

The double correctness

“Economic rationality is like the Shakespearean city of Verona in the excessive consummation of the relationship between economic theory and economic practice; they seek to one-up – both in expectance and feedback – the other’s initiatives provoking the pleasure of risk taking.”

Cognitive mechanisms are, paradoxically, quite confused when they rely on parsimony. It was the simplification, for instance, coming from the determinism of economic theory and practice, which gave a much too univocal sense to the economicity as a state of rationality, with the practice-theory construct being left only with the chance of limiting itself to the sense given by the principle of efficiency. The mathematical reduction to absurdity, transposed into the formula of *ceteris paribus sic standibus* in Economics, has favoured the linear relation and the materialist perspective in the understanding of economic action.

The bodies of economic theory and reality have come together in a particular way, lacking in feelings. Economic rationality is like the Shakespearean city of Verona in the excessive consummation of the relationship between economic theory and economic practice; they seek to one-up – both in expectance and feedback – the other’s initiatives by provoking the pleasure of risk taking.

The reciprocal influence between the theoretical models of the economy and the economic reality is if not neglected, then little understood by both the theoreticians and the practitioners. The peak of the misunderstanding happens to be visible within the corps of the economic policy makers, especially when these instruments are being inefficient in managing the effect of the present crisis.

The picture becoming ever clearer is that the theory contradicts its function as a source of efficient action, while the practice applies without criticism the recipes for the combining of the development factors, thus producing crisis.

Epistemologically we find ourselves faced with the consequences of what the physicists call – when contemplating the understanding of the world – the model dependent realism. The economic reality is made in the image of the theoretical model, thus surprisingly making the crisis an expression of the economy’s configuration by the rules of the theory. In other words, the economy is what we know it is from the theory which has provided us with the guidelines for what it is!

Things were not any different in the economy of the last decades, where we can witness the trend of avoiding the space of economic rationality in order to follow efficiency targets. The parsimonious goal demanded for its completion the use of the efficient paths of fictitious money, which derailed the economy from its natural function (e.g. commercial transactions) and bringing it into the realm of casino speculation. Efficiency is freed from its constraints as a social function of the economy, becoming unlimited in the realm of the fictitious instruments of value.

Economic theory has supplied practice with speculative instruments at a rate in accordance with the exuberance of the quick gain: continuously and in greater numbers. The practice applied the rule of the self-stimulating efficient performance without

worrying about the unexpected consequences of excess. The short-term and the accelerated multiplication of added value have become the two limits in the understanding of the purpose of the financial agent as the sole market-maker entitled to exist.

This predicament of the efficient behaviour is a hard to conceal measure of the power exercised by the theoretical model of the economy in the configuration of economic action. The finality of the transactions is the usefulness of the exchange, which is generated by the needs of welfare. The compression of the transaction's rational component and the expansion of the speculative component constitute a fact pertaining to the nature of a tragedy, in the relation between the theoretical model and the economic reality. Economics ends up abandoning its objects and the object's destination, while the economic reality kills itself by believing in the principles of the theory.

Today's crisis is a symptom of this unnatural relationship between the reality and the model. The necessary understanding for the avoidance or the diminution of the negative consequences must begin with the correct structuring of this relationship. This is how in fact the crisis of the reality must be acknowledged to have originated from the theoretical model. The expectation for coming out of the crisis can only be a rational feel of an actional emergency: the elimination of the excesses effected in the actional space of the efficiency function, both in theory and in practice.

We can bring up a state of correctness, as claimed by the normal functioning of the theory-practice construct in its entirety. The sign of this normality is the reassigning of the transactions motivated by usefulness strictly to the space of economic rationality. Speculation would thus prove to be an exception, a reminder of the failure to understand economic efficiency. The paths of efficiency from outside the space of economic rationality, which span the irrational structure of the underground economy, would therefore be avoided.

In an elegant manner for the epistemic ambitions of Economics, gain at no matter the cost would exit the usual arsenal of economic practice because it would no longer be a direct consequence of the standard theory, as it is now. In the same way, the instruments offered by the theory would be in accordance with the necessity for a correct functioning of the space of rationality, where rational alternatives compete with each other.

Hard principles like "too big to fail" – as claimed by mainstream monetary theory in the case of banks – would be banished from the realm of inspiring ideas, allowing the economy to function with inputs and outputs restricted only by the rationality of the free market.

By and large, Economics would find simplicity not through establishing the extreme ways of access to wealth and recommending the choices of maximum risk, but through theorizing the natural foundation of the economical, which draws its substance for the non-jumping nature. The economicity would be understood, essentially, as the instrumentation of the efficiency attached to the human condition in such a way that human nature would accurately reproduce the parameters for the equilibrium of life.

Contents

Proposal for the implementation of a fiscal rule system for Romania. Estimate for the reaction of the fiscal rule system to the output's shocks Cristian Socol	5
Aspects of signaling hazards and of identifying opportunities in crisis situations Ion Imbrescu.....	13
The lessons of the crisis on pension funds portfolio management Dan Constantinescu.....	23
The effectiveness of public policies and structural funds in enhancing tourism development. The case of Romania Dragoş Dumitru Jaliu.....	37
Some considerations regarding the use of the fix and chained basis indices Constantin Anghelache, Alexandru Manole, Ion Pârţachi, Lorand Kralik	53
Cultural heritage evaluation: a reappraisal of some critical concepts involved Mihaela Iacob, Felicia Alexandru, Meral Kagitci, Georgiana Camelia Creţan, Filip Iorgulescu	61
Romanian government bond market Cornelia Pop, Maria-Andrada Georgescu, Iustin Atanasiu Pop	73
Aspects regarding the analysis of the rationality of the buying decision of the Romanian consumer Corina Pelău.....	99
The influence of cluster type economic agglomerations on the entrepreneurship, in Romania Adriana Reveiu, Marian Dârdală	111
Controversies concerning the connection higher education – human capital – competitiveness Liana Badea, Angela Rogojanu	125
Consequences and possible solutions of financial crisis Alexandra Adam, Silvia Elena Iacob	143

Note: The authors are responsible for the content of their articles and for obtaining necessary permissions.

Text revision:

Gabriela Ochiană

Computerized drawing up:

Nicoleta Bobocea

Cover:

Nicoleta Bobocea

Subscriptions distribution:

Mircea Dinu

Tel./Fax: 021/210.73.10; 021/210.63.07
021/210.63.08

Data base indexation:

EconLit

<http://www.aeaweb.org>

Research Papers in Economics (RePEc)

<http://www.ideas.repec.org>

<http://econpapers.repec.org>

Directory of Open Access Journals (DOAJ)

<http://www.doaj.org>

EBSCO Publishing

<http://www.ebscohost.com>

**International Consortium for the Advancement
of Academic Publication (ICAAP)**

<http://www.icaap.org>

Cabell's Directories

<http://www.cabells.com>

CNCSIS B+

www.econometeoreticasiaplicata.ro; www.ectap.ro

Reception of texts: economia.ta@edeconomica.com

ISSN 1841-8678 (Print)
ISSN 1844-0029 (Online)

Proposal for the implementation of a fiscal rule system for Romania. Estimate for the reaction of the fiscal rule system to the output's shocks

Cristian SOCOL

The Bucharest University of Economic Studies
cristian.socol@economie.ase.ro

Abstract. *This paper provides arguments for the need to improve the fiscal rule proposed by the European Commission within the Fiscal Compact, considering the implementation of an augmented growth-based balance rule optimum for Romania. The first part of the paper presents the proposal for the implementation of an integrated system of fiscal rules in Romania. In the second part of this paper, we can find simulations for the reaction of the fiscal rule system proposed for the shocks occurring in the economic growth, these estimates being made by the help of the specialists from the National Forecast Commission.*

Keywords: fiscal rules; structural budget balance; sustainability of the public finances.

JEL Codes: E62, F15.

REL Codes: 8K, 8M, 20H.

IMF (2009) shows that “the targeting of a certain level of the structural budget balance comparative with the situation of the budget balance provides a strong mechanism which increases the flexibility in the response to shocks”.

1. Introduction. Proposal for the implementation of a fiscal rule system in Romania

After researches made in the economic literature and in the good international practices regarding the functioning and the implementation of the fiscal rules, we have proposed an integrated system of fiscal rules for Romania: a Fiscal Rule on the Structural Budget Deficit of maximum 0.7% of the GDP in 2015 (with annual intermediate targets) plus a Fiscal Rule on the Public Debt of maximum 40% of the GDP, with the implementation of corrective measures at the thresholds of 35% of the GDP, respectively 40% of the GDP plus Fiscal Rules on the Budget Expenditure (actually, the functionalization of those already established in the Fiscal Responsibility Law) plus Additions to the system of fiscal rules with statement of exoneration clauses regarding the reaching of the targets and a system of sanctions plus the Adjustment of the fiscal rule to inflation, thus eliminating the inflationary component of the debt service from the budget balance.

The problems related to the uncertainty of the estimation for the potential GDP and of the output involve the need to test the efficiency of the structural balance rule, of the augmented structural balance rule, and also the stimulation of the efficiency of the adjustment to shocks and of the response to the previous deviations in the case of the growth-based balance rule and of the augmented growth-based balance rule for Romania.

The proposal for Romania refers to the use of an augmented growth-based balance rule – AGBBR. The augmented growth-based balance rule includes a term which “tames” the adjustment in the case of the budget balance’s deviation from the target settled for a medium term (rule proposed by Fletcher and Benelli, 2010)

$$b_t = b^* + a(g_t - g^*) + e(b_{t-1} - b^*), \text{ with } a > 0 \text{ and } 0 < e < 1$$

where b_t – the real budget balance in the current year; b^* represents the medium-term budget balance target, a – semi-elasticity of the budget balance in relation to the output gap; g_t – growth rate of the real GDP in the current year, g^* – the average growth rate of the GDP on a long term and e – the deviation correction rhythm in the total budget balance in the last year compared to the medium-term settled budget balance target. This additional term $e(b_{t-1} - b^*)$

delays the adjustment of the deviation from the previous target, thus increasing the anti-cyclicality of the rule (the sign of the adjustment term is positive, differing from the sign of the adjustment term presented in the augmented growth-based balance rule, where adjustment is accelerated) (IMF, 2009).

This fiscal rule replaces the output gap with the difference between the actual rate of the economic growth and the trend of the economic growth rate (the long-term rate or the “potential growth”), thus eliminating the uncertainties determined by the estimates of the potential GDP, the problems generated by the implementation of the one-off measures and also the problems generated by the forecast errors related to the output gap along the budgetary year and so on.

Another advantage is determined by the fact that the proposed fiscal rule (augmented growth-based balance rule) is simpler to explain and to communicate to the large public than the simple structural balance rule. Actually, the AGBBR rule is easier to monitor, as the growth rates can be quantified much easier and certainly than the output gap.

Compared to the growth-based balance rule, the added AGBBR rule supposes an additional term $e(b_{t-1} - b^*)$ which enhances the anti-cyclicality of the rule and provides an economically, socially and politically smoother fiscal adjustment. Thus, the proposed fiscal rule allows the existence of a budget deficit which is lower than the medium-term target when the economic growth is below its potential and vice-versa.

One of the most frequent critics for the simple structural balance rule is related to the fact that it does not provide enough maneuver space (Dumitru, 2012). “In the case of Romania, the structural deficit limit of 0.5% of the GDP will be, most probably, reached before the real public deficit will reach 3% of the GDP. Romania may have budget deficits of 3% of the GDP during extreme crisis periods only – a negative output gap of approximately 8.33%, given the elasticity of the cyclic balance of only 0.3 to the change by one percent of the output-gap. Moreover, during the recession from 2009-2010, the real budget deficits could have not exceeded 2% of the GDP”.

There should be noticed that the newly proposed fiscal rule (augmented growth-based balance rule) allows the reduction of this constraint, the fiscal adjustment being smoother than during the economic growth periods, when they are below the potential.

The starting point is the fiscal rule defined by Fletcher and Benelli in 2010

$$b_t = b^* + a(g_t - g^*) + e(b_{t-1} - b^*)$$

Deducting b_{t-1} from each member of the equation, we will obtain as follows

$$b_t - b_{t-1} = (1-e)(b_{t-1} - b^*) + a(g_t - g^*), \quad a > 0, \quad 0 > e > -1$$

b^* is the medium-term budget deficit target, respectively 1% of the GDP. According to the last EC assessments, Romania has the minimum budget objective (MTO) corresponding to the structural deficit of 1.3%. We have considered as being relevant that the medium-term budget deficit target, respectively 1% of the GDP, is corresponding to the sustainable public debt, below the threshold of 60% of the GDP, this criterion being required in the Maastricht Treaty and in the Fiscal Compact.

Thus, the minimum necessary adjustment to bring back the public finances on a sustainable direction (convergence towards the budget deficit target settled in the medium-term macro-economic and budgetary framework and the convergence of the public debt towards the sustainable level) depends on the following: a) the gap between the share of the previous budget deficit and the medium-term deficit target (expressed by the term $(b_{t-1} - b^*)$, also actually indicating the medium-term adjustment) and b) the gap between the real growth rate and the medium-term growth rate (expressed by the term $(g_t - g^*)$, also actually indicating the anti-cyclicality of this fiscal rule). The coefficient a represents the efficiency of the automatic stabilizers (a higher coefficient a means a higher power of the automatic stabilizers) and e represents the adjustment rhythm required when the budget deficit deviates from the target (we can notice that a higher coefficient e means a slower adjustment).

IMF (2010) shows that we may also calculate the structural adjustment of the budget deficit in the current year, as follows the structural adjustment in the current year $= b_t - b_{t-1} - a(g_t - g^*) = (1-e)(b^* - b_{t-1})$

Moreover, taking into account the specific of the emerging/developing countries during the high absorption periods, the AGBBR fiscal rule may be added with an adjustment element related to the foreign unbalance (the current account unbalance) (Hagemann, 2012). In Romania's case, it is necessary to take into account the current account unbalance and its impact upon the sustainability of the public finances, particularly during the absorption periods.

Thus, the rule will become

$$b_t = b^* - a(g_t - g^*) + e(b_{t-1} - b^*) + \gamma(ca_{t-1} - ca^*)$$

In the current situation of Romania, given the financing conditions, the coefficient e should be maintained to a moderate level (as during the last three

years, Romania has recorded a pretty high fiscal adjustment rate). However, without implementing accelerated structural reforms in education, health, pensions and in the state companies' sector, the coefficient e should be maintained to a medium level for a medium time period. If we use the growth-based and foreign unbalance-adjusted fiscal rule, we should take into account the high degree of correlation between $(g_t - g^*)$ and $(ca_{t-1} - ca^*)$, as the parameter γ is difficult to estimate.

2. Simulation for the efficiency of the fiscal rules proposed for Romania

By means of the expertise made by the specialists from the National Forecast Commission, simulations for Romania have been underlain by assuming some requirements from the EU regulations as parameters in the equations proposed by the International Monetary Fund.

Thus, three scenarios have been considered, according to the potential growth:

- the average growth rhythm of the GDP forecast for 2014-2016, equal to the potential growth (3%);
- the average growth rhythm of the GDP forecast for 2014-2016 with one percent below the potential growth (2%);
- the average growth rhythm of the GDP forecast for 2014-2016 with one percent over the potential growth (4%);

For each scenario, 2 simulations have been made in order to calculate the growth-based balance and the augmented growth-based balance.

For this purpose, the following relations have been used:

$$b = b^* + a(g - g^*), \quad (1)$$

where

b^* is the medium-term budget deficit target, respectively 1% of the GDP. According to the last EC assessments, Romania has the minimum budget objective (MTO) corresponding to the structural deficit of 1.3%. For the countries member to the fiscal pact (25 out of 27), the maximum allowed structural deficit is of 1%. For Romania, this means that the value of 1.3% is theoretical, as the pact required a more ambitious MTO (1%);

a is the semi-elasticity of the budget balance compared to the position in an economic cycle (*output-gap*). The budget semi-elasticity is the change of the ratio budget balance/GDP to the change of the GDP by one percent. In the last EC calculations, it is 0.32 for Romania;

g is the real growth of the GDP forecast for the current year, according to NFC forecast;

g^* is the long-term average growth, assimilated with the potential growth

$$b = b^* + a(g - g^*) + e(b_{t-1} - b^*), \quad (2)$$

where e is the adjustment rhythm of the budget balance in the previous year b_{t-1} compared to the medium-term target.

According to the provisions from the Fiscal Compact, the adjustment rhythm of the structural deficit is 0.5% of the GDP each year until reaching the MTO. It is calculated as the difference from the consolidated budget deficit of the previous year and we cannot establish a very distinct correspondence with the parameter e from formula (2).

The above mentioned EU Regulation No. 1175/2011 specifies that “the deviation from the MTO is significant if it is at least 0.5% of the GDP in one year and at least 0.25% of the GDP per year on average, in two consecutive years”.

Taking into account the fact that the proposed simulations consider the evolution of the structural budget deficit for several years, a value of 0.5 is proposed for parameter e , namely a slower adjustment policy, consistent with the fact that the MTO for Romania exceeds the limit specified in the Fiscal Compact.

Table 1 presents the scenarios made for the trajectory of the real budget deficit compared to the medium-term target, according to the growth-based fiscal rule and to the augmented structural balance rule, compared with the data presented in Table 2, thus reflecting the simulations made by using the structural balance rule and the augmented structural balance rule.

Table 1

Simulation for the efficiency of the growth-based fiscal rules
for $e = 0.5$

	2011	2012	2013	2014	2015	2016
Growth of the real GDP – g	2.5	0.7	2.0	2.5	3.3	3.2
<i>Long-term average growth of the GDP – g^*</i>			3.0	3.0	3.0	3.0
Medium-term budget deficit target – b^*			-1.0	-1.0	-1.0	-1.0
Semi-elasticity of the budget deficit compared to the output gap – a			0.32	0.32	0.32	0.32
Adjustment rhythm of the deficit from the previous year – e			0.5	0.5	0.5	0.5
<i>Growth-based balance</i>			-1.3	-1.2	-0.9	-0.9
<i>Augmented growth-based balance</i>		-2.8	-2.2	-1.8	-1.3	-1.1
Growth of the real GDP – g	2.5	0.7	2.0	2.5	3.3	3.2
<i>Long-term average growth of the GDP – g^*</i>			2.0	2.0	2.0	2.0
Medium-term budget deficit target – b^*			-1.0	-1.0	-1.0	-1.0
Semi-elasticity of the budget deficit compared to the output gap – a			0.32	0.32	0.32	0.32
Adjustment rhythm of the deficit from the previous year – e			0.5	0.5	0.5	0.5
<i>Growth-based balance</i>			-1.0	-0.8	-0.6	-0.6
<i>Augmented growth-based balance</i>		-2.8	-1.9	-1.3	-0.7	-0.5
Growth of the real GDP – g	2.5	0.7	2.0	2.5	3.3	3.2
<i>Long-term average growth of the GDP – g^*</i>			4.0	4.0	4.0	4.0
Medium-term budget deficit target – b^*			-1.0	-1.0	-1.0	-1.0
Semi-elasticity of the budget deficit compared to the output gap – a			0.32	0.32	0.32	0.32
Adjustment rhythm of the deficit from the previous year – e			0.5	0.5	0.5	0.5
<i>Growth-based balance</i>			-1.6	-1.5	-1.2	-1.3
<i>Augmented growth-based balance</i>		-2.8	-2.5	-2.3	-1.8	-1.7

Source: simulations made by the NFC experts, 2012.

Table 2

Simulation for the efficiency of the structural balance-based simple fiscal rules

	2011	2012	2013	2014	2015	2016
<i>Output gap – y^c</i>	-1.9	-3.3	-3.5	-3.4	-2.7	-2.1
Medium-term budget deficit target – b^*			-1.0	-1.0	-1.0	-1.0
Semi-elasticity of the budget deficit compared to the output gap – a			0.32	0.32	0.32	0.32
<i>Structural balance</i>			-2.1	-2.1	-1.9	-1.7
<i>Augmented structural balance $c=0.5$</i>		-2.8	-1.2	-2.0	-1.4	-1.5

Source: simulations made by the NFC experts, 2012.

In order to increase the anti-cyclicality of the AGBBR fiscal rule, the coefficient a should be increased, thus reflecting the impact/efficiency of the automatic stabilizers.

Conclusions

The simulations indicate a distinct way of increasing the anti-cyclicality of the fiscal rule by means of increasing the acting efficiency of the automatic stabilizers. We can notice that a more efficient action of the automatic stabilizers (a high coefficient a) provides a higher discretionary fiscal stimulus during the expansion period.

Coming back to the implementation of an integrated system of fiscal rules in Romania, we consider it should be functionalized by means of strengthening the fiscal rules on expenditure required in the Fiscal Responsibility Law.

The Fiscal Responsibility Law (FRL), which came into force in 2010, provides a rule on expenditure which settled the limits for its increase according to the growth of the nominal GDP for three years and, more than that, it settles the thresholds for the share in the GDP of the wage “cover” for the public employees. The Fiscal Responsibility Law allowed the coming into force of the Fiscal Compact, an independent institution of which role is to express opinions referring to the macro-economic and budgetary opinions, the law on budget and the fiscal and budgetary strategy, and also an obligation to monitor and implement the recommendations made. Moreover, the FRL sets limits for the number of the budget adjustments to maximum two per year, the purpose being to increase the budget discipline and the uniform distribution of the budget expenditure along that year.

It is necessary to render a proper functionalization of the fiscal rules on expenditure, by means of implementing sanctions in the Fiscal Responsibility Law, thus putting pressure on the compliance with the thresholds of the macro-economic indicators, corresponding to the sustainable trajectory of the public finance increase agreed with the international organisms.

The proposal for the fiscal rules package also includes the implementation of a fiscal rule on the threshold of the public debt to 40% of the GDP and the implementation of protocol debt which should provide corrective actions to the thresholds of 35%, 40% and 45% of the GDP.

Acknowledgements

This paper has been financed from the research program „Post-Doctoral studies in Economy: Continuous Training Program of Elite Researchers – SPODE”, co-financed by The Social European Fund through POSDRU 2007-2013, Contract no. POSDRU/89/1.5/S/61755.

References

- Dumitru, I. (2012). Compactul Fiscal European – implicații asupra României, articol în Ziarul Financiar, disponibil la <http://www.zf.ro/opinii/compactul-fiscal-european-implicatii-asupra-romaniei-9229259>
- Fletcher, K., Benelli, R. (2010). “Simple Countercyclical Fiscal Rules that Avoid Output Gap Estimates,” *IMF Working Paper*, (forthcoming)
- Hagemann, R. (Irish Fiscal Advisory Council) (2012). „Fiscal Rules for Ireland”, available at www.fiscalcouncil.ie/wp-content/.../12/Fiscal-Rules-for-Ireland.pdf
- International Monetary Fund (2009). „Fiscal Rules—Anchoring Expectations for Sustainable Public Finances”, Prepared by the Fiscal Affairs Department, available report at <http://www.imf.org/external/np/pp/eng/2009/121609.pdf>
- International Monetary Fund (2010). United Kingdom: Selected Issues Paper, IMF Country Report No. 10/337, disponibil la www.imf.org
- *** Regulamentul UE nr 1175/16 november 2011 (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:306:0012:0024:RO:PDF>)
- *** Comisia Națională de Prognoză, simulări efectuate pe baza modelelor macroeconomice utilizate

Aspects of signaling hazards and of identifying opportunities in crisis situations

Ion IMBRESCU

West University of Timisoara
ion.imbrescu@feaa.uvt.ro

Abstract. *This present research attempts to highlight some causes that have led to the current crisis, the role and importance of signals in anticipating events that characterize a situation of crisis, the need for interpreting these signals not only based on the economic theory but also on interdisciplinary methods and theories. The threats that may occur in situations of crisis should be identified properly, as well as opportunities, in order that the measures that are to be taken at macroeconomic level could be imbedded in the economic policies so as to contribute to improving the macroeconomic decisions and to successfully achieve the objectives already set.*

Keywords: crisis; risk; opportunity; cognitive dissonance; economic policies.

JEL Codes: A12, E60, G38.

REL Code: 8M.

Introduction

The current crisis goes far beyond the economic sphere, although the specific of economic actions (particularly in the financial sector) is considered by many analysts as the main reason that led to the manifestation of the effects that characterize a crisis. The previous, current and future debates try to highlight the causes that led to the crisis, the crisis analysis models and the prevention methods as well as to identify solutions to minimize the negative impact of the effects of the crisis or even to identify a basis for developing new relationships and correlations not only in the economic practice but also in the economic theory. If we consider the Chinese specific symbolism of the word crisis, which consists of two ideograms (the first meaning – *danger*, and the second – *opportunity*), the crisis itself flags the danger but it also flags the need to engineer processes of change.

After the emergence and identification of signals of particular importance would be the way to ground and implement preventive measures, and if this prevention did not exert the expected role, important would become the actions and measures that have to be taken (both at microeconomic and macroeconomic level) to reduce the negative effects that may arise and which may help reducing the possibility of further deepening of the crisis.

An analysis of the economic history

If we look back to what happened in the past, we are clearly shown the positive developments that have been registered both in economy and in economics for the last 140 years. Two world wars that brought about death could have also meant the crossroads for reestablishing economic relations so as to make possible the extraordinary reconstructions following the cessation of hostilities. The two world wars, which resulted in millions of casualties, were due to the inability of politicians to defuse the accumulated geopolitical tensions, so that these led to the swelling of a “bubble” which, the moment it burst, has poured a lot of misery into the world.

The realm of the recent years is not to be resumed only to “bubbles” which, by bursting, would literally trigger wars. In the economic area specific “balloons” arose, which did not necessarily result in the physical death of individuals involved in various economic activities, and which were more or less related to the swelling of the “balloons”, but led to such serious situations that these can be compared to ones arising from actual wars.

The first balloon filled with tensions of this period can be considered the one registered between 1890 and 1893 in the United States. The tensions were

caused by an increase of 36% of stock exchange indexes between 1890 and 1892, followed by a decrease of 27% thereof until the second half of 1893; this sudden increase – dramatic fall registered by the financial markets accompanied by a decline in nominal wages applied by employers (using lower wholesale prices as an argument), and this state of instability seems to have triggered panic, resulting in a sustained withdrawal of savings deposited in banks (Akerloff, Schiller, 2010, pp. 111-113). Thus, many businesses artificially inflated by the increase of the value of shares began to disappear due to the high costs of credit accession. Unfortunately, in such a tense climate, viable businesses also suffered, and the cumulative effect translated into maintaining a high unemployment for a long enough period so that the overall situation of those years to be marked as economic crisis. The turmoil recorded during this period determined the occurrence of interesting approaches on certain concepts, such as that of “money illusion” that have been used including during electoral battles, but also created opportunities to address these complex economic phenomena, and a noteworthy result of that period was the invention and stabilization of the term of real interest rate by the Professor John Bates Clark from Columbia University (Akerloff, Schiller, 2010, p. 116). Also, after an analysis of what had been happening during the last decade of the nineteenth century and a reflection that was extensive enough so that it shouldn't be affected by the tragedies that happened then, can be seen as an opportunity also the setting-up of the “bank of banks” in the US, namely the Federal Reserve System, in 1913, which had the opportunity to act operatively in case of similar negative situations.

The third decade of the twentieth century was a period where symptoms registered in the US only three decades ago seem to have been forgotten. The economic features of this decade are similar to those of 1890 and 1892 in terms of growth indices, indicating that this increase lasted longer, and that the reduced experience of the Federal Reserve System in terms of correcting deviations from nonbank economic environment and insufficient caution regarding specific banking activities have contributed to the “overheating” of the economy in a way that the “balloon” swell too much, even if the materials from which this balloon was made of appeared to be quite resistant. During this period, the effects caused by the unexpectedly unnatural momentum (as the illusion of a lower cost of waste or the illusion of the occurrence of brilliant investors out of nowhere) were turned into factors that deepened the long-term effects of the crisis. The burst of the bubble occurred in October 1929 (since then, the dramatic decrease of stock exchange indices are almost universally regarded factors triggering the crisis), and the effects generated by this burst were felt not only in the US but also in many other countries. One of these

effects was an almost general collapse of the monetary system based on the gold standard and the distrust shown to banks became increasingly present. Also, by achieving very high unemployment rates led to an extremely tense situation on the labor market, tensions which generated not only “bubbles” in the economic environment, but also, more dangerously, they generated “balloons” in the ideological space (fascism and communism fueling intensely on these tensions). As in the case of the previous crisis, the Great Depression (as it was regarded in the books of economics) was characterized by a dramatic decrease in consumer price indexes, but the drop registered in the nominal wages was not simultaneous with the decrease in prices, which led to an increase in real wages. The dangers of this crisis developed harshly in the economic environment, but more difficult was to deal with the dangers of the totalitarian regimes, whether they were registered in Germany, or in the USSR Poland, Czechoslovakia, Romania, Hungary or Bulgaria. The opportunities arising subsequent to the Great Depression were unfortunately overshadowed by other dangers generating more negative effects. One of these refers to the consecration of the clear importance of the concept of “money illusion” in the economy, and another one could be related to the increase of research on economic phenomena and to the obtaining of important results of the research (1936, the year of the General theory of employment, interest rate and currency of John Maynard Keynes). It can also be linked to the concept of opportunity, and the importance that must be allotted by a researcher of the economic meta-space, or by a practitioner of the real economic environment to issues not based only on rational behavior, but rather on the behavior that Keynes relates to the animal spirits.

“The explosion of financial markets of sub-prime type in august 2007 can be seen as the detonator that triggered the crisis,” argues Thomas Palley in his “America's flawed paradigm: macroeconomic causes of the Financial Crisis and Great Recession” of 2011. This detonator was linked to a bomb to produce the explosion, and the bomb should have certain characteristics. Suffice it to say that the bomb can be characterized only as a bubble inflated continuously and just waiting for the occurrence of a detonator? Can authors of this bomb be identified? Can such a bomb be defused? Here are a few questions that analysts have tried to answer. According to some authors, the triumph of the neoliberal theory in economics, the triumph recorded in the ninth decade of the last century, on the paradigm that is based on achieving full employment and labor market balance in strict correlation with nominal wage labor productivity growth (Palley, 2011, p. 5) was exactly the skeleton on which such a bomb could have been built. A rational approach to this situation would lead us to believe that those who drew the main features of the neoliberal theory of

Reagan-Thatcher type relied on a strategy of borrowing in order to support the sustained growth of investments in the military without sacrificing those in the civil field, so, through this strategy, the communist bloc was to record a stifling state of investment, which led at one point to a choking of the domestic consumption in communist countries. With the fall of communism it became an achieved goal, a return to sound economic policies that have ensured the restoration of after-war capitalist economies was a reasonable enough goal. But it was not so, as neoliberal economic policies were continued after the fall of communism leading to a decrease in the capacity of negotiation and placement of workers, to a strengthening of the capacity for corporate positioning and to an establishing of financial markets' characteristics according to the interests of business and financial elites, the element of intent in this regard being obvious (Palley, 2011, p. 7). With this sequel, there was a sharp polarization process, both economic and social, and the effects of this polarization may be the sources of social conflict, which, if not defused in time, will not only generate high social costs, but also economic costs which may worsen things or can become prerequisites for the emergence of a new crisis.

Aspects of the rational expectations' theory

Rational behavior theory assumes that a customer, producer or any other individual related to the economic space acts only in a way to achieve their goals (or at least not to act in a manner directed against their own interests). For a long time, this theory was the source from which solutions were obtained for the increasingly diverse needs of the economic space. Moreover, economics was characterized by a relative stillness in the rational choice theory while other sciences such as sociology, psychology and sociology have tried (and failed) to develop other directions of research (Akerloff, 2009, p. 166). An illustration of the limits of the economic theory based on rationality may be the case of the firm had all the chances of becoming one of the most representative one in the financial services market. It is about Long Term Capital Management (LTCM), a company founded in 1994 by practitioners renowned in their field, but it also had two leading scholars in their field in the composition of the board of directors, and who even received the Nobel Prize in economics (that is, Myron Scholes and Robert Merton, who received the most precious award for a research analyzing modern methods of determination of derivative securities). Rational expectations lead us to the idea that such a company, combining the practical skills so necessary for the financial markets with academic expertise at the highest level, and allowing the use of models that have been recognized by representative scientific bodies, could only have

registered the best outcomes. And yet, it was not the case. In 1998 the losses of the company amounted almost unimaginable levels (about 4.6 billion dollars). Rational expectations would indicate that, in case of such losses, the supervisory and regulatory bodies should investigate what happened and take the necessary actions to prevent the occurrence of similar cases. And yet, it was not the case, although in April 1999 a report was drafted of the Presidential Group on analysis of financial markets, a group that was composed of people having the highest level of decision in their field. Rational expectations should indicate the identification of individuals responsible for allowing such losses to be registered, the negative effects of such an event being even more important than the actual value of the amounts involved. And yet, it was not the case, because there were no penalties at individual level, and the company could disappear as if it never existed, although there was a recovery plan to should have allowed the recovery of at least part of the losses.

Financial innovations have been a very interesting process that led to the intensification of activities multiplying on the financial market, both banking and non-banking sectors, but at the same time created the possibility of disseminating the risk to such an extent that the impression was generated that if a player falls it will not be singular, but it will be followed by many others, leading to behaviors similar to those exhibited in a safe environment, but this so-called security did nothing but convince those actors in financial markets to let their guard down and not take even the most basic precautions. Also, the relatively easy access of investments' funds to loans practically contributed to the shift from a relatively well regulated area (a feature of the banking system) to very little or no regulation (Boheim, 2011, pp. 315-317). The rapid internationalization of the financial markets' actions contributed to limiting the capacity of national authorities to check those types of activities that involved high risks, and this limitation of capacity has led to nothing but a deepening of the uncertainty in these markets. The rational expectations suggested that steps should be taken to reduce the negative impact of some innovative financial products. But it was not the case, or even if there were such measures, they have not proved successful.

The deficiencies of regulatory processes is one of the most important causes that led to the multiplication of the negative effects of the crisis, this being possible due to the dominant paradigm in the field of regulation starting from the assumption that the stability and the efficiency of financial markets can be obtained automatically (Boheim, 2011, p. 323). The role of regulating authorities can be optimized only if the measures they take are effective and efficient, but apparently it was not the case.

The relaxation of competition policies can be an important signal of the depth of the crisis. When granting state aid, if only by guaranteeing loans to certain banks or private or state companies (especially if the selection criterion is based on TBTF – too large to fail), this behavior can become a real threat regarding competition because competition distortion adversely affects the efficiency of resource allocation rather on long term than on short term.

The characteristics of insolvency, as a specific procedure for business reorganization, represents another important signal on the depth of the crisis. The moment when insolvency proceedings are applied correctly and effectively the result is reclamation of the economic space only on those firms that cannot be saved. When the behavior insolvency practitioners is inappropriate (and in times of crisis this can be seen as an opportunity) some viable businesses may be affected, that will generate negative effects, especially in the short term, and if the number of these companies is high enough, on long term as well.

The inappropriate and arbitrary way of ratings' setting for various companies of financial intermediation is another element that can signal that something is wrong and can lead to profound alterations in the financial markets which may lead to serious problems. In terms of rating agencies, an important signal of a potential crisis can be considered also the weight of the consultancy activities they offer on financial economic agents (in the banking and non-banking sector) in the total activities that these agents have. When we refer to consultancy activities we do not only consider consulting activities performed by agents as legal entities, but also those provided by individuals working within those agencies (although rational expectations would suggest here conflicts of interest which should be penalized). The role of rating agencies can be critical at times, as any inadequacy (that is bias) in determining the rating of a financial economic agent, followed by a collapse of the respective agent, will determine negative externalities throughout the financial system, even direct competitors, since a collapse of the financial agent leads to a decrease in the rating of the entire sector (Boheim, 2011, p. 324).

The fact that the perception of rationality in economics may create difficulties in understanding what happens in the economic environment is suggested by Pascal Bruckner in his book *The prosperity's misery*, when referring to *The capitalist Oracle* (p. 23):

In his novel *Money*, published in 1891 and which presents the Stock Exchange rotten world, with heroes, crooks and its stupid, Emile Zola depicts effectively a rich jerk, a fellow called Amadieu, “a fat gentleman whose face was red and shaved” and who “through gross lucky stubbornness” put his entire fortune on mining titles fallen to the lowest level. Discovering real and significant ways makes him earn 15 million of a sudden. “And his stupid

operation that formerly would have put him in prison; it now raises him to the rank of vast financial brains.” He is asked for advice often. But to every question he answered with a grimace and the applicant was forced to interpret his silence. Haloed by that single, solitary stroke of genius, the visionary dreamer chose the attitude of Pitia: grumbling and keeping silent. We wouldn’t want to distort: how many Amadieu are today among managers and other experts whose injunctions often lead to ruining their clients? It is exactly what proves the following experience encountered – according to a rumor that should be taken with caution – by the Wall Street Journal: the same portfolio of shares managed by a very serious office and gambled on during a game of darts played by newspaper editors would have produced at the end of a year about the same performance! What is then the purpose of financial analysts? To rationalize random, to appease customers, to give the whole chaos an appearance of logical mayhem. Economy, the science of uncertainty, should teach students its oracular speech: the art of neither saying “yes” nor “no”, of not stating anything, to drown each sentence in savior fluency. What a confession in this phrase of Alan Greenspan addressed to the reporters: “If you understood what I have just said earlier, it means that I didn’t express myself well!”

Aspects of the cognitive dissonance theory

Many of the theories from other social sciences do not allow the possibility of being integrated into the economic environment. But elements specific to some theories can complement the economic theory so that results become closer to reality, because there may be situations in which the use of certain specific economic concepts can lead to a distortion of reality (Heyne, 1991, p. 476). At some point economics was labeled as “imperialist” tending to invade other social sciences, but the interaction of sciences is normal when more complete answers have to be identified. The opportunity provided by the current crisis is to increase the use of some elements of already established theories in other sciences (sociology, psychology, law or medicine) to get out of the field of rationality. The economists’ perception regarding the terms of rationality and irrationality is a specific one, an example would be of the great economists, Gary S. Becker, referring to irrational behavior as being a random deviation. Or, some theories of psychology “consider irrational behavior as being predictable, and therefore not entirely random, and the predictability of such behavior entails implications regarding welfare” (Akerloff, 2009, p. 166).

One of the theories of psychology which may provide important elements for the development of economic theory is the theory of Cognitive Dissonance, elaborated by Leon Festinger, and translating these elements into the economy

concerned leading economists such as George Akerloff and William Dickens. They based their assumptions on some statements regarding the ability of people to have preferences not only at the level of things in their surroundings but also at the level of perceptions that they have of the state of the environment, the ability of people to choose one or the other of beliefs and even manipulate this option by selecting the subjective criteria of information resources to provide the best possible support in order to argue that option, and the ability of people to choose those beliefs that persist over time (Akerloff, 2009, p. 167).

If we carefully study the behavior of agents as subjects of the cases presented above, we can realize that most of them are unaware of the risk embedded in the actions they were undertaking, or they considered that what they did was not risky. The presentation of certain experiments (Akerloff, 2009, pp. 168-174) shows that actors rather risky financial markets which were not considered. The economic policy decisions are very important in the crisis management, and some considerations must be taken into account when the decision is grounded. First, the manifestation of a crisis may catch economic policymakers unprepared, including on the awareness of a crisis situation. Second, it is possible that once the crisis is acknowledged, the decision-makers may not necessarily take decisions so as to maximize the likelihood of identifying an appropriate solution but to position them in a way that would allow their own beliefs' reasoning, which can place decision-makers farther away from the grounding of solutions to real problems.

Governmental decisions are translated into economic spaces through some normative decisions. But a lot of normative decisions adopted by the government had a different impact that the representatives of government really wanted (Caramidariu, 2012, p. 362), and the cause of this thing was the fact that a lot of these decisions were elaborated by some individuals that had a real target to protect their own beliefs about what have to be done.

Crisis can figure such a situation that can create the premises to abruptly infirmed some beliefs of representants of new libelalism (in an interesting way named „believers of laissez-faire” by Adam Kessler) by the manifestation processes in real economy and the reactive responses of these representants conduct to a higher distortion of a reality. And that mean that they are in a full cognitive disonance process.

Conclusions

The appearance and manifestation of crisis generates a lot of consequences and the majority of these consequences are characterised by a lower or a higher level of dangerousness. In the same time, any crisis situation

generates the possibility to identify oportunities, „signs” that must convince us to change something in economic life.

The economic theories based on principles almost exclusive rationale cannot explain in a convincing way what is happened in real economy and sometimes cannot suggest any milestones that can contribute to the fulfill of a target that can identify the most adequate behavior of economic agents.

This crisis created stimulus for economists to reoriented their efforts in order to promote interdisciplinary research and to find incentives to use concepts and theories that are specific to another fields of social sciences.

The human behavior is not dominat by rationality (even if it is rational), but there are many situations that can generate the manifestation of animal spirits and sometime great economist can reffer at them in a plastic way (Alan Greenspan use the concept of *irrational exuberance* and Hyman Minsky the concept of *euphoric anticipations*) but these aspects must be taken in consideration in a most open manner to reality.

References

- Akerlof, G.A. (2009). *Cartea de povești a unui economist. Eseuri despre consecințele noilor ipoteze în teoria economică*, Editura Publica, București
- Akerloff, G.A., Schiller, R.J. (2010). *Spirite animale. Despre felul în care psihologia umană influențează economia și ce înseamnă asta pentru capitalismul global*, Editura Publica, București
- Boheim, M.H. (2011). „Competition policy: ten lessons learnt from the financial crisis”, *Empirica*, 38, pp. 315-330
- Bruckner, P. (2002). *Mizeria prosperității*, Editura Trei, București
- Cărămidariu, D.A. (2012). *Gândire economică, programe de guvernare și intervenționism în România după 1989*, Editura Solness, Timișoara
- Croitoru, L., „În birou la Alan Greenspan”, articol publicat pe www.hotnews.ro, www.cursdeguvernare.ro, www.wall-street.ro și www.capital.ro, 10 septembrie 2012
- De Jouvenel, B. (1983). *Progresul în om*, Editura Politică, București
- Heyne, P. (1991). *Modul economic de gândire. The economic way of thinking – Mersul economiei de piață liberă*, Editura Didactică și Pedagogică, București
- Kessler, A. (2010). „Cognitive disonance, the Global Financial Crisis and the discipline of economics”, *Real-world economic review*, issue 54, pp. 2-18
- Palley, T. (2011). „America’s flawed paradigm: macroeconomic causes of the financial crisis and great recession”, *Empirica*, 38, pp. 3-17
- Schlicht, E. (1984). „Cognitive disonance in economics”, *Normalgeleitetes Verhalten in den Sozialwissenschaft*, 141, pp. 61-81, Duncker&Humblot, Berlin

The lessons of the crisis on pension funds portfolio management

Dan CONSTANTINESCU
Ecological University of Bucharest
dr.dconstantinescu@yahoo.com

Abstract. *Portfolio management in crisis conditions showed that major turbulence come from within the financial system. In such a context, a first answer to the investors (and pension funds make no exception) manifests itself through the growth of liquidity preferences. Recent studies have shown that monetary political shocks have a considerable effect over the dynamic and composition of the capital flows, with influences that reach the structure on categories of assets of the pension funds' portfolio. For example, due to an interesting profile of the risk-profit ratio, listed private equity (LPE) funds are more and more attractive for the institutional investors, among which are the pension funds administrators. Last but not least, the existence of an insuring system of the participants' contributions and/or benefits to the pension funds is extremely useful, considering that it is able to harmonize a large variety of interests.*

Keywords: liquidity; monetary policy; listed private equity; reserve funds; guarantee funds.

JEL Codes: G01, G23.

REL Code: 11B.

Influences of monetary policies

It is practically unanimously accepted the fact that the aspect of the actual economic crisis was determined decisively by the erroneous monetary politic of the main central banks, a factor that can be considered responsible for the financial system frailty, through the rise of the debt level. Besides, as the classic economists demonstrate, the expansionist monetary politics is the base of every serious theory about the economic cycle al businesses.

It is as true that the actual international economic crisis brought with it an ample use of both levers, monetary and fiscal, by the central and governmental banks of many countries of the world. At the monetary level, the objectives of central banks of USA, Europe, and also from other countries was the economy's payment system protection and the prevention of deflation as a result of some banks' or financial credit institutions' collapse.

The central banks' reaction to the financial crisis was different, according to the objectives that have been considered to have priority at a certain moment: the resume of economical growth, credit stimulation, the monetary market's liquidity, the control over the budgetary deficit and external public debt and more.

It is not all about the two options of action concerning the monetary politics domain: gaining strength vs. relaxation, but also about the method of development of the competent authorities' interventions: shock vs. gradual.

More and more specialists are, though, thinking that discretionary interventions at a never before heard scale that took place in the majority of the crisis affected countries are, in the best case scenario, a palliative on a short term, but on a long term these have amplified the economic crisis.

Thus, one of the monetary politic errors of the central banks in the actual crisis was identified in the monetary excess, respectively in the growth of the money quantity in the economy under the conditions of credit restriction and the growth of money holding in an economy with inflexible prices that suffer from bad investments.

Another error, best exemplified by the American case, is the use of monetary policies in an industrial political role. More exactly, this means salvation from bankruptcy in a discrete way, through direct monetary infusion from the central bank, some insolvent financial institutions, a dimension in total disagreement with the primordial and declared role of monetary politic, to ensure general objectives, like prices stability (Marinescu et al., 2009).

In such a context, a first answer to the investors (and pension funds make no exception) manifests itself through the growth of liquidity preferences.

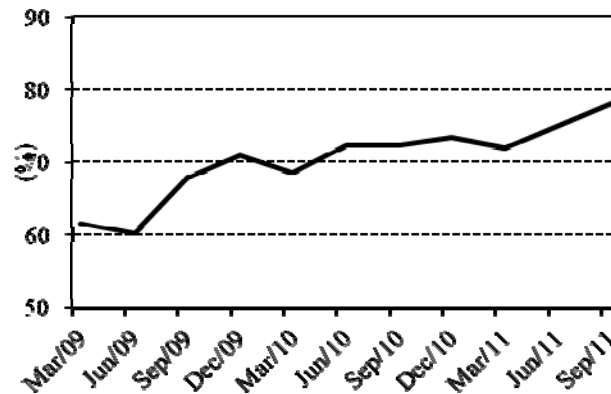


Figure 1. *The evolution of liquid assets of pension funds in Romania (bank deposits and treasury bonds)*

The specialized literature insists mainly on three primary “reasons” of the preference for liquidity: the transactions reason, the precaution reason (“risk adversity”) and the speculations reason. In this case, precaution becomes primordial, due to the fact that money – the perfectly liquid reserve of value – represents an insurance against negative economic effects of particular events.

The existence of expected negative values of the net income presumes a reason of precaution in the investors’ behavior regarding the volume of held liquidities as, besides the transaction’s cost and the lack of gain, there are costs of “penalties”, related either by short or medium term borrowings, or the conversion of a number of titles, in money.

In these conditions the adopted strategy is the fixing of two thresholds (superior, S , and inferior, s) for the monetary mass held as liquidities (noted with x_t), so $x_t \in [s, S]$;

- if $x_t \in (s, S)$, then there is no conversion (neither placements in titles, or titles in money);
- if $x_t \leq s$, then a conversion from titles to money must be made, to bring the level of liquidities to the average value: $\bar{x}_t = \frac{s+S}{2}$, the mass of sold titles being: $\bar{x} - x_t$;
- if $x_t \geq S$, then a placement of $x_t - \bar{x}_t$ is made, meaning at least $\frac{S-s}{2}$.

The problem of optimal determination of the two thresholds S and s isn't a simple one at all; they depend on objective factors (the interest rate, the fixed costs of transactions and penalties), but also on subjective factors, such as the transaction's importance for the investor (Scarf, 1960, pp. 196-202).

The fundamental behavioral laws highlight the way the liquidity volume held by different variables varies. As the liquidity entries take place at a certain date of time (t) and they must cover the transactional costs (C_t) of the next period of time ($t, t+\sigma$), the liquidity repartition function is $F(x_t) = P(C_t \leq x_t)$, and the probability that the payments made in a σ period of time to exceed the volume of liquidities from the beginning of the period is $P(x_t) = 1 - F(x_t)$. The penalisation cost is $\gamma \times P(x_t)$.

It can be demonstrated that the liquidities mass held by the investor must be descending related to the interest rate (r) in the period of covering the transactional costs (σ) and ascending related to the fixed penalties costs (γ).

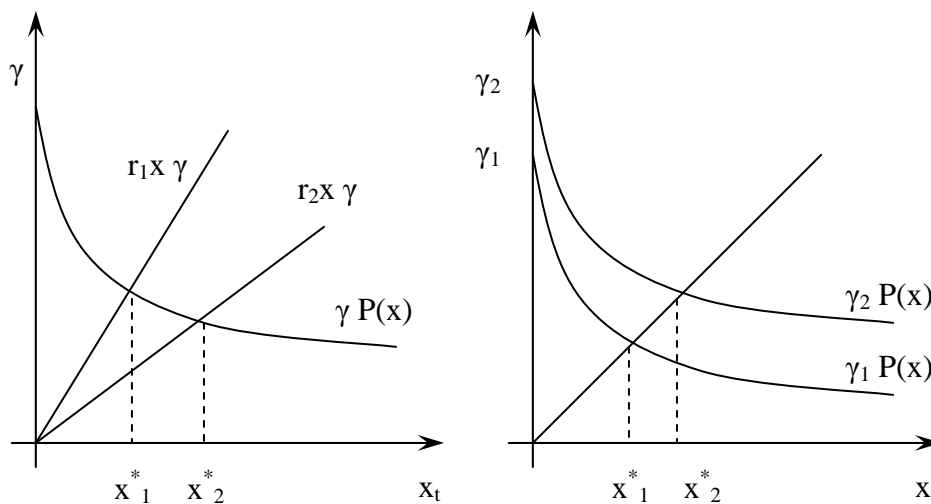


Figure 2. Liquidities' variation depending on the interest rate and penalties cost

Also, E. Malinvand has determined that a rise of liquidity mass can be induced by the increase in probability of an imminent inflation, or it can be a consequence of the increase of transactions volume (Malinvand, 1981).

Recent studies have shown that monetary political shocks have a considerable effect over the dynamic and composition of the capital flows, with influences that reach the structure on categories of assets of the pension funds' portfolio.

Thus, the shock of monetary politics leads to a negative conditional correlation between the equities flows and liabilities flows and, in the same time, it provides a positive conditional correlation between equities' and liabilities' rate of return (Fratzscher et al., 2010).

Moreover, we can emphasize that for assets there is a negative conditional correlation between flows and rate of return. In other words, a growth of equity returns, as an answer to the monetary politics socks, is lastly associated with a diminution in value of the portfolio of investments made in the discussed country's assets.

Regarding the liabilities, the situation is the exact opposite one, as it can be emphasized a positive conditional correlation between the performance rating and quotation.

These ascertainments offer arguments regarding the necessity for a mobile portfolio of rebalancing following the decision of equities investment, but also for supervising the evolution of liability portfolios' performance ratings, in synchronization with the monetary politics shocks, with the purpose of turning into profit the attainable benefits.

The studies' results made in this direction bring, also, a series of clarifications over this puzzle of acute variations in time of the equities and liabilities performance ratings that the specialized literature mentions about.

The differences are not stopping, though, to the quotations and performance rating correlation, but regard also the indicators' dynamic, the way they react to monetary shocks. If the indicators that characterize the performance ratings (the differential interest rate and the equities relative benefit) they react practically instantaneous, the capital flows react more slowly and gradual. The maximum level of response (to the stimuli) emerges, after eight trimesters or even longer.

Using new investment vehicles

Due to an interesting profile of the risk-profit ratio, private equity funds are more and more attractive for the institutional investors, among which are the pension funds administrators. The "private equity" collocation has become more spread at the end of the '80, due to some ample buyout operations. Theoretically speaking, private equity funds (or companies) are closed investment funds with risk capital, which purchase equities from private

companies. Based on the main goal of obtaining the equities, these funds are divided into three major categories:

- Venture capital – funds that finance the set up of companies or finance small companies and then further their development;
- Leverage – funds that concern with equities direct buying from private companies by making tempting offers;
- Growth capital – funds that concern with financing big and stable companies, to help them develop better, extend more or to restructure them.

It must be mentioned, though, that the possibility to invest in such funds is limited, as they are not part of the liquid assets category and don't have a secondary market, as assets or bonds do.

So, though it may look like a contradiction in terms, listed private equity (LPE) funds are – through their increasing liquidation – instruments of investment much more promising and attractive for a large variety of investors.

The private equity notion doesn't necessarily presume that the investing company or fund is also private. The fact that a private equity company is listed at the stock exchange does not influence the main activity: investments in unlisted companies. Although listed and unlisted private equity funds have different organizational structures, investments in LPE present similar or even equivalent characteristics with investments in unlisted private equity funds. We take in consideration basic characteristics such as the types of investments (buyout, venture and growth capital), or the funding methods (equity, mezzanine and debt).

Unlike the limited partnership companies, where the number of investors is basically limited to a restricted number of institutional investors, the LPE market opens this category of assets for anybody who is interested. The existence of an organized market, where private equity funds portfolios are bought or sold, makes this class of assets a very liquid one.

Liquidity isn't though but one of the significant advantages of the LPE, besides other characteristics, such as:

- *Access* (in contrast with the traditional private equity funds): there isn't a minimum investment requirement; we deal with a direct and immediate exposure to a diversified portfolio of private equity, without any problem of the j-curve effect;
- *Transparency* regarding the private equity portfolio, as long as listing presumes high standards of disclosure;

- *Variety* at a high level, both concerning the investment types, and the funding methods;
- *Costs*: there are no transactional costs, with the bid-ask spread exception; averagely, the administering commissions are lower than for the limited partnership companies;
- Superior *performance*, on a long term, than all the other important categories of actives;
- *Discounts* for investors, who can often buy with a discount of the net average value (NAV).

The problem of including the LPE in the pension funds' portfolio, and also regulating the portfolio's maximum quota that can be allotted to this type of actives, was little studied until today. We will mention, though, the researches of Zimmermann (2004) and Bilo (2002), in which setting a basket (or index) of private equity funds transacted publicly is realised in conditions of liquidity restrictions, a fact that raises serious question marks on the process' result of performances measurement.

Another more recent study is based on the LPX 50 index – an index calculated at a world level based of the biggest 50 LPE companies and published by LPX GmbH (Aigner et al., 2012, pp. 753-764). The advantages of such an approach refer to its representative character for the LPE market, but also to avoiding liquidity problems, keeping in mind about the existence of many liquid investmental instruments, like open end index tracker certificates and even exchange traded funds.

The accomplished analysis confirm that LPE is an attractive investment alternative, including for the pension funds, along with the arguments concerning the liquidity also being present the ones regarding the improvement of the risk-profit profile. Even though the LPE performances are not established exclusively based on the performance of the private equity direct investments, but by the markets' performance in general (because they are publicly transacted), the registered performance ratings are comparable with the ones of a pure equity investment.

Because LPE participates to the allotment of assets along with equities and bonds, it is required the use of a method that takes into account the correlations (like the ones between LPE and assets), but also abnormal distributions or autocorrelation. It has been used a Markov approach, with commutation, able to form the performance ratings on classes of actives, observing thier most important characteristics. By applying this model we can

simulate the performance rating distribution, with the purpose of establishing the actives' allotment method.

Although a series of optimisation frameworks have been applied, the authors refrain from suggesting a unique percentage to represent the LPE optimal weight in a portfolio, keeping in mind that for certain categories of international investors, maximum quota of investment in certain classes of assets are susceptible to be applied.

Even so, we appreciate that even the most risk averse investors, like the pension funds administrators, can benefit from the favourable effects of diversification by introducing the LPE in the portfolio. The calculations made for the 2007-2009 period of time, in more versions of adjustment to the risk aversion parameter, show that the portfolios' performance ratings established with the ARMS (autoregressive Markov-switching) model are net superior to the performance ratings of the classic portfolios (assets and bonds) build based on the usual GBM (geometric Brownian motion) model.

Practically, we deal with a demonstration of the fact that the listed private equity funds can extend significantly the „efficient frontiere”.

Mechanisms to ensure contributions and/or benefits

If the crisis effects over the personal savings and investments are easier to accept, being affected a surplus of resources, regarding the contributions for pensions, things are a little more complicated, being questioned the incomes destined for future consumption coverage themselves. Reason for which, the existence of a guarantee for the funds destined for pension payments is frequently claimed.

The problem of guaranteeing the contributions and/or of a certain level of benefits for the participants to different areas of the financial market is not a new one but, from the community's legislation point of view, it became clearer so far especially in the banking system and in the capital market. In the insurance domain, dispositions regarding guaranteeing/compensation mechanisms can be found in the legislation referring to the reorganization and liquidation of insurers and the civil auto liability insurance.

Regarding the pension funds market, the European politics concerning the subject is subordinated to the diversity principle, reason for which the problem of guaranteeing/compensation mechanisms can be found again only within some national legislations, without a harmonization at the community level.

With all these in mind, we assess that the existence of an insuring system of the participants' contributions and/or benefits to the pension funds is extremely useful, considering that it is able to harmonize a large variety of interests, such as:

- individual interest for protection, that every contributor demands;
- funds administrators and pension providers interest to preserve their clients portfolio and to avoid reputational risk;
- public interest, regarding the trust in the pension system and avoiding the systemic risk.

It is obvious that, in case of significant restraining of the number of pension funds publicly held, the state's role in the domain also diminishes, only the entities that still benefit of the state's guarantee having serious problems of sustainability.

New systems of pension funds insurances have emerged, though, that can be structured after several characteristics:

- as a way of functioning, we will encounter: mutual structures to cover the spending meant for satisfying the obligations of entities that are unable to pay, and formal structures, based on the existence of a fund dedicated for this purpose;
- from the method of management, we highlight: public administered funds and private administered funds;
- from the contribution's type, there are: compulsory funds and voluntary funds;
- from the protection's objective, there are structured: security funds regarding achieving a minimum tolerable performance rating, reserve funds for supplementing the benefits and participants' rights guarantee funds.

The option for one model or another must take into account the variety of aspects regarding the quality and dimension of pension funds market, the level of implied costs, the degree of insurance coverage and, last but not least, contributors' accountability regarding option criteria in case of adhesion or transfer to a certain fund.

Reserve funds are operated mainly for DB (defined benefits) systems and represent a way of assuming the responsibility by the governments regarding the finance of these pension plans, avoiding – in the same time – to transfer the financing cost to the future generations.

Although they also represent instruments of investment, similar to the supplementary pension funds of Anglo-American origin, the reserve funds have increasingly become to be looked at as important instruments for sustaining the social security programs (Dixon, 2008, pp. 249-270), offering the governments – not only in the present but also in the future – a political instrument for accomplishing their social obligations with minimum disturbances for the current and future spending plans.

The guarantee funds are usually pertinent to DC (defined contribution) plans and they ensure the protection of the cumulated contributions and, eventually, of a guaranteed minimum performance ratio for the investments resulted from them.

Obviously that the specialists' opinion are not unanimously favorable concerning the use of the above mentioned guarantee/compensation mechanisms.

Thus, there are voices that maintain that the request of contributions necessary for financing the risk adapted pensions are the same, regardless of the assets' investment method and, thus, the use of reserve funds for attenuating the impact of risky investments on the national pension systems' financial situation is useless.

In some cases, constituting the guarantee/compensation mechanisms is regarded as “a BLAM vote” for the regulation and supervisory existing authorities and even regarding specialists' and officials' level of expertise and competence from the governmental departments.

Most of the objections start from the attraction that such institutes carry out over the partisan political interests and bureaucracy proliferation. The most highlighted fears refer to the possibility of subordinating the fund's first class objectives to some secondary objectives of the executive, on a short term.

There are also many theoretical arguments which mention that it is possible to avoid such a risk, starting with the “acceptable” financial practices that give intern and international legitimacy to the sovereign investment funds. It is kept in sight the logic of investing the actives of these funds on the global markets, outside the national programs of economic growth, in the idea of realizing performance ratios superior to the ones obtained internally. Moreover, the guarantee mechanisms' logic of being is based on reducing the state's future obligations toward the pension system and, for achieving this political goal, the government must understand that the implied funds must be “allowed” to realize their own objectives, first of all the ones regarding achieving a certain level of productivity. It is true that the evaluation and control of these funds are

still the government's tasks, a fact that on a short term makes them vulnerable to the executive's opportunist intromission.

It is appreciated, however, that applying the competence delegation principles is meant to ensure the reserve (or guarantee) funds a functional autonomy in relation to possible extra-financial pressures. Besides, most specialists avoid the generalization of the institutional independence notion, insisting on understanding the risks of political and bureaucratic costs and interventions.

We will once again mention that authority delegation comprises three components:

- the mandate, a term by which the institutional objectives/goals are defined (generally or concretely; for example the rate of return on a period of time);
- restrictions, respectively the limits imposed in realizing the mandate that reflect the comprehensive political interests;
- accountability, meaning the results' transparency by which the in question institution may be evaluated by a third party.

Concretely, competence delegation is based on expertise requirements afferent to the domain and it is expressed by autonomy in the decision making process, also regarding their evaluation and adapting to the modification of specific conditions (financial in our case).

So, we can remark that researchers avoid extreme approaches, refusing both the idea of "universal panacea" and the opinion that guaranteeing/compensating mechanisms would not make a viable project. Moreover, a series of principles and politics meant to avoid political intervention costs and bureaucratic excess have been synthesized, preserving thus the possibility of functional performances realization for which these funds were created for (Clark, Monk, 2011, pp. 18-25).

The building and management principles of reserve and guarantee funds are necessary conditions for protecting any institution from the politic interference and they concern:

- the legitimate purpose, for which the legislator has decided creating the fund (for example, the costs associated with "the aging population", the equity between generations etc.);
- the organizational mandate, materialized through regulating the method of accomplishing the general goal;

- the mission's clarity, through a well articulated set of objectives and goals of the investment process based on the fund's well being (it is avoided, thus, implicitly but officially, the political and social objectives);
- the fund's withdrawals: possible financial obligations and reimbursement procedures;
- the organizational boundaries: the official arrangement of competences, role plays and institutional responsibilities;
- the sponsor's authority in relation to the mandate received by the fund and the reporting obligations (toward the government or the legislative);
- the council's (of administration) authority, as a method of carrying out the sponsor's authority toward the president and related to the institution's top management;
- accountability: formal mechanisms of transparent reporting to the sponsor and interested persons [stakeholders] (reports, transaction declarations and more).

These principles have an intricate relationship with the following management and implementing politics:

- informational symmetry, based on a continuous informational exchange process that allows the sponsor the knowledge and understanding of the fund's operations, the risk profit and the expected performance level;
- the council's members (of administration) appointment, based on a set of standard requirements regarding the candidate's competence and experience (highlighted for the domain in question);
- management employment: clear responsibilities for the council concerning hiring and firing the executive managers and configuring their remuneration system (based on or outside government regulations);
- the fund's leadership: president, vice-president and CEO with external credibility and internal discipline;
- the staff's expertise, for achieving the institutional objectives; it justifies the delegation process and imposes respect;
- the staff's retribution, according to their performances (related to the fund's main mission);
- the behavioral code, that regulates the accepted behavior and warns on eventual breaking rules;

- risk management, taking into account both the mandate's long term nature and the public's sensibility, higher toward losses than toward gains; it may affect the institution's functional purpose and the equilibrium of internal and external investments' management;
- major force: the exceptions from the institution's role and responsibility; if they cannot be identified at the moment of enactment, the process by which exceptions can be invoked will be regulated through rules that regulate the relations between sponsor and fond.

Implementing these principles and politics, actually a constructive and applied adaptation of the principles of corporative (Jensen, 2000) governing, allows the guaranteeing/compensation mechanisms to survive and prosper according to their functional efficiency, even though they do not fulfill the requirements of an absolute autonomy related to the governing factor.

Practically, the more and more higher frequency of appeal to these types of institutions with the purpose of improving the pension systems' quality will force the governmental factors, in the following period of time, to a significant effort of institutional construction and administration. As it is natural, it will take some time for evaluating the results of this process.

Acknowledgements

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/89/1.5/S/62988 „Economic scientific research, support of welfare and human development in the European context”.

References

- Aigner, Ph. et al. (2012). "Modelling and managing portfolios including listed private equity", *Computers & Operations Research*, Vol. 39, Issue 4, pp. 753-764
- Bilo, S. (2002). *Publicly traded private equity*, Universität St. Gallen, Dissertation No. 2614
- Clark, G.L., Monk, A.H.B. (2011). "Pension reserve funds: aligning form and function", *Rotman International Journal of Pension Management*, Vol. 4, No. 2, pp. 18-25
- Dixon, A. (2008). "The Rise of Pension Fund Capitalism in Europe: An Unseen Revolution?", *New Political Economy*, Vol. 13, No. 3, pp. 249-270
- Fratzcher, M. Saborowski, C. Straub, R. (2010). "Monetary Policy Shocks and Portfolio Choice", *Discussion Paper*, No. 8099, Centre for Economic Policy Research, London

- Jensen, M.J.(2000). *A Theory of the Firm*, Cambridge, MA: Harvard University Press
- Malinvaud, E. (1981). *Theorie macroéconomique*, Dunod, Paris
- Marinescu, C. et al. (2009). *The economic crisis and capitalism*, The Economy and Freedom Centre, in www.ecol.ro
- Oprescu, Gh. Imperato, A. (2004). *Cibernetica consumatorului: abordare statică și dinamică*, Editura ASE, București
- Scarf, H. (1960). The Optimality of (S,s) "Policies for the Dynamic Inventory Problem", *Mathematical Methods in the Social Sciences*, Stanford University Press, pp. 196-202
- Zimmermann, H. et al. (2004). "The risk and return of publicly traded private equity", University of Basel, *Working Paper*, No. 6

The effectiveness of public policies and structural funds in enhancing tourism development. The case of Romania

Dragoş Dumitru JALIU

The National School of Political and Administrative Sciences, Bucharest
jaliudragos@gmail.com

Abstract. *In today's economy, tourism is one of the most dynamic drivers of economic growth and prosperity in the communities characterised by a valuable tourist potential. However, the development of tourism depends on the general legal and strategic framework adopted at local, regional and national level. In Romania, the changes in the strategic framework designed to stimulate the development of the tourism industry have been largely determined by the availability of EU structural and cohesion funds.*

However, in spite of the fact that more than 90 percent of the EU funding assigned to the sustainable development and promotion of tourism has been already contracted, results still remain to be seen. This article provides an analysis of the factors influencing the effectiveness of public policies and structural funds in enhancing tourism development in Romania, pointing out what lessons should be learned in order to ensure a better use of external funding in the 2014-2020 period.

Keywords: tourism; public policies; development; EU funding; effectiveness.

JEL Codes: F36, L83, L88.

REL Code: 14F.

1. Introduction and background

The continuous growth of the tourism sector brings an ever increasing need to plan and regulate the tourism industry and to create coherent development strategies for tourism destinations. The economic and social benefits of tourism development are highest when this development is planned in a coherent, unitary and sustainable manner, in accordance to the general national and regional development strategies. On short term, an unplanned development may generate some economic benefits. However, on longer term, the absence of a tourism development strategy may lead to undesirable effects on the natural environment and even to a decrease in the destination's attractiveness.

According to the World Tourism Organization (2012), undertaking national and regional tourism planning leads to several advantages which are essential to the development of tourist destinations. These advantages are presented in Table 1.

Table 1

Advantages of national and regional tourism planning

<ul style="list-style-type: none"> ▪ Establishing the overall tourism development objectives and policies and how can these aims be achieved; ▪ Developing tourism so that its natural and cultural resources are maintained and conserved for future and present use; ▪ Integrating tourism into the overall regional and national development policies, and establishing linkages between tourism and other economic sectors; ▪ Providing a rational basis for decision-making by both the public and private sectors on tourism development; ▪ Enhancing the coordinated development of all the elements of the tourism sector: tourist attractions, activities, facilities and services; ▪ Optimizing and balancing the economic, environmental and social benefits of tourism; ▪ Providing a physical structure which specifies the location, types and extent of tourism development of attractions, facilities, services and infrastructure; ▪ Establishing the guidelines and standards for preparing plans for specific destinations and types of tourism and for the appropriate design of tourist facilities; ▪ Providing the framework for effective coordination of the public and private sector investments; ▪ Providing a baseline for the continuous monitoring of tourism development plans and projects.

Source: World Tourism Organisation (1994), *National and regional Tourism Planning*, pp. 3-5.

Until the early 1950s, tourism was poorly regulated, and tourism destinations developed uncontrolled and chaotically. However, starting with the second half of the twentieth century, tourism development strategies have been elaborated and pursued throughout the world. Strategies were adapted to the

changes in the industry, as mass tourism declined and a „new tourism” emerged (Poon, 1994), a tourism focused on individual customer satisfaction and high-quality tourist experience.

The paradigm shift defined by Poon at the beginning of the 1990s led to the emergence of several principles of interest for public policy makers (Poon, 1993):

- the natural environment should always come first;
- strategies should focus on transforming tourism into a competitive and dynamic sector;
- distribution channels should be enhanced;
- Although policies are made by public organisations, they should focus on the development of a dynamic private sector.

Most often, tourism development strategies and policies are elaborated either by destination management organisations – local councils, protected areas administrators – or by ministries, directorates or departments within public ministries. As a matter of fact, the last decade was characterised by an ever increasing interest in the elaboration and implementation of tourism development and promotion strategies, both at transnational as well as at national and regional level.

2. Tourism development policies at EU level. Tourism – an EU 2020 priority

The creation of a common policy in tourism is a natural response to the continuous development of this economic sector. At EU level, common public policy in tourism did not have a legal base until 2007, when the Lisbon Treaty was signed (Danklefsen, 2007). The Treaty was enforced two years later, on December 1st 2009.

Until then, all the regulations in the field of tourism were based on article 3 from the CE Treaty, which offered the legal framework for the free movement of persons, goods and services, SMEs and consumer protection, as well as for environment, transport and regional policies – all these having a direct impact on tourism development.

The reason for which tourism was included in the Lisbon Treaty is based on the acknowledgement that the tourism industry may have a significant positive impact on the achievement of the objectives described in the Lisbon Strategy. In the Treaty, tourism is discussed in Chapter XXI, article 176 specifying that the EU will complement the member states’ actions in the field

of tourism, particularly by promoting enterprise competitiveness in this sector (Official Journal of The European Union, 2007).

Furthermore, in June 2010, the Commission adopted the Communication “*Europe, the world's No 1 tourist destination – a new political framework for tourism in Europe*” (Communication 352, 2010), addressed to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. The document discussed a coordinated view of the initiatives in the field of tourism, defining a new strategic framework for actions designed to stimulate tourism competitiveness and its capacity to generate sustainable economic growth.

This Communication proposes a series of multinational initiatives in the field of tourism, such as the creation of an integrated Internet portal for European tourist destinations and launching a competition for tourist destination excellence (EDEN) so as to improve the visibility and sustainability of European tourism. Another pilot initiative launched by the Commission is the Calypso programme, whose goal is to increase the number of tourist arrivals in extra season through a more effective use of the transportation and accommodation capacity (European Commission, 2012).

Tourism is an interdisciplinary field, which is powerfully connected to the evolution of complementary fields, such as transportation, entertainment, constructions, commerce and agriculture (Scutariu, 2009). In this context, it is natural that the development of tourism is influenced not only by the elaboration of specific strategies, but also by integrated policies, such as those linked to sustainable development.

As a matter of fact, at European level, tourism is already part of a much larger environment policy, the contribution of sustainable tourism practices to the protection and conservation of the natural environment becoming increasingly important as climate changes intensified in the past decades (European Parliament, 2012).

However, tourism development in EU states is not uniform. The development of the tourism industry depends not only on the policies and strategies elaborated and adopted at EU level, but also on the policies of each member state. According to the Eurostat Statistical Yearbook (2012), the top 20 EU-27 tourist regions are all concentrated in only six states: Spain, France, Italy, United Kingdom, Austria and Germany – all with long term tradition in incoming tourism.

Destinations in emerging economies are however less developed. Latvia, Lithuania, Estonia, Slovakia, Bulgaria and Romania are among the regions with

the least tourist arrivals and overnights spent in accommodation establishment. Furthermore, there are considerable differences in what regards the tourism intensity. In 2009, the average tourism intensity in the EU-27 was 4,463 – indicator which measures the number of overnight stays in relation to the resident population – was 4,463 overnight stays per 1,000 inhabitants. 30 EU regions registered a tourism intensity of over 10,000 overnights per 1,000 (Eurostat Statistical Yearbook, 2012).

However, the vast majority are localized in economically developed countries and in states which have been EU members for at least two decades: six in the UK, five in Italy, four in Austria, three in Greece, two in Germany, Spain, the Netherlands and Portugal and one in France and Finland.

The situation is much different for developing countries in Central and Eastern Europe, which are also the states which entered the EU after 2004. Thus, of the 22 regions with 1,000 or fewer overnight stays per 1,000 inhabitants, eight were located in Poland, six in Romania and three in Bulgaria. While Bulgaria registered a considerable growth in the number of non-resident tourists, the Romanian region of South-West Oltenia remains the region with the least non-resident tourists, only 3.1 percent of the total number of tourists in the area being foreign (National Institute of Statistics, 2012).

In the following sections, we will proceed to analyze whether the adoption and implementation of public policies and strategies in the field of tourism exerts a significant impact on the development of tourist destination in emerging countries. To this aim, we will analyze the level of policy development in Romania as well as establish a qualitative correlation between the absorption of external funding and the evolution of tourist arrivals in the period 2007-2011.

3. Tourism development policies in emerging economies.

The case of Romania

In Romania, the development strategies for tourism are strongly correlated with the processes that take place in public administration (Nedelea, Dolipschi, 2004).

The first official policy document developed by Romania after its accession to the European Union and which established the main directions for tourism development was *The National Strategy for Sustainable Development* (2008). The document is a project elaborated by the Romanian Government, through the Ministry of Environment and Sustainable Development, and the

United Nations Development Programme, through the National Centre for Sustainable Development.

The National Strategy for Sustainable Development had a major role furthering the conception of specific policy documents for various types of tourism. In fact, the directions set out in Chapter V of the strategy – “Sustainable development and promotion of tourism” led to the establishment of the three major areas of intervention financed by Regional Operational Programme in tourism.

According to the Ministry of Environment and Sustainable Development (2008), the Strategy has provided the basis for the elaboration of concrete measures in the field of tourism development, measures which aimed to ensure both the material support of tourism – cultural heritage, natural resources with tourism potential, infrastructure, accommodation and entertainment – as well as the means to sustainably exploit the tourist heritage through the development of local industries (trade, construction, transport, catering, small manufacture units and handicrafts) job creation.

Furthermore, the National Strategy for Sustainable Development has established specific objectives for Axis 5 of the Regional Operational Programme. According to the document, by 2015 the Romanian Government planned to implement 400 projects in tourism infrastructure, to offer direct or indirect support to 350 companies in tourism, to organize at least 10 campaigns to promote the tourism brand at national and international level and to establish 10 national information and tourism promotion centres, resulting in, among other things, the creation of 1,000 new jobs (Ministry of Environment and Sustainable Development, 2008).

According to the Regional Operational Management Authority (2012), up until now, the Regional Operational Programme funded 518 projects in tourism, of which 105 projects in tourism infrastructure (under the main intervention domains 5.1 and 5.2) and 347 projects promoting the local and national tourist potential (under the major intervention domain 5.3).

Besides the National Strategy for Sustainable Development, in 2006-2007, a team of experts from the World Tourism Organization has developed, together with its counterparts in Romania, on behalf of the Romanian Government, a National Tourism Development Master Plan for the period 2007-2026.

The Master Plan includes an action programme for six years (2007-2013), in conjunction with the financial support from the Structural Funds allocated from the European Regional Development Fund (ERDF) through the Regional

Operational Programme 2007-2013, as a result of Romania's accession to the European Union in January 2007.

The purpose of this policy document was to elaborate the framework necessary for the development and sustainable management of the tourism industry in terms of natural and cultural resources. The Master Plan was planned as an umbrella strategy, thus including several other plans and strategies, elaborated in order to optimise the sector's contribution to the national economy (WTO, Ministry of Regional Development and Tourism, 2007).

The strategic policy documents – strategies and action plans – elaborated following the adoption of the National Tourism Development Master Plan are aimed, on one hand, at the promotion and marketing of Romanian tourist destinations, and, on the other hand, at the development of specific types of tourism – nature-based tourism, wellness and spa tourism, rural tourism – according to the directions set out by the Master Plan.

These strategic documents are (Ministry of Regional Development and Tourism, 2012):

- Strategy for the creation and promotion of the national tourism brand;
- The national development strategy for spa and wellness tourism;
- The national ecotourism development strategy;
- The seaside tourism development strategy;
- The strategic and operational tourism marketing plan for 2011-2015;
- The strategic and operational tourism marketing plan for Bucharest, 2011-2015.

The national tourism brand promotion strategy and the two strategic and operational tourism marketing plans have been implemented through 12 EU-funded projects, financed under the Regional Operational Programme 2007-2013, Axis 5.3 – “Creating a positive image of Romania as a tourist destination by defining and promoting the national tourism brand”. The 12 projects are implemented by the Ministry of Regional Development and Tourism and have a total value of over 75 million, of which approximately 55 million represent the non-refundable financial assistance (Regional Operational Management Authority, 2012).

In 2009, the Ministry of Regional Development and Tourism organized the public purchasing procedure for the contracting of the services necessary for defining and creating Romania's national tourism brand. Starting with the autumn of 2010, Romania began to promote itself as a tourist destination with an individual and unique visual identity. According to the Ministry (2012), the

campaigns organized under the tourism marketing plan and the national brand promotion strategy are aimed at building a positive image on the international tourist market as well as on enforcing Romania's competitive advantages in terms of tourism and sustainable development.

Thus, although these strategic documents were not financed from the Regional Operational Programme, their implementation was, which may lead us to believe that the role of structural funds in the development of tourism in Romania has been both relevant as well as significant. However, the role of the Regional Operational Programme in the field of tourism extends beyond the simple implementation of tourism policies and strategies.

Priority Axis 5 – „Sustainable development and promotion of tourism” has an allocation of approximately 663 million Euros, representing 18 percent of the total ROP allocation (Regional Operational Programme Management Authority, 2007). Its purpose, as defined by the Regional Operational Programme Implementation Framework Document (2007), is to enhance the sustainable exploitation and promotion of the cultural heritage and natural resources with tourism potential, as well as to improve the quality of accommodation and leisure tourist infrastructure, in order to increase the regions' attractiveness, develop the local economies and create new jobs.

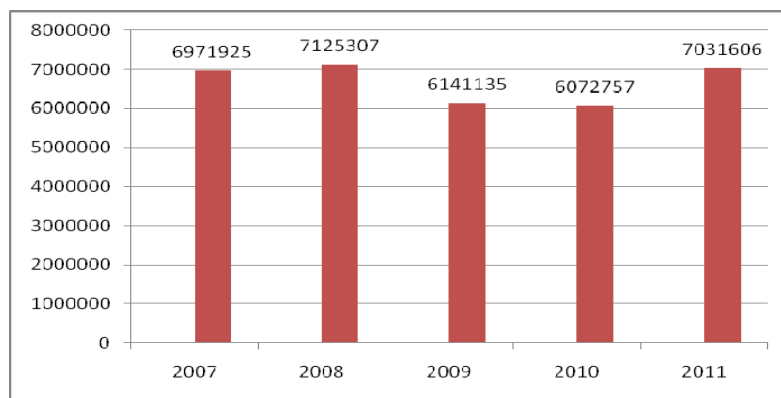
Priority Axis 5 is structured into three major intervention domains, according to the priorities set out in the National Tourism Development Master Plan for the period 2007-2026 – document analysed in the previous sections.

The three major intervention domains are:

- Major intervention domain 5.1: The restoration and sustainable exploitation of the cultural heritage and the creation/modernization of complementary tourist infrastructure;
- Major intervention domain 5.2: The creation, development and modernisation of the specific infrastructure necessary for the sustainable exploitation of natural resources and for improving the quality of tourist services;
- Major intervention domain 5.3: Promoting the tourist potential and creating the infrastructure necessary to increase Romania's attractiveness as a tourist destination by projecting a positive image of Romania, defining and promoting the national tourism brand, the development of domestic tourism by diversifying the offers and the specific marketing activities, including the development of a on-line tourist information and statistics system.

The 518 projects contracted so far under the Regional Operational Programme – Priority Axis 5 „The sustainable development and promotion of tourism” – have a total value of approximately one million Euros, representing 18 percent of the sum contracted under all the six axes of ROP (Regional Operational Programme Management Authority, 2012). However, their impact on the development of tourist destinations in Romania and on the evolution of tourist arrivals at national and regional level seems to be limited.

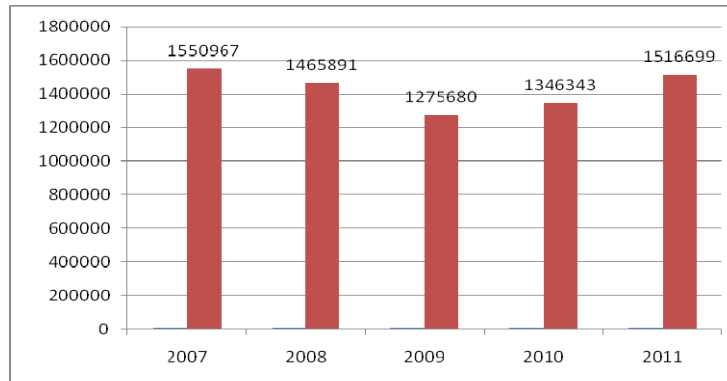
Thus, in spite of the fact that ROP is the operational programme with the highest absorption rate (approximately 20 percent in October 2012) according to the Ministry of European Affairs (2012) and that the contracting rate for Priority Axis 5 is of over 90 percent of the total allocation, the number of tourist arrivals at national level has largely stagnated in the period 2007-2011, as shown in Figure 1.



Source: The National Institute of Statistics, 2012.

Figure 1. *The evolution of total tourist arrivals in Romania, 2008-2009*

According to the National Institute of Statistics (2012), the number of tourists accommodated in tourism facilities in Romania varied in the past years between six and seven million arrivals, registering the maximum value (7.12 million tourists) in 2008. Furthermore, statistics show that the external financing available to organisations in the tourism sector could not diminish the negative effects of the economic crisis, effects which reached maximum intensity in 2009 and 2010. Although the situation improved in 2011, when the total arrivals summed up to 7.03 million tourists per year, the tourism industry could not return to the level of development reached in 2008.



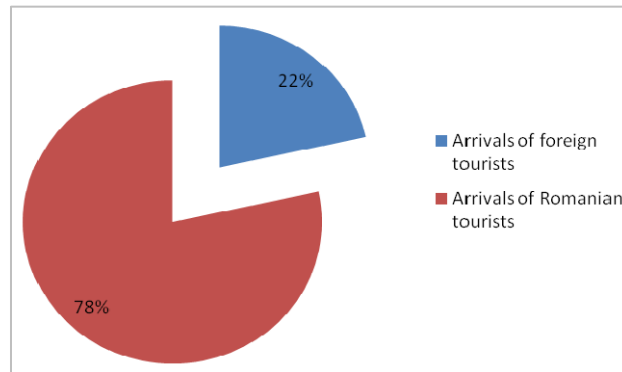
Source: The National Institute of Statistics, 2012.

Figure 2. *The evolution of foreign tourist arrivals in Romania, 2008-2009*

The evolution of foreign tourist arrivals was similar. Thus, the number of foreign tourists visiting Romania decreased in the period 2008-2010, after reaching a maximum value (1.55 million arrivals) in 2007, as indicated in Figure 2. The implications are significant, as it shows that the promotion and marketing strategies adopted by the Ministry of Regional Development and Tourism and financed through the Regional Operational Programme in the period 2007-2012 proved largely ineffective.

Romania's incapacity to attract foreign tourists is also reflected in the small share that foreign tourists occupy in the total number of tourist arrivals. Thus, in 2011, only 22 percent of all tourist arrivals were generated by foreign visitors. This value is tremendously low in comparison with Bulgaria, where approximately 68 percent of all incoming visits are made by foreigners (Bulgarian Institute of Statistics, 2012).

Furthermore, at regional level, the distribution of projects financed through the Regional Operational Programme under Priority Axis 5 largely differs from the distribution of tourist arrivals in the eight development regions in Romania, indicating the absence of a direct correlation between the projects implemented in the field of tourism and financed under ERDF and the industry's level of development (Țigu, Răvar, 2012). However, as the financial allocation under ROP also varies among development regions, being higher for the least developed areas and lower for the most developed, the absence of such a correlation is not unexpected (Iorgulescu, Răvar, 2012).



Source: The National Institute of Statistics, 2012.

Figure 3. *The share of foreign and Romanian tourists in the total tourist arrivals, 2011*

The low level of competitiveness which currently characterizes the Romanian tourism industry is also reflected in the classification elaborated by the World Economic Forum (2011) as part of the Travel And Tourism Competitiveness Report World. Romania occupies position 63 in this classification, registering however an improvement as compared with the previous edition, when our country was classified as the 66th most competitive tourist destination. According to the World Economic Forum (cited by Croitoru, 2011), Romania is lagging behind emergent economies in the EU, having a much lower rank than the Czech Republic (position 31), Slovenia (position 33), Croatia (position 34), Hungary (position 38), Bulgaria (position 48), Poland (49) and Slovakia (54).

4. Possible causes influencing the effectiveness of public policies and structural funds in enhancing tourism development

An increase in Romania's competitiveness on the international tourism market is not possible in the absence of coherent public policies stimulating tourism activity and allowing access to external funding. However, it is essential that policy makers take into account the factors which have determined the poor effectiveness of past and current public policies and structural funds in enhancing tourism development in Romania.

Based on a comprehensive literature review, we have isolated the following factors:

- **The belated public policies adoption in the field of tourism**

The first strategic documents establishing the framework for the development of tourism in Romania were elaborated and adopted in the period 2006-2008. Some of these documents, such as the Tourism Master Plan, also established the guidelines for the future implementation of Priority Axis 5 within the Regional Operational Programme.

However, in Bulgaria, for example, a strategic framework was adopted since the early 1990s, when the Committee of Tourism was founded (Kaytcheva, Purcell, 1995). This committee did not only establish and coordinate a framework for the accession and implementation of structural funds, but also the transition from a centralized to a market economy and the privatization of public organizations in tourism.

- **Failure to adopt policies focused on the active involvement of the private and NGO sector in tourism development**

The strategic documents elaborated and adopted by national authorities with the aim of enhancing tourism development provide guidelines which are predominantly addressed to public organizations. Furthermore, according to the Regional Operational Programme Management Authority (2012) approximately 50 percent of all projects financed under ROP, Priority Axis 5 are contracted by local authorities and ministries.

However, studies have shown that the regions with the largest number of non-governmental organizations are also the regions with the highest number of annual tourist arrivals (Țigu, R[var, 2012). This demonstrates that policies oriented towards the development of the nongovernmental sector and focused on a better involvement of NGOs in the field of tourism will ultimately lead to an increase in the total number of tourists and to the growth of the tourism industry in its entirety.

Last but not least, the private sector is the main driver of tourism development. Hotels, restaurants, entertainment facilities, tourism agencies and tour-operators all belong to the private sector. These are the organizations producing added value, jobs and incomes for the local budgets. An increase in the total number of tourists depends on the services offered by the private sector.

Thus, policies in the field of tourism should also concentrate on the development of private entities and on their capacity to finance and support investments.

- **Lack of coordination between tourism promotion and tourism development strategies**

An analysis of the strategic documents forming the current framework for the development and promotion of tourism in Romania shows that these documents were designed and adopted by different entities, at different moments in time. As a result, their objectives do not always coincide and their implementation often leads to negative effects on the local culture and environment.

However, this tendency is not only visible at national level, but also at regional and local level. For example, although the promotion strategy for Bucegi Mountains is focused on ecotourism, the area's development strategy implies the massive expansion of the access infrastructure – including asphalt roads – into the natural protected areas.

These differences are enhanced by the availability of structural funds, which makes it possible for local communities and NGOs to implement tourism promotion projects for destinations which do not yet have the basic infrastructure necessary to provide minimum tourist services.

Practice has shown that promotion projects with a total value of over one million Euros are currently implemented in areas with no accommodation facilities or where the physical state of attractions does not allow the development of continued tourism activities. In such cases, it is obvious that the implementation of projects financed under ROP will not lead to an increase in tourist arrivals, the funding being ineffective and even financially damaging to the organizations which ensure the co-financing of projects.

Conclusions

To conclude with, there is a diversity of factors influencing the effectiveness of public policies and structural funds in enhancing tourism development in Romania. Apart from those presented above, there is also the lack of vision and innovation in the design of public policies in the field of tourism. There have been a number of cases where communities benefiting from an incredibly rich and diverse cultural heritage were not included in the tourism development policies of various counties until they were discovered and re-launched by foreign investors. Furthermore, one should not forget that Romania's former tourism brand, focused on promoting seaside and leisure tourism, was only redesigned years after the demand for these types of tourism started to decline both at national level as well as globally.

Thus, it is obvious that as far as tourism development and promotion are concerned, Romania reacts to changes in its environment instead of anticipating them and transforming them into opportunities rather than threats. Of course, we are still an emerging economy and do not have the experience necessary for achieving a high performance. However, we do need to learn from our mistakes and use this knowledge in order to ensure a better management and use of structural and cohesion funds in the next financial exercise.

References

- Blanke, J., Chiesa, Th. (2011). "The travel and tourism competitiveness report 2011", World Economic Forum, Genève, Switzerland
- Bulgarian National Statistical Institute (2012). *Trips of Bulgarian residents in abroad and arrivals of visitors from abroad to Bulgaria*, available online at <http://www.nsi.bg>, accessed November 25th, 2012
- Croitoru, M. (2011). "Indicele competitivității în turism – analiză empirică România vs. Bulgaria", *Economie teoretică și aplicată*, vol. XVIII, No. 9, pp. 110-128
- Danklefsen, N. (2007). *Tourism in the EU*, article available online at http://circa.europa.eu/irc/opoce/fact_sheets/info/data/policies/tourism/article_7313_ro.htm, accessed November 8th, 2012
- European Commission (2011). *A Budget for Europe 2020*, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – Part 1, available online at http://ec.europa.eu/budget/library/biblio/documents/fin_fw1420/MFF_COM-2011-500_Part_I_en.pdf, accessed November 13th, 2012
- European Commission (2012). *Europe 2020: A European strategy for smart, sustainable and inclusive growth*, document available online at <http://ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf>, accessed November 8th, 2012
- European Commission (2012). *Regional Development Fund*, information available online at http://ec.europa.eu/regional_policy/thefunds/regional/index_en.cfm, accessed November 8th, 2012
- European Commission (2010). *Discussion document: A new framework for the tourism policy in the EU*, article available online at http://ec.europa.eu/enterprise/newsroom/cf/_getdocument.cfm?doc_id=5639, accessed November 8th, 2012
- European Commission (2012). *Eurostat Regional Yearbook 2012. Chapter 7: Tourism*, paper available at http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-HA-12-001/EN/KS-HA-12-001-EN.PDF, accessed November 7th, 2012
- European Parliament (2012). *The future of European Tourism*, document available online at http://www.europarl.europa.eu/ftu/pdf/en/FTU_4.16.pdf, accessed November 15th, 2012
- Government of Romania (2007). *National Strategic Reference Framework 2007-2013*, document available online at [http://www.fonduri-ue.ro/res/filepicker_users/cd25a597fd-62/Doc_prog/CSNR/1_CSNR_2007-2013_\(eng.\).pdf](http://www.fonduri-ue.ro/res/filepicker_users/cd25a597fd-62/Doc_prog/CSNR/1_CSNR_2007-2013_(eng.).pdf), accessed November 20th, 2012

- Iordache, C.M., Decuseară, R., Hanciuc, N. (2005). "Efectul multiplicator al turismului", *Analele Universității din Oradea – Științe Economice*, vol. XIV, pp. 243
- Iorgulescu, C., Răvar, A. (2012). „The role of social enterprises in the development of the tourism industry”, *Proceedings of the International Conference on Social Responsibility*, Bucharest
- Kakytcheva, E., Purcell, K. (1995). "Tourism Management in Bulgaria: The challenge of change", Report presented at a scientific conference on Management in Bulgaria – *Contemporary Developments and Practice*, Plovdiv, September 15th
- Ministry of Environment and Sustainable Development (2008). *National Sustainable Development Strategy 2013-2020-2030*, document available online at <http://strategia.ncsd.ro/docs/sndd-final-en.pdf>, accessed November 10th, 2012
- Ministry for Regional Development and Tourism (2012). *Communication no. 76940 addressed to the Parliament – Chamber of Deputies*, available online at www.mdrt.ro, accessed November 5th
- Nedelea, A., Dolipschi, O. (2004). "Administrația publică, turismul și dezvoltarea durabilă", *Revista Transilvană de Științe Administrative*, vol. 1, No. 10, pp. 107-110
- Poon, A. (1993). *Tourism, Technology and Competitive Strategies*, Cabi Publishing, Oxfordshire, United Kingdom
- Poon, A. (1994). "The New Tourism Revolution", *Tourism Management*, vol.15, No. 2, pp. 91-92
- Regional Operational Programme Management Authority (2012). *List of contracted projects – October 31st 2012*, document available at <http://www.inforegio.ro/node/22>, accessed November 20th, 2012
- Romanian National Institute of Statistics (2012). *Sosiri ale turistilor in structuri de primire turistica cu functiuni de cazare turistica, pe tipuri de structuri, tipuri de turisti, pe macroregiuni, regiuni de dezvoltare si judete*, available online at <https://statistici.insse.ro>, accessed November 5th, 2012
- Scutariu, A.L (2009). "Tourism – Economic Growth Factor and Essential Element in the Regional Development of Romania", *Analele Științifice Ale Universității „Alexandru Ioan Cuza” din Iași*, vol. LVI, pp. 319
- Țigu, G., Răvar, A. (2012). "The sustainable development of tourist destinations through social entrepreneurship", *Proceedings of the RESER International Conference on Services and Economic Development – Local and Global Challenges*, Bucharest
- World Tourism Organisation (1994). *National and regional Tourism Planning*, paper available online at <http://pub.world-tourism.org/WebRoot/Store/Shops/Infoshop/Products/1015/1015-1.pdf>, accessed November 9th, 2012, published by Cengage Learning, Connecticut, USA
- World Tourism Organisation, Ministry for Regional Development and Tourism (2007). *National Tourism Development Master Plan for the period 2007-2026*, document available online at http://www.mdrl.ro/_documente/turism/studii_strategii/masterplan_partea1.pdf, accessed November 9th, 2012
- ****Europe, the world's No. 1 tourist destination – a new political framework for tourism in Europe* (2010). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, document available at http://ec.europa.eu/enterprise/sectors/tourism/files/communications/communication2010_en.pdf, accessed November 9th, 2012
- ****Official Journal of the European Union* (2007). "Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community", signed at

Lisbon, 13 December 2007, Vol. 50, C 306 – English edition, ISSN 1725-2423, Bruxelles, Belgium

****Official Journal of the European Union* (2006). “Regulation (EC) No 1080/2006 of the European Parliament and of the Council of 5 July 2006 on the European Regional Development Fund” and repealing Regulation (EC) No 1783/1999, L 210 – English edition, ISSN 1725-2423, Bruxelles, Belgium

Some considerations regarding the use of the fix and chained basis indices

Constantin ANGHELACHE

“Artifex” University, Bucharest
The Bucharest University of Economic Studies
actincon@yahoo.com

Alexandru MANOLE

“Artifex” University, Bucharest
Alexandru.manole@gmail.com

Ion PĂRȚACHI

Academy of Economic Studies of Moldavia, Chisinau
ipartachi@ase.md

Lorand KRALIK

The Bucharest University of Economic Studies
lorand17@gmail.com

Abstract. *In the authors meaning, this work submits the merits of utilizing the chain based system for building up the price indices within the time series comparatively with the utilization of the fix base system. Meantime, the authors are emphasizing the different properties, axioms or tests, which might be satisfied by an index formula.*

Keywords: chain; quantity; formula; measurement; index.

JEL Code: E31.

REL Code: 8F.

The chain system is measuring the price modifications between one period and the following one by using a bilateral index formula, which considers the prices and quantities from both periods. The modifications values within a period (chain connections) are cumulated afterwards in order to get the relative prices out of the entire considered period.

Thus, if the price bilateral index is P , the chain system is generating the following model for the prices values of the first three periods:

$$1, P(p^0, p^1, q^0, q^1), P(p^0, p^1, q^0, q^1) P(p^1, p^2, q^1, q^2)$$

On the contrary, by using the same bilateral formula of the index P , the fix base price system is calculating only the prices values of the period t , relatively to the reference period 0 $P(p^0, p^t, q^0, q^t)$. The outcome shows that the fix base prices model for the periods 0,1 and 2 is:

$$1, P(p^0, p^1, q^0, q^1), P(p^0, p^2, q^0, q^2)$$

To notice that for both systems – chain and fix base – for prices using the above formulas, the value of the price of the reference period is a stable one, considered as 1. For the statistical offices the common practice consists of setting up the value of the price for the reference period at the level of 100. If proceeding likewise, then each of the numbers inserted within the above formulas must be multiplied by 100.

Because of the difficulties occurring as for obtaining the information concerning the quantities for the running period (or, equivalently, the expenses), many of the statistical offices are grounding their consumption prices index on the Laspeyres formula and the fix base system.

Therefore, it is interesting to note a number of the issues that might occur when utilizing the Laspeyres' s indices of fix base.

The main problem when utilizing the Laspeyres' s indices of fix base consists of the fact that the goods basket with fix basis for the period 0, which prices are watched during the period t may many times differ quite significantly from the basket of the period t .

Thus, if there are systematic tendencies for at least a number of prices and quantities of the index basket, then the price Laspeyres' s index of fix base $P_L(p^0, p^t, q^0, q^t)$ may differ significantly from the corresponding Paasche's index, $P_P(p^0, p^t, q^0, q^t)$. This means that, probably, these indices are not the most dequate representation of the average prices movement over the period taken into account.

The quantitative Laspeyres's index of fix base is not always available for utilization; finally, the quantities q^0 from the reference period are so much moving away from the quantities q^t of the current period, that the base must be changed for each period.

The main advantage of the "chain" system is given by the fact that, under normal conditions, the chaining will reduce the outrun between the Paasche and Laspeyres indices.

Each one of these two indices offers an asymmetric perspective on the prices modifications occurring between the two periods taken into consideration. Consequently, the utilization of the chained indices of Laspeyres or Paasche type will lead to a smaller difference between them as well as to estimations much closer to the "reality".

Based on some previous researches – Szulc (1983) and Hill (1988), Hill (1993) noticed that, when the prices fluctuate more or less, it is not appropriate to use the chain system. This phenomenon may occur in the context of seasonal usual fluctuations or of "prices wars". However, in the context of the prices modifications roughly uniform, Hill (1993) recommended the utilization of the chain indices with symmetrical weights. Fisher and Walsh indices are examples of such indices with symmetrical weights.

There are many more explanations available on the conditions under which the chaining may or may not apply. Briefly, the chaining is recommended if the prices and quantities of adjacent periods are close to an extent larger than the prices and quantities of the most remote periods in which case this strategy would lead to the reduction of the gap between the Laspeyres and Paasche indices from each "link" of the chain.

Of course, it is necessary to measure to what extent the prices and quantities of the two periods are similar. These measurements may be relative or absolute. In the case of the absolute comparisons, two vectors of the same dimension are similar if they are identical and non-similar on the contrary. In the case of the relative comparisons, two vectors are similar if they are proportional to each other and non-similar if they are not proportional.

Once the way of measuring the similarity is established, the prices and quantities of each period can be thus compared to each other enabling the drawing of a "tree" or way interconnecting all the observations, where the most similar observations are compared to each other by using a formula of bilateral index.

Hill (1995) alleged the following idea: to the extent the prices structures of two countries are more un-similar, the difference between P_L and P_P is larger; this means that $\{P_L/P_P, P_P/P_L\}$ is bigger. The issue arising out in connection with the measurement of this non-similarity of the prices structure

from the two countries consists of the fact that it might happen that $P_L = P_P$ (in this case Hill's measurement would record a maximum degree of similarity), but p^0 might be very different from p^1 . This is why it is necessary to proceed to a more systematic research of the similarity (or non-similarity) measurements, in order to be able to select "the best one", which might be used in the frame of the Hill's "tree" (2001), the one connecting and comparing the observations to each other.

The method of chained observations, as explained above, grounded on the similarity of the price and quantitative structures of doesn't matter which two observations, might not be practical in the context of a statistical agency since a new period added might lead to a re-ordination of the previous connections. However, the above referred "scientific" method concerning the observations chaining might be useful when is it decided whether to use the chaining or fix base indices in order to achieve the month-to-month comparisons over one year.

Some specialists argued against the utilization of the chaining principle, because this has no corresponding party in a spatial context:

„They (the chained indices) apply to inter-temporary comparisons and, contrary to the direct indices they are not applicable in the situations where there is no order or natural succession. Therefore, the idea of a chained index, for instance, has no correspondent in the frame of the inter-regional or international price comparisons since the countries cannot be arranged in a "logical" or "natural" manner (there is not a country $k + 1$ or $k - 1$ to compare with the country k) (von der Lippe (2001))”.

This allegation is certainly correct but Hill's approach is leading to a "natural" set of spatial connections. Applying the same approach in the context of the time series would lead to a set of chaining between periods not necessary of the month-to-month type but which, in many situations, justify the year-to-year chaining of the data belonging to the same month.

To a certain extent, it is interesting to find out if there are indices formulas that offer the same result irrespectively if using the fix bas system or the chain system.

Comparing the succession of the chain indices defined as above with the corresponding fix base indices, it is obvious that will get the same response for all the three periods, if the formula P of the index is satisfying the following functional equation for all the price and quantitative vectors:

$$P(p^0, p^2, q^0, q^2) = P(p^0, p^1, q^0, q^1) P(p^1, p^2, q^1, q^2)$$

If the formula of a P index satisfies the above equation, then P satisfies the circularity test.

For the situation when the P index formula satisfies certain properties or tests, besides the circularity test mentioned above, Funke, Hacker and Voeller (1979) showed that P must have the following functional formula, initially established by Konus and Byushgens (1926)

$$P_{KB}(p^0, p^1, q^0, q^1) = \prod_{i=1}^n \left(\frac{p_i^1}{p_i^0} \right)^{\alpha_i}$$

where the n constants α_i satisfy the following restrictions:

$$\sum_{i=1}^n \alpha_i = 1 \quad \text{and } \alpha_i > 0 \text{ for } i = 1, \dots, n$$

Otherwise, under very permissive conditions of regularity, the only prices index that satisfies the circularity test is the weighted geometrical average of all the ratios of individual prices, the weights being time constants.

A particular case of the family indices defined by the Funke, Hacker and Voeller equation occurs when all the weights α_i are equal. In this case, PKB came to the Jevons index (1865):

$$P_J(p^0, p^1, q^0, q^1) = \prod_{i=1}^n \left(\frac{p_i^1}{p_i^0} \right)^{\frac{1}{n}}$$

The issue of the indices defined by Konus, Byushgens and Jevons is that the individual prices ratios, p_i^1/p_i^0 , hold weights (α_i or $1/n$) which are independent as against the economical importance of the commodity i within the two periods taken into account. In other words, these weights for prices are independent as against the quantities of the commodity i consumed or against the expenses involved by the commodity i within the two periods. Consequently, these indices are not actually fit for being used by the statistical agencies at higher levels of aggregation whenever we have information connected with the expenses quotas.

The above outcomes indicate that it is not useful to require that the price index P satisfy precisely the circularity test. However, it is somehow interesting to find out indices formulas satisfying the circularity test up to a certain degree of approximation, since the utilization of a such a formula for the index would lead to values of the aggregated prices modification, which are more or less the same, irrespectively is using the chain or fix base system. Fisher (1922)

discovered that, by utilizing his data set and the ideal price index Fisher P_F , the deviations from circularity have been quite small enough. This relatively high degree of correspondence between the chained and the fix base indices is characterizing other symmetrical weighted formulas as well, such as the index Walsh P_W . For most of the applications with time series from the indices theory, where the base year for the fix base indices is changed every five years (approximately), it would not count for too much the fact that the statistical agency applies a fix base index or a chain index considering the fact that a symmetrical weighted formula is used. Of course, the selection between a fix base index and a chain index degree will depend on the length of the time series taken into account and on the variation of the prices and quantities from one period to another. To the extent the prices and quantities are subject of larger fluctuations, the correspondence between the two types of index is smaller.

We can offer a theoretical explanation for the rough success of the circularity test applied to the symmetrical weighted indices formulas. Another symmetrical weighted formula is the Tornqvist P_T index. The natural logarithm of this index is defined as follows:

$$\ln P_T(p^0, p^1, q^0, q^1) = \sum_{i=1}^n \frac{1}{2}(s_i^0 + s_i^1) \ln \left(\frac{p_i^1}{p_i^0} \right)$$

where the expenses quotas s_i^t for the period t are defined.

Alterman, Diewert and Feenstra (1999) showed that the Tornqvist P_T will precisely satisfy the circularity test, provided that the logarithmic ratios of prices $\ln(p_i^t / p_i^{t-1})$ have a linear evolution during the period t , and the expenses quotas s_i^t have a similar evolution over the time. As many economic time series for prices and quantities are roughly satisfying these conditions, the index Tornqvist P_T will satisfy the circularity test with approximation as well. Generally speaking, the Tornqvist index is closely approximating the Fisher and Walsh symmetrical weighted indices, so that for many economic time series (with smooth evolutions) all these three symmetrical weighted indices would satisfy the circularity test with an approximation degree high enough to allow the utilization of the fix base principle or the chain principle without counting too much.

Walsh (1901) presented the following useful alternative for the circularity test:

$$1 = P(p^0, p^1, q^0, q^1) P(p^1, p^2, q^1, q^2) \dots P(p^T, p^0, q^T, q^0)$$

The motivation for this test is the following: we use the bilateral index formula $P(p^0, p^1, q^0, q^1)$ in order to calculate the prices dynamics between the

periods 0 and 1; we apply the same formula bought to the data of the periods 1 and 2, $P(p^1, p^2, q^1, q^2)$, in order to calculate the dynamics (change) of the prices between the periods 1 and 2, . . . ; we use $P(p^{T-1}, p^T, q^{T-1}, q^T)$ in order to calculate the prices dynamics between T-1 and T; we insert an artificial period T+1 that has the same price and quantity from the initial period 0 and apply $P(p^T, p^0, q^T, q^0)$ in order to calculate the prices dynamics from T to 0. Afterwards, we multiply all these indices by one another. Since we came back to the departure point, the product of these indices should ideally count as 1. Diewert (1993) called this test “the multi-period identity test”. To note that if T=2 (so that there are three periods all together), then the Walsh test is reduced to the time reversion test of Fisher.

Walsh (1901) showed the way the circularity test can be used in order to evaluate how “good” any bilateral index formula is. To this purpose, he invented the artificial prices and quantities for five periods and added a sixth period holding the data of the first period. Then he evaluated the right side of the last equation above for various $P(p^0, p^1, q^0, q^1)$, and established how far away of the unit the outcomes were. His “best” results obtained products close to 1.

The framework is used also for evaluating the efficiency of the chain indices as comparatively with their direct homologues. Thus, if the right side of the last equation above proves to differ from unit, it is said that the chained indices are afflicted by the “chain derive”. Sometimes, in case a formula is afflicted by the chain derive, it is recommended too apply to fix base indices instead of the chained ones.

However, if this advice is observed, it will always lead to the choice of fix base indices, provided that the index formula satisfies the circularity identity test, $P(p^0, p^0, q^0, q^0)=1$. Otherwise, it is not recommended to use Walsh circularity test in order to establish whether fix base indices or chained indices are to be used. It is correct to apply to the Walsh circularity test for its genuine purpose, namely as an approximate method to establish how “good” is a certain index formula. In order to decide whether to chain the indices or to use fix base indices, pay attention to the extent the compared observations are similar and chose the method, which would connect to the best the most similar observations.

References

- Anghelache, C. (2008). *Tratat de statistică teoretică și economică*, Editura Economică, București
- Anghelache, C., Voineagu, V. et al. (2012). „About Lowe Index and Mid-year Indices”, *Revista Română de Statistică*, Supliment trim. II/2012, pp. 49-53, ISSN 1018-046x
- Anghelache, C., Gheorghe, M., Nuță, O. (2012). „General Aspects regarding the Dynamics of Prices in Romania”, *Revista Română de Statistică*, Supliment trim. II/2012, pp. 230-238, ISSN 1018-046x
- Biji, E. et al. (2012). *Statistică pentru economiști*, Editura Economică, București

Cultural heritage evaluation: a reappraisal of some critical concepts involved

Mihaela IACOB

The Bucharest University of Economic Studies
miuiacob@yahoo.com

Felicia ALEXANDRU

The Bucharest University of Economic Studies
alexandryafelicia@yahoo.com

Meral KAGITCI

The Bucharest University of Economic Studies
meral_ibraim@yahoo.com

Georgiana Camelia CREȚAN

The Bucharest University of Economic Studies
georgiana_cretan@yahoo.com

Filip IORGULESCU

The Bucharest University of Economic Studies
fileos1984@yahoo.com

Abstract. *This study aims to build a synoptic picture of the facets of the economic category called “value”, with practicality in the tangible cultural heritage field, from the point of view of a traditionally economists-specific approach: concern for the financial sustainability of any decision. Moreover, the methods from the economics literature regarding the valences of the “cultural value” concept prove the obsolescence of the common opinion according to which the economic approach is primarily interested in financial metrics. In as much as the ultimate goal of the scientific process is to identify the most effective cultural heritage preservation and evaluation methods, the study also reflects the public-private interference in this area.*

Keywords: cultural heritage; financial valuation; value subjectivism; economic value; cultural value.

JEL Codes: H23, H41, H43, H82, Q26, Z19.

REL Code: 14K.

Introduction

The mainstream opinion which tends to believe that economists focus too much on financial measures, overlooking the real cultural significance of heritage assets (which make us think about the sense of identity and continuity – heritage assets representing a bridge between the past and the present), proves itself, in fact, inadequate for the present stage of the approaches with respect to this subject in the economics literature. A brief evaluation (of these approaches) demonstrates that there are, indeed, common features between the economic and cultural methods regarding heritage valuation, to the extent that a correct economic evaluation of a heritage project has/should have a significant importance in the decision-making process regarding this area.

Any decision with respect to preservation, restoration or re-use of, for example, an old building, full of symbols, involves limited resources and, consequently, *a ranking of the needs* to be satisfied by them. Once used for heritage maintenance and preservation, they (the resources) cannot go in other alternatives – resulting an *opportunity cost* attached to them.

Heritage assets coming from the past have an objective limitation – not everything can be preserved – and a subjective restriction, generated by consumers' preferences – it is possible they are against the heritage project, if this implies using public funds supplied by their contributions, which are, by excellence, “non-voluntary”.

Any financial revenues resulting from a heritage project should, finally, exceed possible decreases/damages to heritage properties and for this kind of evaluation an entire economic methods instrumentary comes into play.

1. Semantic note: about “heritage” and “value”

Before resorting to applied exercises regarding the dimensions of the heritage assessment process on various types of communities (local, regional, national, universal), a subject that could continue the approach proposed by this article, we will further insist on the general conceptual framework for the heritage evaluation, filtering it through the concepts coming from the conventional economics.

The “heritage” term defines something inherited from the past, and attaching to it the notion of “cultural” (in both anthropologic or sociologic sense and artistic or aesthetic interpretation) its purpose is more clearly defined,

in this way referring to things inherited from past generations, having a certain cultural significance.

From the two components of cultural heritage, *tangible* – buildings, sites, but also paintings, sculptures or artefacts – and, respectively, *intangibles* – traditions, practices, beliefs, works of art such as literature or music –, the subject of our study evolves around the idea of *built tangible heritage*.

But, certainly, the most important notion refers to heritage's *value*, through its significance, the way to determinate it, its role in decision-making process with respect to preservation, restoration or re-use of heritage. In this field, two fundamental distinctions should be acknowledged: between *individual* and *collective value*, and, also, between *private* and *public value*, taking into consideration the subsequent categories of *economic* and *cultural value*.

2. Value: between individual and collective perception

2.1. Individual value

The notion of *value* in economics represented (and, to some extent, still represents) a subject of debate, but, even in these circumstance, the dominant paradigm of neoclassical economics states that it has found the solution for compromise to this problem in an almost unambiguous manner (more than this, an operationalized way in the current practice of public policies, with inertial relative public consensus), identifying value clearly enough as deriving from *individual utility*. This is not the moment for a revision of the literature dedicated to “theory of the value”, but even the claim to have resolved the problem of value and of the operations based on it still incorporates, after “the subjective-ordinalist revolution”, an epistemological taboo regarding inter-subjective measurement, comparison and computing of value/utility.

The fact is that in neoclassical economics, idolized against factual... reality, where society is populated by rational consumers, perfectly informed and maximizing their utility, value results from the exchange process on perfectly functioning markets. Even when it is considered the markets fail (there are monopolies, externalities, public goods), value is given by individual consumers' “willingness-to-pay” expressed for the goods in question.

In principle, individuals can experience heritage by direct consumption (or “use”), by indirect means (“non-use”), or as an external benefit (Hutter, Rizzo, 1997, Schuster et al., 1997, Peacock, 1998, Benhamou, 2003, Rizzo, Throsby, 2006). In this framework, other sides of “value” can be identified – use value, non-use value.

The use value represents the satisfaction felt by individual as a result of direct consumption of the services offered by the heritage asset, which can be experimented in several ways: by owning assets of heritage or by the pleasure of living or working in such a place – this perception is reflected in the market process and can be noticed in the *rental value*, and also by tourists’ visits (in this case, value can be estimated with the help of methods such as *transport/cost analysis*⁽¹⁾).

In estimating the direct use value of the heritage’s qualities (for example, a historical building used for commercial purposes), it has to be noted that the value of the heritage itself is, in fact, a marginal one. For sure, the building would have some rental value even in the absence of its heritage qualities. The rental value of such buildings is greater if people prefer to live or work in them, or smaller, if the building’s design and old facilities don’t suit them. Overall, the data seem to suggest that those direct use values are positive, unsurprisingly, because, usually, heritage properties are desired by individuals who cherish their services and are willing to pay the corresponding price.

The non-use value, or passive use value, is felt by individuals, but not reflected in the market process, since it derives from those attributes of cultural heritage that are known as *non-rival and non-excludable public goods*. A parallel with “the environment economics” could be made, today a subject extremely popular, where substantial progress has been made lately, diversifying and polishing its “non-market valuation” methods (it is worth mentioning these technics have specialized applications, working well in some situations and bad or not at all in others). In this area, three categories of non-use values have been identified relevant likewise for cultural heritage valuation (Throsby, 2003a)⁽²⁾, namely *existence value*, *bequest value* and *option value*.

- *Existence value* derives from the fact that people believe that a good has an intrinsic value, different from the use value, for whose existence they are willing to pay (even if there is the possibility never to use or consume it); satisfaction results because it is known the heritage will continue to exist. People are willing to provide funds to preserve assets of heritage simply because they consider such assets

should be there. Thus, the reason for this altruistic existence value is, generally, of a paternalist nature, emanating from the desire that a good should also be consumed by others, and not from the intention to increase its consumption among community's members.

- If altruism also considers the next generations, the perception regarding the good is equivalent to the *bequest value*, which appears when individual satisfaction derives from the continuing existence of that heritage displaying potential future benefits (known or unknown) to others.
- *Option value* is given by the dimension we attach to the desire to preserve heritage assets in order to leave open the option to consume their services in the future⁽³⁾.

All these types of values are based on, as previously mentioned, *individual willingness-to-pay*, for whose measurement a couple of methods were developed, out of which only two will be briefly presented: *contingent valuation* and *discrete choice modelling*.

Contingent valuation deals with questionnaires, where people can be asked how much they are willing to pay to avoid a destructive action to a heritage asset, or, alternatively, what compensation would they require to accept such a situation. The resulting average of willingness-to-pay is then multiplied by the relevant population to estimate the total value of the willingness-to-pay. The biggest advantage of this approach is that it can be applied to any evaluation problem, including where other methods already exist. Although, at first sight, the method looks simple, it is not problem-free: respondents can find out from the interrogators the most part of the information; respondents can be influenced by their own interest; answers are affected by the fact that the market is a hypothetical one, that is not necessarily real; and, not least, the way in which information is presented can influence individual responses. In addition, it has been observed that people have the same willingness-to-pay both for a part of the evaluated good and the whole good. Accordingly, the results of these studies are often contested, ranging in a large interval.

Discrete choice modelling can be used to compare a range of choices (as opposed to contingent valuation, which, generally, is restricted to comparing a single choice with a current situation). The heritage asset is described as a set of attributes, where each attribute can have many possible values, in a given

interval. All attributes' combinations are aggregated to build a matrix of possible scenarios for the asset. Interviewees are presented approximately 8-10 sets, each consisting of, usually, two hypothetical options and a given situation (*status quo*) and are asked to select the one they prefer.

There is also a third type of value for cultural heritage felt by individuals, different somehow from the first two categories, although it has both *use* and *non-use* value characteristics, emerging from the fact heritage can generate positive externalities (if, for example, those passing by a heritage building enjoy its aesthetic and historical qualities). Even if, as a rule, the economic value of such an *external benefit* could be estimated, in real life this can be hard to achieve. Nevertheless, positive externalities are an identifiable and potentially significant value for heritage.

2.2. Collective value

In economics literature, emanating from the need to comprehensively answer pragmatic exigencies, it has been addressed the question if there are *collective benefits* with respect to heritage assets that are not considered relevant by individuals, but which can still be important for decision-making. It can be thought only individuals' opinion matter, but one cannot stop wonder if the standard economic model really takes into account all the features of cultural heritage which reflect what is known as *its cultural significance*. These statements bring into light an alternative approach that accounts for the concept of *cultural value* in addition to *the economic value* (referred to in the above section) the assets possess. In this framework, cultural value represents a complex concept grouping qualities such as aesthetics, symbolism, spiritual or historical value. To some extent, such features can affect the asset's individual valuation and can be transferred to the corresponding economic analysis. These values can be fully understood in collective terms, without being substantially accounted for in individual monetary valuations⁽⁴⁾.

Dissecting cultural value into its constituting elements, the following subsequent categories can be noted (Throsby, 2006): *aesthetic value*, *spiritual value*, *social value*, *historical value*, *symbolic value*, *authenticity value*.

- *Aesthetic value* refers to qualities generically labelled as "beautiful" a heritage asset possesses, regardless if these qualities are intrinsic or are perceived as such by the consumer.

- *Spiritual value* transcends the objectivity and can contribute to the sense of identity of a community, an individual member of the community or a visitor joining it, offering them cultural confidence and a bond between local and global environment. Understanding and intercultural dialogue emerge from the awareness regarding the existence of similar spiritual value provided by other communities.
- The interpretation of culture as values and beliefs shared by the same group suggests that heritage's *social value* can be reflected in the social stability and cohesion of the community. That asset puts its mark on the community's living style helping to identify those values which make that community a desired place to live and work in.
- *Historical value* is, without any doubt, intrinsic to heritage, being easily identifiable from an objective point of view. Its main benefit is it helps defining identity, making the link with the past, helping to understand the present and designing plans for the future.
- With respect to *symbolic value*, a heritage can transmit some significances⁽⁵⁾ and information which help community to interpret its identity and to express its cultural personality.
- And, not least, *authenticity value* refers to the fact that heritage can be appreciated for its own properties, being real and unique. Protecting its integrity, given those qualities, can be a significant restraint when making a decision alongside taking into account the cultural value.

If the right tools for measuring cultural value existed, then, at least in principle, a parallel could be made with the economic analysis, applying the standard methodology of cost-benefit analysis⁽⁶⁾ to estimate flows of cultural benefits provided by a project. But this objective is hard to achieve when there are yet to be developed the needed metric systems.

3. Value: between private and public

A second fundamentally important distinction for cultural heritage value is between *private* and *public value* (between private and public interests), distinction finally translated into the desired property regime, being most easily observed in the listing process (putting on the heritage objectives list). Listing has a direct impact on private heritage owners (regarding costs for respecting regulations or regarding lost opportunities for development), but in the same

time also influences the public value (the essential aim of the listing process is to protect heritage's non-market benefits as they are felt by public at large). The problem being a distributional one (accounting for beneficiaries and losers), cost-benefit analysis is considered to be appropriate for costs and benefits evaluation.

The distinction between the two values is recognized in the larger field of investment evaluation, where the difference between *private* and *social cost-benefit analysis* is rightly understood. In the case of a heritage project such as preservation or re-use of a private property, a cost-benefit analysis undertaken from a private point of view would analyse financial flows or opportunities costs as they are experienced by the individual owner. For a social cost-benefit analysis of the same project, some adjustments have to be considered: taking into account taxes/subsidies and transfers⁽⁷⁾; using shadow prices, not market prices⁽⁸⁾; using a smaller discount rate to reflect the social time preference; the inclusion of all non-market effects (public goods and externalities); and, in the end, recognizing, if possible, each cultural value or collective benefit not accounted for until now.

It should be remembered that, regardless of the level cost-benefit analysis is undertaken at, it only represents a small part of the information needed to be gathered in the complex process of decision-making.

It is considered that, for public purposes, the social evaluation should come first, public authorities watching over the public interest, but, all the while, the legitimate rights regarding the private property regime of individuals and firms need to be respected, issue that seldom is a source for conflict between heritage-listing authorities and private owners.

Final considerations

The paper concentrates on presenting the conceptual framework and on underling the fundamental role of the "value" notion in the heritage area, the importance of distinguishing between different types of value being all the while stressed out. In the same time, it has been insisted on the prospects and limits of the measuring methods and tools, in the decision-making process with regard to technical actions, such as listing, or allocation of funds for preservation and restoration. Although various methods of economic analysis can be adapted to our subject (*transport/cost method, contingent valuation, cost-benefit analysis*), trying to also take into account the cultural value (with

its subsequent components), alongside the economic one, the valuation field still needs to be developed with respect to market-based tools, non-market effect estimation, with the inclusion of those features of cultural value not contained in the standard economic analysis. Solving these problems and finding the proper (policy) solutions are highly connected to cooperation between economists and heritage experts, given its multidimensional nature, but, prior to this, there is always a strong need for avoiding conceptual misrepresentation of the realities.

Acknowledgements

This paper is supported by Research Project no. 92-119/2008, entitled, “Valorificarea și managementul patrimoniului construit în context intercultural – PATRIV@L”, Program 4 “Parteneriate în domeniile prioritare” 2007-2013, financed by UEFISCDI. A shorter version, entitled “Evaluation of Cultural Heritage – from the Epistemological Precautions to Pragmatic Approaches”, was presented at the International Conference Modern Approaches in Organization’s Management and Economy, 5th edition, 24-25th November 2011, Bucharest, Romania, organized by Bucharest University of Economics – Faculty of Management, The Management Department, in partnership with The Management Academic Society from Romania and The National Council of Private Small and Medium Enterprises from Romania.

Notes

- ⁽¹⁾ Transport/cost analysis uses prices for goods that have a market they are exchanged on in order to determine the value for non-marketable goods. The costs for marketable goods are those paid by the person who wishes to recreate in order to reach the destination and enjoy her activity. The needed equipment, access taxes, food, time spent, cost of the hotel, parking fees, visits’ frequency and other costs are also included, and based on these information the aim is to design a demand curve for the recreational activity. All of these define a minimal value for the good in question. Regardless of the real value of the experience itself, it cannot be smaller than what the person has paid to take part at the event. Because individuals have to use the location to reveal their preference for it, the method is limited to certain use values, especially regarding location-specific activities, and cannot measure non-use values, this being, in fact,

its greatest disadvantage (alongside other faults: the limited capacity to measure the values of individual attributes; the complications in evaluating a journey with several destinations or purposes; distortions if the substitutable visiting places are not correctly incorporated in the analysis). Among its strengths, there are mentioned the relative easiness of usage and the fact that it takes into consideration the current relevant observations for preferences.

- (2) The concepts of natural capital and cultural capital are parallelly comparable. The first consists of natural resources, natural ecosystems and biodiversity, while cultural capital, in economic sense, consists of cultural assets (both tangible and intangible), cultural “ecosystems” or networks and cultural diversity. Additionally, the parallel extends also to the area of sustainable resources management: the well-known paradigm of ecologically sustainable development has its counterpart in the relatively new concept of culturally sustainable development.
- (3) Option value is recognized as a significant form of environment resources’ benefits, like coral reef and forests, as pharmaceutical and medical uses are being discovered. Closely related to this value are the concepts of uncertainty and irreversibility. There are uncertainties regarding possible future discoveries and bio-technological process due to ecosystems, which would be lost if their irreversible destruction is permitted. In this manner, a valuable gain can be obtained by postponing any action or decision that would cause irreversible deterioration. Economists recognize and quantify this “cvasi-option value” – notion introduced for the first time by Kenneth J. Arrow and Anthony C. Fisher (1974) – in other fields of economics, especially finance. According to them, cvasi-option value can be quantified in the context of explicitly formulating a multi-temporal decision problem, where the information needed to resolve the problem could be obtained at the end of these periods.
- (4) For example (Throsby, 2007), the notion of identity. Cultural heritage is important because it expresses the identity of a country, being difficult to put this aspect into willingness-to-pay terms. But this identity is valuable for society as a whole, clearly influencing decisions regarding cultural heritage.
- (5) Which can be important for the educational function, not only for young people, but for developing the knowledge basis and the understanding level of the whole community.
- (6) According to the common definition, cost-benefit analysis (CBA) estimates and aggregates the monetary equivalent of present and future social costs and benefits, from citizens’ point of view, regarding public investment projects (PIP), discounted and compared, in order to decide whether the projects in question are in the public interest (Iacob, Crețan, 2009). Because all cost and benefits of society as a whole are taken into account, it is usually known as social cost-benefit analysis.
- (7) Cost-benefit analysis only refers to resources that are created or consumed, excluding those resources which are transferred from one part of the economy to another, because, on the whole, at society’s level, there is no gain or loss. From the private’s sector point of view, taxes are costs. At government’s level, these redistribute revenues. To determine if taxes are to be considered transfer or consumption, it has to be known the point of view from which the transaction is looked at (if resources come from new supplies, the most appropriate way is to use the producer’s supply price, which represents the value of consumed resources and is equivalent to the price paid by other users, extracting the taxes and adding the subsidies; if production is expected to remain constant, then resources are obtained by depriving other

consumers, and the cost correct measurement is given by inputs value in alternative uses or by the producer's supply price, adding the taxes and extracting the subsidies (the price paid by the consumer)). Sometimes, subsidies or indirect taxes try to correct external spillovers. In these situations, such taxes can be included in the project's costs, paying attention not to double count.

- (8) If the cost-benefit analysis is done from the society's point of view, to better express social costs and benefits, social or real prices are used instead, known also as shadow prices, as market prices are considered "distorted" for the objective of cost-benefit analysis. The situations in which the shadow prices may substantially differ from the market prices are (Treasury Board of Canada Secretariat, 1998): (i) when the currency is wrongly valued because of the exchange rate control; (ii) when wages are kept artificially at a high level by the unions' pressure or by legislation, even if there is unemployment; (iii) when there are anti-competitive conditions, monopoly or monopsony; (iv) when taxes or tariffs are applied directly on goods and services, such as value added tax; (v) when the government regulates, controls or subsidizes prices. Moreover, shadow prices are as well used when benefits cannot be directly expressed in monetary terms, because a market to exchange those goods does not exist.

References

- Benhamou, Françoise (2003). *Heritage*, in Towse (ed.) (2003), pp. 255-262
- Boardman et al. (2001). *Analiza Cost-Beneficiu. Concepte și Practică*, Second Edition, ARC Publishers, Chișinău
- Campbell, H.F., Brown, R.P.C. (2003). *Benefit-Cost Analysis: Financial and Economic Appraisal using Spreadsheets*, Cambridge University Press Guide to Cost Benefit Analysis of Investment Projects, 2008
- Gruber, J. (2005). *Public Finance and Public Policy*, Massachusetts Institute of Technology, Worth Publishers
- Hutter, M., Ilde, R. (1997). *Economic Perspectives of Cultural Heritage*, London: Macmillan
- Iacob, Mihaela, Crețan, Georgiana Camelia (2009). "Some remarks on the "evaluation problem" in cost-benefit analytics", paper presented at the 10th International Conference *Finance and Economic Stability in the Financial Crisis Context*, Bucharest University of Economics, Faculty of Finance, Insurance, Banking and Stock Exchange, December 11-12 2009, published in *Supliment Economie Teoretică și Aplicată*, Volume 2010, pp. 153-160, ISSN:1841-8678
- Krutilla, J.V. (1967). "Conservation Reconsidered", *American Economic Review*, 57, No. 4, pp. 777-786
- Mishan, E.J., Quah, E. (2007). *Cost-Benefit Analysis*, fifth Edition, Routledge, Oxon
- Peacock, A. (ed.) (1998). *Does the Past Have a Future? The Political Economy of Heritage*, London: Institute of Economic Affairs

- Rizzo, Ilde, Throsby, D. (2006). Cultural heritage: economic analysis and public policy, in Victor Ginsburgh and David Throsby (eds.), *Handbook of the Economics of Art and Culture*, Amsterdam: Elsevier/North-Holland, pp. 983-1016
- Schuster, J.M., John de Moncheaux, Riley II, C.A. (eds.) (1997). *Preserving the Built Heritage: Tools for Implementation*, Hanover NH: University Press of New England and the Salzburg Seminar
- Throsby, D. (2003a). *Cultural sustainability*, in Towse (ed.) (2003), pp. 183-186
- Throsby, D. (2003b). "Determining the value of cultural goods: how much (or how little) does contingent valuation tell us?", *Journal of Cultural Economics*, 27(3-4), pp. 275-285
- Throsby, D. (2006). "Paying for the past: Economics, Cultural Heritage and Public Policy", http://www.businessandconomics.mq.edu.au/faculty_docs/news_files/throsby_fisher.pdf
- Throsby, D. (2007). The Value of Heritage, *Heritage Economics Workshop*. ANU, 11-12 October. <http://www.environment.gov.au/heritage/publications/strategy/pubs/economics-value.pdf>

Romanian government bond market

Cornelia POP

Babes-Bolyai University, Cluj-Napoca
cornelia.pop@tbs.ubbcluj.ro

Maria-Andrada GEORGESCU

National University of Political Studies and Public Administration, Bucharest
andradageor@yahoo.com

Iustin Atanasiu POP

Babes-Bolyai University, Cluj-Napoca
iustin.pop@tbs.ubbcluj.ro

Abstract. *The present paper aims to present the level of development reached by Romanian government bond market segment, as part of the country financial market. The analysis will be descriptive (the data series available for Romania are short), based on the secondary data offered by the official bodies involved in the process of issuing and trading the Romanian government bonds (Romanian Ministry of Public Finance, Romanian National Bank and Bucharest Stock Exchange), and also on secondary data provided by the Federation of European Stock Exchanges.*

To enhance the market credibility as a benchmark, a various combination of measures is necessary; among these measures are mentioned: the extension of the yield curve; the issuance calendars in order to improve transparency; increasing the disclosure of information on public debt issuance and statistics; holding regular meetings with dealers, institutional investors and rating agencies; introducing a system of primary dealers; establishing a repurchase (repo) market in the government bond market. These measures will be discussed based on the evolution presented inside the paper.

The paper conclude with the fact that, until now, the Romanian government bond market did not provide a benchmark for the domestic financial market and that further efforts are needed in order to increase the government bond market transparency and liquidity.

Keywords: government bond; primary market; secondary market; Romania.

JEL Codes: H74, G18, G12, G10.

REL Code: 11B.

1. Introduction and a brief review of literature

Blanco (2001) highlight in his paper the importance of government bond markets for central banks and private agents. He also shows that the minimal credit risk, high market liquidity, and a wide range of maturities are the characteristics that distinguish government securities from other securities. Mohanty (2002) shows the benefits of a liquid government bond market within emerging economies and the fact that those benefits go beyond financing government deficits at lower costs. The author also discusses what governments can do to promote liquidity in government bond markets. Luengnaruemitchai and Ong (2005) also highlight the critical role the benchmarks provided by government debt securities in the development of any domestic bond market.

In September 2002, in its Global Financial Stability Reports, the International Monetary Fund (IMF) mentioned the growth of emerging local bond markets starting with 1997. Focusing on Central and Eastern Europe, only the developments of the government bond markets in Czech Republic, Hungary and Poland (called also CEE-3) were mentioned. Those developments were supported, in IMF view, by strong institutional development, in particular by the early establishment of public debt management agencies (IMF, 2002). The same idea is highlighted by Iorgova and Ong (2008) when they comment that government bond markets in CEE-3 countries are among the most developed in the region. These three countries have established comprehensive and relative liquid government bond market segments through a gradual increase of long term issuances (Szilagy et al., 2004). Iorgova and Ong (2008) comment further that the government issuances have been limited in Romania, Russia and Ukraine constraining growth and liquidity in respective markets.

Taking into consideration the importance a domestic government market has, the further development of debt market in Central and Eastern European Union countries should have as main objective to encourage their respective central, regional and local governments to consider bond finance as an important way for regional and local project investments. Also, a closer relationship between the local/regional/central authorities and the capital markets could enhance the quality and the efficiency of financed projects and encourage long term financial planning. Romania, as part of this group of countries, should follow this trend in order to provide to domestic and international investors alike an improved financial market environment.

The academic literature regarding debt markets is vast. An important share of this literature is dedicated to the European sovereign debt markets. Among the recent studies we mention Blanco (2001) and Pagano and Von

Thadden (2008) which discuss the European debt markets under EMU. Dunne et al. (2006) and Paesani and Piga (2007) discuss the transparency and liquidity of European bond markets. Dunne et al. (2008) discuss the microstructure of European sovereign bond markets. More in tune with the current study would have been dedicated regional studies on Central and Eastern European countries debt markets; here the literature is scarce; we were able to find only the study of Roldos (2004). Also of interest would have been dedicated country studies on neighboring debt markets; we were able to find only the study of Gyorgy (2002) on Hungarian debt market.

The literature regarding Romanian bond market, in general, is relatively scarce and appeared only starting with 2004. One of the first studies presenting the details of Romanian municipal bond market was that of Pop and Dumbrava (2004). The study of Skully and Brown (2006) had a special section dedicated to Romanian bond market and a subsection for the municipal bonds. Corduneanu and Milos (2008), Grecu (2008), Mosteanu and Lacatus (2008), Matei et al. (2009) are Romanian academic studies dealing with some aspects of Romanian bond market. Only one study (Bunescu, 2009) deals with a specific municipal bond issue in its trial for a detailed analysis. An in-depth analysis of Romanian municipal bond market was made by Pop and Georgescu (2011). Pop and Georgescu (2012) also provided a study with a section dedicated to Treasury bond market segment at Bucharest Stock Exchange.

The current paper will add to the existing literature an extensive study on Romanian government security market. The paper is structured as follow: in section two presents a brief overview on Romania's position among neighboring countries when domestic bond market is taken into consideration; section three presents the development of Romanian government security market during the 1990s until present days. Section four is dedicated to discussions and conclusions. The paper conclude with the fact that, until now, the Romanian government bond market did not provide a benchmark for the domestic financial market and that further efforts are needed in order to increase the government bond market transparency and liquidity.

2. Government securities within European selected new accession countries' level: a brief overview

One of the most followed ratios at European level, as one of the Maastricht criteria, is the general government debt as percentage of GDP. The average figures for the period between 1999 and 2011 are presented in Table 1, below, while details can be found in Annex 1.

Table 1

General government gross debt as % of GDP (selected countries)

	EU-27	EU-12	Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovakia	Slovenia
Average for 1999 to 2011	65.8	38.6	36.7	29.3	65.0	46.0	21.3	39.7	29.8

Source: based on data provided by EUROSTAT.

http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/data/main_tables;code=teina225

At EU-27 level, the general government gross debt as percentage of GDP average was 65.2%, with an important increase in 2009, 2010, and 2011, under the influence of global financial crisis. The same figure for the new EU-12 (accession countries of 2004 and 2007) was lower, reaching in average 38.6%, and following the same trend of increasing level for 2009, 2010, and 2011. Romania is the only country which for the reported period had an average around 21% (the lowest from the set of selected countries). Taking this ratio into consideration, Romanian government securities should be attractive, since the country is supposedly preserved its capacity to pay the assumed debt obligations. Thus, as the paragraphs below will show, Romania domestic government security market seems was not able to capitalize on this advantage.

As Annex 3 shows, when the domestic public bond sector at Bucharest Stock Exchange is compared with the similar sectors developed within the exchanges in the neighboring countries, it can be seen that the Romanian stock exchange bond market segment has an important gap in what the trading volume is concerned and it is well behind the turnover registered by exchanges like Bratislava and Prague.

The relative modest profile of the domestic public bond sector at Bucharest Stock Exchange can be explained by the late introduction of the Treasury bonds (seven years after the bond sector was launched). Lacking the benchmark the Treasury bonds could have offered, it was only natural for investors to avoid the bond sector.

3. Romanian domestic government securities market

3.1. Government security issuance

The first issues of Romanian government securities could be traced back to March 1994, based on the data provided by Romanian National Bank (RNB) in its annual and monthly reports.

As it can be seen from Table 2, Romanian Ministry of Public Finance (MoPF) gave preference to short term securities and issued mainly Treasury bills with discount and Treasury certificate denominated in Romanian lei. The

issuance of Treasury certificates was discontinued in 2001 and during the past 11 years only Treasury bills were issued; this shows that Romanian government tries to be in concordance with practices all over the developed and emerging economies, when the short-term issues are concerned.

The issuance of Treasury notes and bonds started only in 1999; as Table 2 shows, the value of medium and long term security issues was almost all the time under the value of short-term security issues, with the only exceptions of years 2005 and 2012. During 2006, due to the good economic conditions and an increased in central budget revenues, Romanian Government did not issue any security denominated in Romanian lei. A reason that might also have an influence on the lack of government domestic securities issuance was the fact that, starting with July 1st 2005, the national currency denomination took place; 10,000 old Romanian lei were replaced by 1 new Romanian leu (RON). During 2006, the old lei were gradually replaced by new lei. Another reason might be the fact that 2006 was the year that preceded the Romania's accession to European Union (EU) and the Romanian MoPF tried to harmonize its issuance and reporting practice with those required at EU level.

Table 2

Romanian government security new and re-new issues, denominated in the national currency (RON) – as reported by Romanian National Bank (RNB)

Year	Short term				Medium and long term			
	Treasury bills (discount)		Treasury certificates		Treasury notes and bonds (fix interest rate)		Treasury notes and bonds with flexible/variable interest rate	
	Nominal value (mil. RON)	Yield* (%)	Nominal value (mil. RON)	Coupon yield* (%)	Nominal value (mil. RON)	Coupon yield* (%)	Nominal value (mil. RON)	Coupon yield* (%)
1994	90.8	n/a	-	-	-	-	-	-
1995	699.9	n/a	-	-	-	-	-	-
1996	183.2	53.8	629.5	52.9	-	-	-	-
1997	462.9	55.7	2,507.7	103.0	-	-	-	-
1998	2,711.0	53.2	1,436.3	83.1	-	-	-	-
1999	5,749.8	75.8	1,339.6	81.1	1,349.4	63.7	-	-
2000	7,062.2	52.3	1,711.8	48.5	434.0	49.6	-	-
2001	7,404.1	42.2	3.8	37.0	73.5	42.0	-	-
2002	5,408.8	27.2	-	-	549.0	22.3	-	-
2003	4,062.9	16.2	-	-	967.6	14.2	51.9	5.0
2004	5,329.0	17.9	-	-	340.4	12.8	74.4	4.8
2005	150.7	6.4	-	-	2,804.8	7.5	10.0	2.0
2006	-	-	-	-	-	-	-	-
2007	5,194.0	6.9	-	-	4,323.4	7.0	-	-
2008	8,868.3	11.3	-	-	3,592.6	10.5	-	-
2009	56,259.2	10.9	-	-	8,466.8	10.9	-	-
2010	33,565.7	7.0	-	-	7,514.6	7.2	-	-
2011	38,324.2	6.7	-	-	13,096.5	7.3	-	-
2012 (June)	17,009.8	5.4	-	-	18,964.4	6.2	-	-

*annual average

Source: RNB data (monthly bulletins).

For the domestic market, the Romanian MoPF also issued securities denominated in USD, DEM, and EUR. The issuance of USD denominated Treasury bonds started in 1998. Since 2006 no USD denominated issues were offered on the domestic market. Starting with 2006, EUR became the main currency against which Romanian leu exchange rate is reported due to the approaching expected accession to EU. From Table 3a it can be seen that the issues of Treasury bonds denominated in EUR for the domestic market started only in 2009 and for two years, there was a balance between the short term and long term issued securities.

Table 3

**Domestic government securities new and re-new issues
denominated in USD, DEM and EUR – as reported by RNB**

Year	Denominated in USD				Denominated in DEM			
	Treasury certificates		Treasury notes and bonds		Treasury certificates		Treasury notes and bonds	
	Nominal value (mil. USD)	Interest rate* (%)	Nominal value (mil. USD)	Interest rate* (%)	Nominal value (mil. DEM)	Interest rate* (%)	Nominal value (mil. DEM)	Interest rate* (%)
1994	-	-	-	-	-	-	-	-
1995	-	-	-	-	-	-	-	-
1996	-	-	-	-	-	-	-	-
1997	-	-	-	-	-	-	-	-
1998	-	-	352.90	7.75	-	-	-	-
1999	-	-	600.39	6.86	-	-	-	-
2000	-	-	76.43	5.58	-	-	21.4	5.90
2001	-	-	332.98	5.18	-	-	-	-
2002	305.88	5.00	16.37	5.00	-	-	-	-
2003	-	-	344.40	4.92	-	-	-	-
2004	-	-	11.30	5.00	-	-	-	-
2005	-	-	4.00	5.00	-	-	-	-
2006	-	-	-	-	-	-	-	-
2007	-	-	-	-	-	-	-	-
2008	-	-	-	-	-	-	-	-
2009	-	-	-	-	-	-	-	-
2010	-	-	-	-	-	-	-	-
2011	-	-	-	-	-	-	-	-
2012 (June)	-	-	-	-	-	-	-	-

*annual average.

Source: RNB data (monthly bulletins).

Table 3a: continue

Year	Denominated in EUR			
	Treasury certificates		Treasury notes and bonds	
	Nominal value (mil. EUR)	Interest rate* (%)	Nominal value (mil. EUR)	Interest rate* (%)
1994	-	-	-	-
1995	-	-	-	-
1996	-	-	-	-
1997	-	-	-	-
1998	-	-	-	-
1999	-	-	-	-
2000	-	-	-	-
2001	-	-	-	-
2002	-	-	-	-
2003	-	-	-	-
2004	-	-	-	-
2005	-	-	-	-
2006	-	-	-	-
2007	-	-	-	-
2008	-	-	-	-
2009	1,423.30	4.25	1,240.80	5.25
2010	1,273.20	4.90	1,319.60	4.80
2011	-	-	1,401.80	4.87
2012 (June)	-	-	-	-

*annual average.

Source: RNB data (monthly bulletins).

As Table 4 shows, the information provided by the Romanian MoPF is available only starting with the end of the year 2000. It also does provide data only at the level of the outstanding amount of debt at the end of every period. As it can be seen, Romanian government debt is still well below the 60% of GDP, the maximum level established by the Maastricht Treaty. It grew over 35% only in 2011 and during over the first half of 2012 due to the increased financing needs (mainly for short term, as can be seen from Table 2 above) under the pressure generated by the global financial crisis. This situation can be considered a good one for Romania's position as a borrower and there were no problems with Romanian domestic government securities to follow the scheduled interest rate payments or reimbursement.

As it can be seen, until 2008, less than 25% of domestic government debt was financed through the issuance of short and medium/long-term Treasury securities. The situation changed starting with 2009, and by June 2012 about 45% of the domestic government debt was financed through Treasury securities.

The situation presented in Table 4 shows a reluctance of Romanian MoPF (at least until 2008) to use Treasury securities as a vehicle to finance its internal debt. While no official information exists on this subject, there is reasonable to presume that the transparency required by the issuance of Treasury bills and

bonds and the need to follow the payment schedule might have been at least one motive for which the use of Treasury securities was avoided, despite the continuous requests made (since 1998) by Romanian capital market authorities for the listing of Treasury bills and Treasury bonds at Bucharest Stock Exchange.

Table 4

**Information regarding Romanian government internal debt
as provided by the Romanian MoPF**

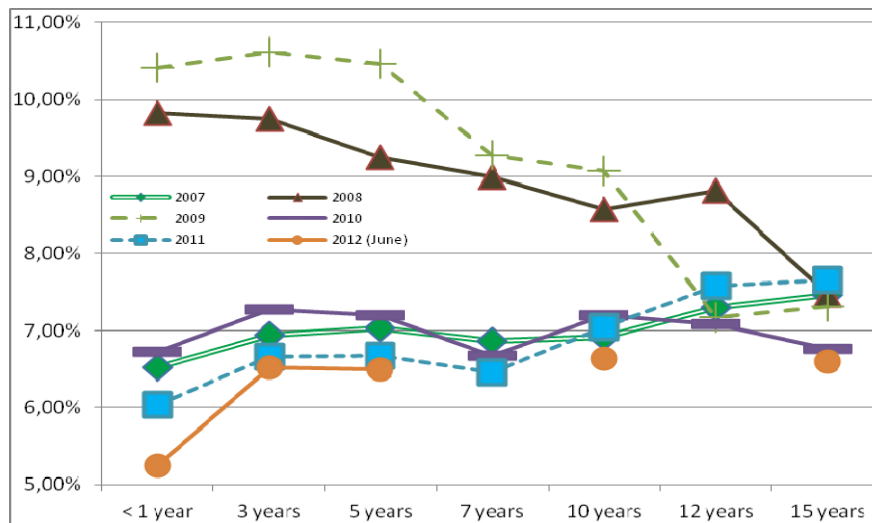
Year	Romanian government debt			Romanian government debt	
	Outstanding amount at the end of period		% of GDP	Financed through Treasury bills and certificate issues (denominated in RON and EUR) - % of the outstanding amount	Financed through Treasury notes and bonds (denominated in RON and EUR) - % of the outstanding amount
	(mil. RON)	(mil. EUR) ⁽¹⁾	%	%	%
2000	25,285.5	12,677.99	31.22	12.95	10.72
2001	33,776.4	12,974.46	28.64	14.15	8.00
2002	43,793.8	14,014.02	28.81	13.69	6.01
2003	51,136.6	13,616.09	25.90	8.46	5.43
2004	55,147.3	13,605.87	22.29	10.92	4.52
2005	56,381.8	15,560.47	19.51	2.37	7.95
2006	59,868.5	16,986.86	17.37	1.81	5.24
2007	76,149.6	22,817.73	18.30	3.30	9.04
2008	100,556.4	27,304.33	19.54	8.06	9.45
2009	136,493.8	32,212.45	27.24	17.17	16.96
2010	182,510.3	43,352.64	34.93	17.89	18.64
2011	210,388.6	49,630.49	36.36	16.03	23.82
2012 (June)	219,100.9	49,637.72	36.06	13.88	30.77
Average			26.63	10.82	12.04

Source: based on data provided by the Romanian MoPF.

(http://discutii.mfinante.ro/static/10/Mfp/buletin/executii/Structura_dat_pub_2000-2012iunie.pdf)

While the level of transparency increased starting with the second half of 2007 when Romanian MoPF created a special link for Treasury and Public Debt from its main website page (<http://www.mfinante.ro/trezorengl.html?pagina=domenii>), where gradually reports were uploaded up until December 2001, and a centralized table providing information until December 2000, a lot of details are still missing. No complete and ready available list for the government security issues exist; some partial information might be obtained from the RNB and, sometimes, from the MoPF, but it lacks continuity. No possibility to gather data on the Treasury securities maturities could be identified, and, as follow, there is no possibility to have an extended and detailed yield curve.

A yield curve is available only since July 2007 and is based on the issued and outstanding Treasury notes and Treasury bonds. As it can be seen from Figure 1, the available yield curve does not give any details for maturities less than one year, which is of no help for investors who are looking for the risk free rate at Romania's level.



Source: authors' calculations based on the data provided by the MoPF.

Figure 1. Romanian yield curve (end of the year/period)

However, this situation is an improvement compared with the fact that since 1994 until 2007 it was almost impossible to trace a yield curve for Romania. It is reasonable to expect for the future an increase in transparency and a more detailed yield curve, including for short-term periods.

Primary and secondary market

Since March 1994, when the first Romanian domestic Treasury securities were issued, a primary market was organized for them by RNB (Romanian National Bank), in its capacity as state agent. This primary market is based on auctions; between 1996 and 2001, some public offerings for Romanian population were launched on the market, but no details are available.

The current format of primary market is based on the presence of primary dealers authorized by RNB goes back to 2001. These primary dealers are Romanian banks or foreign banks which have authorized branches in Romania. Currently, 12 primary dealers are operating on the Treasury securities' primary

market; their list is available on the following link: <http://www.bnro.ro/Lista-dealerilor-primari-5754.aspx>. Of these 12 primary dealers, 10 are Romanian banks (of a total of 30 Romanian banks) and two are branches of foreign banks authorized to operate in Romania (of a total of eight such foreign branches). The number and structure of primary dealers cannot be traced back, since no past data are available on RNB website.

The data provided by RNB regarding the primary market are available only since 2005 and are difficult to read because no details or explanations are given.

A secondary (inter-bank) market for trading Romanian Treasury securities was also organized under the RNB supervision and with RNB participation starting with 1996, when the volume of short-term Treasury bills and certificates reached the mass that allowed the existence of a secondary market. However, no details are available for the period 1996-1999 regarding the daily transactions.

RNB offer some data regarding the trades on this secondary market starting with the year 2000; though the data are available daily, there are no details (there is no information by type of security traded and no data regarding the price for transactions per security; therefore it is not possible to establish which of the Treasury securities are most traded). Between 2001 and 2007, Romanian MoPF provided some additional data regarding the number of transactions and the liquidity, though the report format changed and these data were eliminated from the new reports.

Based on data provided by RNB regarding the secondary (inter-bank) market for domestic Treasury securities, the Tables 5 and 5a were constructed. As it can be seen, the trading volume between 2000 and 2005, while above the current level, generated a modest trading value. The lowest level was reached in 2006 when no new Treasury securities were issued. While the volume continued to remain modest, the turnover almost 'exploded' in 2009 (compared with the previous nine years). This increase in turnover might have two motives: the effect of the financial crisis which made investors to seek alternative investments, and the fact that a number of 25 series of Treasury bonds start trading on Bucharest Stock Exchange platform and the secondary (inter-bank) market provided a place for further speculation and arbitrage transactions.

Table 5

**Trading data for the secondary (inter-bank) market for T-securities
denominated in RON**

Year	Volume	Value (mil. RON)	Value (mil. EUR) ⁽¹⁾
2000	19,572	27,851.2	13,694.70
2001	27,849	43,221.6	16,602.62
2002	32,362	47,454.0	15,185.28
2003	23,443	32,866.6	8,751.36
2004	25,692	48,411.4	11,943.99
2005	10,564	21,124.7	5,830.08
2006	3,115	8,050.1	2,284.11
2007	3,371	36,456.5	10,923.95
2008	5,836	33,995.1	9,230.78
2009	7,215	461,806.1	108,985.93
2010	8,875	197,810.0	46,986.86
2011	17,231	325,469.6	76,777.99
2012 (June 30 th)	10,260	798,748.9	180,958.07

Source: based on the information provided by RNB at <http://www.bnr.ro/Raport-statistic-606.aspx>.

Table 5a

**Trading data for the secondary (inter-bank) market for T-securities
denominated in other currencies (USD and EUR)**

Year	Volume	Value (mil. EUR)
2003	62	24.9
2004	103	81.2
2005	0	0.0
2006	0	0.0
2007	0	0.0
2008	0	0.0
2009	191	652.5
2010	1,645	3,464.9
2011	3,094	8,384.3
2012 (June 30 th)	1,474	4,685.9

Source: based on the information provided by RNB at <http://www.bnr.ro/Raport-statistic-606.aspx>.

3.2. Treasury bond sector at BVB

Since August 4th 2008, domestic T-bonds denominated in RON start listing at Bucharest Stock Exchange (BVB⁽²⁾ from now on).

The bond market segment at BVB was launched in November 2001, with the listing of municipal bonds. The diversity of listed bonds grew with the introduction of domestic corporate bonds in May 2003, and of international (corporate) bonds in September 2006. Table 6 presents the evolution of the BVB bond market segment, which, in average, represent about 10% of the BVB total turnover. Figure 2 shows the dominance of the various sub-segments

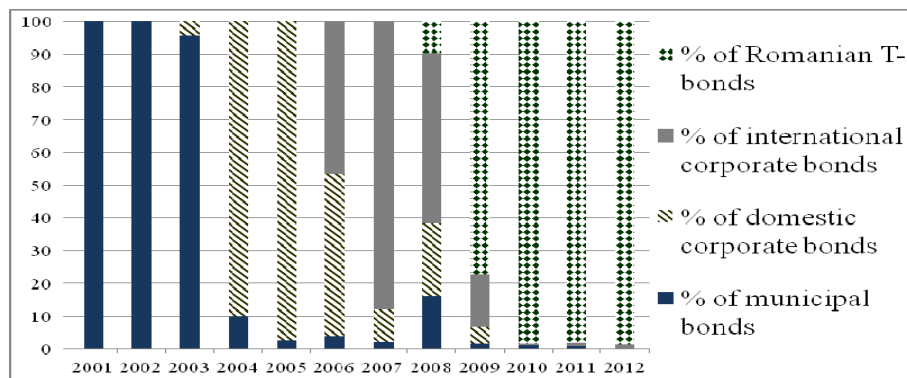
of BVB bond market. As it can be seen, Treasury bonds start dominating BVB bond sector since 2009.

Table 6

BVB bond market (public offerings excluded)

Year	Number of trades	Volume	Value (EUR) ⁽¹⁾	Number of listed issues (end of the year/period)	New entries
2001	5	45	185.13	2	2
2002	10	59,050	250,295.75	4	2
2003	37	29,870	355,584.29	10	9
2004	274	118,136	13,148,120.07	25	17
2005	334	197,107	29,666,788.77	19	6
2006	319	603,208	53,877,527.98	18	5
2007	233	3,652,467	147,985,261.23	22	11
2008	547	862,927	53,465,296.51	50	34
2009	958	1,822,908	277,746,575.81	60	16
2010	540	591,511	552,865,212.24	55	7
2011	245	857,248	105,205,882.66	59	6
2012 (June 30 th)	206	183,528	185,769,995.15	61	5

Source: authors' calculations based on BVB daily reports.



Source: authors' calculations based on BVB daily reports.

Figure 2. The structure of bond market segment by turnover

Table 7 presents the number of listed Treasury bond issues. As it can be seen, after the introduction of 25 Treasury bond issues for listing in August 2008 (of which one reached the maturity in September 2008), only a small number of new Treasury bond issues were allowed to be listed on BVB bond market segment, thus the number increase slowly during 2011 and the first half of 2012. The Treasury bonds listed at BVB represent in average 11.42% of Romanian government debt and 3.44% of Romanian GDP (based on the data provided by Romanian MoPF).

Table 7

Year	BVB T-bond issues available for trading Number of listed outstanding bond issues (end of the year/period)		
	New entries	Reached maturity	End of period
2008	25	1	24
2009	2	0	26
2010	2	10	18
2011	4	1	21
2012 (June 30 th)	5	3	23

Source: authors' calculations based on BVB daily reports.

The listed Treasury bonds have the following characteristics: they are denominated only in RON; their nominal value is 10,000 RON (2,405 EUR⁽³⁾); they have fixed interest rate for their entire life; the coupon is paid annually; the principal is reimbursed only at maturity.

Table 8 presents the evolution of Treasury bond market segment at BVB. As it can be seen, while the trading volume is over the level registered by the secondary (inter-bank) market for Treasury securities, the turnover is very low compared with the same market (presented in Table 5). Of course, it must not be forgotten that at BVB no Treasury bills are listed, only Treasury bonds. The interest for the listed Treasury bonds in 2009 and 2010 might be explained by the poor performance of equity market sector and the investors' flight to safety. The decrease of 2011 might be explained by the difficult situation of Greece public debt and its reverberations all over Europe; the investors started to mistrust even the government securities. Another explanation might be provided by the data presented in Table 14, indicating a coupon yield for the listed Treasury bonds only slightly above the inflation rate for 2010 and 2011. The situation regarding Treasury bond transactions improved during the first half of 2012 due, again, to the poor performance of equity market sector and investors' choices for alternative instruments. However, the Treasury bond sector liquidity level (expressed through turnover ratio) is very low.

Table 8

BVB Treasury bond market data					
Year	Number of trades	Volume	Value (EUR) ⁽¹⁾	Value/ Turnover (mil. EUR)	Liquidity % (end of period) ⁽⁴⁾
2008	17	2,069	5,182,444.41	5.18	0.16
2009	346	85,689	214,978,790.75	214.98	4.45
2010	435	203,724	544,126,776.96	544.13	11.18
2011	181	35,889	85,780,936.40	85.78	1.88
2012 (June 30 th)	199	79,027	183,273,745.31	183.27	3.78

Source: authors' calculations based by BVB daily reports.

Note: no Treasury bond public offerings were made through BVB system.

Table 9 shows the trading frequency by days for Treasury bond sector. Since this sector was launched only in August 4th 2008, and the climax of financial crisis was reached in September 2008, the interest of investors toward the new listed instruments was marginal. This explains the only 11 days of trading. For 2009 and 2010, the situation improved, Treasury bonds being traded in over 50% of the trading days, while during 2011 the interest toward these sector decreased, the trading occurring only in about 31% of the trading days, in concordance with the data presented in Table 8. The trading frequency during the first half of 2012 shows improvement and probably the levels of 2009 and 2010 will be reached, at least from active trading days' point of view.

Table 9

Trading frequency for listed T-bonds

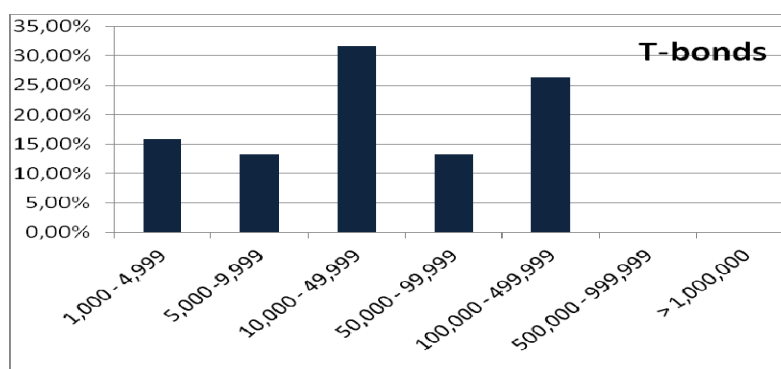
Year	Number of days when trading occurred	Number of trading days at BVB
2008	11	101*
2009	137	250
2010	134	255
2011	80	255
2012 (June 30 th)	73	125

*Number of trading days for the period between August 4th 2008 and December 23rd 2008 (the last trading day at BVB for 2008).

Source: authors' calculations based on BVB daily reports.

Other factors that have an influence on the relative low profile of T-bond market segment compared with the well established BVB equity sector can be: (i) the relative low volume per Treasury bond issues; as Figure 3 and Table 10 both show, about 61% of the Treasury bond issues listed at BVB have a volume of less than 50,000 securities, which is not expected to generate enough liquidity for trading the respective issues; for 2008 and 2009 the MoPF authorities seemed to understand the need for an increased volume per issue; but for 2010, 2011, and the first half of 2012 the volume per issue decreased again, having an impact over the marketability of the respective T-bonds (confirmed by the low liquidity level as presented in Table 8; (ii) the nominal value for the listed T-bonds is 10,000 RON (or about 2,405 EUR⁽³⁾); while in tune with the international trends in having high nominal values for Treasury bonds, this nominal value is almost prohibitive for any individual investor; at this nominal value almost only the institutional investors can acquire a high enough volume per issue to generate transactions and liquidity; (iii) the number of Romanian institutional investors is relative low; a number of nine private pension funds in the second pillar and 11 pension funds within the third pillar are currently active⁽⁵⁾; to these numbers six domestic bond mutual funds⁽⁶⁾ can

be added, and between 20 and 23 domestic diversified mutual funds which are likely to include Treasury bonds in their portfolios; while a number of 19 closed-end funds are registered in Romania, they have mostly international portfolios and their interest toward the domestic Treasury bonds might be considered low or very low. Romanian banks are also important investors in Treasury bonds (as the data of Romanian MoPF indicate, in average for the period 2000 – June 2012, about 69% of the domestic Treasury securities are held by “private banks and others”), but they have the secondary (inter-bank) market on which they can trade these instruments much easily. With such a small number of investors able to access the Treasury bond market segment at BVB, it is easy to understand the relative low level of trading registered and the low liquidity.



Source: authors' calculations based on BVB daily reports

Figure 3. T-bonds listed at BVB structure by volume of the issue

Table 10

The average volume for the T-bond issues listed at BVB

The year when the issue was launched	T-bond issues average volume
2005	8,028
2006	No issue was launched
2007	167,445
2008	274,869
2009	423,342
2010	113,381
2011	52,229
2012 (June 30 th)	84,677

Source: authors' calculations based on BVB data available at www.bvb.ro.

Note: In August 2008, the T-bonds listed at BVB were issued during 2005, 2007 and 2008.

Table 11 presents the average maturity for the listed issues, at the moment of their launching, along with the average interest rates. The decrease in the average maturity between 2008 and 2011 can be explained by the influence of global financial crisis. It can be seen that the borrowing costs increased in 2008 and 2009 also as a consequence of the global financial crisis. However, for 2010, 2011, and during the first half of 2012, Romanian MoPF reduced the borrowing costs, when the listed government securities are considered. This decrease in Treasury bond coupons generated a wave of protests among the primary dealers and the other institutional investors since the yield of decreased almost at the inflation rate, as can be seen in Table 14. However, the Treasury bond issues were subscribed because they are relatively scarce and are needed for portfolio diversification reasons mainly by the domestic pension funds.

Table 11

Average maturity and interest rates for BVB listed T-bonds by year of issuance

Year	Average maturity	Average interest rate (%)	Minimum (%)	Maximum (%)
2005	93.6 months (7.80 years)	7.33	6.47	8.00
2006	-	-	-	-
2007	74.7 months (6.22 years)	6.42	6.00	6.75
2008	52.0 months (4.36 years)	8.13	8.00	8.25
2009	52.5 months (4.38 years)	11.13	11.00	11.25
2010	51.0 months (4.25 years)	6.13	6.00	6.25
2011	61.5 months (5.13 years)	6.05	5.95	6.25
2012 (June 30 th)	82.0 months (6.83 years)	5.85	5.75	5.95

Source: authors' calculation based on the information offered by BVB for T-bonds.

Note: In 2006 no T-bond issues was launched by the Romanian Government.

3.3. Further details regarding the listed T-bond issues at BVB

Up until the end of June 2012, 38 T-bond issues were listed at BVB. Of these 15 reached their maturity (one in 2008, 10 in 2010, one in 2011, and three up until June 2012); of the expired issues, 12 were common Treasury-bond issues and three were benchmark issues (as defined by BVB); of these expired issues, seven were never traded; all seven were common issues. Currently (end of June 2012) 23 issues can be traded (eight common issues and 15 benchmark issues), however six of these 23 issues were never traded since their listing.

Table 12 presents details regarding the information registered for the traded Treasury bond issues. The information is structured taking into consideration the total turnover.

Table 12

Details regarding the traded T-bond issues at BVB (as of June 30th 2012)

No	Symbol ⁽⁷⁾	Listing period (days)	No. of days when trade occurred	No. of trades	Volume	Value/ Turnover (mil. RON)	Average price (% of nominal value)	Observations
1	B1403A	871	148	351	148,524	1,713.43	106.8807	coupon yield: 11.00%
2	B1210A	807	95	148	54,637	615.34	105.3160	coupon yield: 11.25%
3	B1504A	575	36	53	36,411	364.45	97.4561	coupon yield: 6.00%
4	B1303A	986	47	83	28,581	301.74	100.5306	coupon yield: 8.25%
5	B1203A	904	80	128	28,512	287.17	94.3804	coupon yield: 6.50% matured
6	B1110A	814	59	82	26,366	273.32	98.3944	coupon yield: 8.00% matured
7	B2106A	258	36	57	26,815	263.82	93.7460	coupon yield: 5.95%
8	B1010A	559	40	61	14,688	146.46	94.6426	coupon yield: 6.00% matured
9	B1706A	986	26	41	11,143	117.01	97.2650	coupon yield: 6.75%
10	B1604A	295	29	47	10,492	106.55	97.2190	coupon yield: 6.00%
11	B1410A	304	24	40	9,815	99.93	99.1095	coupon yield: 6.25%
12	B1307A	561	32	43	5,797	58.97	99.2715	coupon yield: 6.25%
13	B2707A	72	6	11	1,497	14.69	93.2246	coupon yield: 5.80%
14	B1310A	159	5	9	981	10.00	100.1950	coupon yield: 6.00%
15	F1506A	986	2	3	300	3.28	103.2855	coupon yield: 7.50%
16	F1706A	986	2	3	300	3.26	102.9461	coupon yield: 7.25%
17	F1007A	490	2	2	300	2.98	96.3847	coupon yield: 8.00% matured
18	F1507A	986	1	2	200	2.24	104.6773	coupon yield: 7.85% only deal transactions
19	F1005A	440	2	2	219	2.17	98.1482	coupon yield: 7.80% matured
20	F1704A	986	2	4	179	1.86	100.1629	coupon yield: 7.00% only deal transactions
21	F1204A	931	1	1	156	1.62	98.1187	coupon yield: 7.00% matured
22	F1006A	464	1	1	150	1.48	94.4940	coupon yield: 7.80% matured
23	B1404A	72	1	2	135	1.36	100.8347	coupon yield: 5.95%
24	F2006A	986	1	1	100	1.01	98.5771	coupon yield: 7.30%
25	F1008A	505	2	3	100	0.98	93.2673	coupon yield: 8.00% matured

Source: authors' data based on information provided by BVB (<http://www.bvb.ro/Companies/DGovBonds.aspx>).

Table 12a: continued

No	Symbol ⁽⁷⁾	Liquidity for the trading period ⁽⁸⁾ (%)
1	B1403A	42.92
2	B1210A	13.75
3	B1504A	28.72
4	B1303A	12.87
5	B1203A	13.59
6	B1110A	8.67
7	B2106A	52.76
8	B1010A	10.68
9	B1706A	7.61
10	B1604A	36.85
11	B1410A	19.99
12	B1307A	5.90
13	B2707A	12.04
14	B1310A	1.25
15	F1506A	8.19
16	F1706A	6.96
17	F1007A	1.99
18	F1507A	2.24
19	F1005A	1.26
20	F1704A	4.96
21	F1204A	3.24
22	F1006A	1.50
23	B1404A	0.09
24	F2006A	2.02
25	F1008A	0.98

Source: authors' data based on information provided by BVB (<http://www.bvb.ro/Companies/DGovBonds.aspx>).

As Table 12 shows, it can be observed that the top 5 traded issues are of benchmark type and are also, in two cases, the issues with the highest coupon yield. Also it can be observed that in the case of the top 3 most traded Treasury bonds, the trading frequency (days) is between 7% and 17%, which generates a relative low liquidity per trade between 350 and 700 bonds/trade.

In the case of common Treasury bonds (no benchmark) the investors' preference went toward those with relative high coupon yield, but the low volume of outstanding bonds per issue was the main factor that generated the very low level of transactions.

As it can also be observed from Table 12a above, the liquidity per traded Treasury bond issue, with two exceptions (symbol B1403A, which has a liquidity of slightly over 40%, and B2106A, which has a liquidity of slightly over 50%), is low or very low. The investors' preference for benchmark issues is obvious, their average liquidity being 19.11%, with about 16% higher than the liquidity for the common Treasury bond issue which registered an average liquidity of only 3.01%. The low liquidity level, in general, is consistent with the low trading frequency pattern and, mainly in the case of common issues, with the very low number of trades (between 1 and 3).

Up until the trading frequency and the liquidity level will not increase, the T-bond sector at BVB will continue to have a low profile, not attracting investors.

3.4. Borrowing costs through T-bills and T-bonds and their yield compared with other investment alternatives at BVB

Table 13 shows an interesting situation: while Romanian Treasury bonds, in general, respected the idea that they pay the lowest interest rates (with the exception of 2001), it is however clear that there is almost no premium for longer maturities. This situation might be considered a positive one since it indicates that the economic situation might improve sometime in the future, but it represents no incentive for domestic investors. This might be another reason why BVB listed Treasury bonds fail to attract important trading volume and turnover.

Table 13

T-bonds and listed T-bonds coupons compared with reference Romanian Interbank Interest Rates, and bank loans interest rates (annual averages, %)

Year	ROBOR ⁽⁹⁾ 3M	ROBOR 6M	Bank loan interest rates	T-bills as reported by RNB	T-bonds as reported by RNB	Listed T-bonds coupon yield
1996	56.51	55.74	55.80	53.80	-	-
1997	90.00	85.03	63.70	55.70	-	-
1998	84.99	79.70	56.90	53.20	-	-
1999	99.47	92.81	65.90	75.80	63.70	-
2000	55.23	56.11	53.50	52.30	49.60	-
2001	38.06	44.57	45.10	42.20	42.00	-
2002	29.17	29.35	36.65	27.20	22.30	-
2003	19.87	19.25	26.19	16.20	14.20	-
2004	20.74	19.91	29.15	17.90	12.80	-
2005	9.81	9.86	21.04	6.40	7.50	7.33
2006	8.77	8.72	14.83	-	-	-
2007	7.79	7.81	13.32	6.90	7.00	6.42
2008	13.04	13.12	15.07	11.30	10.50	8.13
2009	11.72	11.79	17.30	10.90	10.90	11.13
2010	6.75	7.22	14.11	7.00	7.20	6.13
2011	5.82	6.55	12.12	6.65	7.32	6.05
2012 (June 30 th)	4.95	5.50	11.34	5.42	6.25	5.85

Source: authors' calculations based on RNB data and BVB data.

In Table 14 presents the performances of listed Treasury bonds in comparison with various alternatives of investment available for a domestic investor. Listed Treasury bonds total yield, as expected, is not increased by the price return. It can be observed that in 2005 they offered a total yielded below the inflation rate, while for the years 2008, 2010, and 2011 the coupon yield

was almost at inflation rate levels. For the years 2005, 2007, 2008, 2010, and 2011 no premium exist for longer maturities over Treasury bills. However, an investment in listed Treasury bonds seemed a better alternative than the equity market in 2008, 2010 and during the first half of 2012.

Table 14

Listed T-bonds interest rates compared with inflation rate, bank deposit interest rates and BVB share segment returns through BET-C index

Year	Inflation rate (annual average, %)	Bank deposit interest rates (annual average, %)	BET-C annual return (%)	T-bills as reported by RNB	Listed T-Bonds (annual coupon yield average, %)	Listed T-bonds (annual price return average, %)
1996	38.80	98.10	-	53.80	-	-
1997	154.80	51.60	-	55.70	-	-
1998	59.10	38.30	-	53.20	-	-
1999	45.80	45.50	-4.90	75.80	-	-
2000	45.70	32.70	7.39	52.30	-	-
2001	34.50	26.40	-6.47	42.20	-	-
2002	22.50	18.39	124.02	27.20	-	-
2003	15.30	10.78	22.62	16.20	-	-
2004	11.90	15.65	97.88	17.90	-	-
2005	9.00	8.34	31.63	6.40	7.33	-
2006	6.56	6.51	25.07	-	-	-
2007	4.84	6.70	26.27	6.90	6.42	-
2008	7.85	9.55	-69.68	11.30	8.13	0.3563
2009	5.59	11.89	34.62	10.90	11.13	1.5860
2010	6.09	7.29	10.89	7.00	6.13	0.4650
2011	5.79	6.29	-16.73	6.65	6.05	-0.0291
2012 (June)	2.22	5.74	-2.81	5.42	5.85	0.8676

Source: authors' calculations based on RNB data and BVB data.

Note: From the six indices reported for BVB (<http://www.bvb.ro/IndicesAndIndicators/indices.aspx>) only BET-C (BET-Composite) index was chosen due to the length of data series that allowed calculating the returns from 1999 to the present moment.

4. Discussions and conclusions

Discussions

As Luengnaruemitchai and Ong (2005) highlighted in their study, to enhance the market credibility as a benchmark, a various combination of measures is necessary; among these measures, the authors mention: the extension of the yield curve; the issuance calendars in order to improve transparency; increasing the disclosure of information on public debt issuance and statistics; holding regular meetings with dealers, institutional investors and rating agencies; introducing a system of primary dealers; establishing a repurchase (repo) market in the government bond market.

Based on the developments presented in section 3 of this paper, we will discuss the measures mentioned above. On what the yield curve is concerned, while there is a considerable improvement from no yield curve until 2007, to an existing one, thus the available yield curves do not give any details regarding the short maturities (3, 6 and 9 months) as it can be seen in Figure 1. When information disclosure is taken into consideration, the situation is similar to the yield curve; from the almost total absence of information to a dedicated section to public debt on Romanian MoPF is an important step ahead. However, there are no detailed statistics dedicated to domestic Treasury securities (mainly Treasury bills). The only details on Treasury securities are those published by BVB. The system of primary dealers was introduced under the supervision of RNB since 2001; however the level of transparency regarding the issuances remained low until 2007. The issuance calendar became available starting with 2008 along with the other steps taken to improve transparency under the pressure of the country's accession to EU and the launching of the domestic private pension funds of second pillar. Until now there is no repo market in the government bonds established and no public announcements were made on this matter until June 2012.

Conclusions

Despite the fact that a primary market for Romanian domestic government securities was organized since March 1994 and a secondary market started trading since 1996, both markets under the supervision of Romanian National Bank (RNB), Treasury securities in Romania did not provided for more than a decade any benchmark for domestic and foreign investors. While the transparency improved starting with 2008 and a secondary market was established at BVB for government bonds, the liquidity of this market is still very low four years since it was launched. The efforts of RNB and BVB (as agent and, respectively, intermediary) to build a liquid and credible (secondary) market for domestic government bonds were not matched by the Romanian MoPF. The MoPF lacks the flexibility and is still reluctant in being transparent, like it is not entirely aware of the importance of government bonds as benchmark for the Romanian financial markets. In order to create a credible and liquid government bond market, a higher level of transparency and flexibility is required at the MoPF level, along with a clear understanding of the crucial role of government securities as benchmarks.

Notes

- (1) The exchange rates used are presented in Annex 2.
- (2) For the present paper the abbreviation BVB (from Romanian name Bursa de Valori Bucuresti) was chosen in order to avoid any confusion with the possible abbreviation for Budapest Stock Exchange, Bulgarian Stock Exchange and Bratislava Stock Exchange.
- (3) Using an average exchange rate of 4.1576 RON/ EUR – the average for the period 2008 to 2012 (June) based on data in Annex 2.
- (4) The liquidity was calculated as a ratio between the T-bond market segment turnover at the end of the year (or period) and the outstanding listed T-bonds total (nominal) value at the end of the year.
- (5) <http://www.csspp.ro/date-statistic-pilonul-2> and <http://www.csspp.ro/date-statistic-pilonul-3>
- (6) Based on data offered by the Romanian Association of Asset Managers at <http://www.aaf.ro/>
- (7) The symbol means: B – benchmark issue; F – common issue. The next two figures indicate the year when the issue will mature; the following two figures indicate the maturity month; A means that for the time when it was offered for sale, this was the only issue with the announced maturity and coupon yield. Example: B1403A means that it is a benchmark T-bond issue which will mature in March 2014 and at the time when it was launched into the market, no other T-bond issue had similar maturity.
- (8) The liquidity in this case was calculated as ratio between the turnover registered by every traded T-bond issue and the nominal value of the respective issue.
- (9) It represents the Romanian Interbank Offer Rate for three months, respectively for six months. Formerly known as BUBID-BUBOR. Data regarding ROBID-ROBOR are offered by RNB on its website: <http://www.bnro.ro/Info-financiar-5371.aspx>.

References

- Blanco, R. (2001). “The Euro-area Government Securities Markets Recent Developments and Implications for Market Functioning”, Paper presented at *BIS Autumn Central Bank Economist’s Meeting*, October 2001, available at: <http://www.bis.org/publ/bppdf/bispap12d.pdf>
- Bunescu, L. (2009). “Municipal Bonds – A Viable Funding Option for Oradea Local Public Administration (Romania)”, *Economic Analysis Working Papers*, 9th volume, number 08, available at http://www.unagaliciamoderna.com/eawp/coldata/upload/municipal_bonds_oradea_romania.pdf
- Corduneanu, C., Milos, L. (2008). “Where is Heading the Romanian Corporate Bond Market? A National and International Approach”, as available at www.feaa.uaic.ro/geba/.../37-Corduneanu%20Carmen_Milos%20Laura.doc
- Dunne, P., Moore, M., Portes, R. (2006). “European Government Bond Markets: Transparency, Liquidity, Efficiency”, *CEPR*, London
- Dunne, P., Hau, H., Moore, M. (2008). “A Tale of Two Platforms: Dealer Intermediation in the European Sovereign Bond Market”, available at: http://www.ryerson.ca/economics/seminars/moore_081004.pdf

- Greco, E. (2008). "The Interest for the Municipal Bonds", *Annals of the Oradea University, Fascicle of Management and Technology Engineering*, Volume VII (XVII), pp. 2280-2284
- Gyorgy, S. (2002). "Developments in the Hungarian Debt Markets", *The Development of Bond Markets in Emerging Economies, BIS Paper*, No. 11, Bank for International Settlements, Basel, available at: <http://www.bis.org/publ/bppdf/bispap11i.pdf>
- Iorgova, S., Ong, L.L. (2008). "The Capital Markets of Emerging Europe: Institutions, Instruments and Investors", *Working Paper*, No.103, International Monetary Fund, available at: <http://www.imf.org/external/pubs/ft/wp/2008/wp08103.pdf>
- Luengnaruemitchai, P., Ong, L.L. (2005). "An Anatomy of Corporate Bond Markets: Growing Pains and Knowledge Gains", *Working Paper*, No.152, International Monetary Fund, as available at: <http://www.ksri.or.kr/bbs/files/research02/wp05152.pdf>
- Matei, M., Popescu, C., Eftimie, M. (2009). "Municipal Bonds – An Instrument of Financial Management Used by Romanian Authorities", *Advances in Marketing, Management and Finances*, pp.111-115, Proceedings of the 3rd International Conference on Management, Marketing and Finances, Houston, USA, April 30-May 2, WSEAS Press, as available at: <http://www.wseas.us/e-library/conferences/2009/houston/AMMF/AMMF16.pdf>
- Mohanty, M.S. (2002). "Improving Liquidity in Government Bond Markets: What Can Be Done?", *BIS Paper*, No.11, available at: <http://www.bis.org/publ/bppdf/bispap11e.pdf>
- Mosteanu, T., Lacatus, C.M. (2008). "The Municipal Bonds – The Case and the Effect of the Local Financial Decentralization Growth. Romanian Case", *Theoretical and Applied Economics*, No. 9/2008 (526), pp. 51-60, available at <http://www.ectap.ro/articole/333.pdf>
- Paesani, P., Piga, G. (2007). "Transparency in the European Bond Market", *Transition Studies Review*, 14 (1), pp. 3-21
- Pagano, M., Von Thadden, E. (2008). "The European Bond Markets under EMU", in *Handbook of European Financial Markets and Institutions*, X. Freixas, P. Hartmann, and C. Mayer (eds.), Oxford University Press, Oxford, pp. 488-518
- Pop, C., Dumbrava, P. (2004). "The Romanian Municipal Bonds – A General Overview", volume, *Public Administration – Sbornik prispevku z vedecke konference*, Universita Pardubice, Fakulta Ekonomiko-Spravni, Lazne Bohdanec, Czech Republic, 21-22 Sept.2004, UP04-57, ISBN 80-7194-684-2, pp. 285-292
- Pop, C., Georgescu, M.A. (2011). "Romanian Municipal Bond Market", *Interdisciplinary Management Research*, vol. VII, pp. 512-544
- Pop, C., Georgescu, M.A. (2012). "Municipal and Treasury Bond Market Segments Development at Bucharest Stock Exchange", *Transylvanian Review of Administrative Sciences*, No. 35 E/2012, pp. 197-218
- Roldos, J.E. (2004). "Emerging Local Bond Markets", in *Emerging Local Securities and Derivative Markets*, World Economic and Financial Survey, International Monetary Fund, Washington, pp. 24-45
- Skully, M., Brown, K. (2006). "Romanian Financial Markets", in Professor J. Jay Choi (ed.) *Emerging European Financial Markets: Independence and Integration Post-Enlargement (International Finance Review*, Volume 6), Emerald Group Publishing Limited, pp. 281-321
- Szilagy, P.G., Fetherston, T.A., Batten, J.A. (2004). "Perspective on the Emerging European Financial Markets", in *European Fixed Income Markets: Money and Interest Rate Derivatives* edited by Batten, J.A., Fetherston, T.A. and Szilagy, P.G., John Wiley and Sons Ltd., pp.53-66
- Reports: International Monetary Fund (2002). *Global Financial Stability Report: Market Developments and Issues*, Washington DC

Websites:

<http://www.bnro.ro><http://www.bvb.ro><http://epp.eurostat.ec.europa.eu><http://www.fese.be><http://www.insse.ro><http://www.mfinante.ro>

Annex 1

General government gross debt as % of GDP

Year	EU-27	EU-12	Bulgaria	Czech Republic	Hungary	Poland	Romania	Slovak Republic	Slovenia
1999	65.7	43.8	77.6	16.4	59.8	39.6	21.7	47.9	-
2000	61.9	42.6	72.5	18.5	54.9	36.8	22.5	50.3	-
2001	61.0	40.3	66.0	24.9	52.0	37.6	25.7	48.9	26.7
2002	60.4	39.2	52.4	28.2	55.6	42.2	24.9	43.4	27.9
2003	61.8	38.7	44.4	29.8	58.3	47.1	21.5	42.4	27.3
2004	62.2	37.1	37.0	30.1	59.1	45.7	18.7	41.5	27.4
2005	62.8	34.7	27.5	29.7	61.8	47.1	15.8	34.2	26.7
2006	61.5	33.4	21.6	29.4	65.7	47.7	12.4	30.5	26.4
2007	59.0	31.8	17.2	29.0	66.1	45.0	12.6	29.6	23.1
2008	62.3	32.3	13.7	30.0	72.3	47.1	13.4	27.8	21.9
2009	74.4	39.1	14.6	35.3	78.4	50.9	23.6	35.4	35.2
2010	80.0	42.8	16.2	38.5	80.2	55.0	30.8	41.0	38.0
2011	82.5	45.6	16.3	40.8	81.4	56.4	33.4	43.3	46.9
average	65.8	38.6	36.7	29.3	65.0	46.0	21.3	39.7	29.8

Source: based on data provided by EUROSTAT.http://epp.eurostat.ec.europa.eu/portal/page/portal/government_finance_statistics/data/main_tables; code teina225.

Annex 2

The exchange rates used: annual average based on the daily data provided by RNB

Year	Annual average (expressed in RON)
1994	0.1967
1995	0.2630
1996	0.3683
1997	0.8091
1998	0.9989
1999	1.6254
2000	1.9944
2001	2.6033
2002	3.1250
2003	3.7556
2004	4.0532
2005	3.6234
2006	3.5244
2007	3.3373
2008	3.6828
2009	4.2373
2010	4.2099
2011	4.2391
2012 (June)	4.4140

Source: RNB daily data available at <http://www.bnro.ro/Baza-de-date-interactiva-604.aspx>.

Comparison of the neighboring countries domestic public bond sector

	Listings (number of listed domestic public bonds)					
	2006	2007	2008	2009	2010	2011
Bratislava Stock Exchange	25	23	21	22	24	22
Bucharest Stock Exchange	11	14	44	57	53	58
Budapest Stock Exchange	22	23	22	25	22	23
Bulgarian Stock Exchange	6	4	3	2	1	1
Ljubljana Stock Exchange	29	27	25	28	25	23
Prague Stock Exchange	17	19	19	20	22	21
Warsaw Stock Exchange	58	51	47	41	40	38
Total	168	161	181	195	187	186
% of total EU-27	5.37	4.99	5.18	5.21	6.69	6.12

	Trades					
	2006	2007	2008	2009	2010	2011
Bratislava Stock Exchange	2,145	1,560	2,035	1,479	1,106	1,773
Bucharest Stock Exchange	61	58	193	500	523	228
Budapest Stock Exchange	391	233	1,106	920	924	1,704
Bulgarian Stock Exchange	26	7	20	13	2	0
Ljubljana Stock Exchange	11,606	7,329	5,090	5,145	3,169	1,947
Prague Stock Exchange	7,716	5,984	7,802	5,494	5,882	5,508
Warsaw Stock Exchange	40,239	28,710	29,290	23,564	17,920	16,304
Total	60,184	43,881	45,536	37,115	29,526	27,464
% of total EU-27	1.87	1.33	1.34	1.03	4.36	3.79

	Turnover (m EUR)					
	2006	2007	2008	2009	2010	2011
Bratislava Stock Exchange	26,629.2	10,235.1	24,193.5	11,365.3	6,021.3	18,453.5
Bucharest Stock Exchange	2.1	2.9	13.7	219.1	559.8	86.9
Budapest Stock Exchange	485.5	222.9	1,335.5	968.2	789.3	978.1
Bulgarian Stock Exchange	1.8	0.2	0.4	0.0	0.0	0.0
Ljubljana Stock Exchange	1,156.7	373.7	210.4	114.3	58.0	39.8
Prague Stock Exchange	19,057.4	15,622.3	24,230.6	20,881.2	20,215.9	24,567.7
Warsaw Stock Exchange	709.9	457.7	690.4	319.2	281.4	188.3
Total	48,042.6	26,914.8	50,674.5	33,867.3	27,925.7	44,314.3
% of total EU-27	0.65	0.37	0.64	0.40	0.49	0.56

Source: author's calculations based on data available in FESE reports and statistics.

Note 1: Budapest Stock Exchange, Ljubljana Stock Exchange and Prague Stock Exchange are part of CEESEG (Central and Eastern European Stock Exchange Group) which includes also Vienna Stock Exchange;

Note 2: EU-27 does not include Stuttgart Stock Exchange which became FESE member only since 2009;

Note 3: For 2010 and 2011 from the EU27 data, information regarding London Group (London Stock Exchange and Italian Stock Exchange) are missing; data for London Group were not available.

Aspects regarding the analysis of the rationality of the buying decision of the Romanian consumer

Corina PELĂU

The Bucharest University of Economic Studies
corina.pelau@fabiz.ase.ro

Abstract. *One of the biggest challenges of economic theory is to determine the effectiveness and efficiency of economic activities and processes. In terms of consumer behavior this can be defined by the rationality of the buying decision. In this article there are presented several theories that have defined over time and still influence the rationality of the consumer. There are also presented the results of a research which aims to analyze the rationality of the consumer. In particular there are analyzed the relations between different quantitative aspects of the buying decision and the impulsive buying reactions of the consumer.*

Keywords: consumer behavior; buying decision; economic rationality.

JEL Code: M31.

REL Code: 7I.

1. Introducere

In modern economy it is assumed that people behave rationally. Rationality in economics is defined as "the internal consistency of decision" and "maximized self-interest" (Earl, Kemp, 1999, p. 480). Starting from these definitions it can be stated that rationality is composed of several forms of rationality, not only in economics but also in other disciplines such as sociology. Thus the general theory of rationality involves the identification of distinct elements of the rationality set and the specification of the relations among them (Earl, Kemp, 1999, p. 480).

In economic theory the term of rationality has passed several stages according to the dominant economic influences. At the beginning, the concept of rationality was a complex and holistic one, based on the enlightenment idea of human reason, after which it was reduced in the classical political economy to utilitarianism, becoming more a calculation tool (Zafirovski, 2008, pp. 789-820). By this, certain aspects of the buying decision are neglected. Emotion is one of the neglected elements in economic theory (Hanoch, 2002, pp. 1-25). Especially in recent years, due to technological developments and the high level of education of the population, some of the restrictions of the buying process were removed. Consequently the consumer is not forced anymore to buy only the products with the lowest price, but to go through a more complex process of purchasing in which the quality of the products and the personal satisfaction plays a more important role (Arcidiacono, 2011). The social environment of the consumer has also an important role in the buying decision. According to Pelzmann et al., "others" are an important source of information for the consumer. So instead of making their own buying decisions, consumers tend to imitate the behavior of other people, simplifying by this the purchase decision (Pelzmann, Hudnik, Miklautz, 2005, pp. 438-442). Consequently a small group of rational consumers can impose a rational behavior on the market (Miljkovic, 2005, pp. 621-634), and a small group of consumers may impose an irrational behavior. Accordingly, the purchase decision is not always based solely on cognitive processes, but also on emotions, social norms, habits and mass behavior (Pelzmann, Hudnik, Miklautz, 2005, pp. 438-442).

Hanoch believes that the rationality of the buying process must be considered in the context in which the consumer takes it. So a decision which appears at first irrational can be considered rational if it is associated with other actions and priorities of the consumer (Hanoch, 2002, pp. 1-25). Irrationality may come from the fact that the decision maker ignores certain aspects in the buying decision or that he doesn't consider all alternatives or because the decision maker gets to the wrong conclusion based on the information he had

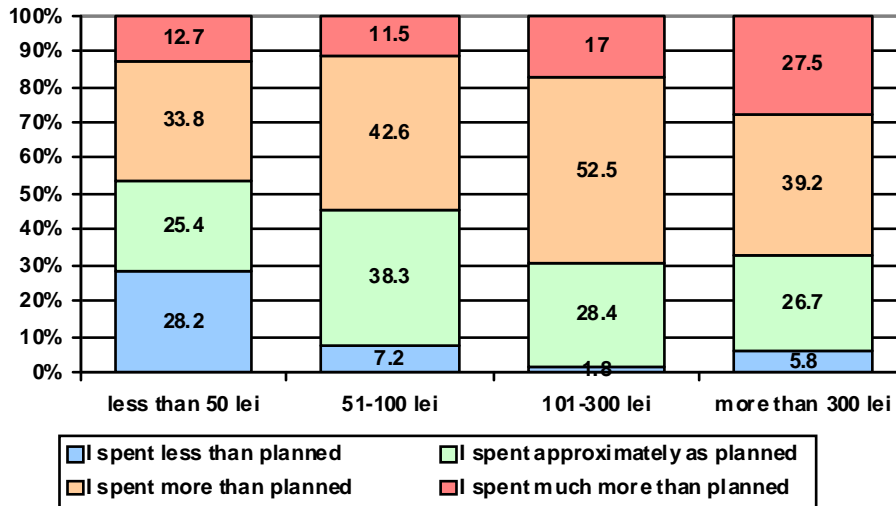
(Hanoch, 2002, pp. 1-25). So we can speak of a bounded rationality (Simon, 1985, pp. 293-304). Miljkovic confirms this analysis indicating different capacities of analysis of the consumer that influences the success and performance of individuals in the process of buying (Miljkovic, 2005, pp. 621-634).

2. The relation of the spending in the store and the consumer behavior

In this article there are presented the results of a research on various issues that have an impact on the rationality of the consumer. There is analyzed the relationship between various quantitative aspects related to the buying process and different issues about the reactions of the consumers in the store. The objective of the research was to determine the cognitive and emotional reactions of the consumer behavior and the rationality of this behavior. The study was conducted between November 2011 and December 2011. For the research there was selected an equal number of men and women and also a homogeneous distribution among the age groups. Respondents within each segment were chosen at random. There were surveyed 711 people.

One of the main elements of the rationality of the consumer is the amount spent. Any consumer tries to maximize his utility by paying the lowest possible price. Thus, the first analysis about the rationality is related to the analysis of consumer's perception and opinion about the spent amount. It should be noted that in this analysis there are considered all surveyed consumers regardless of the income. In Figure 1 there can be observed the relationship between the amount spent by consumers at a visit in the store and the perception about this value. As expected, as the amount spent is higher the consumer has the impression that he spent more than planned.

Most people who consider that they spent less than planned during a visit in the store paid less than 50 lei (28.2%). This percentage decreases to 7.2% for those who spent between 51-100 lei and does not reach more than 5.8% for those who spent more. Regarding the amount of consumers who spent approximately as planned it reaches values between 25.4% and 38.3%, having a mean of 31%. It can be observed that most consumers who have spent as planned are those who have paid amounts between 51-100 lei. For the remaining proportion, the percentage of consumers who spend as planned varies between 25.4% and 28.4%. It can be said that most of the Romanians plan to spend between 51-100 lei.



Source: results of own research.

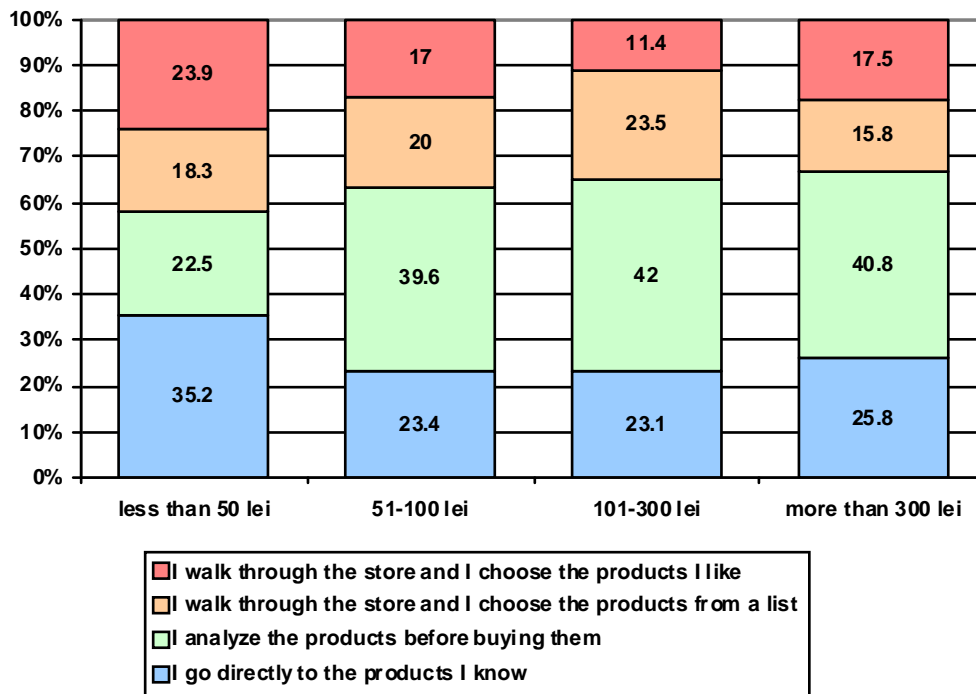
Figure 1. *The relation between the spent amount and the perception on this value*

The most common perception is that consumers spend more than planned. This type of perception has values between 33.8% and 52.5% and an average of 44.9%. This perception is most often found at consumers who spent in the store between 101-300 lei (52.5%), confirming the fact that most Romanians plan to buy less. The second category of consumers who have the perception that they spent more than planned are those who spend between 51-100 lei (42.6%) and those who spend more than 300 lei (39.2%). Most of the consumers who spent more than planned paid more than 300 lei (27.5%). For consumers who spent in the store between 101-300 lei, 17% of them spent much more than planned, while from those who spent more than 100 lei, more than 11% believe that they spent much more.

Regarding the rationality of this behavior, it depends on the reasons that led to this result. One of the main reasons is a wrong evaluation (undervaluation or overvaluation). This wrong evaluation can come from the fact that consumers wrongly estimated the price of the products they intend to buy (which can also be explained by an increase of prices), but also because of an impulsive behavior. So, the consumers come to the store to buy some products but they also see other products that tempt them and they buy them. Another explanation can be the fact that the consumer don't wish to buy too much, trying to limit the spending. So in the questionnaire he mentions the amount he wants to spend, but he always spends every time the same amount, often higher than desired. In figures 2 and 3, there is analyzed the type of

behavior depending on the amount spent in the store and on the opinion of the consumer about this impulsive behavior.

As it can be seen in Figure 2, the consumers who spend more in the store have rather an analytical behavior, while consumers who spend less than 100 lei have the highest amounts both for the habitualized and the impulsive behavior. If it was expected to have a better representation of the habitualized behavior at the people who spend less, it was not expected to have such a good representation of the emotional-impulsive behavior at those who spend less in the store.



Source: results of own research.

Figure 2. The relation between the spent amount and the consumer behavior

As mentioned before most consumers who spend at a visit in the store less than 50 lei have a habitualized behavior, so they go straight to the products they know. So 35.2% of the consumers who spend more than 50 lei have this type of behavior, being the preponderant behavior for this segment. This type of behavior is less represented at those who spend more at a visit in the store, having values between 23.1% and 25.8%. From the consumers who spend at a visit in the store more than 51 lei, the main behavior is the analytical one. From

consumers who spend less than 50 lei in store, only 22.5% of them have an analytic behavior, while for the consumers who spend more than 51 lei, this behavior can be observed at more than 39.6% of the consumers. These values increase slightly for those who spend between 101-300 lei (42%) and those who spend more than 300 lei (40.8%).

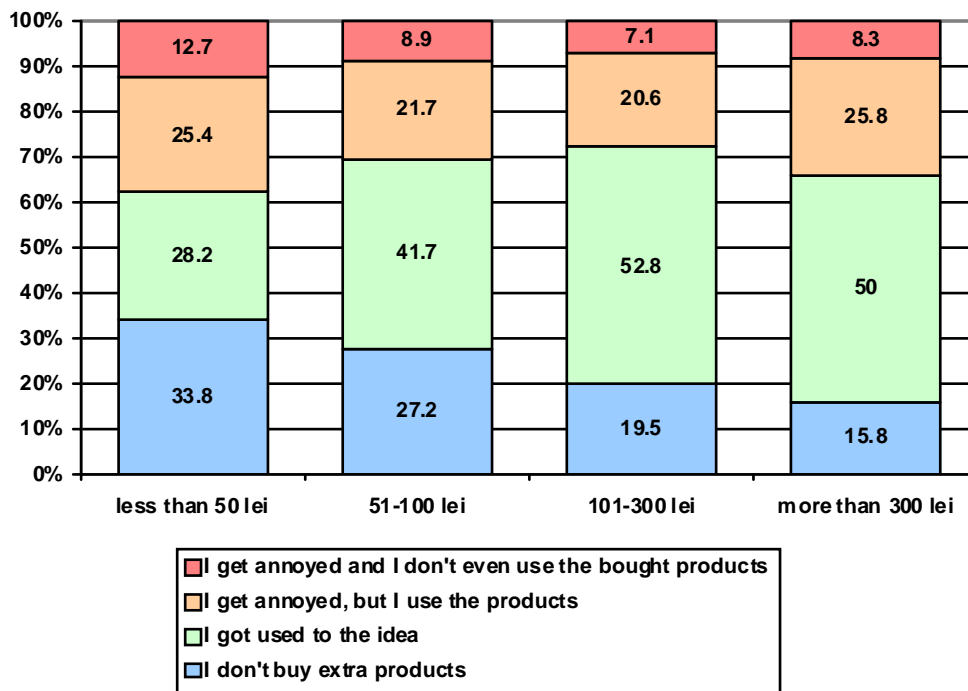
Regarding the impulsive buying behavior, by which the consumer buy the products they like best, this can be found most frequent at the consumers who spend less than 50 lei. So 18.3% of these customers are walking through the store and choose the products from a list, while 23.9% of the consumers are walking through the store and choose the products they like. One of the explanations for this behavior is the fact that this segment of consumers came to the store because they need something (63%). So they buy the product they came for and choose only the products they like. Cumulated these percentages decrease for consumers who spend more in the store. From the consumers who spent at a visit in the store between 51-100 lei, 20% walk through the store and choose the products from the list, while 17% choose the products they like. The percentages are similar for those who spend between 101-300 lei. So 23.5% are walking through the store and buy the products from the list, while 11.4% chose the products they like. For the consumers who spend more than 300 lei during a visit in the store, the types of impulsive behavior are reversed. So, more consumers are walking through the store choosing the products they like (17.5%) than those who walk through the store and choose the products from a list (15.8%).

Regarding the impulsive behavior it can be noticed a similarity between the consumers who spend less than 50 lei and those who spend more than 300 lei, explained probably by the different objective of their shopping. For those who spend less than 50 lei in the store, the objective of shopping is that they need something (63.4%), while those who spend more than 300 lei came to shop for a week (54.2%).

In Figure 3 there can be observed the opinion of the consumers about buying additional products. It can be observed that most consumers got used to the idea of buying extra products. The percentage of people who do not buy extra products decreases with the increasing value of the purchases. So 33.8% of the consumers who spend less than 50 lei state that they do not buy extra products. This percentage decreases to 27.2% for the consumers who spend between 51-100 lei, 19.5% for those who spend between 101-300 lei and 15.8% for those who spend more than 300 lei. It can be observed that the percentage of those who state at this question that they do not buy extra items is higher than that where they had to evaluate the number of the extra bought products. This can be explained, on one hand, by a different way of evaluating

the extra bought products. On the other hand, this question is more personal as it is associated with feelings of being annoyed. The correlation between these perceptions is analyzed in figures 4 and 5.

Most consumers said that they got used to the idea of buying products that have not been originally planned, and this percentage increases with the amount spent. Only 28.2% of those who spent less than 50 lei, 41.7% of the consumers who spent between 51-100 lei, 52.8% of the consumers who spent between 101-300 lei and 50% of the consumers who spent more than 300 lei have this opinion. This confirms the fact that most consumers usually buy more than the amount they have originally planned.



Source: results of own research.

Figure 3. Relation between the amount spent and the opinion about the consumer behavior

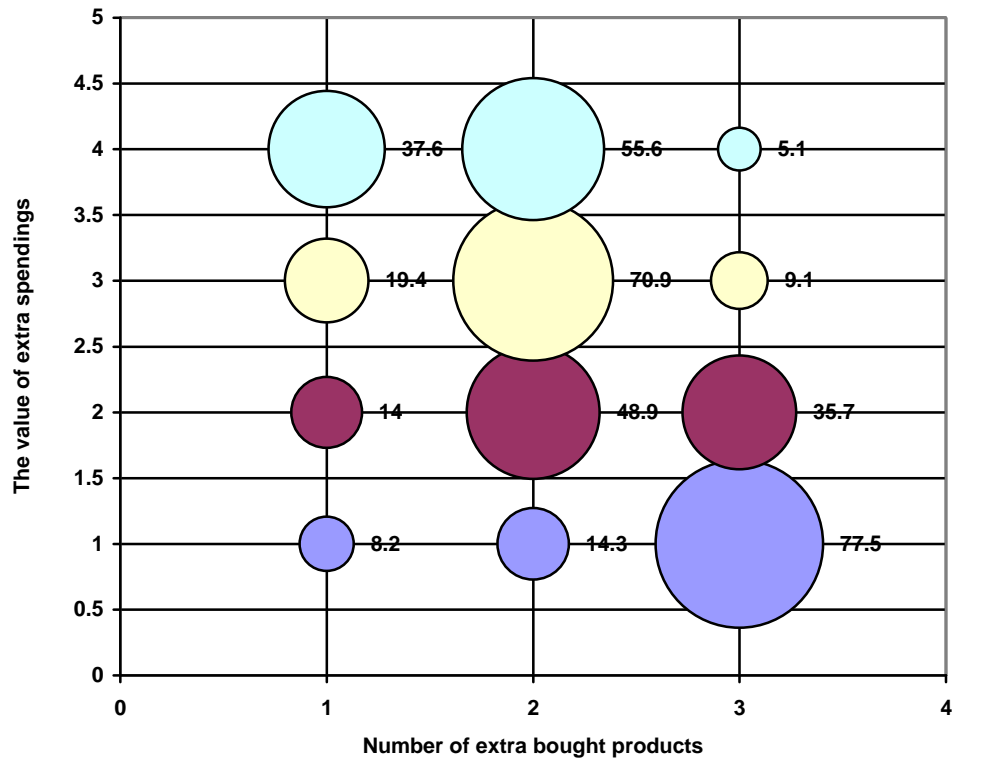
As it can be seen in Figure 3, a high number of consumers get angry (or it is inconvenient) because they buy unplanned products, especially because a part of them do not use these products. It can be seen that the percentage of the people who get angry, but use the purchased products varies between 20.6% and 25.8%. This percentage reaches the highest values for the consumers who spend less than 50 lei and for those who spend more than 300 lei. The highest

percentage of consumers who get annoyed because they buy more than they have planned are those who spend more than 50 lei (12.7%). This can be explained by the fact that most of them came to the shop because they need something and the additional purchased products are based on impulse. For the consumers who spend more than 51 lei, the percentage of those who get annoyed if they buy unplanned products, especially because they don't use these products, varies between 7.1% and 8.9%.

Regarding the rationality of the behavior it is difficult to determine whether they did or did not behave rationally. The question that arises when analyzing this behavior is related to the reason that these customers have had. The reasons may be because of unplanned purchased products that the consumer saw in the store and he remembered that he needed them or found a product that he did not know, but that he might need or he saw a new product and a new idea of how to use it. All these factors can be assigned to a rational behavior, it can be even stated that it helps the consumer and contributes to a diversified behavior. Besides these rational reasons, there are of course some irrational reasons, often determined by the marketing strategies of companies. So attractive offers, interesting presentation of products can determine an impulsive behavior based on the activation of the emotions of the consumer.

3. The influence of the impulse on the consume reactions

Figures 4 and 5 examine whether there is a correlation between the results of the consumer regarding the unplanned purchases. In Figure 4 there is checked the consistency between those who buy more unplanned products and those who spent more in the store.



● I spent less
 ● I spent as planned
 ● I spent more than planned
 ● I spent much more than planned

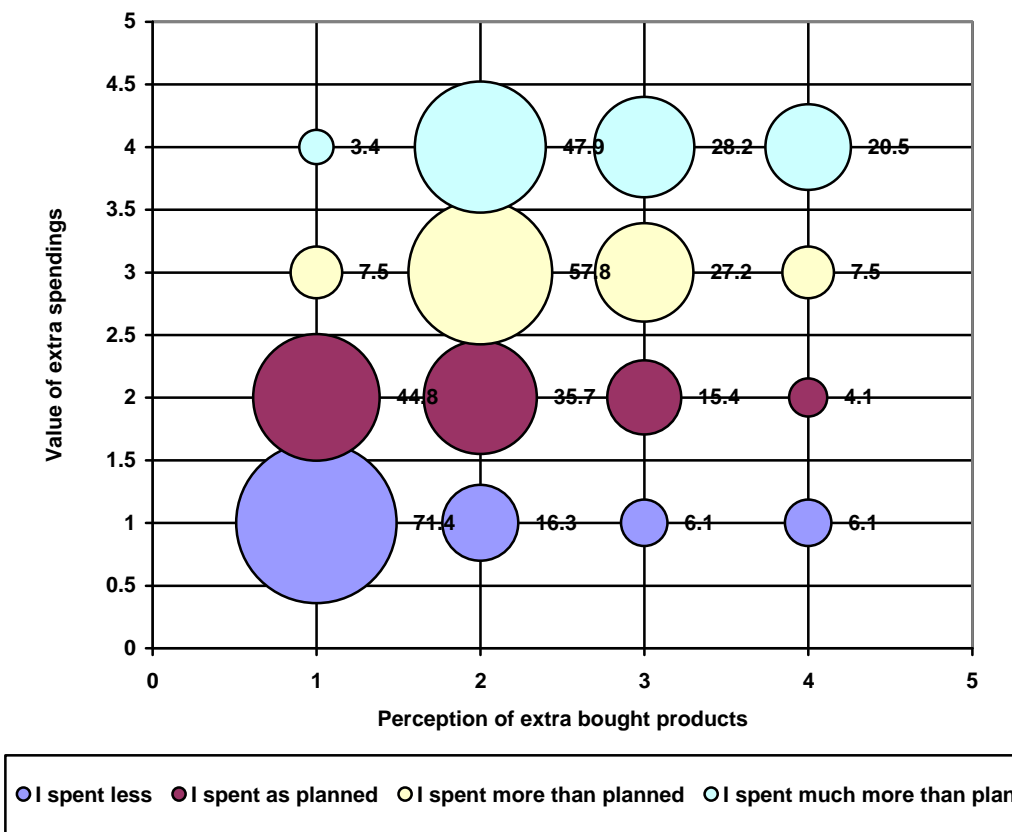
1 = Yes, I bought many extra products
 2 = Yes, I bought some extra products
 3 = No, I bought only what was initially planned

Source: results of own research.

Figure 4. The relation between the unplanned bought products and the extra paid value of purchasing

As can be seen in Figure 4, there is a correlation between those who bought unplanned products and those who spent more. It can be seen that most consumers who spent less than initially planned bought only what they intended to (77.5%). Of course, there are also exceptions so that some of the consumers who spent less, bought a few extra items (14.3%) and even more extra items (8.2%). Among consumers who have spent as planned most consumers have bought a few extra items (40.9%) and some of them only what

they initially wanted (35.7%). So it can be observed that even at the consumers who have realistic expectations of the spent amount there is an impulsive behavior. For the consumers who have spent a little more than planned, most consumers have bought some unplanned products (70.9%) and some bought many unplanned products (19.4%). From the consumers who say that they have spent much more, most consumers have bought a few unplanned products. This result can be explained by a wrong estimation of prices (or an increase of prices). Also a large number of consumers have bought many unplanned products (37.6%).



- 1 = It doesn't happen, so that I don't get annoyed
 2 = I got used to the idea
 3 = I get annoyed every time, but I use the products
 4 = I get annoyed especially because I don't use the products

Source: results of own research.

Figure 5. Relation between the spent amount and the perception on the situation

Figure 5 shows the analysis of the relationship between the values of the unplanned spending and the opinion of the consumer about these purchases. From the consumers who have spent less than planned, as expected, most of them confirm this at the question regarding their opinion on the buying process. From the consumers who spent as planned, most of them state that they didn't buy unplanned products or they got used to the idea. Among the consumers who have spent a little more than they have planned the majority were comfortable with the idea (57.8%). The same happens with those who have spent more than planned (47.9%). Compared to those who spent just a little more, from those who spent much more, more consumers (20.5%) get annoyed for this behavior, especially because they do not use the bought products.

4. Conclusions

The results of the research show that defining the rationality of behavior is a complex process that depends on many factors. The complexity of the buying decision is related to the complexity of the consumer needs. So today's consumer is not satisfied only by covering his basic needs, but the quality and the status in the society have a big influence on the buying decision. So the rationality of a buying decision should be analyzed in terms of these factors. The rationality of buying unplanned products based on impulse, depends heavily on the reasons that led the consumer to act in this way. This behavior may be caused by forgetting to plan a product, but there can be also an impulse of a moment, which also gives satisfaction on the short term. The research related to the rationality of the consumer behavior could be continued by exploring the reasons which led to this type of behavior, though probably few consumers will admit that they took an impulsive, not necessarily rational decision.

Acknowledgements

This work was supported from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/ 89/ 1.5/ S/ 59184 "Performance and excellence in postdoctoral research in Romanian economics science domain".

References

- Angelescu, C., Chenic, A.S. (2012). „The need for the balance between work and personal life in the context of economic crisis and the enhance quality of life”, at the International Conference *The Persistence of the Global Economic Crisis: Causes, Implications, Solutions*, Sibiu, Romania, June 2012, pp. 57-66
- Arcidiacono, D. (2011). „Consumer rationality in a multidisciplinary perspective”, *The Journal of Socio-Economics*, SOCECO-1038
- Dinu, M., Marinas, M.C., Socol, C., Socol, A.G. (2012). „The Impact of Population Aging on the Sustainability of European Social Model”, *Timisoara Journal of Economics & Business*, Vol. 5, No. 1(17), pp. 33-46
- Earl, P.E., Kemp, S. (1999). *The Elgar Companion to Consumer Research and Economic Psychology*
- Hanoch, Y. (2002). „Neither an angel nor an ant”: Emotion as an aid to bounded rationality, *Journal of Economic Psychology*, 23, pp. 1-25
- Ignat, R., Stoian, M. (2012). „Quality of Life in United Kingdom and Romania. A Comparative Study in Rural Areas”, *Ovidius University Annals, Economic Sciences Series*, Volume XII, Issue 1, 2012, pp. 56-60
- Istudor, N., Pelau, C. (2012). „Changes in the consumer behavior depending on gender”, in Bratianu, C., Lixandroi, D., Pop, N.A.I.: *Business Excellence – Challenges during the Economic Crisis, Proceedings of the 6th International Conference on Business Excellence*, Brasov, pp. 249-253
- Kroeber-Riel, W., Weinberg P. (2003). *Konsumentenverhalten*, Vahlen, München
- Lavoie, M. (2004). „Post Keynesian consumer theory: Potential synergies with consumer research and economic psychology” *Journal of Economic Psychology*, 25, pp. 639-649
- Miljkovic, D. (2005). „Rational choice and irrational individuals or simply an irrational theory: A critical review of the hypothesis of perfect rationality”, *The Journal of Socio-Economics*, 34, pp. 621-634
- Pelzmann, L., Hudnik, U., Miklantz, M. (2005). „Reasoning or reacting to others? How consumers use the rationality of other consumers”, *Brain Research Bulletin*, 67, pp. 438-442
- Simon, H.A. (1985). „Human nature in politics: The dialogue of psychology with political science”, *American Political Science Review*, 79, pp. 293-304
- Solomon, M., Bamossy, G., Askegaard, S., Hogg, M.K. (2010). *Consumer Behavior – A European Perspective*, 4th edition, Prentice Hall, Financial Times, Harlow
- Zafirovski, M. (2008). „Classical and neoclassical conceptions of rationality – Findings of an exploratory survey”, *The Journal of Socio-Economics*, 37, pp. 789-820

The influence of cluster type economic agglomerations on the entrepreneurship, in Romania

Adriana REVEIU

The Bucharest University of Economic Studies
reveiua@ase.ro

Marian DÂRDALĂ

The Bucharest University of Economic Studies
dardala@ase.ro

Abstract. *Regional clusters and entrepreneurship have become very popular research topic in many areas, such as: economics, regional science, and economic geography.*

A large number of scientific papers published in the last years investigate the empirical evidence for clusters, their definition, and their implications for economic policy. Also, a series of working tools for regional cluster analyses have been proposed.

Entrepreneurial activities interact and their characteristics are normally bound to the region. Entrepreneurial activities take place in interaction with other economic activities conducted at the local level, and the interaction between them can be the starting point of an economic cluster.

There are lots of arguments for the hypothesis that existing regional clusters have positive impact on the entrepreneurial activities. But only few analyses exist referring to the relationship between clusters attributes of a region and the entrepreneurial activities in the same region. From my knowledge, it is not such of analyses about Romania.

This paper aims to identify regions with potential industrial clusters, from Romania, and to analyse their impact on the entrepreneurial environment. Data about all the companies acting in Romania, in 2011 are used to elaborate the spatial clusters in the most concentrated Romania industries. A second data set with information about new establishments in last year is used, from the National Trade

Register Office statistics. This data set serves to assess the relationship between regional clusters and entrepreneurial activities. The paper tests the empirically proven hypothesis which stipulates that the existence of one or several cluster type agglomerations in a region has a positive impact on the number of start-ups in the same region.

The results obtained from descriptive and regression analyses have shown that there is a positive relationship between the number of cluster type agglomerations and the entrepreneurial activities.

Keywords: cluster type economic agglomerations; regional entrepreneurship; economic geography; economic impact, GIS.

JEL Codes: R12, L26.

REL Codes: 11G, 16H.

Introduction

The theories developed by Porter (1990, 1998) and Krugman (1991), which support the idea that “cluster type agglomeration of companies is favourable for entrepreneurship development by establishing of new spillover”, stimulate a lot of researchers to investigate the empirical evidence for clusters, their definition, and their implications in various economic areas.

In the presence of agglomeration economies, the potential for growth is increasing in the level of economic activity (Glaeser et al., 1992).

This paper examines a particularly important channel through which cluster-driven agglomeration might activate entrepreneurship.

The presence of a cluster of related industries in a location will foster entrepreneurship by lowering the cost of starting a business, enhancing opportunities for innovations and enabling better access to a more diverse range of inputs and complementary products (Porter, 1998, Feldman et al., 2005, Glaeser, Kerr, 2009).

Questions concerning the relationship between entrepreneurship, innovation and regional development have tended to focus on the role played by agglomeration economies in fostering localized learning processes within the economy (Glaeser, 1992).

Even there are a lot of theoretical papers that discuss the relationship between industrial clusters and entrepreneurship, there are very few practical based analyses which evaluate the relationship between clusters within a region and entrepreneurship activities developed in the same region. There are few studies that talk about the local concentration or potential regional clusters available in Romania. Most of them are qualitative based studies, or employ the quantification of industrial specialisation and concentration at NUTS2 regional level, and ignore the spatial size of the regions investigated. But the cluster type agglomerations could be identified at lower levels, like NUTS3 (county) level or even at level of town.

This paper analyses some parts of the relationship between clusters and entrepreneurship. Romania’s counties level will serve to exemplify this relationship, using data about companies residing in each county.

Cluster type economic agglomerations in Romania

According to Porter (1990), an industrial cluster is seen as a set of industries related through buyer-supplier relationship, or by common technologies, common buyers or distribution channels, or by common labour.

The regional cluster is defined as an industrial cluster, in which member firms are in close proximity to each other (Enright, 2000). There is no agreed method for identifying and mapping clusters, either in terms of the key variables that should be measured or the procedures by which the geographical boundaries of clusters should be determined (Martin, Sunley, 2002).

These methods investigate first to which degree an industry is spatially concentrated, before we try to localise regional clusters.

In literature (Amiti, 1998, Kim, 1995, Krugman, 1991) the spatial concentration is often described by measurements which specify the degree of spatial division of labour or more simply: industrial specialisation.

There are some statistical methods used to identify the inequality and concentration in distributions, which have been applied to many economic issues. Some examples are: the location quotient, Herfindahl index used to measure the industrial concentration, Gini coefficient which describes geographic concentration, Ellison and Glaeser index and Maurel and Sedillot index, which are designed to measure agglomeration.

The most common tool is the location quotient (Kim, 1995). The location quotient was first defined by Hoover (1936) and depicts the degree of specialisation of a region in a certain industry.

In this paper we applied the Gini's index to determine the overall spatial concentration of industries and location quotient to measure company level concentration at the regional (county) level.

The general formula for location quotient is:

$$\text{Location quotient} = \frac{\frac{n_{A,R}}{N_R}}{\frac{n_{A,T}}{N_T}},$$

where:

$n_{A,R}$ - the number of employees in industry A in region;

N_R - the whole number of employees, in the region R;

$n_{A,T}$ - the number of employees in industry A, at the national level;

N_T - the whole number of employees, from national level.

Based on this method, a region is considered to have a high degree of specialisation in one industry if the location quotient calculated for that county is greater than or equal to 1.5

For an assessment of the overall spatial concentration of an industry compared to other industries, Krugman (1991) suggested to compute Gini's location quotient.

Gini's method uses the following steps:

- It determines the share of employees in a particular branch, in total employment at the national level, using the following equations:

$$l_i^n = \frac{z_i^n}{z_i},$$

where:

l_i^n – the share of employment in the branch i, of the region n;

z_i^n – the number of employees in industry i, from the region n;

z_i – the number of employees in industry i, at the national level.

- The regions must be descending order to ensure that: $l_i^1 \geq l_i^2 \geq \dots \geq l_i^N$

The whole number of regions is equal with N.

- It is necessary the cumulative share of the employees in the branch i and the cumulative share of the employment in the whole branch. The cumulative shares could be represented by so-called Lorenz curves. Gini's location quotient is represented by the surface between the straight line and an angular quotient of 45° and Lorenz curve, and could be determined using the equation:

$$GC = \frac{1}{2} \sum_{i=1}^N (u_{i-1} + u_i) g_i - \frac{1}{2},$$

where

$$GC \in [0; 0.5]$$

The more geographically concentrated the branch of industry is, the higher the value of GC is.

The Gini coefficient compares the Lorenz curve of a ranked empirical distribution with the line of perfect equality. This line assumes that each element has the same contribution to the total summation of the values of a variable. The Gini coefficient ranges between 0, when there is no concentration (perfect equality), and 1, when there is total concentration (perfect inequality).

An important problem related to the identification of an agglomeration and of regional clusters is that there is no "bottom line" against which to interpret the results. The Gini index only indicates the degree to which an industry deviates from a situation where its employment is distributed over regions precisely in the same way as the entire population.

The concentration index, like location quotient and Gini index, is designate to provide information about the degree to which each industry from one country, in our case from Romania, is concentrated in a number of areas, but does not take into account if the areas are close together or not. These indicators measure the degree of variability of the distribution of employment

across observations for a given partition of the space, a feature that in the literature is referred as concentration (Arbia, 2001, Lafourcade, Mion, 2005).

A non-uniform spatial distribution of an industry and hence a certain spatial concentration of firms is the precondition for the formation of clusters. (Sternberg, Litzenger, 2004)

According to Gini's coefficient, the top of 30 most concentrate industries of Romania's economy look, as presented in Table 1.

To avoid the identifying of a higher concentration industry due only to a lower number of firms compared to the number of counties in which the economic activity is developed, we excluded from my analyses the industries with less then 60 companies.

Table 1

The top of most concentrated Romania's industries

Economic activity (NACE rev. 2 classification) – 2-digit level	Gini's index value	Employment	No. of establishments	Counties with a higher level of concentration of economic activity
Undifferentiated goods- and services-producing activities of private households for own use (NACE 98)	0.27	7	3	-
Activities of households as employers of domestic personnel (NACE 97)	0.23	57	27	-
Manufacture of basic metals (NACE 24)	0.23	39336	527	Tulcea, Braila, Galati, Buzau, Olt, Dambovita, Neamt, Bistrita Nasaud, Cluj, Caras-Severin
Crop and animal production, hunting and related service activities (NACE 01)	0.23	65945	13568	Tulcea, Braila, Ialomita, Calarasi, Buzau, Vrancea, Vaslui, Neamt, Teleorman, Olt, Dolj, Alba, Salaj
Manufacture of other transport equipment (NACE 30)	0.23	35060	555	Tulcea, Constanta, Braila, Galati, Bacau, Olt, Mehedinti, Arad
Manufacture of wearing apparel (NACE 14)	0.22	137119	4914	Tulcea, Braila, Buzau, Ialomita, Calarasi, Vrancea, Covasna, Harghita, Neamt, Vaslui, Teleorman, Olt, Dolj, Alba, Arad, Salaj, Satu Mare
Remediation activities and other waste management services (NACE 39)	0.22	525	59	-
Manufacture of chemicals and chemical products (NACE 20)	0.22	31466	1040	Bacau, Neamt, Ialomita, Teleorman, Mehedinti, Valcea, Alba, Mures, Brasov
Mining of coal and lignite (NACE 05)	0.22	20139	55	-
Fishing and aquaculture (NACE 03)	0.21	1947	780	Tulcea, Braila, Constanta, Ialomita, Calarasi, Brasov, Dambovita, Iasi, Vaslui, Salaj, Bihor
Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (NACE 16)	0.21	47901	6708	Suceava, Neamt, Bacau, Vrancea, Covasna, Brasov, Arges, Harghita, Mures, Alba, Bistrita Nasaud, Maramures, Caras Severin, Mehedinti
Veterinary activities (NACE 75)	0.2	3745	1700	Vaslui, Vrancea, Covasna, Buzau, Tulcea, Suceava, Bistrita Nasaud, Maramures, Salaj, Arad, Caras Severin, Mehedinti, Olt, Teleorman
Forestry and logging (NACE 2)	0.2	37509	4009	Tulcea, Bucharest, Vrancea, Covasna, Suceava, Bistrita Nasaud, Hunedoara, Caras Severin

Economic activity (NACE rev. 2 classification) – 2-digit level	Gini's index value	Employment	No. of establishments	Counties with a higher level of concentration of economic activity
Manufacture of food products (NACE 10)	0.19	146397	8804	Tulcea, Braila, Ialomita, Calarasi, Ilfov, Buzau, Covasna, Bacau, Vaslui, Suceava, Satu Mare, Alba, Valcea
Manufacture of machinery and equipment n.e.c. (NACE 28)	0.19	51411	1525	Brasov, Dambovita, Prahova, Buzau, Braila, Teleorman, Bacau, Vaslui, Bistrita Nasaud, Alba, Caras Severin
Manufacture of paper and paper products (NACE 17)	0.19	11597	811	Suceava, Neamt, Bacau, Vrancea, Covasna, Cluj, Alba, Valcea, Dambovita, Calarasi
Programming and broadcasting activities (NACE 60)	0.19	6040	604	Bucharest, Gorj, Teleorman
Water collection, treatment and supply (NACE 36)	0.19	28098	228	Constanta, Calarasi, Braila, Galati, Vrancea, Covasna, Vaslui, Neamt, Suceava, Mures, Cluj, Alba, Hunedoara, Caras Severin, Mehedinti, Dolj, Teleorman, Dambovita
Manufacture of textiles (NACE 13)	0.19	28857	1750	Iasi, Vaslui, Neamt, Bacau, Buzau, Harghita, Covasna, Mures, Sibiu, Bistrita Nasaud, Salaj, Arad, Hunedoara, Dambovita, Olt
Water transport (NACE 50)	0.19	3207	509	Tulcea, Constanta, Braila, Galati, Mehedinti
Manufacture of furniture (NACE 31)	0.18	59579	4256	Arad, Alba, Arges, Satu Mare, Salaj, Maramures, Suceava, Harghita, Mures
Manufacture of rubber and plastic products (NACE 22)	0.18	39208	3275	Bihor, Satu Mare, Bistrita Nasaud, Neamt, Sibiu, Vrancea, Buzau, Ialomita, Ilfov, Arges, Olt, Gorj, Mehedinti
Retail trade, except of motor vehicles and motorcycles (NACE 47)	0.18	403433	125287	Suceava, Bacau, Ialomita, Teleorman
Activities of membership organisations (NACE 94)	0.18	277	39	-
Manufacture of fabricated metal products, except machinery and equipment (NACE 25)	0.18	84085	6630	Satu Mare, Alba, Hunedoara, Gorj, Valcea, Arges, Dambovita, Brasov, Buzau, Tulcea
Manufacture of beverages (NACE 11)	0.17	19401	888	Harghita, Vrancea, Prahova, Ialomita, Ilfov
Residential care activities (NACE 87)	0.17	307	80	Salaj, Vaslui, Sibiu, Arges, Bucharest
Manufacture of electrical equipment (NACE 27)	0.17	35223	715	Satu Mare, Maramures, Bistrita Nasaud, Arad, Timis, Sibiu, Arges, Dambovita, Dolj, Timis, Arad
Security and investigation activities (NACE 80)	0.17	98820	2029	Mehedinti, Bucharest
Construction of buildings (NACE 41)	0.17	174293	36313	Satu Mare, Maramures, Suceava, Harghita, Arges

Because the clusters are relative to the economics, geographic and regional situations, there is no agreement which magnitude of spatial concentration in a region, relative to the overall region constitutes a cluster. An exact threshold does not exist. The critical value depends on the scale of the region, the level of the industrial aggregation (Sternberg, Litzenberger, 2004), and on the number of clusters proposed to be identified. In the last column of Table 1 (Counties with a higher level of concentration of economic activity)

there are the names of counties that could be part of an economic cluster in specified economic field. Function on the size of regional clusters, we can have one or more clusters in each activity domain.

Entrepreneurship at regional level

For many years, academic papers explained the entrepreneurial activities abstracting completely the spatial factors. Recently, the consideration of environmental factors in a broad sense, including spatial proximity and features of the regional environment, is becoming more and more widespread and popular.

The totality of individual entrepreneurial activities in a particular region determines the entrepreneurial activity of the region. Not only intraregional environmental factors influence entrepreneurial activities.

According to Feldman et al. (2005), the factors that determine the start-up decision of an individual (entrepreneurial activity) are not identical to those that determine the start-up success and that this success of start-ups is dependent also on the characteristics of its regionally bound determinants.

Because entrepreneurs are essential agents of innovation, a strong cluster environment should foster entrepreneurial activity (Delgado et al., 2010).

This paper tests the hypothesis, supported by Sternberg (2004) and by Delgado et al. (2010), which sustains that existing cluster type agglomerations have positive impacts on entrepreneurial activities.

The main argument for this hypothesis is that the existence and development of start-ups could generate a constructive regional environment, centred on an equally positive entrepreneurial climate. The companies within a geographically concentrated cluster share common technologies, skills, knowledge, inputs, consumers, and institutions, facilitating agglomeration across complementary and related industries.

To analyse the regional level entrepreneurial activities of Romania a data set with information about new establishments in last year (June 2011 – May 2012) is used, from the National Trade Register Office statistics. Based on this data set, we have calculated the geographical distribution of new establishments in last 12 months, in Romania and the results are presented in Figure 1.

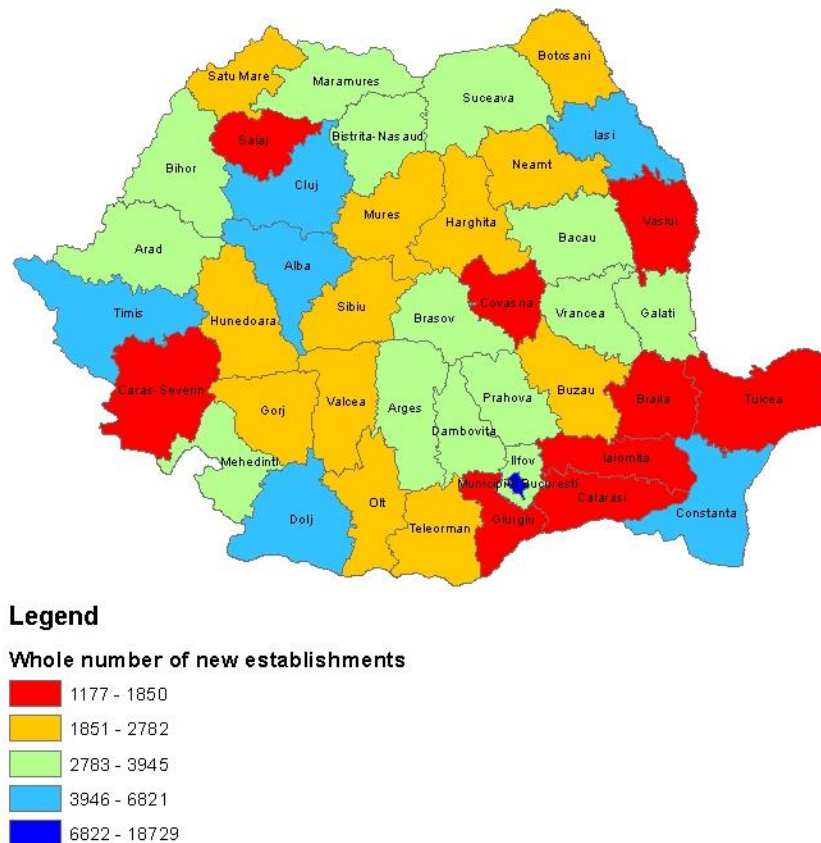


Figure 1. Spatial distribution of new establishments in the last 12 months, in Romania

The relationship between cluster type agglomerations and entrepreneurship

The relevant entrepreneurship and new companies establishment literature distinguishes between person-related and environment-related determinants as the main theoretical explanations for an individual's decision to start a new firm (Sternberg, Litzenberger, 2004). Environmental factors include all determinative of the potential entrepreneur's decision that is external to the person. The environmental factors include regional factors, too.

On the other hand, local entrepreneurial activities can be the starting-point for the development of a regional cluster. Entrepreneurial activities interact and their characteristics are normally bound to the region (Bergmann, 2002). Many start-ups lead to a spatial concentration of firms which is the main requirement for identifying a regional cluster.

In Romania, there is no data available about inter-firm co-operation for companies acting in a region or a county. But, when some companies acting in the same industry are grouped together in a spatial proximity, it implies that the employees of one company have relatively easy access to employees from other companies, from the proximity. This allows for frequent direct informal face-to-face contact between employees of various companies, which may allow for tacit knowledge sharing between the individuals.

Empirical evidence on potential cluster type agglomerations and entrepreneurship

Data used to support the researches is provided by two data sources: data about all the companies acting in Romania, in 2011, are used to elaborate the spatial clusters in the most concentrated Romania industries. The location of each company, the number of employees and the NACE classification, used to describe the industry field in which the company is acting, disaggregated to the 4 digits level are used to describe each company. The data are processed and aggregated at the NUTS3 level (county) and at 2 digits level for NACE classification of economic activities.

A second data set with data about new companies established in the last 12 months, between June 2011 and May 2012, provided as part of National Trade Register Office statistics, serves to assess the entrepreneurial activities in Romania and the relationship between regional clusters and entrepreneurial activities.

Based on the data available, we determined the number of industry in which the economic activity is specialised, for each county. The spatial distribution is presented in Figure 2.

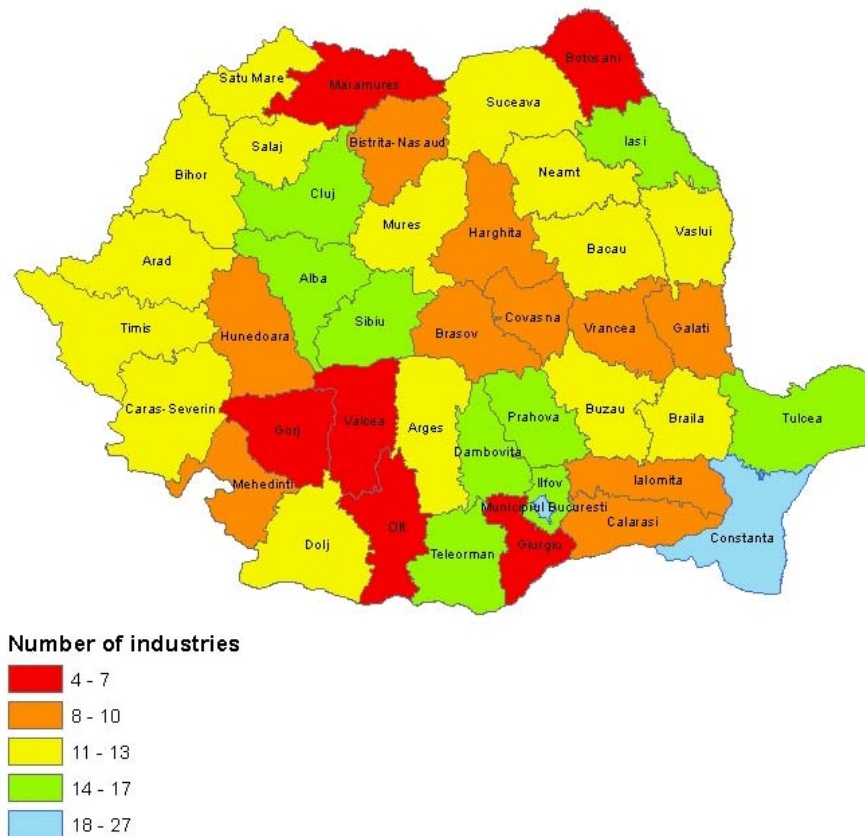


Figure 2. *Spatial distribution of concentrated industries in Romania's counties*

In the next step, we analyse the correlation between the number of new companies established in each county of Romania in the last 12 months and the number of industries in which the corresponding county is specialised.

The scatter-plot chart of data is presented in Figure 3 and suggests a possible positive correlation between the number of concentrated industries and the new establishments from each county.

To test if it is a link between number of concentrated industries identified in each county and the number of new companies established in the last 12 months in the same area, the Pearson correlation coefficient has been calculated. The Pearson correlation coefficient value is 0.7, and the value is statistically significant, Sig value being 0.

Based on linear correlation coefficient (r), calculated to test the intensity of link between the number of concentrated industries form and the number of

new companies established in last year, in each county of Romania, we can observe that the establishment of new companies is explained by the economic activities concentrations in a weight of 49%.

The regression equation will take the form: Number of new establishments = 470 x number of concentrated industries – 2122.

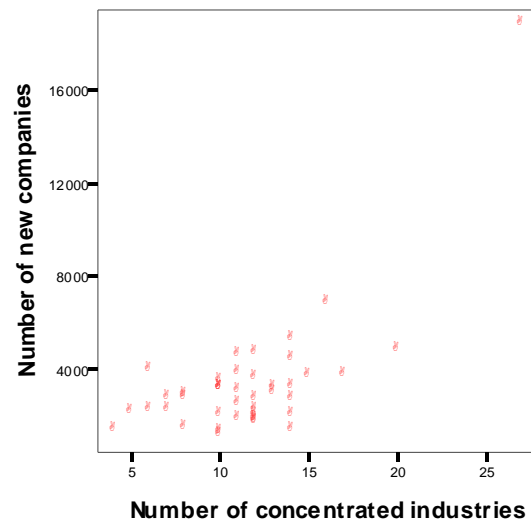


Figure 3. The scatter-plot chart for relation between concentrated industries and new establishments

The last step of our analyse follow to identify the correlation between the concentration of economic activity in each industry (expressed by Gini's index) and the number of new establishments from the same industry.

Based on linear correlation coefficient (r) calculated to test the connections intensity between the value of Gini index for top 30 industries analysed and the intensity of entrepreneurial activities in the last 12 months, in Romania, we can observe that the establishment of new companies is explained by the economic activities concentrations in a weight of 35%. The value of correlation coefficient between Gini's index and the number of new establishments in the last 12 months variables is 0.59 and the significance threshold value is 0.001, so the value of correlation coefficient is significantly.

The regression equation will take the form:

$$\text{Intensity of new establishments} = 1377 \times \text{Gini's index} - 243$$

The Pearson correlation coefficient value is good (value=0.59), and it is statistically significant ($p=0.001$).

Conclusions

The specialisation in economic activity in the regional area, which could generate cluster type agglomerations, explained around 50% of new companies' establishments in the last year, in Romania.

The concentration of economic activity in various industries is explained by the entrepreneurial activities only in a proportion of 35%.

According with these results, we can conclude that, in Romania, the existence of one or several cluster type agglomerations in a region has a positive impact on the number of start-ups in the same region, but it is only a factor, an important one.

Acknowledgements

This work was supported by the project "Performance and excellence in postdoctoral research in Romanian economics science domain", POSDRU contract No. 89/1.5/S/59184.

References

- Amiti, M. (1998). "New trade theories and industrial location in the EU: a survey of evidence", *Oxford Review of Economic Policy*, No. 14, pp. 45-53
- Arbia, G. (2001). "The Role of Spatial Effects in the Empirical Analysis of Regional Concentration", *Journal of Geographical Systems*, Vol 3, No. 3, pp. 271-281
- Bergmann, H. (2002). "Entrepreneurial Attitudes and Start-up Attempts in Ten German Regions. An Empirical Analysis on the Basis of the Theory of Planned Behaviour". *Working Paper*, No. 2002-01, Cologne: Department of Economic and Social Geography, University of Cologne
- Delgado, M., Porter, M.E., Stern, S. (2010). "Clusters and entrepreneurship", *Journal of Economic Geography*, pp. 1-24
- Enright, M. (2000). "Regional clusters and multinational enterprises: independence, dependence or interdependence?", *International Studies of Management and Organization*, No. 30, pp. 114-138
- Feldman, M.P., Francis, J., Bercovitz, J. (2005). "Creating a cluster while building a firm: entrepreneurs and the formation of industrial clusters", *Regional Studies*, No. 39, pp.129-141
- Glaeser, E.-L., Kallal, H.-D. Sheinkman, J.-A., Sheifler, A. (1992). "Growth in Cities", *Journal of Political Economics*, No. 100, pp. 1126-1152

- Glaeser, E.L., Kerr, W.R. (2009). "Local industrial conditions and entrepreneurship: how much of the spatial distribution can we explain?", *Journal of Economics and Management Strategy*, No. 18, pp. 623-663
- Hoover, E. (1936). "The measurement of industrial localization", *Review of Economics and Statistics*, No. 18, pp. 162-171
- Karlsson, C., Johansson, B., Stough, R., (2005). *Industrial Clusters and Inter-Firm Networks*, Edward Elgar Publishing, pp. 281-300
- Kim, S. (1995). "Expansion of markets and the geographic distribution of economic activities: the trends in US regional manufacturing structure", *Quarterly Journal of Economics*, No. 110, pp. 1860-1987
- Krugman, P. (1991). "Increasing returns and economic geography", *Journal of Political Economy*, Vol. 99, No. 3, pp. 483-499
- Lafourcade, M., Mion G.(2005). "Concentration, agglomeration and the size of plants", *PSE Working Papers*, Ecole Normale Supérieure, Paris
- Martin, R., Sunley, P. (2002). "Deconstructing Clusters: Chaotic Concept or Policy Panacea?", *Journal of Economic Geography*, No. 3/2003, pp. 5-35
- McCann P., (2006). *Regional Development: Clusters and Districts*, *The Oxford Handbook of Entrepreneurship*, Oxford University Press, pp. 651-670
- Porter, M.E. (1990). *The Competitive Advantage of Nations*, New York: Free Press
- Porter, M. (1998). *Clusters and Competition New Agendas for Companies, Governments, and Institutions*, in *On Competition*, Boston, MA: Harvard Business School, pp. 197-287
- Sternberg, R., Litzengerger, T., (2004). "European Planning Studies", *Regional clusters in Germany – their geography and their relevance for entrepreneurial activities*, vol. 12, No. 6

Controversies concerning the connection higher education – human capital – competitiveness

Liana BADEA

The Bucharest University of Economic Studies
liana.badea@economie.ase.ro

Angela ROGOJANU

The Bucharest University of Economic Studies
angelarogojanu@yahoo.com

Abstract. *Based on human capital theory, initiated by some representatives of the new school in Chicago in the second half of the twentieth century (Th. W. Schultz, G. Becker and G. Stigler), we see that there is a theoretical vein-slogan: "Man is the most precious wealth of a country," and if we corroborate this slogan with an adaptation of what Adam Smith stated in the eighteenth century – "A country is rich if it has rich/educated individuals", we reason, based on the literature review, that between higher education, human capital and competitiveness there is an indestructible link, influencing, in its turn, the economic growth and development. This paper aims to highlight the main elements describing the link existing between higher education, human capital and competitiveness, bringing to the fore the Romanian reality.*

Keywords: human capital; competitiveness; higher education; economic growth; controversies.

JEL Codes: J24, A39, B00.

REL Code: 12C.

1. Introduction

Nowadays, it is globally observed the fact that the society as a whole is moving towards an era whose future essence will be determined by the ability of individuals to effectively use knowledge and skills in order to adapt to the changes of the economic and social environment. The economists of the twentieth century have shown the importance of investments in capital and infrastructure in growing the competitiveness. However, the failure of some countries to achieve significant growth, despite large investments in infrastructure and capital, prompted increased attention to other categories of factors. Scientists then turned their attention mainly to other factors that generate wealth, and therefore determines the level of competitiveness, such as human capital, technical progress, macroeconomic stability, corporate governance, law, transparent and efficient functioning of the institutions, lack of corruption, market orientation, modernization of firms, demand conditions, market size etc.

In the new economic environment characterized by instability, crises and competitive pressures, human capital turns into an essential pillar leading to economic growth and development, being recognized the fact that human capital is one of the engines of economic development, both in social, community and individual level. Closely related to human capital the importance of education is rediscovered in the academic world and not only, being well known that education systems practiced throughout the time have sought either to adapt to the imperatives of economic changes or to cause those changes which ensured the desired social cooperation. From the end to the used means and content, education has seen many changes, depending on the material and spiritual needs of society.

Nowadays, more than ever, education makes a difference; the general policy is increasingly focused on the power of education, in general, and on the higher education, in particular, in what concerns the improving of the welfare and hence the competitiveness of nations. During time, famous economists have shown that between the development of a nation and the education there is a closely interdependence, so that today if we go with what the "father of economics" (Adam Smith) said in the eighteenth century – "a country is rich if it has rich individuals" we could reach "a country is rich if it has educated individuals". In a sort of "lessons for the future" famous economists – J.S. Mill, A. Marshall, G. Stigler, G. Becker, etc. – tried to decipher the meaning of education and to bring more light on the complicated relationship existing

between the economic development and the education system development (Badea, 2012, pp.1-2).

Moreover, in the context of globalization, all the competent international institutions, along with a suite of scientists and policy makers, emphasize the role of universities and of graduates in the innovation processes, considered necessary to achieve the economic objectives (Badea, 2012, p. 1). In the same time, the education and the division of knowledge guide individuals towards savings and investment in human capital, education turning into an important vehicle of the social inclusion policy; the skills acquired by individuals are enabling them to significantly participate to economic and social development (ELLI, 2010).

At the EU level, the progress is more than visible; during time the increasing number of students was accompanied by the increasing number of institutions, which is easy to understand if we consider that we live in a knowledge economy and the demand for studies is normal to record an upward trend. Unfortunately, in our country the situation is not very encouraging, as we will discover in the last section of the present paper.

2. Human capital – a fundamental factor of competitiveness and economic growth?

2.1. Human capital over time

Over time the concept of human capital has generated a series of controversies, from its very definition and ending with the quantification and determining its components. Thus, among the promoters of the human capital theory are usually listed exponents of the new School of Chicago from the second half of the twentieth century: Th. W. Schultz, J. Mincer and G. Becker. Papers about human capital existed long before the exponents of Chicago School putting into the foreground at least one of the component of the human capital, and after, as can be seen in the table below.

Table 1

Temporal evolution of human capital approaches

No. crt.	The studied issues concerning the human capital	Economists concerned about the study of human capital
1	<ul style="list-style-type: none"> ▪ The development of the individual may be considered a part of the fixed capital. ▪ The individual production capacities constitute a part of the floating capital. 	William Petty (1623 – 1687)
2	<ul style="list-style-type: none"> ▪ The educational capital, defined as "acquired and useful abilities of all the inhabitants or members of society" comes from a previous investment that behaves as an element of the fixed capital. ▪ The division of labor has the advantage of increasing the individuals' skill. ▪ Investments in education are considered future sources of income. 	Adam Smith (1723 – 1790)
3	<ul style="list-style-type: none"> ▪ Emphasizes the role of education in shaping knowledge and experience. 	Leon Walras (1834 – 1910)
4	<ul style="list-style-type: none"> ▪ National wealth is the result of investment in education and training. 	Friedrich List (1789 – 1846)
5	<ul style="list-style-type: none"> ▪ The social emancipation could not be done without an educational emancipation; ▪ The vicious circle revealed by Marshall – people were poor because they were not educated, but were unable to be educated because they were poor – would be transformed into one virtuous circle if the state intervened to help those in difficulty and who could not identify their interests. 	Alfred Marshall (1842 – 1924)
6	<ul style="list-style-type: none"> ▪ Production capacity of the individual is an element of the floating capital; ▪ The relationship between training and wages; ▪ The role of intellectual capital in ethnic capital formation. 	Karl Marx (1818 – 1883)
7	<ul style="list-style-type: none"> ▪ Education is an investment that has the ability to influence the future income and is included in the concept of capital. 	Irving Fisher (1867 – 1947)
8	<ul style="list-style-type: none"> ▪ Highlights the role of the human capital in economic growth, human capital being seen as the stock of skills and knowledge; ▪ Human capital involves investment in health; ▪ Studies the relationship between education, training at work and income; ▪ Mincer found that the only cost of an additional year of school is the anticipated revenue, thus ignoring direct costs such as tuition fees. 	Jacob Mincer (1922 – 2006)
9	<ul style="list-style-type: none"> ▪ Question the notion of capital, focusing on the definition of capital as given allocation of time where one may find the human capital; ▪ In addition, for Schultz "... knowledge and skills are a form of capital ..."; ▪ Knowledge represents a very particular economic value, in other words, science is a rational activity reserved for those sufficiently trained to understand it; ▪ Expenditure on health and education has the potential to increase revenues of individuals. 	Theodore W. Schultz (1902-1998)

No. crt.	The studied issues concerning the human capital	Economists concerned about the study of human capital
10	<ul style="list-style-type: none"> ■ Human capital is closely related to bearer; ■ Has the lowest liquidity; ■ Investments in education are long term investments. 	Lester C. Thrurow (n.1938)
11	<ul style="list-style-type: none"> ■ Human capital represents monetary and non-monetary activities that influence the future monetary income of the individual; ■ These activities include: school education, vocational training during work, medical expenses, migration, search for information about prices and income; ■ The investment in human capital is influenced by a number of reasons: the main determinant is the profit/return that is expected from the amount invested in human capital and secondary remuneration depending on the amount invested in human capital, and they are determined at their turn by the comparison between costs and benefits. 	Gary S. Becker (n. 1930)
12	<ul style="list-style-type: none"> ■ Uses "the procedure of production cost and capitalized earnings"; ■ Identifies six reasons that led treating human beings as capital even before the 60s: <ul style="list-style-type: none"> - Demonstrating the power of a nation; - Determining the economic effects of education, investment in health and migration; - To propose equitable taxation systems; - To determine the total cost of war (in evaluating war losses, after the Second World War); - To alert people to the need for preservation of life and health and to highlight the importance of life of the individuals for the economy of the country they live in; - To support the establishment of compensation decided by the courts in the event of death or accident. 	Bill F. Kiker
13	Education is the essence of human capital, its importance being superior to the health related components.	Mark Blaug (1927-2011)
	<ul style="list-style-type: none"> ■ Builds a model of the employee as investor in human capital; ■ The number of highly specialized jobs increased for all levels of education, to the detriment of unskilled work, poorly specialized and of managers on lower levels, which makes lifelong learning to become a shield against unemployment. 	Thomas O. Davenport
14	Human capital represents "productive resources concentrated in labor resources, skills and knowledge."	OECD (1998)

Currently it seems that those theories which show that we can look at human capital as a factor of economic growth are starting to gain increasingly more importance (Lee, Kim, 2009, Keller, 2006, Kwabena et al., 2006, Petrakis, Stamakis, 2002, Krueger, Lindahl, 2001, Mankiw et al., 1992).

In addition, there is nowadays a subject of interest the quadratic education – human capital – economic growth. Thus, G. Bertocchi and M. Spagat (1998) showed that secondary education is positively related to GDP growth for poor countries. E.A. Hanushek and D.D. Kimko (2000) found that the scores obtained in the international tests in mathematics and science represent indicators of the labor quality, and these scores are strongly positively correlated with the economic growth (Hanushek, Kimko, 2000). However, S. Chen and M. Luoh (2009) argue that obtaining higher scores in mathematics and science only reflect an ability to prepare for exams and not necessarily an exceptional quality of human capital. In addition, they stated that "the number of researchers/capita" and "scientific and technical articles/capita" represent real indicators attesting the quality of workforce and to support economic growth (Tsai et al., 2010, p. 42).

In the 90s and not only, many models started from the observation made by R. Barro (1991) and used as a variable with significant influence for the economic growth the secondary education for both developed and developing countries.

Lately, however, economists are beginning to draw attention to the increasing importance of the higher education in human capital formation and in achieving economic growth (Stephan, 1997, Chatterji, 1998, Kwabena et al., 2006). For example, H.M. Richard (2006) demonstrated that growth is more pronounced in countries where there are well-developed higher education systems. Other researchers have been concerned about the link between the various specializations offered by higher education and economic growth. Among them there are:

- K. Murphy, A. Shleifer and R. Vishny (1991) found that higher technical education influences a greater growth than higher education in law;
- N.S. Tiago (2007) has shown that there is a direct link between the rate of enrollment to engineering, mathematics and computing studies and the economic growth;
- M.G. Colombo and L. Grilli (2005) have shown that in the case of the growth of firms, the number of graduates of scientific and technical studies have a significant positive effect;
- C-L.Tsai, M-C Hung and K. Harriott (2010) have revealed that a country should encourage high-tech fields of study because the percentage of graduates in science, engineering, mathematics and

computer science is an important indicator for determining the quality of the workforce.

The literature is diverse and approaches empirically different links existing between human capital and other important elements of the economy. Which is not a surprise to anyone is that academics began to emphasize the importance of higher education in determining the competitiveness of nations. Section 2.2. seeks to highlight these issues.

2.2. The connection higher education – competitiveness

2.2.1. At the national level

Apart from numerous studies and econometric models built over time to demonstrate the link between education and competitiveness, it is clear that its role was recognized by international bodies concerned with measuring the economic competitiveness of countries and to rank them according to the level and dynamics of their competitiveness. There are two international organizations (institutions) concerned in this regard:

- World Economic Forum (WEF), which is publishing since 1979 The Global Competitiveness Report;
- International Institute for Management Development (IMD), which is publishing since 1989 The World Competitiveness Yearbook.

The Global Competitiveness Index developed by the WEF is based on twelve analytical pillars, which include: public and private institutions, infrastructure, macroeconomic stability, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market sophistication, technological readiness, market size, business sophistication and innovation (WEF, 2012).

If we analyze these twelve pillars, we find that education is reflected in many of them, even if this is not obvious in the case of some. Higher education is found directly or indirectly as various indicators in the case of the following pillars:

- P1. Institutions – the quality of the educational institutions and of those who serve the development and implementation of educational policies leaves its mark on the competitiveness of a nation.
- P5. Higher education and training

- P7. Labor market efficiency – the quality of the workforce heavily depends on the education system. In this pillar it can be found the brain drain phenomenon.
- P9. Technological readiness – the technological capacity of a country is determined by the quality of higher education processes conducted in universities.
- P12. Innovation – the innovation capacity cannot exist without research institutions, highly qualified workforce, scientists and engineers, research and development centers to exploit the collaboration links between universities and business environment and without intellectual property protection.

Table 2

Pillars on which higher education has a direct influence	
Pillar	Indicators related to higher education
P5. Higher education and training	Secondary education enrollment
	Tertiary education enrollment
	Quality of the educational system
	Quality of math and science education
	Quality of management schools
	Internet access in schools
	Availability of reasearch and training services
	Extent of staff training
P12. Innovation	Quality of scientific research institutions
	Company spending on R&D
	University – industry collaboration in R&D
	Availability of scientists and engineers
P7. Labor market efficiency	Brain drain
P9. Technological readiness	Availability of latest technologies

Source: adapted after Ramoniene, L., Lanskoronskis, M. (2011) and WEF (2012).

The International Institute for Management Development (IMD) uses four main criteria, which in turn include a number of sub criteria (IMD, 2012):

- Economic performance is analyzed on the basis of indices and indicators which involve some highlighting key issues: domestic economy, international trade, foreign investment, unemployment, prices;
- Government efficiency is analyzed from the perspective of the evolution of the following areas: public finance, fiscal policy, institutional framework, commercial law, social environment;
- Business efficiency is studied on the basis of indices and indicators aiming at how businesses are encouraged nationwide. Here there are

analyzed issues such as: productivity, employment, finance, management practices, attitudes and system of values;

- Infrastructure is analyzed in terms of some issues related to: basic infrastructure, technological infrastructure, scientific infrastructure, health and environment, education.
- Therefore, higher education influences the rank in the top conducted by IMD in terms of the following indicators:

Table 3

Competitiveness and Education – IMD	
Sub-factor	Issues related to higher education
Labor market	Skilled labor
	Finance skills
Scientific infrastructure	Total expenditure on R&D
	Total expenditure on R&D per capita
	Business expenditure on R&D
	Total R&D personnel nationwide, per capita, in business enterprise and in business per capita
	Basic research
	Science degrees – percentage of total first university degrees in science and engineering
	Scientific articles
Education	Higher education achievement – percentage of population that has attained at least tertiary education for person 25-34
	Student mobility inbound and outbound
	Language skills
	Management education
	Education in finance
	Knowledge transfer – development between universities and companies

Source: adapted after Ramoniene, L., Lanskoronskis, M. (2011) and IMD (2012).

From those shown up to this point, it appears that higher education plays an important role in increasing the national competitiveness, which is why solid educational policies are needed not only to lead to facilitate the access to the system, but also to focus on the quality.

2.2.2. At the individual level

Higher education increases not only the national competitiveness; it increases the individual one too. Also it has the ability to help increase the quality of life for the entire community, as it influences some aspects related to: increasing the social cohesion, decreasing the crime rates, increasing the level of culture, multiplying the human capital, supporting the technological

progress, increasing the productivity, lowering the pollution, increasing the social status, improving the health and longevity, changing the preferences of individuals, changing the constraints that individuals usually face, improving the information and knowledge on the basis of which individuals develop their consumer behavior and/or producer etc. Finally, bear in mind that higher education is an essential prerequisite for increasing the individual earnings as well as finding and keeping a job.

The report "Education at a glance 2012" (OECD) emphasizes that during the recession the wage differences between people with higher education and those with secondary education have widened. In 2008, in average in the OECD countries, a man with higher education could expect to earn 58% more than its counterpart with secondary education. By 2010, the difference increased to 67%. Similarly, in 2008, women with higher education earn on average 54% more than those with secondary education. By 2010, this difference increased to 59%. Such differences are not just a phenomenon of the industrialized world. Currently, the country with the largest differences recorded between earnings of university graduates and the secondary education is Brazil, where they get to be about three times higher than the average found in OECD countries. The same report states that those who wish to continue their studies because of the wage differences are especially evident among young people in the emerging economies. Brazil, Indonesia and Russian Federation are listed among the top ten countries with the highest percentage of individuals aged 15 years who aspire to careers requiring high qualifications (OECD, 2012).

Views on such wage differences are divergent. Thus, A. Weiss (1995) considered unrealistic the explanation in terms of wage variations determined only by the level of education of individuals who have a different number of years of professional experience.

Regarding the issue of finding and keeping a job, it is estimated that a higher level of education provides a signal to the labor market, which means an increase in the probability of employment of individuals with higher education. In addition, it is said that higher education provides individuals with an increased mobility in changing careers and in increasing the revenues. According to "Education at a glance 2012" (OECD), the higher education helped the individuals to keep their jobs during the recession or to be able to change those jobs. For example, between 2008 and 2010, the unemployment rate on average in the OECD countries jumped from 8.8% to 12.5% for those who did not completed some form of secondary education and for those with a

secondary education the unemployment rate increased from 4.9% to 7.6% (OECD, 2012). By the opposite, the unemployment rate for people with higher education remained lower; it increased from 3.3% to 4.7% during the same period (OECD, 2012).

3. The situation of higher education in Romania

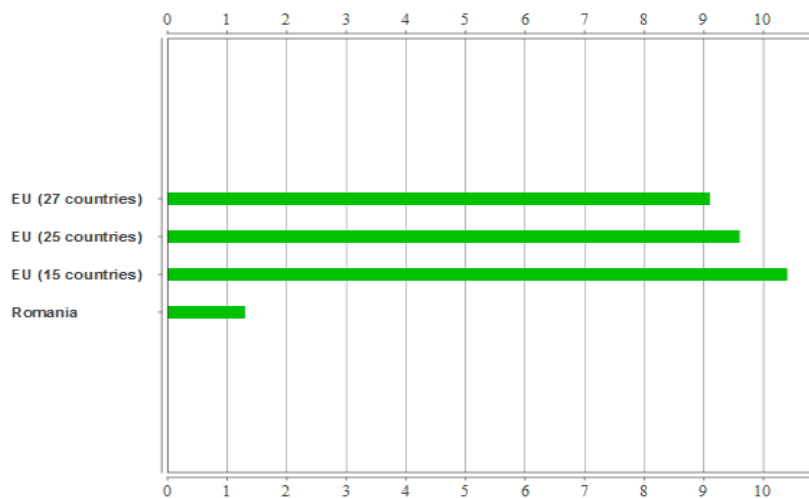
In the rankings realized by various international institutions, the places of Romanian education show that we need further sustained efforts to improve the way educational system works (Badea, 2012, pp. 6-10).

Thus one may notice that:

- in the top realised by The World Economic Forum-The Global Competitiveness Index, Romania occupies the 78th position, losing one comparing to the last year:
 - in the case of the fifth pillar, Higher Education and Training, Romania occupies the 59th position, with a score of 4.36, compared to 55 in 2011.
 - in the case of P7. Labor market efficiency, for the indicator Brain drain, our country is situated on the 136th position
 - for P12. Quality of scientific research institutions – position 84, Company spending on R&D – 87, University – industry collaboration in R&D – 113, Availability of scientists and engineers – 82.
 - for P9. Technological readiness. The availability of the latest technologies – 117
- in the Legatum Institute ranking, in the case of the Prosperity Index (eight sub-indices), at the sub-index called education, Romania ranks the 49th place (out of 110 countries analyzed), being worse than the previous year (43). Romania, the overall top, lost 10 positions (in 2009-48, 2010-51, 2011-58). Education sub-index emphasize: the access to education, the quality of education and the human capital.
- In the Human Development Report 2011. Sustainability and Equity: A Better Future for All, Romania is placed on the 50 position among countries with high human development, being in the ranking after countries like Uruguay and Palau; for higher education enrollment rate for the period in question, 2001-2010, this is only 67.1%, while primary enrollment rate is 99.3% and the enrolment rate for secondary education is 93.5%. These values are below those recorded by

countries that were classified in the category of countries with a very high human development.

- ELLI Index Results 2010 show that our country ranks the last in EU in terms of lifelong learning. As one can observe in the graph below, the percentage of population aged between 25 and 64 years participating in education and trainings in Romania is much lower than the EU average.

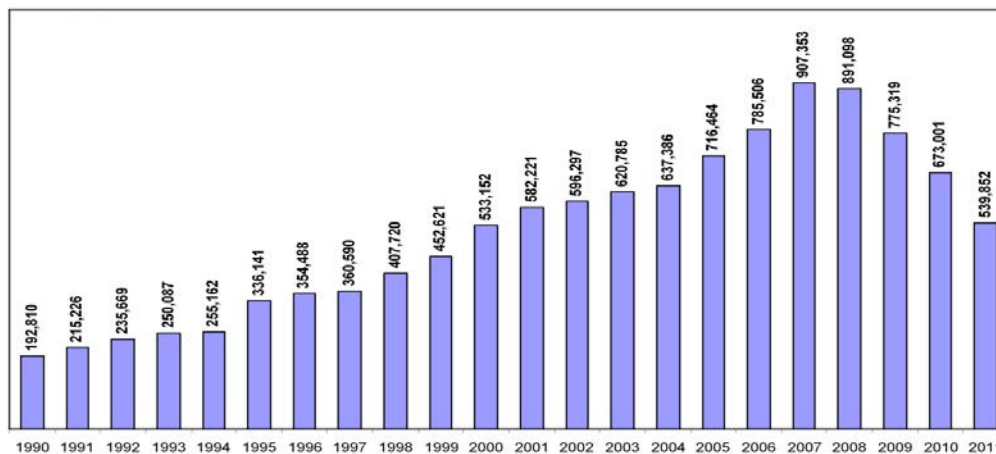


Source: Eurostat (tsiem080).

Figure 1. Lifelong Learning – comparison to the EU average (2010) (% of population aged between 25 and 64 years participating in education and training sessions)

This kind of rankings shows that the higher education system has to overcome a number of obstacles, including:

- The decrease of the number of young people interested to embrace an academic career, mainly because of insufficient rewards.
- The reduction of the number of students, mainly caused by demographic trends, the level of expenditure driven by student life, low graduation rate of the baccalaureate exam etc. According to data published by the National Institute of Statistics in the academic year 2011/2012, the number of students integrated into undergraduate programs (excluding Masters and PhD programs) was 539.852, showing a decrease of 133.149 (-20%) compared with 2010 and 367.501 (-40.5%) compared with its peak in 2007 (see Figure 2).



Source: INS (2011), Statistical Yearbook of Romania.

Figure 2. Evolution of the number of students (day classes, evening classes, part time and open to distance learning)

- Even if the trend for public expenditure in education was upward, there are still serious problems in financing the education system. Romania is still a part of the group of the countries that allocate a small percentage of GDP on education compared to other European countries.
- Public-private partnership in education remains, unfortunately, an exception.
- Investment in research and development remains at a fairly low level, as shows the majority of reports in Europe or globally.

In addition to the problems already outlined, the Romanian higher education also faces others, such as:

- a low level of living which can be a barrier to access the university education;
- a low rate of participation in training programs and professional development of employees, the European rankings placing Romania together with Bulgaria (1.3% versus 29.2% in Denmark, the highest value recorded in Europe). This is hardly encouraging, given that, for Romania, the degree of professional employability of the population between 15-64 years was 59% in 2008 compared to the EU-27 average of 65.9% (ARACIS, 2009, pp. 6-10);
- the gap between the national external system of quality assurance, positively evaluated at the European level and the ability of universities to implement the needed mechanisms to ensure and

improve the quality. According to ARACIS, several Romanian universities do not have active committees for the internal quality assurance and face difficulties in providing data and information about the quality certification;

- poor legislation, inaccurate, incomplete and in a continuous change in the educational area;
- a widening imbalance between the public and private higher education institutions, manifested even by differences in quality;
- plagiarism in the academic environment;
- the ageing population; according to some calculation made at the European level, the total population of Romania will decrease significantly by about 16% by 2050 due to the low birth rates and to a high level of emigration (European Commission, 2011);
- the ability to meet the criteria taken into account by international organizations to highlight the quality and quantity of scientific research;
- the transparency and administrative fairness in the academic environment;
- the corruption, which may take various forms. It may be related to the items of personal nature, such as an increase in the social status. As Steven Levitt and Stephen Dubner show in "Freakonomics", students/teachers can make use of specific instruments to avoid the correct selection mechanisms when the motivation is strong enough. Those involved may have short-term expectations of shaping a favorable social position by placing themselves in the best possible places in the rankings made by those entitled. If, in addition, there are also financial incentives, the propensity to resort to illegal practices seems to be higher. This phenomenon – corruption – has in education, as well as in other sectors, serious consequences such as: a bigger school dropout rate, a low quality of educational services, drawing a system facile to influence from the political, religious or other point of view; raising inequalities between the rich and the poor people, creating an unhealthy mentality under which bribery is perceived as a normal thing and the law enforcement as an exception (Badea, 2012);
- bureaucracy with which the teacher is dealing outside the teaching hours (Frâncu, Hociung, 2012);
- a new culture of learning, a culture of pragmatism and personal comfort: students attend university only to get a diploma; for them the free time is as valuable as life and learning experiences outside the university (Badea, 2012).

Over time arose the concept of student-centered university, therefore it cannot be ignored the characteristic elements of the reality and that is why university, generally speaking, is forced to constantly innovate, to adapt the curricula and teaching methods to cause students to spend more time in libraries and to be more involved in the academic life. Therefore, we need a new vision regarding teaching and institutional mechanisms to encourage universities to adapt to such a new culture.

It is also easy to see that the system revolves in a vicious circle, as Lord Acton said, preparing bureaucrats and their customers with bureaucratic mentality, while they arrived in any type of activity will do exactly what they learned in school (Rogojanu, 2010, pp. 206-212), which means that the system should be redesigned so that it has not the opportunity to shape clerks attitudes, just as Alexander D. Xenopol highlighted in the nineteenth century: "What produce our schools? Candidates for some posts and nothing more "(Xenopol, 1967, p. 103).

In the category of obstacles raised to the competitiveness of higher education is the fact that science-based services have undergone an intense process of bureaucratization!

Another element influencing the functionality of Romanian higher education is the fact that the act of education is dependent of the policy makers. Politicians recognize the value of education in combating a long list of problems, among which we may include poverty and threats to the global security. However, with the end of the election campaign politicians lose interest in the education system, perhaps because the rewards of the investment in education is visible only after a long time and are often collected by another generation of politicians. In addition, sometimes, science is seen by some as a new social ideology.

So we cannot say that we have discovered a universal recipe for obtaining functional higher education institutions, which draws our attention on the importance of identifying problems and subsequent recognition of their existence in finding solutions.

4. Instead of conclusions

Among the drawn conclusions one may observe that education is inextricably linked to the welfare and competitiveness, being influenced by a number of factors such as corruption, historical development, demographic evolution etc. Studies show that countries that have invested over time in the education system today are the ones reaping the rewards of development.

It is obvious that the role of education is extremely important and that is why Romania is trying to increase the access to higher education forms. According to the Memorandum on approval of final values of the objectives of Romania for Europe 2020, approved by the Government in July 2010, Romania aims at increasing the percentage of graduates of higher education compared to total population to 20.25% in 2013 and to 26.74% in 2020 (MECTS, 2010, p. 134).

However, nowadays higher education must meet several challenges: to achieve a quality that stand to the test of international comparison, to improve the management and to be more responsible, to increase funding and to diversify the funding sources. These goals involve major changes in higher education, as we are at a crossroads: either we admit that it's time for vigorous action to identify and stimulate the quality of education, where available, and to improve the quality, there where needed, or we preserve in a state of complacency, which may plunge us into a uniform consistency, characterized by a lack of perspective and competitiveness.

Acknowledgements

This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POSDRU/89/1.5/S/59184 „Performance and excellence in postdoctoral research in Romanian economics science domain”.

References

- ARACIS (2009). „Distribuții statistice, interpretări și opțiuni privind Starea Calității în Învățământul Superior, Barometrul calității”, București
- Badea, L. (2012). „Educația competitivă – pilon al calității vieții”, a doua conferință a Școlii Postdoctorale, *Provocările crizei și răspunsul științei economice*, contract nr. POSDRU/89/1.5/S/59184, Secțiunea I – Mutații teoretico-metodologice în știința economică, 16-17 martie 2012, ASE
- Barro, R. (1991). „Economic growth in a cross section of countries”, *The Quarterly Journal of Economics*, 106(2), pp. 407-443
- Bertocchi, G., Spagat, M. (1998). „The evolution of modern educational systems: Technical versus general education, distributional conflict and growth”, *CEPR discussion paper*, No. 1925

- Colombo, M.G., Grilli, L. (2005). „Founders’ human capital and the growth of new technology-based firms: A competence-based view”, *Research Policy*, No. 34, pp. 795-816
- Frâncu, G., Hociung, G. (2012). „Birocrația în contextul economic actual”, *Economie teoretică și aplicată*, Vol. XIX (2012), No. 6(571), pp. 143-151
- Hanushek, E.A., Kimko, D.D. (2000). „Schooling, labor-force quality, and the growth of nations”, *American Economic Review*, Vol. 90, Issue 5, pp. 1184-1208
- IMD (2012). *World Competitiveness Yearbook*,
<http://www.imd.org/research/publications/wcy/upload/scoreboard.pdf>
- Keller, K.R. (2006). „Investment in primary, secondary, and higher education and the effects on economic growth”, *Contemporary Economic Policy*, Vol. 34, Issue 1, pp. 18-34
- Krueger, A.B., Lindahl, M. (2001). „Education for growth: Why and for whom?”, *Journal of Economic Literature*, American Economic Association, Vol. 39, Issue 4, pp. 1101-1136
- Kwabena, G., Oliver, P., Workie, M. (2006). „Higher education and economic growth in Africa”, *The Journal of Development Studies*, No. 42, pp. 509-529
- Lee, K., Kim, B. (2009). „Both institutions and policies matter but differently for different income groups of countries: Determinants of long-run economic growth revisited”, *World Development*, Vol. 37, Issue 3, pp. 533- 549
- Mankiw, N.G., Romer, D., Weil, D.N. (1992). „A contribution to the empirics of economic growth”, *The Quarterly Journal of Economics*, Vol. 107, Issue 2, pp. 407-437
- Ministerul Educației, Cercetării, Tineretului și Sportului (MECTS) (2010). „Raport asupra stării sistemului național de învățământ”, București
- Murphy, K., Shleifer, A., Vishny, R. (1991). „The allocation of talent: Implications for growth”, *Quarterly Journal Economics*, Vol. CVI, Issue 2, pp. 503-530
- OECD (2012). *Education at a Glance 2012: OECD Indicators*, OECD Publishing,
<http://dx.doi.org/10.1787/eag-2012-en>
- Petrakis, P.E., Stamakis, D. (2002). „Growth and education levels: A comparative analysis”, *Economics of Education Review*, No. 21, pp. 513-521
- Ramoniene, L., Lanskoronskis, M. (2011). „Reflection of higher education aspects in the conception of national competitiveness”, *Baltic Journal of Management*, Vol. 6, Issue 1, pp. 124-139
- Richard, H.M. (2006). „Can higher education foster economic growth?”, *Chicago Fed Letter*, No. 229
- Rogojanu, A. (2010). *Stăpânii ideilor economice. Secolul al XIX-lea*, vol. 3, Editura Economică, București
- Stephan, K. (1997). „Which level of schooling has the greatest economic impact on output?”, *Applied Economics Letters*, No. 4, pp. 177-180
- Tiago, N.S. (2007). „Human capital composition, growth and development: An R&D growth model versus data”, *Empirical Economics*, No. 32, pp. 41-65
- Tsai, C-L, Hung, M-C, Harriott, K. (2010). „Human Capital Composition and Economic Growth”, *Social Indicators Research*, Vol. 99, Issue 1, pp. 41-59

-
- United Nations Development Programme (UNDP) (2011). „Human Development Report 2011. Sustainability and Equity: A Better Future for All”, New York, USA
- World Economic Forum (2012). „The Global Competitiveness Report 2012-2013”, Geneva, Switzerland, www.weforum.org
- Xenopol, A.D. (1882). *Studii economice*, ediția a II-a, in Xenopol, A. D. (1967), *Opere economice*, Editura Academiei, București
- ***(2010). European Lifelong Learning Indicators (ELLI). Making Lifelong Learning Tangible!, Bertelsmann Stiftung, www.elli.org
- *** Eurostat, Education statistics, UOE data collection (educ_figdp)

Consequences and possible solutions of financial crisis

Alexandra ADAM

The Bucharest University of Economic Studies
alexandra.adam@economie.ase.ro

Silvia Elena IACOB

The Bucharest University of Economic Studies
popescusilviaelena@yahoo.com

Abstract. *Financial crisis do not end overnight, but it takes some time until all effects disappear. Most of the time, the period in which the consequences of financial crisis manifest is characterized by: persistent and deep collapses of stock market, deep cuts in production and employment and explosions of government debt whose main cause is, actually, the inevitable fall of tax revenue suffered by the State as a result of deep and prolonged output contractions in the economy.*

Thus, in this article we want to analyze the main consequences of the financial crisis and possible solutions offered by international institutions, especially monetary and fiscal policy decisions.

Keywords: financial crisis; government debt; fiscal policy; monetary policy; labor force.

JEL Codes: E52, E62, F42, G01.

REL Code: 8M.

Generally, financial crises are rather a mechanism that amplifies rather than triggers the recession (Reinhart, Rogoff, 2012). They are actually a change in direction for the production growth, leading to a series of insolvencies in the debts to the banks, to a restraint of other crediting activities, and reaching new production decreases, with new reimbursement problems. Moreover, banking crises are accompanied, more often than not, by other types of crises, such as exchange rate crises, internal and external debt crises, inflationist crises.

Almost invariably, banking crises lead to abrupt decreases of the revenues coming from taxation, while other factors leading to deeper deficits may include the application of automatic mechanisms of fiscal stabilization, contra-cyclical fiscal policies and higher interest rates, through the increase of the risk-related additional benefits and the downgrading to lower rating classes.

The financial safeguarding of the banking sector, the revenue decrease and the fiscal stimulation packages that accompany a great deal of the banking crises (including the latest one) involve the fact that there are growing budget deficits, adding up on top of the existing governmental debt stock. Consequently, it is no wonder that the *true heritage of banking crises* is a higher level of the public debt. And the main reason of the governmental debt explosion is the inevitable fall of the revenues from taxes triggered by the deep long-term contractions of the economic production.

Certainly, among the *consequences* there are also *deep and persistent collapses of the stock markets, obvious production and employment shrinking*, but along this article we will focus on the fiscal heritage of the banking crises.

If we were to analyze a little the fiscal policy practiced during the period 2003-2007, national governments have missed the chance of applying a more restrictive fiscal policy during a time when the private sector took more risk in the activity it undertook (Lane, 2012). In certain countries (for instance: Ireland and Spain), the employment and dwelling boom generated extra-revenues from taxation and in the Eurozone member countries, characterized by a rapid growth, the inflation reached a level above the Eurozone average, consequently leading to a stimulation of the revenues coming from taxation through the non-indexation of several categories of taxes. The revenues obtained improved the fiscal positions only partially, in the context of the existence of certain extra-public expenses. So, the fiscal policy became a little bit less anti-cyclical during this period.

One of the determining factors is the position of the national authorities and international organizations, focusing on the estimation of the budgetary balance, “adjusted cyclically”, without taking into account the distribution of the fiscal and financial risks associated to expansions of the external

imbalances, of the credit, of the sectorial debts and of the housing price (Lane, 2010).

The moment when the financial shock waves were felt in the Eurozone, the accent was placed mainly on the stability of the banking system, the fiscal risks specific for every country being pushed to the background. It was only when the fiscal revenues fell abruptly (especially due to the high sensitivity among taxation revenues, housing decline and assets price) that the attention was turned to fiscal risks as well (Mody, Sandri, 2012).

Moreover, the financial shocks had asymmetric effects on the Eurozone, the most affected becoming the countries that were most dependent on external funding, especially the markets with short-term international debts, as the moment when there appears a lack of financial flows, the investors repatriate their funds to their homeland markets and reevaluate their levels of international exposure (Miles – Ferretti, Gian, Tille, 2011). So, the countries facing significant capital exoduses are those situated at the outskirts of the Eurozone, such as Greece, Ireland and Portugal. Consequently, there is no wonder that these countries have recorded growths of their sovereign debt and it was necessary to come up with certain financial bailouts for them.

The bailouts allotted to them were realized according to the standard bailout patterns provided by the IMF (International Monetary Fund). Unfortunately, certain difficulties have shown up (Lane, 2012). First of all, the bailouts given by the IMF are conceived for a three-year period; yet, in the case of major macroeconomic, financial and fiscal imbalances, it is clear that the plausible adjustment time is beyond that three-year period. Then, a rapid fiscal consolidation may aggravate the deficiencies in the banking system. The decrease in production and the increase of the fiscal burdens will certainly lead to a substantial reduction of the household revenues and firm profits. The agreements made by the IMF involve a penalty tax to discourage the countries from making loans when such is not the case, making it harder for the return of the loan. However, in the case of the bailouts meant to cover sovereign debts, this penalty tax was eliminated in July 2011. The funds allotted by the IMF are provided only if the level of the sovereign debt is sustainable, and when it is not sustainable, according to the traditional practice, the private sector creditors are asked to agree with the reduction of the current value of the debt they are to receive (Lane, 2012).

Moreover, safeguarding funds are used for the recapitalization of the banking system, besides the covering of the “regular” fiscal deficits. While the recapitalization of the problematic banks, financed from public funds, may alleviate a banking crisis, this strategy becomes tricky if excessive public debt and sovereign risks growths occur (Acharya, Drechsler, Schnabl, 2010). And a

general precarious state of most of the European banks and the transboundary nature of the financial stability inside the monetary union supposes the fact that national governments are under international stress to safeguard the banks in order to avoid the contagion effects.

Among the *possible solutions* that could be useful in solving the sovereign debts crisis there are: *the creation of a new independent international institution*, meant to help elaborate and apply certain international financial regulations, a solution supported by Reinhart and Rogoff in 2008. Their reasoning relies not just on the need for a better coordination between the regulations of different countries, but also on the imperative that the regulations should be to a larger extent independent from political pressure.

Another solution would be the *Fiscal Compact*, due to come into force in 2013. Its main aim is to reinforce fiscal discipline, mainly in the Eurozone, being built on the basis of the revised Stability and Growth Pact (according to the Monthly Bulletin of the European Central Bank, May 2012). The compact is made up of two main modules: a rule of balanced budget, including an automatic correction mechanism and a reinforcement of the excessive deficit procedure. In other words: a fiscal balance near to zero “along a cycle” and the fact that high debt levels menace fiscal stability (Lane, 2012).

Under the first module, the contracting parties assume the implementation, in their national legislation, of a fiscal rule involving a balanced or overloaded governmental budget. In fact, this supposes a structural deficit of 0.5% of the GDP and 1% of the GDP in case the public debt is significantly lower than 60% of the GDP and long-term risks related to fiscal stability are low.

The balanced budget rule needs to include a corrective mechanism, automatically triggered in case significant deviations from the medium-term goals or the adjustment strategy are noticed. The mechanism aims to correct the deviations, including the cumulated impact on the cumulated debt dynamics and should also be applied to the temporary deviations justified by exceptional circumstances.

Exceptional circumstances refer to unusual events outside the control scope of the respective country, with a major financial impact on the state budget, or refer to periods characterized by severe economic declines for certain Eurozones or for the entire European Union (according to the Monthly Bulletin of the European Central Bank, May 2012). The above elements will be introduced in the national legislations. Consequently, the Commission is in charge with proposing some common principles for the correction mechanism, but also with the role and the independence of the responsible institutions on a national level in monitoring the submission to all the provisions concerning the balanced budget rule.

The second module aims to consolidate the excessive deficit procedure, in particular by increasing the automatism if a Eurozone country breaks the deficit criterion. Moreover, the countries submitted to the excessive deficit procedure need to present economic and budgetary partnership programs, including a detailed description of their structural reforms, the aim being to assure an effective long-term correction of the excessive deficit. Moreover, the fiscal compact covers the legal obligation of the countries with a high governmental debt and the risks associated with the financing of the debt. So the countries need to correct the excess of a governmental debt larger than 60% of the GDP.

Yet, there are, however, several potential difficulties related to its implementation.

A first problem would be that a difference between the cyclical and the structural deficit should be realized, almost in real time. The actual budgetary deficit is made up of two components: a cyclical one (automatic stabilizers) and a structural one (discretionary policies). As an example of budgetary revenues and expenses influenced by the economic cycle we could have: during an economic recession, the unemployment rate increases, leading to a growth in the number of unemployment benefits, which in turn stimulates the aggregate demand; at the same time, during a period of economic recession, the budgetary revenues decrease because less taxes are collected, which stimulates the aggregate demand, leading to an increase of the GDP (Dumitru, 2012). So, through the Fiscal Compact, governments are requested to adopt a mechanism which requires adjustments if the prevision errors for the structural budget balance cumulated over a period of several years attain a significant level (Lane, 2012).

Another potential difficulty consists in the fact that the primary source of the fiscal discipline will lie on a national level. As we were saying on the previous pages, through the Fiscal Compact, the fiscal rules are written in the national legislation, and independent national fiscal councils will need to monitor the observance of the specific fiscal rules. Our hope would be that the discipline on a national level may be more efficient than the external supervision since it avails itself of a greater political legitimacy. However, external supervision and external sanctions remain a second possibility, if a deviation from the fiscal behavior is observed.

Moreover, excessive imbalances are to be supervised by means of certain indexes, such as: credit increase, housing price and external imbalances. The intention is for a country faced with severe difficulties to be able to take action to prevent the crisis occurrence risk (Lane, 2012). However, it is not clear if national governments have the ability to correctly identify severe imbalances and to launch effective policies to control these risk factors.

Among other *possible solutions* there is also the creation of a *banking union*, representing an institutional framework that will have three segments/branches: a single supervision mechanism, a common structure of analysis/resolution and a common deposit guarantee (Benoit, 2012). The supervision mechanism should bring all the supervision decisions concerning the Eurozone banks under a single roof, namely the Central European Bank, consequently allowing considering the externalities and the general exposures to systemic risk. The second branch has in view a unitary analysis regime and a single resolution background, consequently aiming at an efficient management even in the case of the banks developed on a transboundary level. By means of the last element, we have in view the need to reassure the deposit-makers that their money is safe in any bank from the Eurozone, regardless of the country in which the operations are carried out or their legal domicile.

Certainly, by means of these possible solutions, the aim pursued is to obtain a more advanced level of fiscal union.

References

- Acharya Viral V., Drechsler, I., Schnabl, P. (2010). *A Pyrrhic Victory? Bank Bailouts and Sovereign Credit Risk*, CEPR 8679
- Banca Centrală Europeană, *Buletinul Lunar al BCE*, mai 2012, pp. 79-94
- Benoit, C. (2012). *Why the Euro Needs a Banking Union*, www.ecb.int
- Dumitru, I. (2012). *Compactul fiscal european. Implicații asupra României*, (The European Fiscal Compact. Implications for Romania) www.consiliulfiscal.ro, pp. 2-3
- Gherman, Anca Maria (2009). „Is Inflation Targetting an Appropriate Strategy During Economic Crisis?”, *Metalurgia International*, vol. XIV, pp. 33-36
- Hudea, Simona, Stancu, S. (2012). „Foreign Direct Investments, Technology Transfer and Economic Growth. A Panel Approach”, *Romanian Journal of Economic Forecasting*, No. 2, pp. 85-102
- Lane, P.R. (2010). „Some Lessons for Fiscal Policy from Financial Crisis”, *Nordic Economic Policy Review*, vol. 1, No. 1, pp. 13-34
- Lane, P.R. (2012). „The European Debt Sovereign Crisis”, *Journal of Economic Perspectives*, vol. 26, No. 3, pp. 49-68
- Milesi-Ferretti, Gian Maria, Cedric Tille (2011). „The Great Retrenchment: International Capital Flows during the Global Financial Crisis”, *Economic Policy*, vol. 26, No. 66, pp. 285-342
- Mody, Ashoka, Sandri, D. (2012). „The Eurozone Crisis: How Banks and Sovereigns Came to be Joined at the Hip”, *Economic Policy*, vol. 27, No. 70, pp. 199-230
- Reinhart, Carmen M., Rogoff, K.S. (2008). „Regulation Should Be International”, *Financial Times*, www.ft.com
- Reinhart, Carmen M., Rogoff, K.S. (2012). *This Time Is Different: Eight Centuries of Financial Folly*, the Romanian edition, Editura Publica, București