clubs, without much waste of resources. An example from the international market is the Italian club Udinese Calcio, which draws its revenues from the use of an import-export business model with foreign footballers. Between 2006 and 2011, a period when the exports of all 18 Liga 1 clubs ment 64.6 million Euros, Udinese managed to earn, through the same instrument, more than the double: 141,335,000 Euros. The chief scouter of Udinese coordinates a wide network of worldwide scouters. Information sent by them is gathered at the club's headquarters in Italy, with Udinese monitoring about 14,000 players annually

(Meiningen, 2011). Most of the players are between 15 and 24 years young, Udinese buying them when still in their youth, when they are unknown to the wider public. After playing several season for Udinese, time during which they gather value, players are sold to top clubs in the world, for fees that are higher than their purchase fee. According to www.transfermarkt.de, during the summers of 2005 and 2011, Udinese earned more than 235 million Euros from the sales of footballers.

Because the Romanian scouting system is not as professional as the foreign one, the footballer trading is not done at its highest capacity (excepting, maybe, the 2010-2011 season, when the net earnings of the foreign footballers from Liga 1 amounted 6.17 million Euros). The DPP export figures in Table 1 are a proof of this.

The DPP exports of foreign footballers from Liga 1

Table 1

– Euro –

Season	Exports of foreigners
2006/2007	- 40,000
2007/2008	780,000
2008/2009	- 120,000
2009/2010	- 2,232,000
2010/2011	6,170,000
Total	4,558,000

Profit was made in only two seasons (0.78 million Euros in 2007-2008, and 6.17 million Euros in 2010-2011), while losses dominated the scene, from minor losses (0.04 million Euros in 2006-2007) to major losses (2,232 million Euros in 2009-2010).

To continue the parallel with Udinese, Table 2 shows a comparison between the gross exports of foreign nationality players from Liga 1, made by all clubs in the league during all the five years analyzed here, and the gross exports of the Italian team. It can be seen that, in five seasons, Liga 1 did not once export more than the equivalent of 10 million Euros, while Udinese gained double digit revenues for not less than four years.

Table 2

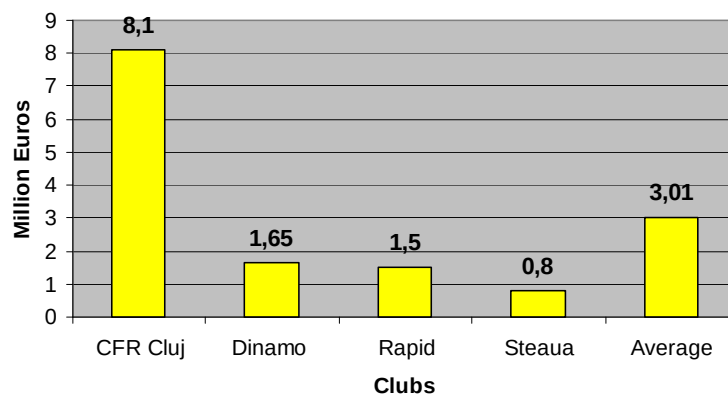
Comparison of the gross exports of foreign footballers between Liga 1 and Udinese

– Euro –

Season	Gross exports of foreign (non-Romanian) players from all 18 Liga 1 clubs	Gross exports of foreign (non-Italian) players made by Udinese
2006/2007	890.000	3.650.000
2007/2008	3.555.000	11.650.000
2008/2009	6.750.000	21.000.000
2009/2010	9.568.000	11.500.000
2010/2011	9.800.000	19.540.000
Total	30.563.000	67.340.000

In only the 2010-2011 season, Udinese made a profit of 16.7 million Euros after footballer trading, without counting the six previous years, all ended on surplus. Also in 2010-2011, CFR Cluj, Dinamo Bucharest, Steaua Bucharest, and Rapid Bucharest, four of the most powerful clubs in Romania, made all, from exports of both Romanian and foreign players, 12.05 million Euros, with only 4.65 million Euros less than the entire profit of Udinese, which, is true, includes also the sales inside Italy.

Figure 1 compares the profits made by CFR Cluj, Dinamo, Rapid, and Steaua from footballer exports, taking also into consideration the average profits from exports, computed amongst the four clubs. As can be seen, only CFR Cluj is above the average, the other three clubs not even being equal to the average.

**Figure 1.** Profits made from footballer exports in the 2010-2011 season

3.2. Comparative study between the exports of Romanian footballers and the exports of footballers of other nationality

The effects of globalization can also be seen in football, clubs all over the world being able to recruit foreign players from foreign clubs. Thus, increasingly more players of other nationality than Romanian have come to play in Liga 1. If they are sold by a Romanian club to a foreign club, even though they have a non-Romanian nationality, those players are considered as an export of Romanian football. The ownership belongs to the club where the player has signed a labor contract, and, in most of the cases, this is the latest club the player works for before being sold.

Figure 2 shows that, for a short period, between 2006 and 2008, the gross exports of Romanian and foreign footballers from Liga 1 have constantly developed, growing in similar trends. Then, in the 2008-2009 season, while the gross exports of foreigners have continued their slow growth, those of the Romanians have increased sharply, peaking 22.5 million Euros. The maximum value of the latest years has been reached, a dynamic shown by the blue line in Figure 2, which, as fast as it increased as a consequence of the sales of Ropotan, Ștefan Radu, Rădoi, Dică, Neșu and Săpunaru, as fast it also decreased the following season, reaching the minimum of the five years analyzed. The transition from high to low in only one year could be a sign either of the turbulent environment of football, or of sales based on opportunities that, if not benefited of at that particular moment, wouldn't have represented any more interest in future negotiations. If from the 2007-2008 season to the 2008-2009 season the exports of Romanian footballers have increased 3.1 times (210% year over), from 2008-2009 to 2009-2010, the exports dropped 4.2 times (-76% year over).

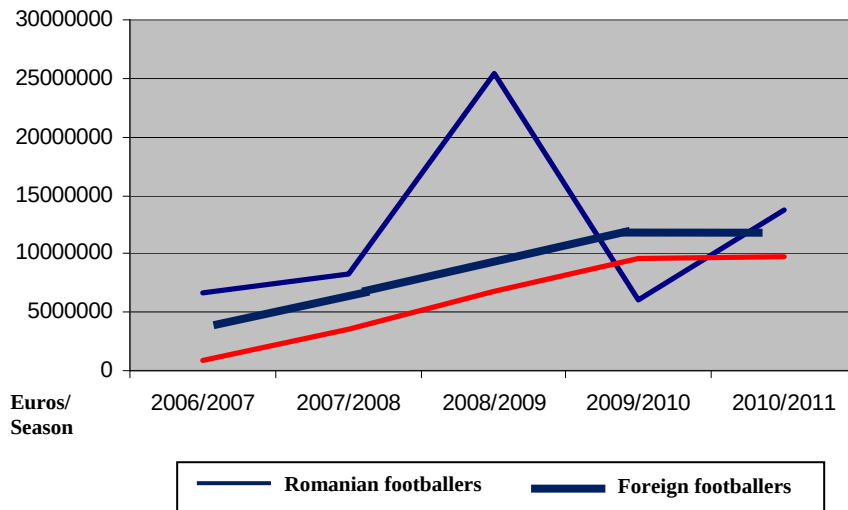


Figure 2. Comparison of the gross exports of Romanian and foreign players from Liga 1, during 2006 and 2011

The year over modifications of the Romanian footballers' exports have alternated growth and decline periods, as can be seen in Table 3, while the gross exports of foreign players have had a powerful growth in 2007-2008 as compared to the previous season (299%), then percentual changes began to decline (only 90% growth in 2008-2009 season-over-season, 41% in 2009-2010 season-over-season, and only 2.42% in 2010-2011 season-over-season). The gross exports of foreign players have witnessed a constant growth, although the year-over differences have gradually reduced. In the 2009-2010 season, the value of the exports of foreigners has even outnumbered the value of Romanian footballer exports.

Table 3

Change of the gross exports value season-over-season

– % –

Season	Season-over-season change of the value of Romanian footballers' gross exports	Season-over-season change of the value of foreign footballers' gross exports
2006/2007	-	-
2007/2008	23.35	299
2008/2009	210	90
2009/2010	-76	41
2010/2011	126	2.42

But, even with the existence of massive fluctuations, that can be seen in Figure 3, the sales of Romanian footballers have had an important role in helping Liga 1 to attract money from abroad, contributing, on average, with 66% to the total gross incomes from exports. The highest contribution was in 2006-2007, when 88% of the value of gross exports was obtained through the sales of Romanian footballers, while the lowest contribution, 39%, was in the 2009-2010 season, when the gross exports of foreigners had a greater value than those of Romanians. Not counting the 2009-2010 season, Romanian footballers have contributed, yearly, with more than half of the value of gross exports.

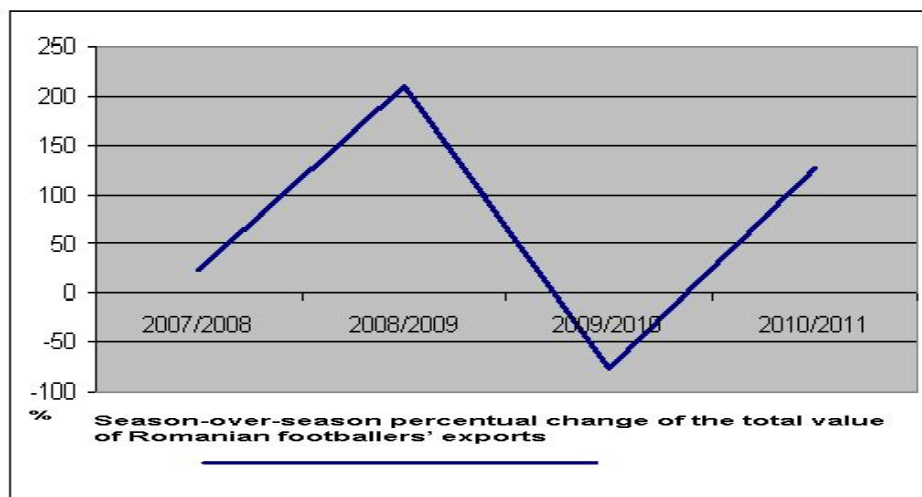


Figure 3. *Season-over-season percentual change of the total value of Romanian footballers' exports*

Comparing the net exports amongst them (decreasing, therefore, the purchase fees from the gross value of foreigners' exports), we find out not only that the value of foreigners' exports isn't any more higher than the value of Romanian footballer exports, as happened with the gross value, but it isn't even close to the incomes brought by the sale of Romanian players. The two lines in Figure 4 do not even have an intersection point. Moreover, the foreigners' exports have three subzero seasons: 2006-2007, 2008-2009, and 2009-2010.

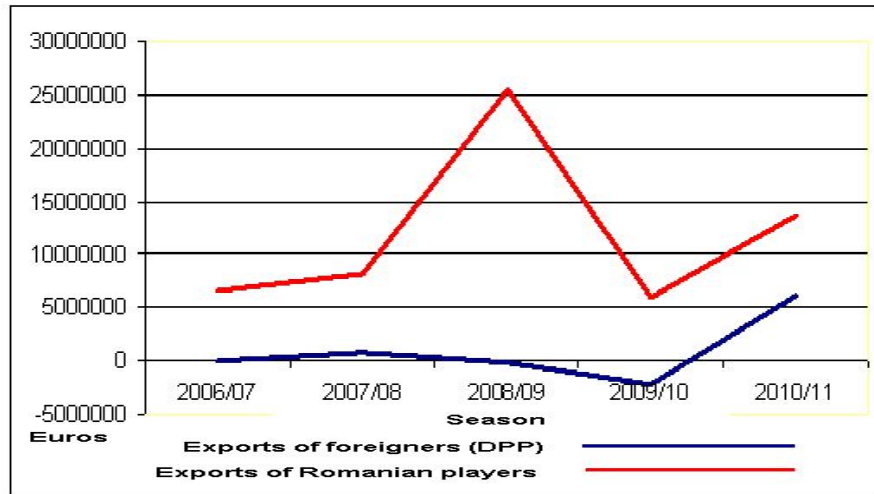


Figure 4. Comparison of the net footballer exports in Liga 1

3.3. Discrepancy between the wage bills and the average incomes from footballer exports

Most of the money that entered Romania between 2006 and 2011 was obtained as a result of selling Romanian footballers. In the 2007-2008 season, for example, the DPP exports of foreigners ment only 10.5% of the sales of Romanians, while in 2010-2011, the DPP exports were similar to 45% of the sales of Romanians. The gross value of the exports of foreigners has constantly risen, with an average of 8.28% a year, the highest growth being from 2006-2007 to 2007-2008 (from 0.89 million Euros to 3.55 million Euros), after which, in the last two seasons, the sums have stabilized at around 9.7 million Euros anually. However, the gross exports do not take into consideration that, for drawing revnues from the exports of players, a purchase fee was spent in order to first of all buy the player who was later sold. In order to find out the profitability of the foreigner footballer trading, the most suitable method would be to deduct the purchasing price (DPP) from the income. In doing so, we find out that, between 2006 and 2011, the foreign footballer trading brought a profit of 4,558 million Euros to the Romanian football. This means that, on average, each of the 47 foreign players traded during the five years that were analyzed brought 96,978 Euros, a low amount when thinking that the annual wages of some of those foreigners sold amounted to more than 100,000 Euros. For example, Julio Cesar had an annual wage of 0.5 million Euros at Dinamo

Bucharest⁽²⁾. The player was sold to Gaziantepspor for 0.6 million Euros, an amount that allowed the managers of the Romanian club to cover the annual wage, but not also the purchase fee, which was 0.55 million Euros. In other words, the total costs Dinamo Bucharest had with Julio Cesar were 1.05 million Euros (purchasing fee plus annual wage), while his sale brought only 0.6 million Euros. Table 4 shows the highest wages of foreign players in Liga 1⁽³⁾. Although none of the footballers listed in the table was sold abroad at the moment of writing this paper, all of them still playing in Romania (meanwhile, Kapetanos moved to CFR Cluj), the table wants to show that the nearly 97,000 Euros brought, on average, by the sale of a foreign player are not able to cover the top wages.

Table 4

The highest wages of foreign footballers in Liga 1 in 2010

– Euro –

Footballer	Club	Annual wage
Sixto Peralta	CFR Cluj	375,000
Pantelis Kapetanos	Steaua București	250,000
Wesley Lopes	FC Vaslui	250,000
Juliano Spadacio	Rapid București	240,000

4. The diversification of revenue sources: a necessity

Because of the difficulties football clubs have in covering the wage bill, the diversification of revenue sources becomes a necessity, so that the clubs do not depend any more only on the footballer trading. Clubs have to access income from other sources as well, such as ticketing, sponsoring, the commercialization of broadcasting rights, brand extensions, or long runs in knock-out competitions, such as the Romanian Cup or European interclub competitions, so as to win money prizes awarded by the Romanian Football Federation or by UEFA.

The need of such an economic orientation is stressed out by Figure 5, which, for the 2010-2011 season, compares the revenues from the commercialization of broadcasting rights with the revenues from footballer trading. Especially for those clubs that are not able to export as well as their competitors, as is the case of „U” Cluj, the diversification of revenue streams may insure competitiveness. Although it has not exported that well as CFR Cluj, „U” Cluj managed to get a better classification in the final standings of the season, drawing more money from the broadcasting rights than its local rival.

Thus, „U” Cluj compensated the poor footballer trading activity with high revenues from the broadcasting rights, money available for investment for the following season. Whatever the revenue streams, clubs have to make sure that they draw enough money to insure and, moreover, develop their competitiveness.

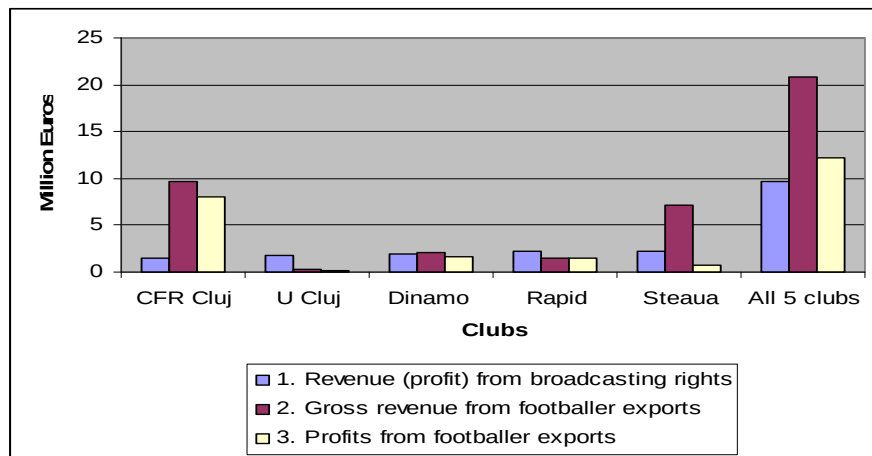


Figure 5. Comparison between the revenues from broadcasting rights and those from footballer exports

This does not mean that footballer exports aren't important anymore. Given that media buyers on the Romanian market for sporting events can not pay similar amounts to those paid by buyers in developed countries of the European Union, the trading of footballers remains one important source of revenue for the local clubs. In the 2010-2011 season, the redistribution scheme of the money obtained from broadcasting rights of the matches in Liga 1 was the following (the broadcasting rights are sold by the Professional Football League, which later redistributes the money amongst clubs, depending on their classification in the final standings of a season) [3]:

- 1st place: 3.2 million Euros;
- 2nd place: 2.5 million Euros;
- 3rd, 4th places: 2.2 million Euros- 5th, 6th places: 2 million Euros;
- 7th, 8th places: 1.8 million Euros;
- 9th, 10th places: 1.5 million Euros;
- 11th, 12th places: 1.2 million Euros;
- 13th, 14th places: 1 million Euros;
- 15th, 16th, 17th, 18th places: 0.8 million Euros.

According to the scheme, Rapid Bucharest, club that classified third after the forced relegation of FC Timișoara, should earn 2.2 million Euros from the broadcasting rights. Meanwhile, in the same season, only through the sale of Alexandru Ioniță in Germany, to FC Cologne, Rapid has made a profit of 1.5 million Euros, so similar to 68% of the money it has earned from the broadcasting rights. Dinamo Bucharest won 2 million Euros from the broadcasting rights, after finishing fifth, but through the export of six footballers, the club made gross revenues of 2.15 million Euros. Table 5 compares the revenues of five Liga 1 clubs in the 2010-2011 season. The revenue streams considered are broadcasting rights and the footballer exports. Using footballer exports as a revenue stream is a managerial practice which is encouraged by the numbers CFR Cluj, Dinamo, and Steaua have made, their footballer exports revenues being higher than the broadcasting rights revenues. CFR Cluj even makes a profit from footballer exports that is five times higher than the revenues the club made from broadcasting rights. Steaua Bucharest, from the sale of only one player, Bogdan Stancu, to Galatasaray Istanbul, made a profit of 3 million Euros (Stancu was sold for 5 million Euros, after he was bought, in July 2008, for 2 million Euros from Unirea Urziceni), with 0.8 million Euros more than the revenues Steaua drew from selling the broadcasting rights of all its 34 league matches.

Table 5

**Comparison between the revenues from broadcasting rights
and the reveues from footballer exports**

– million Euro –

Club	CFR Cluj	U Cluj	Dinamo	Rapid	Steaua	All 5 clubs
1. Revenue (profit) from broadcasting rights	1.5	1.8	2	2.2	2.2	9.7
2. Gross revenue from footballer exports	9.7	0.25	2.15	1.5	7.2	20.8
3. Profits from footballer exports	8.1	0.15	1.65	1.5	0.8	12.2
4. Total revenues (=1+2)	11.2	2.05	4.15	3.7	9.4	30.5
5. Total profits (=1+3)	9.6	1.95	3.65	3.7	3	21.9

Which of the income sources will bring more revenue depends, on the one hand, on the sporting evolutions of a team in the national football championship and of its place in the final standings of the season, and, on the other hand, on the skills that club managers (whatever their role: coach, director, general manager etc.) exhibit in practicing footballer export. Looking at Table 5 it can be seen that the broadcasting rights and the footballer exports contribute about the same to the aggregated profit of the five clubs. If exports amount for 55% of

the aggregated profit, broadcasting rights amount for 44%. In addition, football clubs need to calculate their earnings based on other streams of revenue as well, such as sponsoring or merchandising.

In this respect, it would be appropriate to apply relationship marketing strategies at the Romanian football clubs. Relationship Marketing is based on the interaction between the club and its stakeholders, like for example the fans, the footballers, the coach, the manager, the employees, the press, the sponsors, the partners etc., with the aim of maintaining and developing mutually beneficial relationships. Maintaining relationships with stakeholders, a club can use the latter ones to fulfill both its economic (mainly, growth of revenues and the cover of expenses) and non-economic objectives (mainly, building a reputation that can be exploited commercially).

5. Conclusions

The research has shown that the gross exports of the entire top division Romanian football amount an average of 18.1 million Euros per year between 2006-2011, and the DPP profit for the same five years amounts 4.5 million Euros. The figures are low even for some Romanian football clubs, whose wage bills are higher than one million Euro yearly. The comparison with the Western-European, or even the Russian or Turkish football leagues becomes even more frightening. These figures explain the major differences between the Romanian and the Occidental football, as well as the poor performances local clubs have in European competitions. The gap between Liga 1 and the „Big Five” of European football (English Premiership, German Bundesliga, French Ligue 1, Spanish Primera Division, and Italian Serie A) is growing. According to UEFA, the average revenue of a Romanian club is about five million Euros, while the one of Russian clubs’ is 60 million Euros, French clubs’ – 70 million Euros, German clubs’ – 100 million Euros, while English clubs’ is 136 million Euros (UEFA, 2011).

While, starting with the 2012-2013 season, Germany will send one additional team to the Champions League, the number of Romanian clubs that have the right to play in the two important European interclub competitions diminishes, because of the poor sporting performances. Sporting performances can be improved, but Romanian clubs need a good strategic management, which to understand the importance of diversifying the streams of revenue, and then to choose one on which to build the development of the club. A simple economic instrument that the paper tried to promote was footballer export. Part

of the footballer trading, footballer export requires the club to engage on a market for footballer transactions, from where the club can buy players at low prices, use them several years in order to raise their value, and then sell them for a fee higher than the purchase price. In other words, Romanian football clubs need to adopt a strategy targeting the realization of surpluses from footballer trading (with foreign countries). The surpluses would be invested in the development of the club.

6. Limitations and further research

The research has its limitations. The article starts from an overview of the Romanian football to go further down to a microeconomic level of the clubs. Combining the macroeconomic and microeconomic perspectives may complicate the reading of the text. A further research may deal separately with the two aspects, the improvement solutions following to be given for the microeconomic level, where footballer transfers are made. An improvement of the macroeconomic level can not occur without a prior microeconomic development.

However, the article tends, sometimes, to be versatile, addressing several indicators in a small space, which may create confusion. A future, narrower research may focus on only one indicator, the features of which to highlight. For example, instead of analyzing the exports of local and foreign footballers altogether, an article could focus on only one group.

The article could be improved with comparisons to other European clubs or championships, in order to create a more descriptive context, which to serve to a better understanding of the situation in which Romanian football finds itself. Without a comparison to the footballer export in other countries, it can't be said if the exports from Liga 1 are or not economically performant. The scarcity of solutions offered for the diversification of revenue sources is another limitation, but this can be a starting point for a research which to investigate what possibilities Romanian clubs have to develop their revenue streams. As was suggested in the text, relationship marketing may be a solution, so it may be the topic of a future research.

In fact, this article may only be the first one out of a series of researches which to restore order in the figures of Romanian football. Information obtained through research may clarify the overall view of local football. Moreover, problems of Romanian clubs may be identified, and solutions for improvement proposed.

Notes

- (1) The qualification of Steaua Bucharest for the Champions League group stages was one of the reasons that raised the value of Cyril Thereau. The Frenchman played in all six games of the groups' stage of the most powerful international club competition in Europe, gaining 243 minutes of play. Next to those, Thereau played in 17 games in the Romanian football championship, where he scored ten goals (an average of 0,58 goals per match).
- (2) See „Retrospectiva: Jucătorii străini au invadat fotbalul românesc”, cit: <http://www.romaniansoccer.ro/stiri/6211/retrospectiva-jucatorii-straini-au-invadat-fotbalul-romanesc.htm>, accesat la 23.08.2011, ora 15:30
- (3) See „TOP 10 cele mai mari salarii din Liga 1!”, cit: <http://www.sport.ro/liga-1/top-10-cele-mai-mari-salarii-liga-1.html>, accesat la 23.08.2011, ora 16:19
- (4) „Oțelul a dat lovitura! Primește mai mulți bani din drepturile TV! Vezi cum se împart milioanele în Liga 1!, publicat de Sport.ro, la adresa <http://www.sport.ro/liga-1/otelul-a-dat-lovitura-primeste-mai-multi-bani-din-drepturile-tv-vezi-cum-se-impart-milioanele-in-liga.html>, accesat la 23.08.2011, ora 17:33

References

- Antonioni, P., Cubbin, J., „The Bosman Ruling and the Emergence of a Single Market in Soccer talent”, *European Journal of Law and Economics*, Vol. 9, Issue 2, 2000, pp. 157-173
- Beech, J. (2010). *Finance in the Football Industry*, în Simon Chadwick și Sean Hamil: *Managing Football. An International Perspective*, Butterworth-Heinemann, Oxford, pp. 119-150
- Brady, C., Bolchover, D., Sturgess, B., „Managing in the talent economy: the football model for business”, *California Management Review*, Volume 50, Issue 4, 2008, pp. 54-73
- Frick, B., Wagner, G., „Bosman und die Folgen”, *WiSt Wirtschaftswissenschaftliches Studium*, Volume 25, Issue 12, 1996, pp. 611-615
- Meiningen, J.-M., „Das Umbrische Netz”, *11 Freunde*, iunie 2011, pp. 92-97
- Polti, R., „The football players' trade as a global commodity chain. Transactional networks from Africa to Europe”, *The Workshop on Social Networks of Traders and Managers in Africa*, Bayeruth, 4th November 2005
- Roșca, V., „Sustainable Development of a City by Using a Football Club”, *Theoretical and Empirical Researches in Urban Management*, Number 7 (16)/August 2010a, pp. 61-68, ISSN 2065-3913
- Roșca, V., „Comerțul cu fotbaliști ca instrument de creștere a veniturilor cluburilor de fotbal. Studiu de caz: Olympique Lyonnais, 2007-2011”, *Marathon – Revista științelor motricității umane*, Volumul II, Nr. 2 (2010b), pp. 256-265

- Schmeh, K. (2005). *Titel, Tore, Transaktionen: Ein Blick hinter die Kulissen des Fußball-Business*, Redline Wirtschaft, Heidelberg
- Simmons, R. (1997). „Implications of the Bosman ruling for football transfer markets”, *Economic Affairs*, Volume 17, Issue 3, pp. 13-18
- Szymanski, S. (2009). *Playbooks and Checkbooks. An Introduction to the Economics of Modern Sports*, Princeton University Press, Princeton, NJ
- UEFA: „The European Club Footballing Landscape. Club Licensing Benchmarking Report Financial Year 2010” (2011), URL: http://www.uefa.com/MultimediaFiles/Download/Tech/uefaorg/General/01/74/41/25/1744125_DOWNLOAD.pdf, accesat la 03.02.2012, ora 10:16
- Walsh, A., Giulianotti, R. (2007). *Ethics, Money and Sport. This Sporting Mammon*, Routledge, Oxon

Challenges of the Economic Science During the Crisis

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Abstract. *Turmoil that affected the financial markets and the global economy since 2008 have generated a series of debates in terms of the economic theory's ability to find answers to the new problems. Among others, the crisis has triggered, at the ideological level, a lively debate about the markets' self regulating ability postulated by economic theory and state interventionism opportunity, and even put into question the soundness of the capitalist system. This paper examines some of the challenges that the economic science has experienced during the global crisis.*

Keywords: financial and economic crisis; economics; paradigm; market fundamentalism; interventionism.

JEL Codes: B12, G01, H50.

REL Code: 2B.

Introduction

The financial and economic crisis of 2007-2008 is the first global crisis that took place after the Great Depression of the '29 -'33. Joseph Stiglitz calls the events that took place in the world economy "the Great Recession of 2008" (Stiglitz, 2010). The comparability of the recent crisis with the Great Depression is acceptable by the fact that this is, like the crisis in '29-'33, an exceptional event that marks the economic history of the world. Apart from this term of comparison, there are few characteristics common to the two crises, and it can be said that the the Great Recession is not nearly as severe as the Great Depression. Table 1 shows the comparative phenomena that affected the US economy during the two crises.

Table 1

The Great Depression of '29-'33 and the financial and economic crisis of 2007-2009

	The great economic depression of '29 -'33		The crisis of 2007 -2009	
Number of bankruptcies	9096 (50%)	January 1930 – March 1933	57 (0. 6%)	December 2007 – March 2009
Unemployment rate	24.9%	1933	10.2%	2009
Economic growth rate	-26.5%	1929 – 1933	-3.3%	2008 - 2009
Dow Jones stock index evolution	-89.2%	September 1929 – July 1932	-53.9%	October 2007 – March 2009
Inflation	-25%	1929 – 1933	+0.5%	2008 - 2009
Increase of money supply	17%	1933	125%	September 2008 – May 2009
Fiscal Policy	increase of taxes, reduction of public expenditure by 1.5% of GDP	1933	Increase of public expenditure by 2.5% of GDP	2009 - 2010

Source: Jeong and Kim, 2010.

Although the recent financial turmoil has not been as serious as the Great Depression either at the US economy level, or at the global level, it has had a major impact on the real economy. The rapidity with which the crisis spread from one country to another was facilitated by the financial and commercial connections between the countries of the world. This aspect was less observed during the Great Depression of 1929-1933, given that the economic and financial globalization advanced especially in the second half of last century.

The global financial crisis of 2007-2008, which, according to many economists, will have repercussions in the global economy for a long time is probably the most complex crisis of all time, not necessarily in terms of its effects, but in terms of the causes that generated it.

The complexity of the causes is the fact that the turbulence was caused by two categories of factors that completed each other:

- factors that were the causes of the financial crises in the past, such as speculative bubbles emergence, expansion of credit, excessive debt or inadequate regulation and supervision;
- new elements and developments such as the emergence of complex financial products, characterized by a high degree of opacity, excessive exposure to the risk of most players in the financial market, unprecedented growth of the interdependence between financial markets and institutions at national and international levels, or the widespread use of risky debt-investment schemes.

An important feature of the crisis that erupted in 2007 is the fact that, unlike the other crises of the late twentieth century, this had as origin the center of the global economy and financial system. The crisis had as a starting point the turmoil in the credit sector sub-guaranteed by the United States and then spread to the US financial system, along with the contamination of other financial markets worldwide. Soon, problems began to make their presence felt in the real economy, the generated social costs being significant.

The crisis revealed a number of weaknesses in regulation and financial architecture, particularly in the direction of management of systemically important financial institutions, correctly assessing the vulnerabilities and risks facing the global financial system, but also the soundness of financial institutions. The extension of the crisis at the global level reminded that the integration of the financial markets, although it brings many benefits, imposes significant risks, with major consequences in the real economy.

1. Changing of paradigm

At the ideological level, the crisis triggered an intense debate on the ultra-liberal theory concerning “the invisible hand” of Adam Smith, and the state interventionism opportunity suggested by John Maynard Keynes to overcome a recession. Thus the crisis generated a change of paradigm, demonstrating that the capitalist system is unable to self-regulate, being susceptible to crises. Therefore, the state must intervene and establish regulations to support the financial and economic stability.

Although history has shown that capitalism is subjected to the alternation of growth periods with decline periods and outlined the features and manifestations of the speculative bubbles at the beginning of the XXI century, precisely when a speculative bubble of huge size began to recover in the US real estate market, great economists strongly believed that the capitalist system exceeded its condition, and that the problem of the economic cycle was solved.

Robert Lucas, the Nobel Prize winner for Economics in 1995, declared in 2003 that “the central issue to prevent the recession was resolved from all practical points of view”. He did not argue that the economic cycle had been removed, but that it was “tamed” and that the problems induced by the appearance of the economic depressions can be easily solved (Krugman, 2009). Lucas was not the only person in the world economic scene who believed in this hypothesis. In 2004, Ben Bernanke, who would later become the US Federal Reserve chairman, said that macroeconomic policies can easily solve the problem of the economic cycle so that this was no longer a significant difficulty.

The crisis that erupted in the US market in 2007 showed the world that those who believed that the economic policies are almost infallible were in great error. We can not doubt that the economists who thought at some point in this thesis would not have impressive knowledge and experience concerning the capitalist system. However, given that the economies of the world seemed flourishing, they fell into the trap of “the black swan”. The theory of “the black swan” belongs to the philosopher Nassim Nicholas Taleb of Lebanese origin, and expresses the fact that the human mind is unable to conceive the possibility of a major bad event as long as no current reality raises questions about future events.

The severity of the crisis caused fundamental changes in the conventional economic theory. Thus, the turbulence in the financial sector has shown that markets are not self-regulating entities, solid and secure as previously thought.

According to George Soros, the markets never reach the equilibrium postulated by economic theory. Reasoning and misconception of the market participants and of the decision makers can significantly influence market prices, so that there can occur easily processes of development type – decline, initially self-generating, and then self-destructing. In essence, the influence on market prices is also transmitted through supply and demand, but the decisions of the market participants are not based only on knowledge, the investor’s feeling also has a special importance.

Basically, according to the classical theory, markets are always in balance, and the financial crises are some unusual anomalies, impossible to explain and highly unlikely. Both the previous crises, and the one in 2008

showed that this paradigm is false, revealing the fact that they are part of the economic reality.

Another aspect that was condemned after the outbreak of the crisis relates to market fundamentalism, “laissez-faire” according to which markets should be left free and government intervention should be minimal. As it actually happened, if the state does not intervene in the economy to regulate and oversee markets properly, the sophistication of the financial instruments combined with excessive liquidity of money market determine excessive risk exposure, the artificial increase of the prices of some assets and the emergence of speculative bubbles that once “broken” cause imbalances in the entire financial system, with severe implications on the real economy.

Thus the crisis showed that the capitalist system is unable to regulate itself, but rather is prone to speculative bubbles followed by severe collapse. Moreover, behavioral economics revealed that people are irrational being, prone to fits of exuberance and euphoria. The crisis generated a change of paradigm, being removed the old conception concerning the ability of markets to self-regulate. Consequently, it emerged the idea that regulation and supervision of financial markets are particularly important and contribute to the stability of the global financial system.

2. The problem of deficits

The severity of the crisis induced strong feelings of panic in the financial markets and to reduce the negative effects on the real economy, governments of many countries resorted to massive intervention and without precedent, in order to support markets. Following interventions to reduce the impact of the crisis, budget deficits in many countries increased considerably. Basically, the global financial crisis was converted in 2010 - 2011, in a sovereign debt crisis in various economies, especially those in the euro area, affecting their capacity to recover.

In Europe, economies such as Greece, Ireland, Spain, Portugal and Italy have accumulated more debts than they can pay and the Euro area countries have been forced to grant aid to avoid collapse. There is concern that the Euro area might fall apart because of budget problems facing many European countries.

European economies are not the only ones that have accumulated major budget deficits. In the US public debt has increased by over 60% since the beginning of the financial crisis, and according to some estimates it will continue to grow. In this context, the rating agency Standard & Poor's downgraded US rating from AAA, the safest, to AA in August 2011.

Japan is also facing similar problems and the same agency reduced at the beginning of 2011 the rating for the Japanese long-term debt titles for the first time since 2002. Generally speaking, bonds or certificates issued by the State Treasury are considered the safest investments and are rated by the rating agencies as having the lowest risk, but given that many countries have accumulated unsustainable debts, these titles have become less safe.

To reduce government spending, many states have implemented various budgetary austerity measures, reducing the number of jobs in the public sector, wages and social assistance payments. Nevertheless, together with similar trends in the private sector, they have slowed down economic recovery.

High budget deficits recorded by the developed countries are part of global imbalances. They are due to the fact that some developed countries, particularly the United States consume more than they produce, and some emerging countries, particularly China, produce more than they consume, making significant savings, which they target to the developed countries, thus financing their deficits. The fact that poor countries finance the developed ones is bizarre, and the magnitude of global imbalances seems unsustainable (Stiglitz, 2010).

We believe that unsustainable debt and high public spending represent and will continue to represent for a long time, the most pressing issues that will face a number of developed countries, especially the US and Euro area countries, and some emerging states, such as Romania.

The accumulation of unsustainable debt for long periods of time significantly reduces the confidence of foreign investors, and thus can cause currency and financial crises. However, their financing by issuing currency creates inflationary pressures. Therefore, it is required the application of fiscal consolidation programs on the medium and long term in order to rebalance the state budget. It is necessary, however, that fiscal policies be combined with appropriate monetary, social and structural policies, so that economic and social costs of such measures be reduced.

High current account deficits may contribute to endangering financial stability so that the economic development should be the domestic savings. However, the economic policies should promote sustainable and equitable economic growth, which ensures higher living standards for all walks of life and reduces the gap between them.

3. The problem of interventionism

State interventionism has been the subject of theoretical dispute for decades, and these disputes were re-lit together with the interventions made by the governments of the countries affected by the recent crisis.

Supported by Keynes, the intervention of the authorities in economy was highly criticized by the economists belonging to the Austrian School. According to this economic thinking, loose monetary policies, regulations and state intervention in the economy disrupt the smooth running of the free market. One of the leading figures of this school of thought, Joseph Schumpeter, developed the theory of “creative destruction” according to which the periods of crisis and recession represent tests that only great economic agents can face and they will create a new economic order (Schumpeter, 2006). If Keynes considered capitalism a system which becomes unbalanced occasionally, but can be stabilized by the intervention from the state, for Schumpeter instability was the result of innovation that represents basically the essence of capitalism.

According to this theory, the state should not intervene in the economy even if it is in crisis, but it must leave shaky banks and other companies to collapse so that eventually only strong economic agents survive. State intervention to rescue financial institutions and companies in bankruptcy represents, in the ideology of the Austrian School, a socialization of the private loss, which will lead to increased budget deficits and implicitly to public debt. This will compromise the long-term economic growth, and the state could enter into payment incapacity, the solution to this situation being printing money, with negative effects on price stability.

The Austrian School argues that excessive regulation of markets is the cause of the economic crisis, and after a crisis the tendency of strict regulation does nothing but worsen the situation. The explanation of this view is that actions such as deposit guarantee or government interventions to ensure liquidity contribute to increased banks' appetite for risk, although the immediate effect is to provide certainty to those who save.

Some economists believe that the best solution to economic and financial crisis requires a combination of Keynesian ideas with the Austrians', i.e. the application on the short-term of the Keynesian interventionism and on the long-term the hypothesis called “creative destruction” (Roubini, Mihm, 2010). Thus, in the context of a financial crisis it is required to grant loans if necessary, since their absence would worsen the problems of the financial system and would push the economy into a severe recession.

On the medium and long term, the Austrians seem to be right. The salvation from bankrupt of entities with problems using the public money, the

socialization of losses and the accumulation of budget deficits can not be sustained for a long time. Therefore, inefficient companies should be allowed to go bankrupt since otherwise, the phenomenon of moral hazard leads them to take increasingly more risks, and the burden to be supported by taxpayers being bigger and bigger.

From a theoretical point of view, the problem seems simple enough, but when it should be applied into economic practice, things get complicated. First, in terms of interventionism opportunity, it is very difficult to identify the boundary between long and short term. If a particular financial institution was saved three years ago, why would not the same thing happen now, given that the economic turmoil did not end, and amid the financial globalization, the impact of a large bank failure would be as bad as or even more severe than the situation that could have taken place three years ago. Unfortunately the costs of the materialization of the systemic risk induced by the failure of large financial institution are very difficult to estimate. Perhaps because of this government tend to intervene and “save” endangered entities. On the other hand moral hazard intervenes here, and if the state borrows too much money, its debt becomes unsustainable and enters into payment incapacity.

The current crisis of the sovereign debt affecting the Euro area countries, and not only, seems to be the worst crisis of its kind in the world economic history, considering the large number of countries facing it at the same time, with high debt, likely to become unsustainable. Governments’ excessive debt has and will continue to have negative repercussions on the real economy, in that they will be forced to undertake austerity programs in order to pay the debts, which will negatively affect economic growth and impede the formation of new workplaces or reduction of unemployment. People will become aware that the state can not save private companies with problems using debt forever or combat recession. Thus, it is very possible that some individuals will come to take measures against interventionism and be aware that this practice provides only a momentary solution of the situation, with more serious repercussions on the future status. This category of population will make an increased demand for a fiscal responsible state, which at an operational level will turn into a high demand for tax – budget policy designed to avoid excessive debt and excessive social benefits (Croitoru, 2011). However, this category of public will require efficient spending of public money so that it will lead to the creation of new jobs. Certainly, however, that such awareness of the state’s over-indebtedness problem involves a high level of education. On the other hand, austerity programs will awaken the public dissatisfaction linked to rising unemployment, and it may choose to meet immediate personal interest.

Conclusions

The deregulation of the financial markets, the growth of connections between them at the international level and loose monetary policies occasioned unprecedented artificial expansion of the global financial system in the last decade, causing a rupture between it and the economic reality. The financial markets offered, for a long time, the possibility for rapid and substantial gains, and thus they became a goal in themselves rather than a means of financing. Thus, the financial markets did not have effectively met the financing role of the real economy. After the rupture from the real economy, the unsustainability imposed by the artificial expansion of the financial markets led to a crisis, and the old paradigm of how markets function was removed. Amid interventionism, markets crisis degenerated into another crisis, a crisis of governments. Cascade crises induced the idea that the economic science itself is facing a crisis, underlying financial and economic turmoil. Thus, the paradigm that has governed until recently the economic life must be changed. The new paradigm should be based on social responsibility and ethics in business, so as to promote sustainable and equitable economic growth, providing a decent standard of living for all walks of life. The new economy should remove excesses specific to corporatist capitalism to determine a return to balance and moderation. The manifestations of "the animal spirits" aimed at achieving rapid and consistent profits by any means should be controlled by regulations concerning business ethics and social responsibility. Basically, humanity is facing not only an economic crisis, but a crisis of values and to remove it, the system of values on which society is based must be rethought, acknowledged and assumed.

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References

- Croitoru, L., „Cine câștigă din criza datoriilor suverane”, *Ziarul Financiar*, 10 octombrie 2011, <http://www.zf.ro/opinii/opinie-lucian-croitoru-cine-castiga-din-criza-datoriilor-suverane-8850681>
- Jeong, K.-Y., Kim, E., “The Global Financial Crisis: New Implications and Perspectives for Emerging Economies, *Global Economic Review*, 39, 1, 2010, pp. 1-13
- Keynes, J.M. (1936). *The General Theory of Employment, Interest and Money*, Editura Macmillan, London

- Krugman, P. (2009). *Întoarcerea economiei declinului și criza din 2008*, Editura Publica, București
- Nassim Taleb, N. (2008). *Lebăda neagră. Impactul foarte puțin probabilului*, Editura Curtea Veche, București
- Roubini, N., Mihm, St. (2010). *Crisis Economics: A Crash Course in the Future of Finance*, The Penguin Press
- Schumpeter, J.A. (2006). „*Capitalism, Socialism and Democracy*, Routledge, London
- Soros, G. (2008). *Noua paradigmă a piețelor financiare. Criza creditelor din 2008 și implicațiile ei*, Editura Litera Internațional, București
- Stiglitz, J.E., (2010). *În cădere liberă*, Editura Publica, București