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## THE ACCOUNTING AND CALCULATION SYSTEM OF THE LIVESTOCK PRODUCTION COSTS: CHOOSING THE OPTIMAL METHOD/OPTION – THE ACE OF THE MANAGERS’ SLEEVES

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**Abstract:** *The role of the managerial accounting in the development of the modern management is obvious.*

*The question that is made regarding the managerial accounting is the obtaining of the relevant information. One of the most significant information in making decisions is the cost. The obtaining of the “cost” information requires, equally, both the rigorous registration in the managerial accounting of the consumptions of production factors, and the choosing of the optimal method of cost calculation. The choosing of the cost calculation method depends on the type of production, but also on all the features of the production process.*

**Key words:** production cost, optimal calculation method, livestock.

**JEL classification:** M41

### 1. Introduction

In terms of globalization, where the complexity of the economic life increases, the role of the information in making the decision also increases. In the economy of any country, either the brilliant successes of some companies, either the disastrous results of others are obvious. If things are clear in the first case, in the second case they aren't, in the sense that some explanations are always searched and are offered endless justifications. In fact, in some situations there is only one cause: management.

In terms of the competitive environment, the decision making process depends on many information to be designed, delivered, received, interpreted, applied and closely monitored.

In the foundation and the decision-making, a particular role has the managerial accounting, because the information in the managerial accounting is destined for the managers.

The role of the managerial accounting is to serve as an instrument in the decision making by the managers of the company, to record, calculate and render certain aspects of the resource use and results production, on production and functional structures or compartments.

The barometer that gives information on the conditions in which a certain activity takes place, which enables the management to track, analyze, and to direct the processes to a rational use of the resources, is the level of the costs. But, any enterprise manager, by the nature of its position, must know, as precisely as possible, not only the costs of production, but also the products price recovery and their profitability.

From the perspective of the profitability of a product, of expressing a proportionality report between cost and price, the choosing of the optimal method for their calculation is required, and if it has several variants, the choosing even of the more realistic variant and, thus, more suitable and recommended by the economic and social conjuncture which, oftenly makes the “game” of the prices.

For this, it is important to know the specific conceptual elements of each method of calculation of the costs, of the report of production structure - organizational structure - management structure, of the report between the types of production - production structure – costs

calculation method, doubled by a good knowledge of the economic environment. Only so we can talk about a creative managerial accounting - as a source of scientific and practical solutions for the contemporary management issues.

The issue of choosing the optimal method (variant) for calculating the costs of the agricultural production is more and more emphasized, taking into account the complexity and the features of this production.

As an integral part of the agricultural production, the livestock production "conditions" the methods (variants) for calculating the production cost of the livestock products, not only of the features of the technological process and of organization of the production, but also of all the other features of the livestock production, itself.

Because in the field of the managerial accounting mandatory regulations and methodologies do not exist in Romania, the agricultural livestock companies use an accounting and cost calculation system that is integrated in the general accounting system and operates based on the data collected at the level of the livestock agricultural farm and their integration at the level of the whole livestock enterprise (or joint venture).

The methodology for recording and costs calculation practiced in the livestock production combines the methods of calculation characteristics that are specific for the agricultural enterprises: the calculation on places or centers of activities (production farms) and the calculation by types of activities (species and animal categories).

Unfortunately, the current system is focusing on the production cost for measuring the consumptions of factors of production, and not for controlling and provide data for the decision-making system.

In many situations, the livestock production takes place in mixed farming enterprises (vegetable production and animal production), and the calculation on types of activities loses of its relevance, aiming the efficiency indicators more at agricultural enterprise level, and not at production farm level.

In the livestock, the actual unit cost is calculated only for the main products.

## 2. Sections

The present study aims to calculate the actual unit cost of the products obtained from the ovine species. The wool is considered a main product of these species when the sheep breeds are bred for the wool, the other products (the live lambs, the sheepskin, the meat and the milk) being considered secondary products. If, however, more products are obtained from certain breeds with a given economic importance and between the prices of which there are some proportionalities that are worthy of consideration, then the actual unit cost for each product of those considered as "main" may be determined (wool, milk, meat resulting from the lambs slaughter, sheepskins resulting from the lambs slaughter, alive lambs, detained for the farm livestock).

The usefulness of this research lies in the developing of a case study by applying the simple calculation method for the ovine species, Țigaie breed.

**Table no. 1: Accounting data regarding the production from ovine**

ANIMAL SPECIES	Average effective (head)	PRODUCTION				Average or conventional price	Total value – lei – (column 6 x column 7)	
		Name of the product obtained	Average		Total			
			U/M	On animal fed	U/M			Quantity
0	1	2	3	4	5	6	7	8
Ovine	1.100	Wool (l)	Kg	2,90	Kg	3.190	3,900	12.441,00
		Milk (lp)	l	38,00	l	41.800	0,926	38.706,80
		Lamb meat (cm)	Kg	4,55	Kg	5.000	8,600	43.000,00
		Breeder lambs (m)	Head	0,36	Head	400	29,000	11.600,00
		Lambskins (p)	Piece	0,73	Piece	800	16,000	12.800,00
		Farmyard manure (g)	t	0,40	t	440	1,000	440,00



In this case, this method can be applied in two ways:

- by the deduction of the secondary production value from the total of the production costs;
- with the help of the equivalence numbers.

The specific data regarding to the production from the ovine species, Tigaie breed, are presented in the following table (Table no. 1):

From the flock of ovine are obtained 1.200 lambs, of which 800 heads were slaughtered at a weight of 10-14 kg / head, alive, with profitability on slaughtering of 50%, and 400 heads were retained for breeding.

Considering only the wool as main product, the other products being secondary, the calculation of the actual unit cost on the wool (cl) product is made based on the simple calculation method, the variant of deducting the secondary production value of the total production costs.

The total value of the secondary production is 106,546.80 lei (38,706.80 + 43,000.00 + 11,600.00 + 12,800.00 + 440.00 = 106,546.80).

The total actual costs of production can be found in the debit of the account 921 "Main activity expenditure" and they are: 113,270.352 lei.

The actual unit cost (cl) is:

$$cl = \frac{Cht - Vps}{Ql} = \frac{113,270.352 - 106,546.80}{3,190} = 2.108 \text{ lei / kg.}$$

Analyzing, though, the data in table no. 1 (and, in particular, from the "total value" column) we can see that, in terms of the company's revenues, all the products, except the manure, have an important share of contribution to their accomplishment. Therefore, each of the products from ovine can be considered as main product and only the manure, as secondary product.

This considerations lead to the use of another calculation variant of the actual unit cost, and namely "with the help of the equivalence numbers (coefficients)".

In this way, the costs are individualized for each of the five products: wool, milk, lamb meat, breeder lamb, and sheepskins.

In order to determine the coefficients of individualization, are taken as a reference base the average or conventional prices of the products (table no. 2).

**Table no. 2 Data regarding the production in ovine**

Cur. No.	Product	U/M	Production	Average price (conventional) - lei -	Production value (vi) - lei -	Coefficients Ki = vi / V	Relative costs (Chi)* - lei -
0	1	2	3	4	5	6	7
1.	<b>Wool (l)</b>	Kg	3,190	3.900	12,441.00	0.104945	11,840.9813
2.	<b>Milk (lp)</b>	l	41,800	0.926	38,706.80	0.326508	36,840.0126
3.	<b>Lamb meat (cm)</b>	Kg	5,000	8.600	43,000.00	0.362723	40,926.1638
4.	<b>Breeder lamb (m)</b>	Head	400	29.000	11,600.00	0.097851	11,040.5628
5.	<b>Lambskin (p)</b>	Piece	800	16.000	12,800.00	0.107973	12,182.6315
	<b>TOTAL</b>	X	X	X	118,547.80	1.000,000	112,830.3520

$$* Chi = (Cht - Vps) Ki$$

The calculation of the actual unit cost of each product is made as follows:

- of the total production costs (Cht) is deducted the value of the secondary production (manure) and is weighted with the specific coefficient:

$$(Cht - Vps) Ki = Chi;$$

- the result obtained (Chi), reflecting the total costs of the product in question, is related to the volume of the respective product, resulting the unit cost relative for that product:

So:

The total production costs (Cht) = 113,270.352 lei;  
 Value of the secondary production (Vps) = 440.00 lei;  
 Relative costs for the main products (Chp) = Cht – Vps = 112,830.352 lei.  
 The actual unit costs are:

$$cl = \frac{Chl}{Ql} = \frac{11,840.9813}{3190} = 3.712 \text{ lei / kg wool ;}$$

$$clp = \frac{Chlp}{Qlp} = \frac{36,840.0126}{41,800} = 0.881 \text{ lei / l milk;}$$

$$ccm = \frac{Chcm}{Qcm} = \frac{40,926.1638}{5000} = 8.185 \text{ lei / Kg lamb meat;}$$

$$cm = \frac{Chm}{Qm} = \frac{11,040.5628}{400} = 27.601 \text{ lei / lamb head;}$$

$$cp = \frac{Chp}{Qp} = \frac{12,182.6315}{800} = 15.228 \text{ lei / skin piece.}$$

### 3. Conclusions

From the analysis of the actual unit costs determined by the two variants of the simple calculation method, it can be seen that the variant of the “equivalence coefficients” is more equitable in terms of the wool product and is expressing a proportionality report between cost and price. Therefore, even if this variant requires more complex calculations, it is more realistic and thus more suitable and recommended. Is not to be neglected, however, the fact that it is the result of the prices which, often depend on the economic and social situation.

The case study presented hasn't unreflected in the managerial accounting of the consumptions of values required by the livestock production from the ovine species, but the emphasize of the cost information which is more realistic and more relevant as is it chosen the most “suitable” method/variant for the costs calculation. An incorrect calculation of the production costs may lead to a superficial management that is wrong, with a very negative impact on the livestock production itself.

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## THE FISCAL DECISION – THE ESSENCE OF FISCAL MANAGEMENT

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**Abstract:** *In any field of activity, the **decision represents the essence of management**, as it determines and measures the success, or, on the contrary, the failure of the activity carried on by an entity. Due to the particular importance of the decision and to the fact that making a correct, adequate decision requires an interdisciplinary analysis effort, the decision making process and system constitutes a permanent challenge for the researchers. In general, a **decision refers to the willful act of a leader (manager) of selecting the best option in order to achieve a predetermined goal, out of several possible options**. The fiscal decision is the basic component of fiscal management. A fiscal decision has direct impact on ensuring the performance of the function of distribution of public finances, on the stage of gathering the financial resources, in the necessary volume and rhythm, as required by the budgetary process. Moreover, a correct, adequate fiscal decision produces positive effects by mobilizing the components of the fiscal system in order to provide the general economic balance.*

**Key Words:** Fiscal management, fiscal risk, public management, fiscal decision, taxpayers.

**JEL Classification:** H32

### 1. Defining elements of the fiscal decision

When underlining the importance of the decision in the managerial process, Herbert A. Simon stated that: „Preparing the decision is equivalent to the entire managerial process. Actually, the functions of the management represent a series of interconnected decisions. Moreover, the public policies decision-making processes represent a series of decisions regarding certain issues existing at the social level.” ( A. A. Simon, *The New Science of Management Decision*, Ed. Englewood Cliffs, Prentice Hall NJ, 1977, page 23.)

To issue a fiscal management decision, also called in fiscal practice an administrative-fiscal decision, (comprising the elements of such a decision), means to perform a decision-making process which requires basing the decision on legal grounds, on the economic influences at the macroeconomic and microeconomic level, as well as on the social effects.

Prof. Ioan Santai defines the decision-making process as being „**all the actions necessary in order to prepare, to adopt, to perform and to control the decisions or the administrative acts.**” (Santai, *Administrative law and administrative science*, Ed. Risoprint, Cluj Napoca, 1999, page 88)

Whereas the founding, preparation and execution of the fiscal decisions is mainly carried out by the executive personnel within the economic entities (e.g. the payment order regarding the tax liabilities) or outside the institutions (e.g. ANAF through its territorial structure), **the approval and issue of the fiscal decision is the direct prerogative of the fiscal manager.**

The analysis of the performance of the decision-making process in the practice of fiscal management identifies its **defining elements**, as follows:

- **the decision-making subject**, which, according to the case, may be:
-

- the manager with fiscal tasks, situated at different hierarchical levels in the structure of an economic entity: executive manager, mayor, heads of departments, office heads, etc.
- the group management, provided by a collegial, pluripersonal management: government, board of directors, local councils, county councils etc.
- **the pursued goal**, which represents the reason for the entire fiscal decision-making process and which, as a rule, has an economic, legal, social or organizational support, directly related to the components of the fiscal system to which the respective decision is addressed.
- **the number of decision-making options**, examined in order to select the best one;
- **the economic environment (economic situation)**, represented by the numerous endogenous and exogenous factors which condition, and, at the same time, condition each other, the implementation of the fiscal decision with direct influences on the level of fiscality;
- **those who implement the decision** are the people on whom the implementation of the fiscal decision produces legal effects, both as taxpayers (payers of taxes and duties) and as people performing tasks regarding the management of the revenues of the state (the fiscal – budgetary body), fiscal risk.
- **the beneficiaries of the fiscal decision**, or, more specifically, of the effects produced as a result of the implementation of the fiscal decision; the public institutions are in this position, or, in a general approach, the users of credits from the budget, in point of the public financial resources available to them.

## 2. Preparation of the fiscal decision, factors, conditions

The functions of the (individual or pluripersonal) fiscal management performed by issuing fiscal decisions must be undertaken with the strict observance of the provisions of the legally established fiscal framework. This aspect is important because such decisions have public financial effects and are often challenged (after the monthly statistical bulletin third quarter 2010, the NATA, the number of complaints filed and resolved in the first half of 2010 compared to first half of 2009 increased from 7201-10222. The disputed amounts sem.I 2010, amounting to 1919.5 million lei (987 million lei to sem.I2009), 41.4% were rejected and only 1.7% were admitted. In contrast, the percentage was high amounts of control documents suppressed by 40.3%.)

The choice of the best fiscal option requires the **determination and quantification of the fiscal risk**. This must be as low as possible. Its extent at the macroeconomic level entails a pragmatic, realistic and responsible analysis of the different options which can be imagined and seem to be absolutely necessary to be taken in order to reach the pursued goals. In most cases, these refer to the increase of the degree of collection of the fiscal revenues.

The analysis of the actual situations, of the options taken into account, offer the fiscal manager the possibility to issue an efficient and timely fiscal decision.

### **The factors which influence the efficiency of the fiscal decision are:**

- the manner of perception of the problem which must be solved by the part of the paying taxpayers to whom the decision is addressed, or by the users of credits from the budget who might not have the allotted revenues available on time;
- the realism and the advantages of the selected option in comparison with other possible options;
- the necessity of the decision;
- the timeframe available for making the fiscal decision, for performing the action and for reaching the pursued goal. It is necessary to perform an accurate analysis of the consequences deriving from the failure to foil the other negative effects generated by: the insufficiency of the budgetary resources, the increase of the public debt by taking out loans from the state, the failure to fulfill the financial commitments assumed towards the European Union or the payment of fines, interests or penalties etc.

Unless these factors are examined as a whole, there is a risk of failing to attain the goal for which the decision was adopted, or of attaining it with poor results or even of producing negative

effects, such as: resistance of the payers by failing to make the payments, delayed payments and, finally, the migration to parts of the world with low fiscality (tax havens).

The specialty literature and particularly the legal framework with a general character regulate the general conditions which must be met. These are aimed to ensure the quality and efficiency of the managerial decisions in general, but are also applicable to the fiscal domain. To these can be added the normative acts referring to special regulations for the domain of fiscal management (Law no. 24/2000 on technical rules for drafting legislation, Law no. 52/2003 on decisional transparency in public administration and Law no. 500/2002 on public finance, local government finance no.273/2006 Law, Law 571/2003 on the approval of the tax code, OG 92/2003 regarding the Fiscal Procedure Code, etc.)

The following conditions must be observed when carrying out a fiscal decision-making process: **founding the decision; integrating the decision within the framework of the decisions previously adopted and within the legislation; harmonizing permanently the decision with the legal framework in which the organizations involved operate; suitability of the fiscal decision; checking the legal character of the decision; issuing the decision in the form and according to the procedure established by law.** (Nicolescu O., I. Verboncu, Management, Economic Publishing House, Bucharest, 1997, bang. 274 275, Androniceanu A., Public Management, Economic Publishing House, Bucharest, 1999, p. 137 140)

- **Founding the decision**

The norms of legislative technique (Article 18 par. 1 of Law no. 24/2000 on the rules of legislative technique) regarding the drawing up of normative acts stipulate the following: „Drawing up the documentary drafts for the normative acts must be preceded, according to their importance and complexity, by the collection of information and scientific analysis, necessary for gaining thorough knowledge of the economic and social realities which are to be regulated, of the history of the legislation in that field, as well as of the similar regulations from the foreign legislation, particularly from the countries of the European Union.”

Of course, the quoted text refers to the normative decisions at the macroeconomic level, but the manner of approach, the rules set by the lawmaker are justified and need to be applied in the case of the fiscal managerial decisions, as well.

**The scientific foundation of the decision requires a thorough collection of information regarding the respective domain and covering the mandatory stages, such as: collection of information, preparation of the founding note, obtaining the approvals prior to the issue and adoption of the decision.**

In most cases, the efficiency of the decision depends on the **competence of the top fiscal managers**. It is based on their knowledge, qualities, skills and professional expertise, as well as on the knowledge, qualities and managerial skills of the managers at the other subordinated hierarchical levels. The qualities and authority of the top manager give him/her the possibility to contradict the counter-arguments given by the external environment, which may be: the political environment, the business environment, the civil society, etc., and which, in most cases, are unfavorable.

- **Integrating the decision within the framework of the decisions previously adopted and within the legislation**

The fiscal managerial decision in any sector, but mainly in the public sector, must provide coherence to the decision-making process. This means that, once the decision has been adopted, it must be in agreement, or, more specifically, **complementary to the decisions previously adopted.**

The possibilities of expression belong to the fiscal management. At the time when the manager notices that certain decisions have become obsolete or no longer correspond to the new conditions, which conditions are continuously in a dynamic state, he must change, revoke,

reconsider or harmonize them (e.g. the harmonization of the fiscal legislation, of the customs' code as a result of Romania's accession to the European Union).

- **Harmonizing permanently the decision with the legal framework in which the organization operates**

The managers of any organizations, but mainly the public managers, and particularly those having fiscal tasks, must found their decisions on the specific legislation of the domain where they operate. As previously mentioned, as a rule, fiscal decisions produce pecuniary effects and, thus, the risk of being challenged is always present.

In a general approach, managerial decisions must follow the categorial system of the objectives of the organization, comprising the fundamental, derived, specific and individual objectives (O., I. Verboncu, Management, Economic Publishing House, Bucharest, 1997, p. 275.). If as a result of the decision new tasks are set, then these must be harmonized with the personnel plan, with the organizational chart and with the ability and professional conduct of the personnel applying the fiscal decisions.

- **Suitability of the fiscal decision**

Suitability means the condition of the decision to be adopted at the best time, in an environment providing maximum efficiency to the organization. It is a characteristic of the administrative decision quoted in the specialty literature, as well as in fiscal practice (I. Santai, op. cited pag.80 84; A. Androniceanu, op. cited, etc. p. 139 140). It is claimed that in order to be efficient, besides the obligation of being issued with the observance of the legal provisions, a decision must be adapted to the actual conditions in which it will be implemented, i.e. it must be suitable and current.

In Prof. Tudor Drăganu's opinion „The topicalness of a legal act expresses the full agreement, within the boundaries of the law, of the act with the tasks incumbent on the administrative institutions, the agreement between the law and the constantly changing requirements of the company. On the contrary, any act which – although legal through the contents of its provisions – is in disagreement with the real situations and does not correspond to the reality in which it is applied, is unsuitable.” (T. Drăganu, acts as administrative, Scientific Publishing House, Bucharest, 1959, p. 72)

A fiscal managerial decision becomes suitable only if it is in agreement with the conditions of the environment to which it refers. Decisions such as the introduction of new taxes, the increase of the level of the fiscality beyond the fiscal optimum, due to the distribution of some public financial resources to finance unjustified public expenditure, are not recommended.

At the level of the executive fiscal management, suitability can be defined as being: **the faculty or the freedom granted to the manager by the lawmaker, so as, within the limits of his/her legal competence, to identify methods, means and the instrument to apply the law, and, implicitly, the managerial decision.**

The fiscal manager has these methods, means and instruments at his/her disposal. It is important that they should be used rigorously and responsibly. They are found in:

- the rigorous selection of the personnel;
- the assignment of the tasks to the personnel according to the competences;
- the well-founded selection of the taxpayers subject to the fiscal audit according to the fields where the fiscal risk, the tax evasion is considerable;
- the material motivation by granting incentives to the fiscal personnel achieving high performances in fiscal administration based on correct assessment criteria.

According to the law, the right to assess may be granted according to suitability criteria, for different cases, such as: location, time, situation, purpose or organizational culture.

- **Checking the legal aspects of the fiscal decision**

The decisions are adopted by managers situated at different hierarchical levels, ranging from the top manager to those situated at the basis, many decisions being able to be taken by delegation

of powers as well. The manager from the higher level can delegate to a subordinate a part or all of his/her powers, but in correlation with the transfer of the related responsibilities.

In any field of activity, particularly in the public sector and especially in the fiscal domain, all the managerial decisions must **strictly observe the letter and the spirit of the law**. It is mandatory for the fiscal decision to be adopted by the person or group of persons who have the legal competence (authority) in the matter.

- **Issuing the decision in the form and according to the procedure established by law**

As a rule, the managerial decisions are in written form, but they can be also conveyed in non-written form.

The specific legislation and doctrine establish the rules which must be observed by the manager when issuing a decision in written form. These rules refer to:

- drafting in legal language and style, in a concise, sober, accurate and unequivocal manner;
- observing the grammar rules;
- including elements referring to: the person making the decision, the object of the decision, the manner of performance, the date of the adoption, the place of the adoption, the issuing institution, the responsibilities, the term of performance, etc. (See article 33 of Law no. 24/2000 on the rules of legislative drafting technique)

At the same time, the person making the decision must observe the legal procedure regarding the issuing of the decision. Whenever the law provides for a more complex procedure for the preparation, drafting, debating and adoption of a decision, the manager must observe all the steps of the decision-making process and **obtain the approvals, agreements, and consents required by the law**.

### 3. Fiscal decision - making process

Actually, the adoption of the managerial decision represents the result of a decision-making process, of mandatory steps debated in the specialty literature as well, with various specifications from one author to the other. (I. Verboncu, op. cited, p. 275 276; A. Androniceanu, op. cited, p. 149 154, V. Junjan Decision in Public Administration, Focus Publishing, 2001, Cluj Napoca, p. 32 42, Matthew Lucka, Public Management, Economic Publishing House, Bucharest, 2001, p. 232 235).

Starting from the constant points of the doctrine and from the practice of public management, the decision-making process is structured in several steps, as follows:

#### 3.1. Defining the problem representing the object of the fiscal decision

In point of the perspective regulated, fiscal management decisions fall into two categories, respectively:

- **Current decisions** regarding the effective, daily, internal activity of the organization (return decisions, fiscal audit decisions, fiscal reauditing decisions, decisions to allot or to reallocate the fiscal personnel, etc.);
- **Strategic decisions** establishing the short term, medium term and long-term evolution of the fiscal phenomenon (normative acts regarding the introduction of new taxes, the cancellation of certain taxes without fiscal efficiency or the modification of taxation quotas, etc.).

It is obvious that, as against this reality, and based on the diagnosis of the impact the endogenous factors or exogenous factors may have on the selected issue, the target objectives will be established, as well as the manner of achieving them.

#### 3.2. Determining the means of applying the fiscal decision

Among other qualities, the managerial decision must have a realistic character. This quality means that the founding of the managerial decision should be made based on a complete assessment of the actual situation within the organization (number, capacity and availability of the existing personnel, necessary logistics) as well as according to the external environment where it produces influences (the taxpayer's resistance to taxation).

Particularly, public management in the fiscal domain must take into account a complex number of factors determining the dynamics of the environment it regulates.

This complex number of factors refers to:

- The European national and local context, from the social and political aspect, the economic and fiscal potential, the legislative competence, etc;
- The human, financial, material and informational resources necessary for the implementation of the decision, as against the possibilities of the organization;
- Meeting the general or sectorial public interest;
- The evolution of the market, of the offer and demand in the regulated domain, etc.

The success of the manager will be ensured only in the cases when his/her decisions are realistic, based on the means available to him/her or on those which can be purchased by the respective organization within an optimum period of time. In the fiscal domain, the problems related to the introduction of new taxes entail the preparedness of the fiscal bodies, as well as that of the taxpayers, such aspects having to be taken into account.

### **3.3.Prefiguring the decision options, selecting the best option**

After determining the necessary means, the decision-making process continues with the prefiguring of the main manners of achieving the objectives. In other words, the individual or group manager makes projections of the possible options of the future decision.

In the case of the group manager, the drafts of the decisions pass through several sub-stages, respectively: group or public debate, deliberation and finally approval by voting, with the majority provided for by the law.

The individual manager analyses the drafts of the future decision which, as a rule, are founded by the specialists within the organization, deliberates and finally issues the decision which he/she considers to be the best.

Mention should be made of the fact that the obligation to found the various options for the future decision is incumbent on the functional departments, whereas the manager has the competence to select from them the best option.

### **3.4.Implementing the decision**

Without attempting to make a hierarchy of the importance of the steps of the decision-making process, it should be noted that in Romanian society the application of the law represents a weak point in general, and the managerial decision is not an exception to this situation. Romanian society does not lack formal regulations, it lacks the will to act in the spirit of the regulations. In this sense, the effort of the public management should be channeled towards achieving a reform in the mentality of the human resources within the public organizations, in general, and within the fiscal body, in special.

The manager must have the ability and knowledge to create within the organization a participative spirit, a spirit of willing consent towards the implementation of the managerial decisions, obviously starting from the premise that they are legal and suitable. However, it is certain that in order to achieve these aspirations the manager will have to adequately motivate the personnel based on genuine performance criteria.

It is obvious that the implementation of any decision entails the initiation by the manager of a number of actions required to make the decision operational, as well as the supervision of the personnel in order to reach the established standards.

At the same time, the manager must be ready to decide effectively to take corrective steps, whenever it is necessary, due to the impact of the external environment on the decision throughout its implementation.

### **3.5.Monitoring, control of the manner of implementing the decision**

The administrative practice has demonstrated what the science of management has established, namely the fact that a managerial cycle **starts and ends with the exercise of the control function.**

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The success of the implementation of a fiscal decision is guaranteed, among others, by the manner in which the activity of the executive personnel is monitored and checked by the managers situated at different hierarchical levels. We believe that we are not mistaken when we state that the efficient exercise of the control function guarantees the success of the organization.

#### 4. Types of fiscal decisions

The fiscal decisions adopted by the public fiscal management can be grouped according to certain criteria, which, without claiming to make a complete presentation, could be the following:

4.1. According to the **extent** of the effects produced, two categories of decisions can be distinguished:

4.1.a **Normative decisions** (laws, emergency ordinances, government decisions, etc) whose particular characteristics are that they produce general effects, they are applicable to the fiscal cases and to the actors falling under their incidence.

This category of decisions represents the prerogative of the top management and is aimed at strategic domains related to general fiscal policies.

4.1.b **Individual decisions** regulating concrete situations regarding the fiscal procedure or the organization of the fiscal body.

4.2. According to the **hierarchical level** on which the decision-maker is situated, three categories of decisions can be distinguished:

- top level decisions adopted by the managers of the organizations, irrespective of whether it is an individual or a group manager.
- medium level decisions.
- low level decisions, which are issued by the managers situated at the other hierarchical levels, except for the top level.

4.3. According to the **timeframe** to which they refer, four categories of decisions can be distinguished:

- decisions applicable for an indefinite term;
- long term administrative decisions;
- medium term decisions;
- short term decisions.

The laws, ordinances, government decisions, decisions of the local and county councils are included in the category of the decisions applicable for an indefinite time. As a rule, these regulations have a normative character, they refer to fundamental issues of public interest and at the time of their adoption a term of validity is not set. It is obvious that when the changes of the external environment lead to substantial changes in the domain so regulated, the respective act will be abolished.

#### 5. Rules and features on tax audit – tax audit decision, rights and obligations

For a proper understanding of the activities of tax control device is necessary to know the specific laws (GEO. 92 of 24 December 2003 on the Fiscal Procedure Code, as amended). Of the exercise of fiscal control, fiscal management, so the entity with control of both the controlled and are obliged to take into consideration the following:

- examining the facts and the legal relations which are relevant for tax;
  - a tax audit will be conducted so as to affect as little current activity of taxpayers and use the time effectively for tax audit;
  - a tax audit is performed once for each tax, fee, contribution and other sums due to the general government and for each taxable
  - by exception, the Head of the competent tax may decide to re-check a certain period if, after the end of the tax audit and until the expiry of the limitation, there are additional data or calculation errors that affect results
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Additional data, unknown device with the inspection on the date of its tax to a taxpayer, which relies on the decision to re-screen for a certain period may result in some situations that arise from:

- making a cross-check the economic operators related activities upstream or downstream of the activity initially checked;
- obtain the shares during the tax audit conducted on other taxpayers of documents or information relating to the taxpayer's activity check in a period that has already been subject to tax audit;
- demands of penal institutions or other bodies or institutions entitled by law;
- obtaining of information obtained in any other manner likely to alter the previous fiscal control results.
- A tax audit is carried out based on the **principles of independence, uniqueness, autonomy, hierarchy, territoriality and decentralization**;
- tax audit activity is organized and conducted on the basis of annual programs, monthly quarterly and approved the conditions laid down by order of the National Agency for Fiscal Administration, or by acts of local authorities, after case.
- at the start of tax audit, the auditor is required to provide the taxpayer identification card for inspection and service order signed by the Head of the responsible fiscal control. Start a tax audit should be recorded in the **single control register**;
- on completion of tax audit, the taxpayer is required to give a written statement on oath, showing that it provided all documents and information required for the tax audit. To avert undesirable situations, the declaration must mention the fact that all the presented documents were returned;
- the taxpayer is required to meet the measures set out in the document prepared by tax .  
The verified taxpayer has the authorities within the terms and conditions set.

The taxpayer checked is required to cooperate with those engaged in tax audit. These obligations are provided by the law (Ibid article 106) and are referred to:

- obligation to cooperate in finding tax states actually give information, to submit to the venue of the tax audit documents and data necessary to clarify the relevant factual statements for tax purposes;
- To be informed at the start of the tax audit may appoint persons to provide information. If the information the taxpayer or the person appointed by him is insufficient, be aware that the inspector may contact others to obtain information;
- taxpayers subject to tax inspection, during it, have the right to seek professional or legal.

During a tax audit verified the taxpayer has the right to be informed (Ibid article 107) of the findings of a tax audit. At the conclusion of tax audit, the inspector will present the findings to the taxpayer and their tax consequences, giving it the possibility to express his point of view. The exception is when the tax bases have not undergone any change in tax inspection or when the taxpayer waives this right and shall notify the tax audit unit. Likewise the taxpayer has the right to present, in writing, his point of view regarding the observations of the fiscal inspection.

Decision analysis requires serious tax to the extent that fiscal institutions are required to **notify the competent criminal prosecution structures** (Ibid article 108) in relation to tax audit findings of material facts meet the elements of an offense, under the terms of penal law.

In this case the tax audit unit has to prepare the minutes signed by the taxpayer under investigation, with or without explanations or objections on his part. If the subject refuses to sign the inspection report, this issue will be recorded in the minutes. In all cases, the report will be communicated to the taxpayer.

#### **Report on the outcome of tax audits** (Ibid article 109)

Factual and legal findings of the tax audit is recorded in a written report which will form the basis for issuing a decision which will include tax differences plus or minus, as appropriate, to existing tax debt at the start of a tax audit. If the tax base does not change, this will be determined

by a decision of no changes to the tax base. Such decisions shall be communicated within 7 days of completion of tax audit report

The **tax** is a **tax administrative act** issued by the competent tax under the legislation for the establishment, modification or termination of rights and tax obligations. The institution shall issue a decision to impose the tax whenever it modifies the taxation base.

#### **Tax Issues delegation decision**

The Constitution of Romania (Article 120), republished, that is regulated, "Public Administration in territorial-administrative units is based on the principles of decentralization, local autonomy, and deconcentration of public services."

Administrative decentralization principle, enshrined in the Basic Law was subsequently the subject of special regulations that aim to define the concepts of "decentralization" and "delegated powers" ( Law of decentralization nr. 195/2006, published in the Official Gazette of Romania, Part I, no. 453 of May 25, 2006).

Quoted in the law, decentralization (Article no.2, point 1, Law no. 195/2006) is defined as "the transfer of administrative and financial responsibility from the central government to local government level or private sector" and the "powers delegated" (Article no.2, point d, Law no. 195/2006) shall be construed "the powers conferred by law local authorities with adequate financial resources by government, to exercise them on behalf of and within the limits set by them."

So, is transferred through decentralization of administrative power and financial parts of the central authorities in favor of local ones. This process of delegation was held in the Romanian tax system by delegating powers down, tracking and collection of taxation as a prerogative of the administrative units. It has been effective in its efforts to streamline local fiscal management with the stated aim of ensuring their financial autonomy.

Another current example of delegation of responsibility and eloquent, the regulatory framework which sets the maximum overall budget expenditure for the central staff of the territorial administrative units.

In management, delegation is considered a way of optimizing the decision.

Delegation of authority from one level of management located on a higher level to another lower assumed:

- a) between the two levels of management there is evidence of shared responsibility, stating that the person that delegated power can not interfere with decision of delegation of competence during;
- b) delegated powers and responsibilities to be transmitted simultaneously from the proprietor of the person to whom powers delegated power

Literature and practice have highlighted the benefits of delegation in the management process that can be found in the entity, if the decision maker knows how to delegate and how far the power to delegate powers.

So, from the organization point of view, the benefits of delegation are:

- relieving upper level managers at a series of routine tasks, the positive effects of budget their time and concentration on major issues;
- increasing dynamism in the organization;
- creates a field of training for new managers;
- optimize dispersion by applying the decision by several people.

It should be noted that some managers ie those who practice an autocratic leadership style, show reticent to act on fear of losing their job. But the method of delegation is available to any manager, individual or group, it depends on realizing the advantages that allow it

## 6. Conclusions

Decision to impose the tax is an administrative act issued by a competent institution for law enforcement tax setting, modifying or extinguishing the rights and tax obligations. The importance of fiscal decision stands out if considered directly related to the budget process with the state effort, that the relevant institutions is to secure financial resources needed to finance public expenditure. Decision to be taken in relation to the fiscal analysis of its defining elements. Fiscal decision-making, requires knowledge of factors that influence and particularly the observance of conditions îndeălini. Decision-making journey in fiscal decision involves a coherent journey, logic and especially lawful.

Rules and features as a way to conduct tax audit tax enforcement decision should be known so the tax unit with control as well as those whom the tax audit for fiscal control decision to meet the elements of legality and finally to produce the expected tax effects. In fiscal decision making merit consideration and decision to delegate aspects of fiscal management as a variant of individual or group, to business efficiency.

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## NOKIA FINANCIAL POSITION ANALYSIS

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**Abstract:** *In this paper the author makes an analysis of Nokia's financial position. With this opportunity are highlighted the developments of the company's assets and liabilities during the considered period.*

**Keywords:** current assets, equity, assets structure, liabilities

**JEL classification:** G32

### 1. Introduction

Nokia is a story of a century and a half of innovation, from a riverside paper mill in southern Finland to a global telecommunications leader. Nokia is the world leader in mobility, driving the transformation and growth of the converging Internet and communications industries. In order to enable people to experience music, navigation, video, television, imaging, games, business mobility and more they produce a wide range of mobile devices with services and software. Developing and growing their offering of consumer Internet services, as well as their enterprise solutions and software, is a key area of focus.

Nokia is a consumer led company. There is a progressive and continuous increase in consumer involvement with technology and communications globally. People are broadening their modes of communication to include the web and, social networks are becoming central to how people communicate.

People want to be truly connected, independent of time and place, in a way that is very personal to them. And, Nokia's promise is to connect people in new and better ways.

Nokia's strategy is to build trusted consumer relationships by offering compelling and valued consumer solutions that combine beautiful devices with context enriched services.

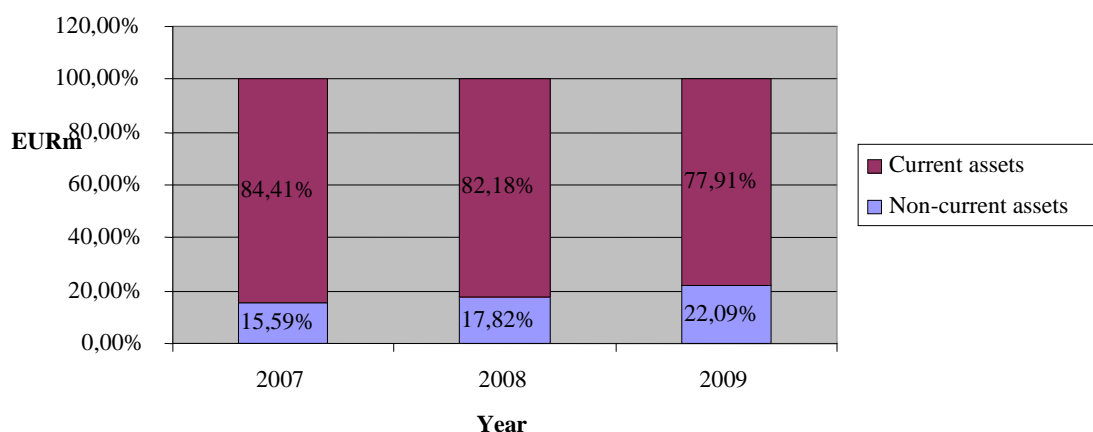
### 2. Method and Results

In this process we take into account on the one hand the assets analysis and on the other hand the liabilities and the equity component of the balance sheet.

#### The assets analysis

The assets are everything of value that a company owns. From Nokia's financial statements, more precisely from the balance sheet we can observe the structure of its assets, divided into non-current assets and current assets, the second group is obtaining the highest values and the biggest percentages in total assets, an average of approximately 80%, understandable fact taking in consideration we're dealing with a production company, phone production. During the years, the current assets are decreasing their contribution to the companies' properties with more than 7%.

Figure 1 Assets structure



#### Analysis of non-current assets

Non-current assets are increasing their number year after year, 2008 being marked by a 106.03% increase of their value, from 4031 millions EURO to 8305 million EURO, being also the year with the highest percentage of non-current assets in total assets.

As we can notice, the biggest percentage in this asset category is taken by property, plant and equipment, but only for the first two years, in 2009, the first place being moved to the other intangible assets category. The second as percentage in total assets is the deferred tax assets with an average of approximately 21%, decreasing through the studied period.

From the horizontal analysis we can observe that the most significant raise is registered in 2009 for other intangible assets category, with almost 600%, followed by the increase in the goodwill with almost 500% and the other non-current assets account for 450%.

Table 1 Analysis of current assets

- EURm -	Vertical Analysis						Horizontal Analysis	
	2007	2008	2009	2007	2008	2009	2008	2009
<b>Current assets</b>								
<b>Inventories</b>	1668	1554	2876	8,80%	8,36%	9,82%	93,17%	185,07%
<b>Accounts receivable, net of allowances for doubtful accounts</b>	5346	5888	11200	28,21%	31,68%	38,23%	110,14%	190,22%
<b>Prepaid expenses and accrued income</b>	1938	2496	3070	10,23%	13,43%	10,48%	128,79%	123,00%
<b>Current portion of long-term loans receivable</b>	0	0	156	0,00%	0,00%	0,53%		
<b>Other financial assets</b>	89	111	239	0,47%	0,60%	0,82%	124,72%	215,32%
<b>Available-for-sale investments, liquid assets</b>	6852	5012	4903	36,16%	26,97%	16,74%	73,15%	97,83%
<b>Available-for-sale investments, cash equivalents</b>	1493	2046	4725	7,88%	11,01%	16,13%	137,04%	230,94%
<b>Bank and cash</b>	1565	1479	2125	8,26%	7,96%	7,25%	94,50%	143,68%
	<b>18951</b>	<b>18586</b>	<b>29294</b>	<b>56,65%</b>	<b>82,18%</b>	<b>77,91%</b>	<b>98,07%</b>	<b>157,61%</b>

The table above shows us the current assets evolution over the years and their structure as well.

From the vertical analysis we can see that the assets accounts mostly used in the company's operating activities are the accounts receivable, with a raising percentage from 28.21% in 2007 to 38.23% in 2009, the amount being more than double from the beginning to the end of the period (5,346 million EURO in 2007 and 11,200 million EURO in 2009).

An important part of any production company is the inventory. Here we can notice that Nokia's inventories represent approximately 9% from the total company's assets, in 2009 the amount going up, almost double from the previous year.

Analyzing the changes for expenses in advance there can be seen an increase somewhere around 20% in 2008 compared with 2007, as well as in 2009 compared with 2008.

Analyzing the development of cash, there is a change from one year to another, in a more pronounced way in 2009 compared with 2008, when the amount is higher with 43,68%.

**Liabilities and Shareholders equity analysis**

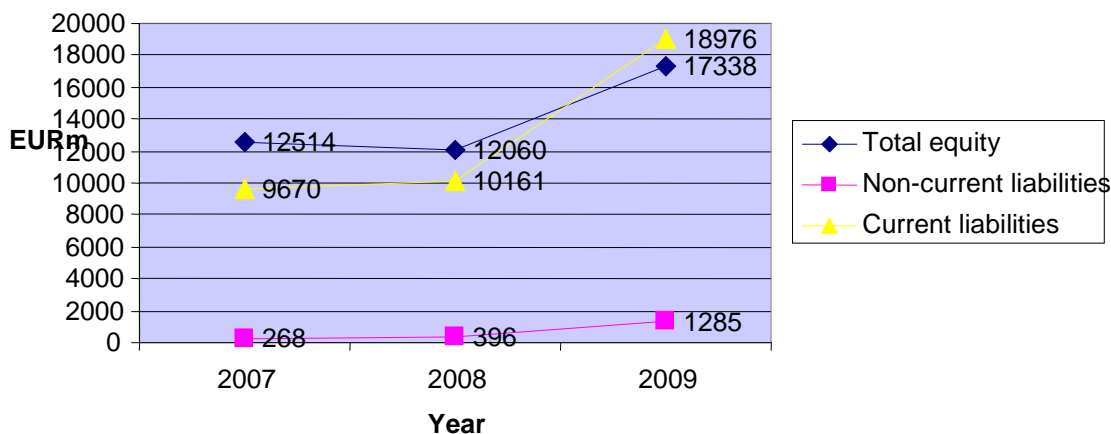
On the other side of assets in the balance sheet, we find owners' equity and total liabilities, having equal values in order to keep track of money as it flows in and out of the company.

In the graphic below we can observe the general ascendant evolution of the passive part of the balance sheet, more specific: the owner's equity and the current and non-current liabilities.

As we can see, the most significant raise took place in the current liabilities area, where the 2009 value is almost double from the one in 2007, with 86.75% higher. The total equity has an ascendant trend, with a slight decrease in 2008, of 3.63% compared with 2007.

The non-current liabilities are at the bottom of the graphic, in what concerns their values, but with the most spectacular increase, more than triple, from 2007 to 2009.

**Figure 2 Shareholders' equity and liabilities**



**Companies' liabilities**

The company's debts and liabilities are materialized in its current obligations arising from relationships with various third parties and revenues in advance (accrued expenses) and provisions and they are divided into two categories: current and non-current liabilities.

**Non-Current liabilities**

As seen in the above graphic, even though non-current liabilities don't record high values, their evolution is a remarkable one, especially because of the deferred tax liabilities (a raise of approximately 370% in 2009 compared to 2008).

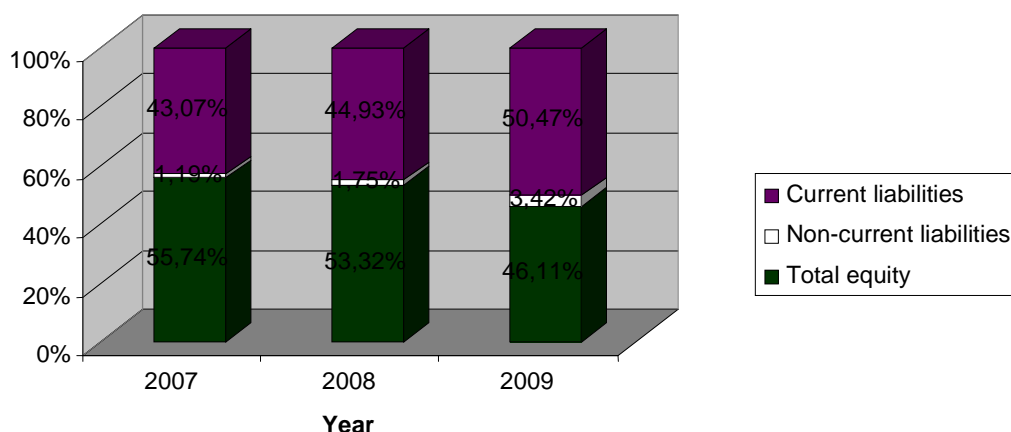
**Table 2 Non-current liabilities**

- EURm -				Vertical Analysis			Horizontal Analysis	
	2007	2008	2009	2007	2008	2009	2008	2009
<b>Non-current liabilities</b>								
Long-term interest-bearing liabilities	21	69	203	7,84%	17,42%	15,80%	328,57%	294,20%
Deferred tax liabilities	151	205	963	56,34%	51,77%	74,94%	135,76%	469,76%
Other long-term liabilities	96	122	119	35,82%	30,81%	9,26%	127,08%	97,54%
	<b>268</b>	<b>396</b>	<b>1285</b>	<b>1,19%</b>	<b>1,75%</b>	<b>3,42%</b>	<b>147,76%</b>	<b>324,49%</b>

From the vertical and horizontal analysis we can observe that the company has increase its external long-term finances, with over 200% in 2008 compared with 2007 and approximately 200% in 2009 compared with 2008, so the raise over the hall period is of almost 10 times, 1000%.

#### Current liabilities

The next chart shows us the importance that the current liabilities have in the passive side of the balance sheet alongside the total equity. In 2009, current debts and liabilities have oversized owners' equity, crossing over the 50% level.

**Figure 3 Owners equity and liabilities**

Over the years, not only the part in the passive side has increased, but also the different current liabilities, especially the short-term borrowings, with more then 260% in 2009 from 2008, even though they were decreasing in 2008 compared with 2007, with approximately 35%.

Another important category of current liabilities is the accounts payable. The 2009 increase ( $\approx 90\%$  compare with 2008) in this area may signify a company's problem with paying its debts or an extended period from its creditors, its suppliers. But, taking in consideration the fact that its bank and cash it's increasing, in the same year, most probably the second supposition is right.

The accrued expenses, the revenues received in advance from the clients, are a big part of the current liabilities to, with a percentage somewhere around 35%, going up from one year to another, from 3320 million EURO in 2008 to 7114 million EURO in 2009, more than double.

From the financial analysis seems like Nokia has increased its adjustments for risks and expenses in 2009, with 55.78%, after decreasing them a little one year earlier.

#### Owners' equity analysis

Owners' equity, also called capital, represents any debt owed to the business owners.

Nokia divides its shareholders' equity into capital and reserves attributable to equity holders of the parent and minority interests, where the last one is somewhere in the interval (0.5% - 2%), in the first two years, in the third the minority interests increases almost up to 15% of the equity.



During the studied period, the share capital has lowered with 20 millions EURO in 2008, while the share issue premium rose with approximately 250 million EURO in the same year, and dramatically lost position in the next year when it decreases to less than a quarter of what it has been in 2008.

The companies retained earnings have a sinusoidal evolution marked by a decrease in 2008 (16.42%) and an increase in 2009 (24.7%), a comeback to almost the same amount from where it left two years earlier.

We can see that the major source of financing for the company is the retained earnings, which are more than 90% of shareholders equity every year.

### 3. Conclusions

Over the three years Nokia has encountered a general ascendant evolution regarding all main financial elements – assets, owners' equity, the company's solvency, as well as the in terms of money that entered in the firms' accounts.

The company's leaders developed it and added value through proper management of heritage, increasing the goodwill at remarkable levels.

As strengths we can mention:

- a favorable situation regarding liquidity and solvency ratios;
- very low short-term borrowing;
- earnings, assets and sales positive growths;

In terms of weak points, the company could make substantial improvements, most important being:

- increasing the assets turnover regarding the inventories and accounts receivables;
- reduce its long-term indebtedness, to move the financial result on plus;

Taking into consideration Nokia's one century and a half history, time when it became the first mobile company, we can say that its stock can be a profitable investment for the future.

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## THE DECENTRALIZATION OF PUBLIC FINANCE. THE CONTEXT- EFFECT RELATIONSHIP

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**Abstract:** *This paper aims to identify possible effects of decentralization of public finances, depending on the context of implementation. The experience of some countries has shown that decentralization does not always lead to more efficient spending of public money and does not always serve to the citizen's needs. So, the conclusion of our study reveals that the local context necessarily involves taking cautious measures in decentralization's reform.*

**Key words:** decentralization, local public finance, local budget;

**JEL Classification:** H700;

### 1. Introduction

Decentralization of public finances has become a political and economic trend in developing countries, which represents a true start for economic and social progress, with numerous benefits in terms of meeting the needs of the population (Uchimura, H.; Jütting, J. P.(2009) Fiscal Decentralization, Chinese Style: Good for Health Outcomes?, World Development, Elsevier, vol. 37(12), pages 1926-1934). Public finance decentralization makes governments more careful and responsive to local needs and also can facilitate citizen access to public services by increasing community participation in decision-making process and implementation.

Decentralization of public finances is expected to have numerous favorable effects, especially in increasing the level of satisfaction for citizens in relation with public services and goods that they access, respectively to increase efficient spending of public money.

In fact, the experience of many countries that have implemented similar policies of decentralization and went from a fairly common economic, social and political basis (the transition countries from the SE of Europe) demonstrated that the phenomenon itself brings implications and different effects depending on context (Dabla-Norris E.(2006) The Challenge of Fiscal Decentralisation in Transition Countries, Comparative Economic Studies, No. 48, IMF:). For example, Poland, Hungary, Czech Republic and Baltic countries developed consistent reforms and conferred a high level of local autonomy to local government. In addition, national economic growth was a strong point that came to help them to grow local financial independence. In contrast, Romania and Bulgaria are on a lower tier of decentralization because of limited freedom of local resources and decision but also because of legislative inconsistency.

In what follows we will study possible effects of decentralization, emphasizing that they are particularly sensitive to the economic, social and political background.

### 2. The effects of decentralization of public finances

Improving quality and efficiency in delivering public goods and services by accelerating the decentralization process represents one of the fundamental premises of a democratic state that wants to become efficient in meeting the needs of its citizens. The transfer of power from central to local levels should lead to immediate benefits because local authorities have better access to information.

That develops their capacity to identify local needs and preferences for public goods and services more successful than the Central Government. Fiscal federalism theory emphasizes that the folding of taxation and public expenditure on the specific taxpayer at various levels of government leads to individual welfare increasing (Musgrave, R.(1959) *The theory of public finance*, New York: McGraw-Hill; Oates, Wallace E. (1972) *Fiscal Federalism*, New York, Harcourt Brace Jovanovich). In this context, we underline the importance of social and political involvement of every citizen. The existence of a communication channel between citizens and the local authority effectively increase public sector performance, because it saves resources, time and local needs are easily identified and efficiently and appropriate solved ( Geys, B.; Heinemann F.; Kalb A.(2010), *Voter involvement, fiscal autonomy and public sector efficiency: Evidence from German municipalities*, *European Journal of Political Economy* no.26 , pg. 265–278;).

Strengthening local power authority would lead to **a better management of any situation on the local territorial administrative units**, it would adapt best staff, resources and procedures on the particular circumstances, in a superior way to centralized management. Lack of human, technical and financial resources of local administrations will stop them to supply the right public services. The adding impediments can be: reduced administrative experience or the absence of democratic tradition, together with the lack of legislation and absence of central government involvement, the existence of local political party interests in opposite to interests of local population, as it happens in some transition countries from Europe (Dabla-Norris E.(2006) *The Challenge of Fiscal Decentralisation in Transition Countries*, *Comparative Economic Studies*, No. 48, IMF). This blocks the objective of decentralization, the citizen welfare (Mosteanu, T.; Lacatus, C.(2009) *Romanian Local Public Finance Decentralization*, *Theoretical and Applied Economics*, *Asociatia Generala a Economistilor din Romania - AGER*, vol. 12(12(541)(s), pages 13-19). Thus, depending on administrative and political context, is sometimes recommended that public service responsibility to be an exclusive power of Central Government, because it has all the necessary resources.

Public finance decentralization has generally a significant effect on **economic growth**, because increases efficiency in spending public money, through a careful monitoring and a better identification of local needs and ways to answer them (Mosteanu, T.; Lacatus, C.(2009) *Romanian Local Public Finance Decentralization*, *Theoretical and Applied Economics*, *Asociatia Generala a Economistilor din Romania - AGER*, vol. 12(12(541)(s), pages 13-19). Although it may have an adverse impact in terms of horizontal tax equity, the decentralization of public finances frees the government from a series of responsibilities that can be better managed and resolved locally. Also, the recent experiences of developing economies or transition countries showed that the central government, but especially the local authorities, are often hostile to local business growth, fact reflected by the specific business regulations.

There is a **direct link between the degree of decentralization of a country and its level of development** (Thießen, U.(2000) *Fiscal Federalism in Western European and Selected Other Countries: Centralization or Decentralization? What Is Better for Economic Growth?*, Discussion Papers of DIW Berlin 224, DIW Berlin, German Institute for Economic Research;), but the studies of developed or less developed countries demonstrated that decentralization has immediate and positive effects only when it starts increasing from a very weak level (Martinez-Vazquez, J.; McNab, R.(2005) *Fiscal Decentralization, Macrostability, and Growth*, *International Studies Program Working Paper Series*, at AYSPS, GSU paper0506, International Studies Program, Andrew Young School of Policy Studies, Georgia State University). Above a certain threshold economical and political progress, increasing decentralization does not bring the same good results. So, we can easily come off with the idea that decentralization has beneficial effects for less advanced countries. There is a limit of a country development tier beyond decentralization no longer generate effects in terms of economic growth.

Redistribution of tasks by local authorities can lead to **a development of regional markets** This effect is visible especially in developing countries and those in transition from a planned

economy to a free market. Democracy, separation of powers in state government and legislative system are responsible for its economic actions and protect domestic market. Therefore, the creation of developed and functional markets requires the transformation of an centralized and interventionist government to one that supports local interest decentralized economic activities. Local government, through tax incentives, may support local businesses. Over time, these measures lead to increased turnover, attract factors of production in the area, so giving local government consistent taxable base.

Decentralization may have **the effect of lowering the budget deficit**, because a decentralization growth can lead to **a better fiscal discipline** (Neyapti, B.(2010) Fiscal decentralization and deficits: International evidence, European Journal of Political Economy, Elsevier, vol. 26(2), pages 155-166;). This idea is logical, since we can predict that taxpayers better collaborate with local authorities that are closer to them and also the tax authorities can exert better control. Also, on the same line, we can conclude of a high efficiency in spending public money because the approach state-citizen through local government and decentralization makes possible a better identification and evaluation of the local needs and population can really exercise the right of control over law enforcement.

We can deeply study this problem by treating separately the links between the revenue and expenses decentralization and the budget deficit, closely with the country's institutional context. If decentralization of public expenditure (spending locally and central funding) may lead to increased efficiency in delivering public goods and services, according to a large and heterogeneous countries (because community leaders better know local problems), revenue decentralization can create difficulties. It is quite possible that local authorities do not receive a consistent taxable field or not to know how to manage their revenues, or even to meet limits on local borrowing. That may imply a taxation level growth( if the law makes it possible) and that will not be welcomed by population. The issue is how much of this income tax remain at the disposal of the locality or region. This depends for sure on the degree of decentralization and its evolution. For example, in the transition countries from the SE of Europe, financial decentralization means rather the phenomenon of devolution, a process designed to increase efficiency and effectiveness of public services runned through local government spectrum. Deconcentration involves the transfer of some central powers and tasks to local authorities. The local government has, in this case, just an executive role and its actions are based on sources transferred. Real decentralization requires local decision both in terms of local needs and resources of their own, the structure of local revenues and spending of public money targets (this may fit the delegation or devolution). So we should distinguish between administrative decentralization and fiscal decentralization, the substantial one. Central part of the revenues and expenses allocated to local authorities does not necessarily indicate the existence of autonomy. Generally, decentralization is measured according to the proportion of income spent locally without making distinctions between the funds transferred to communities from Central Government and own local sources. In the first case we cannot speak about a real financial autonomy. In contrast, the second case clearly shows that local governments are free to establish and control the level of taxes or taxable base.

Decentralization of expenditure also does not distinguish between the own local government spending, generated by their own interests and the expenses mandated that are ordered from the higher level of administration. These criteria seeing the freedom to raise and spend public money according to their own programs means winning a local financial autonomy. Lack of freedom of local government to impose their opinion about local taxation, the political arrangements relating to transfers or even the fact that local authorities are often reluctant to use the incomes of this kind leads us to the idea that revenue decentralization is not providing too many benefits to local governments.

A limitation of local revenue lead to a spending restraint, so the authorities will use centralized sources to complete their own. At this point we can discuss about the fairness of resource distribution in the territory, taking into account the different level of regional development,

which affects the fiscal capacity of the population. Also, the revenue decentralization effects can be studied according to political context, the financing capacity of the country, the administrative structure and the state involvement in national projects. The latter can claim most of the central sources, so that local interest will be for a long period of time in the shadows and the effect of decentralization of public finances is not successful.

Even if until now decentralization of expenditure seems to be favorable, there are arguments against. First, local governments may lose economies of scale by providing public services. Second, information and coordination costs may exceed local capabilities, especially because of the lack of administrative and territorial capacity (Blanchard, O.; Shleifer, A.(2000) *Federalism With and Without Political Centralization. China versus Russia*, Harvard Institute of Economic Research Working Papers 1889, Harvard - Institute of Economic Research; Bardhan, P.; Mookherjee, D.(1998) *Expenditure Decentralization and the Delivery of Public Services in Developing Countries*, Boston University - Institute for Economic Development 90, Boston University, Institute for Economic Development;). The given terms of various and strong local interests, decentralization may have the effect of increasing social fragmentation and even corruption, most of the times because of the lack of accountability in local activities. Besides all this, we may have as a result of decentralization an increased competition between different local governments, which cannot be interpreted negatively, but we can expect at the same time to register tensions, most with political determinants. Problems of coordination between different administrative levels, specific to the beginnings of decentralization may stop tax reform or even macroeconomic policies, so the good effects on the budget deficit cannot have success this way.

Decentralization is also affected by the locally institutions organization. Bureaucracy and a complicated administrative apparatus is likely to lead to corruption, so decentralization will not serve the citizen, but some local groups. The argument made is the existence of local personal interest, which often we identify with the officials interest. Thus, the immediate effect is the decrease of efficiency in local public administration area (Martinez-Vazquez, J., McNab, R.(2003) *Fiscal decentralization and economic growth*, World Development Vol.31). Ideally, decentralization should be associated with decreased corruption. This may become possible in the context of good and transparent institutional organization and decision-making and in law bureaucracy conditions. Thus, it becomes clear that the form of organization and institutional control is a basic condition of social welfare growth role of decentralization.

The decentralization impact and evolution have to do with the size of territorial administration, quantified as the number of inhabitants. Small towns have problems mostly due to poor financial capacity of taxpayers, so responding to local needs has its basis in central government transfers. Large cities, although characterized by a better financial situation, have problems even if the average income per capita is at a good level. This is because, in general, big cities shelter the most disadvantaged population, so the average per capita income is not representative. Social actions are those that claim the biggest funds transferred from the central budget. And yet, although there are discrepancies about the financial possibilities of these two categories of jurisdictions, in the absence of a good redistribution system of the added value in economy, it seems that large cities have priority through political criteria. This is a common situation especially in developing countries, where local governments in poorer areas have a lower absorption capacity of public money transfers.

Low efficiency of transfers is not due only to the poor administrative apparatus but also to the behavior of political elites and the lack of monitoring these special class actions. Therefore, large funds are distributed within areas with many voters and the poor benefit little from the balancing funds. So, political scene plays an important role in the decentralization process. But, for sure, this has positive implications as strong political parties related to a well-defined system will align the initiatives of local politicians to national objectives. Reduced fraction of the government on various political orientations will take effect on decentralization, because national interests will be in equilibrium with the local ones (Musgrave, R.(1959) *The theory of public finance*, NewYork:

McGraw-Hill; Oates, Wallace E. (1972) *Fiscal Federalism*, New York, Harcourt Brace Jovanovich). Therefore, the good effects of public finance decentralization depend on the degree of political centralization.

The implementation of some conditions for funds distribution **may weaken corruption and opportunistic behavior of elites** (Bardhan, P.; Mookherjee, D.(1998) *Expenditure Decentralization and the Delivery of Public Services in Developing Countries*, Boston University - Institute for Economic Development 90, Boston University, Institute for Economic Development). Local interest groups succeed in most cases (developing countries) to attract delegated control elements from the higher level of government. So, in many of cases (Mexico, Italy, Colombia, the former Yugoslavia) the balancing amount distribution was primarily politically motivated, which is hidden under the criterion of population (translated by the number of voters). The situation is relatively similar in Bulgaria and Romania. We identified a balancing funds distribution system, but it is incomplete conditioned by objective criteria. Normally, the criteria for transfer should be multiple and should include: population, level of poverty, ethnic differences, level of democracy, the quality of local governance, the region's economic base, employment, etc. In this scenario it is necessary an asymmetric decentralization of local public finances, as both appear differences between communities as their potential and needs differences.

Continuing the idea that there are fundamental differences between localities and regions, with functioning their population, their territorial extent, culture, education level, the degree of aging, religion, access to resources, population income, employment rate and so on, we must emphasize that decentralization can achieve its goals at the closest level to the individual person. In the context that local interest decisions are taken based on freely expressed vote, the majority reaches its interests. At this point, decentralization may be poor because there are ignored the interests of the few, the interests of minorities. Population heterogeneity implies the need for a more specific and clearly grouping of the communities on different categories, so that heterogeneous state to be composed of homogeneous communities. To form a locality on the basis of two different categories, different as economic potential and number of people contained will rise to disadvantages. The measures taken will be decided mainly by biggest category, hence stronger. So it is recommended that financial decentralization to be accompanied by a carefully constructed administrative division, in order to avoid inequity. In addition, specific policies for minorities or the introduction of particular voting systems for them, other than those based in the principle of majority may be used. Some authors have a different opinion. They believe that centralization meets better the objectives of public welfare than decentralization, in terms of equitable distribution of public goods and services (Akai, N. ; Mikami, B.(2006) *Fiscal decentralisation and centralisation under majority rule: A normative analysis*, *Economic Systems*, *Economic Systems*, 30(1),pg. 41-55).

### 3. Conclusions

Decentralization of local public finance efficiency depends on factors such as country size, population, expansion of privatization in the economy, the ability of local authorities to identify own sources of funding and to enhance them, information transparency, administrative capacity, citizen involvement in public affairs, the existence of a conditioned balanced system of redistribution of GDP in the economy through public expenditure and revenue and not in the least coherent and complex legislation (Tanzi, V.(2000) *Fiscal Federalism: issues to worry about*, International Monetary Fund's seminars;). Decentralization must be assumed with great caution because it is generating positive effects only in a certain context and for some form of implementation, which has to be customized for each country.

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## IMPROVING THE QUALITY OF THE FINANCIAL ADMINISTRATION – PREMISES FOR PREVENTING THE DEVELOPING OF BUDGETARY ARREARS

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**Abstract:** *The paper intends to approach some of the aspects that regard the necessity of improving the well functioning of the financial and fiscal control in our country, by conceiving and implementing some procedures meant to lead to the speeding the reaction of the Financial Administration in front of the phenomena of not – declaring and not – paying the budgetary obligations of taxpayers or contributors, ensuring an efficient using of the human resource in the financial administration, with positive effects while looking at the result meaning at the influxes for the estate consolidated budget.*

**Key words:** budget, financial administration

**JEL Classification:** G38

Breaking the laws of the financial discipline by the contributors refers to two main elements that can be found at any level of each European fiscal administration:

- not declaring: the contributors do not hand in their declarations;
- not paying: the contributor hand in their declarations but they do not entirely pay their fees, taxes and declared contributions.

If strengthening the fiscal discipline of the contributors is really intended, the financial administration must use the following procedures in a compulsory way:

- estimating from the very beginning the budgetary obligations in every case in which the contributors do not hand in the declarations and do not send the proof of paying;
- sending the proof of paying, as a first measure, and immediately informing the office of law enforcement and starting the procedure of constraint payment.

These procedures must be adapted to the interests of fiscal administration meaning:

- they must be prompt and systematic especially for the important contributors as far as the fiscal potential is concerned, meaning those that represent 75% of the incomes of the fiscal unit and for those with arrears that extend a certain imposed level;
- they have to be effectively put into practice with term of regulation for the other contributors.

The operation of collecting the declarations in the data bases administrated by the fiscal unit is very important because only at the end this operation will be precisely known the list of contributors that did not hand in the declaration, and then, with a good collaboration with the treasury, the lists of those who did not entirely and on time payed their taxes will be edited.

Identifying those who do not hand in their declarations consists in comparing the lists of registered contributors in the evidence of the fiscal unit with the lists of contributors that did not hand in their declarations in the analysed period. The difference obtained represents the contributors that did not hand in the fees and taxes declaration and that must be warned and constrained to hand in the tax declaration, and in case they refuse, they must be forced ex officio / officially.

Not paying on time is very important and has in its essence the accumulation of budgetary arrears. Detecting this phenomenon consists in comparing the registered payments with the declared amounts of money.

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Rapidly identifying those who do not pay means to compulsorily compare the declared budgetary obligations at the fiscal administration with those who payed at the treasury.

Implementing an Informatics programme is essential for accomplishing this objective because it allows:

- the registration of the payments in the contributors file;
- the separate registration for each type of fee or any other budgetary obligations, identifying debts, penalties for delays, etc;
- deducting the payment meaning establishing the budgetary obligation that ends and the period of time referred to.

This Informatic programme is a must for automatically detecting the bad contributors, so that the fiscal administration can rapidly react.

Without this performant instrument, the registration of the payments is being made with delays and with negative consequences regarding the calculation of the voluntary pay coefficient on the date of payment for the declared fees, which is a fundamental indicator for evaluating the performance of the fiscal administration.

As far as the procedure to be followed by the fiscal administration in case of not handing in the declaration, this must contain the notification of the contributor to hand in the declaration, and in case of not declaring, the estimation ex officio or / and the fiscal control.

In case of payment incidents, we deal with payment notification and, if even in this case the contributor does not pay on time, the office of law enforcement will immediately initiate the procedure of constraint payment.

Organising the constraint payment assumes the establishing of the following priorities and objectives:

- the priority accorded to paying the current obligations practically represents a control upon the contributors' current obligations, starting with the most important, both from the point of view of handing in the declarations on each fiscal date of payment and from the point of view of real payments;
- adopting a selective vision upon the financial administration is being accomplished by controlling at each date of payment and for each type of fee of the following indicators:
  - the number of contributors who did not declared and of those who did not payed their taxes;
  - the degree of voluntary payment on the date of payment of the taxes;
  - the evolution of arrears.

Each fiscal unit must print a list of contributors with the main purpose of knowing the phenomena of breaking the laws of budgetary obligations in order to take immediate measures for constraint payment, followed, if the case requires, by the appropriate measures for law enforcement.

Essentially, two types of lists are indispensable in order to concentrate the effort of the fiscal administration upon the group of the most important contributors, in order to establish the priorities, objectives and form on the hierarchical system depending on the incomes that are expected to be collected:

- the list of contributors who did not hand in their declarations (the list must be printed by each fiscal unit, on the date of payment and for each type of tax)
- the list of contributors who handed in their declarations and did not pay the declared taxes, entirely or partially, at each date of payment for each kind of tax.

Concentrating upon the group of contributors whose turnover overpasses a well defined level of signification or registers arrears that exceed a certain limit.

We refer to concentrating the effort upon the financial administration of contributors whose turnover exceeds a well defined level of signification, so that this group reaches to represent 75 - 80% of the fiscal incomes expected by the fiscal unit.

Generally speaking, the number of legal persons in this category is reduced (5/8%) but with a great potential of fiscal incomes (75 – 80%).

Developing the Informatics system, the accomplishing of the administration of this group of contributors will be automatically done with the help of a computer by editing notifications for not handing in the declarations, decisions of constraint payment, payment notifications, etc.

To conclude, these actions lead to hierarchically organize the priorities and giving up to a traditional administration in which each contributor is being treated in the same way, no matter the degree of fiscal debt. At the same time, a way of monitoring the important contributors must be edited, on one hand, and efficiently programme the activity of administration in the case of the rest of contributors that are in the legal term of payment, on the other hand.

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## “THE DEMOGRAPHIC BOMB” – THE EFFECTS OF THE AGING OF POPULATION ON THE EUROPEAN SOCIAL SYSTEMS

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**Abstract:** *The financial crisis triggered in the U.S. in 2007 has spread around the world, causing restriction of the economic activities at a global level. The economic effects emerged quickly, but the social ones are dramatic causing a deep global social crisis. The widespread increase of unemployment, poverty and enhancement of social exclusion, the difficulties encountered by the social protection systems, are just several of the coordinates of the great challenge facing Europe. The dramatic reduction of expenditure, adopted as an emergency measure to overcome the recession, has increased the demographic decline, the European social picture becoming darker in the context of an acute phenomenon, that is becoming chronic that is the aging of the population. Therefore it is impossible to predict a substantial economic growth and the public expenditure pressure is becoming unbearable.*

**Keywords:** aging of population, social crisis, public expenditure, private pensions

**JEL Classification:** J11

Today Europe is in a profound period of transformation and “resurrection”, the crisis canceling much of the progress in terms of economic and social growth of the last decade. Globalization, demographic reconfiguration and pressure on resources are just some of the challenges that are intensifying and which have recalibrated the European strategy for facing the economic crisis, the aim being to turn the EU economy into a smart, sustainable and inclusive economy. Launched in March last year, the “Europe 2020” strategy sets a few major goals for the next 10 years:

- 75% employment rate for the population aged between 24 and 64 years
- investing 3% of the EU GDP in research and development
- achieving the energy and climate targets of “20/20/20”
- reduction of dropouts below the 10% threshold and a minimum rate of 40% of the young generation to have a university degree
- reduction by 20 million of the people exposed to poverty.

Will this strategy, by its interconnected and crucial objectives, succeed to eliminate the deficit of social cohesion which currently maintains a good part of the European population under the pressure of strikes and riots? This is still to be determined. Europeans are facing a bigger problem than the current recession - the “demographic bomb”, and the future is not bright in this regard.

The EU public deficit growth from 2.3% of GDP in 2008 to 7.5% in 2010 and the growth of the public debt ratio from 61.6% of GDP in 2008 to 79.6% in 2010 are prerequisites to a situation more and more difficult to solve, concerning the demographic and employment problems. Currently, it is estimated that there have not still have been visible all the effects of the crisis and that there cannot be excluded a new recession, especially in terms of unemployment, that is quickly growing and has significant consequences on the human capital in Europe. A high level of unemployment does not only involve social costs, but also enormous economic costs, reducing domestic demand, reducing taxes and contributions to the budget, which determines an increase of

the tax burden for those engaged in the profit system and a heavy “legacy” debt for future generations.

Under the circumstances of the current economic and social crisis, the EU should reconsider their policy of reducing public debt, but without repercussions on social protection systems and public services. These act as stabilizers and as a damping factor of the crisis and the efficiency in social protection and public services may also enhance the economic efficiency and service quality.

In 2010 the population of the 27 Member States of the European Union passed the 500 million inhabitants threshold, the first two positions with the largest population being occupied by Germany and France, Great Britain occupying the third place. However, Germany's population has stagnated over the past 10 years, and countries like Ireland and Spain recorded increases of over 15%. Nevertheless, in Spain, Italy or Portugal the population growth and rejuvenation is largely due to the significant migration growth that these countries have experienced, while the French population growth is the result of a positive natural growth. In Eastern Europe, except Poland, Czech Republic, Slovakia and Slovenia, the population has dropped drastically, and Romania is an example of this, along with Bulgaria, Latvia, Hungary and Lithuania.

However, the vast social and economic community of the world is now facing great challenges – acceleration of the aging of the population. According to demographic forecasts, by 2050 one third of the EU population will be over 65 years, which is an alarming fact, if we take into account the weight of approximately 16% of European citizens over the age of 65 years, in 2006. There are two important determinants of this phenomenon: the increase by approximately two years of life expectancy for the population (average being 81 years) and the continuous decrease of births (under 1.5 children per woman - given that the population stabilization would require 2.1 children per woman). Stimulation of birth rate is an essential condition for overcoming this problem in Europe, the involvement of society and state aiming at a number of directions such as: the establishment and functioning of nurseries or schools for mothers, stimulation by providing generous maternity leaves.

The governments in Eastern Europe are facing a difficult challenge, given that by 2025 this area of the globe will have the largest number of elderly persons. The economic consequences are obvious. The health, pensions and care costs for the elderly will increase rapidly, greatly increasing the tax burden for employees, but will also create difficulties with the expenses of other priorities such as defense.

The current economic recession threatens all the European efforts to mitigate the effects of this demographic challenge. In order to stabilize the financial system and stimulate the economic growth, the EU governments have injected billions of Euros into the economy, even to the increasing budget deficits, although some of these countries had only managed to settle their deficits, such as Romania. What was the effect? – The failure to counteract the aging of the population, under the circumstances of increasingly precarious financial and budget resources.

According to the report on the aging of population in 2009, published by the European Commission, the phenomenon of population aging will lead to an increase in public expenditure by 2060 up to 4.7% of GDP in the EU25 and for EU15 by 4.8% of GDP. The demographic trends and public expenditure will definitely vary from one country to another, but overall the effects are worrisome. The year 2010 represents the beginning of the retirement period for the “baby boom” generation, i.e. those born in 1945-1965, a period that is expected to be difficult and crucial at the same time and in which we are going to see a massive increase in public expenditure. It is therefore, imperative to reform the pension systems and of the elderly care systems, on the one hand, but also to create and maintain a favorable environment for persons older than 60 years to work, on the other part.

The amplification of the demographic phenomenon (the aging of population) will increase the need for specific services for this age group that are provided by the public sector, expecting a major budget impact in almost all EU Member States, with significant differences between them, as follows:

- Luxembourg, Greece, Slovenia, Cyprus, Malta, Netherlands, Romania, Spain and Ireland, will have, according to forecasts for 2060, a highly significant increase in public expenditure by more than 7%, the highest share in total being represented by pension expenditures
- Belgium, Finland, Czech Republic, Lithuania, Slovakia, United Kingdom, Germany and Hungary - are countries with a relatively high growth of public expenditures: between 4 and 7 percent of GDP
- Bulgaria, Sweden, Portugal, Austria, France, Denmark, Italy, Latvia, Estonia and Poland - there will be a moderate growth, by maximum 4% of GDP, which is due to significant implementation of pension systems, even private ones.

Although the percentage of growth of public expenditure is different from one state to another, there is a common denominator for all 27 EU Member States - 2060 will bring a significant increase in **public expenditure on pensions** for all the member countries. In most countries it is necessary to rethink and reform this system, starting mainly from the method of granting pensions. It is aimed at rising the retirement age (as implemented in many European countries) and restricting access to the early retirement scheme (eliminating both the economic and social costs). Implementing these measures will enable the public finance system to maintain an acceptable level, but also to strengthen the relation between pension benefits and social contributions.

The reform of the public pension schemes also involves the implementation of the private pension schemes, which prove to be more reliable in countries like Sweden, Denmark, Netherlands, United Kingdom and Ireland. In order to extend this private system, Romania, Bulgaria, Estonia, Latvia, Hungary, Poland, Slovakia have transferred a part of the public social contributions to privately managed systems.

The effects of the aging of population do not stop there. A majority elderly population will need a proper health system, this being a new challenge for the future. At the EU27 level the public health expenditure will be increased, as expected from the European Commission's report, by 1.5% of GDP by 2060. The investment in prevention, diagnosis and treatment technologies will have a significant share in the increased expenditures, but, in the long run the cost savings will be notable.

The number of people aged over 80 will represent a substantial and significant increase in the total population. This will also lead to a considerable increase in public expenditure for the long-term care. Until 2060 these public expenditure will rise by 1.2% of GDP in the EU27. For some countries where the official care system is less developed, the underestimation of the growth of public expenditure is obvious. In these cases, the pressure on public finances will be overcome the forecasts under the circumstances in which an informal care system is virtually inexistent and the needs for this population segment are continuously growing.

Is immigration a possible solution for Europe 2050? This is still to be determined. There are many voices who say that without a massive influx of immigrants, the European Union would no longer be one of the poles of resistance in the world. One thing is certain: Europe will continue to attract immigrants from African and Asian regions which are younger, less developed and have a rapid demographic growth. The world will be divided into two "continents": the continent of "old" countries, those in which persons under 30 years represent less than one third of the population and will range in the northern part of the global map and the continent of "young" countries where the age group under 30 years represents 60% of the population or even more and will be mostly located in sub-Saharan Africa. The European Union is facing a large-scale migration, considering that to neutralize the effects of aging European population, the number of immigrants should be 5-10 times higher than today.

The European Commission experts say the effects of economic and financial crisis will seem small as compared to the impact that the social crisis, under the pressure of the phenomenon of aging of population will have. The pressure on public finances will be enormous over the next 20 years, even if the European economies will rebound significantly over the next decade.

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According to the Sustainability Report, the 2009 edition, published by the European Commission, Romania ranks 5, this position in Europe being due to the totally unsustainable public pension system. For Romania, the pressure on the budget system will be enormous, the share of pension expenditures will grow to almost double, their share in GDP increasing from 8.4% in 2010 to 15.8% in 2060. On the whole European Union, due to the three determining factors - the aging of population, decreasing of population and a dramatic reduction in birth - the state expenditures for pensions will register an average growth in the 25 Member States, by 2.5 percent of GDP in 2060 as compared to 2007. The measures to be taken to manage the problem are imminent, the European states being forced to find solutions on reforming the state pension system but also the rapid growth of the private pension system to counteract the long-term effects of the aging phenomenon, in order to reduce the major fiscal-budget burden.

In the context mentioned above, Romania is next to Greece, Luxembourg, Slovenia and Cyprus, in a pleasant situation, these states having the most unsustainable public pension budgets of the European Union. The Commission report proves once again the major problems faced by Romania in this respect. The sustainability deficit is 10.1% of GDP, much of it being to the increased expenditure of state pension payments, adjustment measures of the budgetary executions being needed to reach the threshold a healthy and sustainable public system.

Therefore, Romania will have to urgently reform its social protection system (since there is no significant performance in the other chapters), but much attention will have to be given to the public pension and the public health system. The disadvantageous demographic evolution will have overwhelming effects on the public budget, given that in 2060 Romania's population will reach the threshold of 16.9 million inhabitants, as compared to that reached in 2007 of 21.6 million. The decline is dramatic and the pressure is enormous - the dependency rate of the elderly (those over 65 years reported to the age group 15-64 years) will increase from 21.3% in 2010 to 54% in 2060.

In the case of maintaining the current situation, Romania will face a major problem in the coming decades - spending more than half of the public budget to pay state pensions. The future does not look favorable, considering that, to prevent this situation there will not be parametric reforms in the public system and there will not be an enhancement of the accelerated development of the private pension system, a condition which is valid also for other EU countries. The private pension system proved to be reliable and long-term critical in countries such as Estonia, Latvia and Poland, these countries having among the lowest public expenditure on pensions of the GDP in the year 2060.

In states with the largest public pension expenditure of the GDP in 2060, the private pension systems are lacking or are underdeveloped. Greece, Luxembourg, Slovenia, Cyprus and Romania have not yet developed enough the private component of the pension system, which is why the tax burden of public pension systems will grow faster in the future. Romania, a "good" example in this chapter, has the lowest rate of contribution to the mandatory private pension system (Pillar II) in Europe and worldwide.

Reforming the pension system is only intended to increase revenue in this segment of the population, but rather to reduce the dependency ratio to the system. To reform this segment of the social protection means implementing the multi-pillar pension system that was suggested and is supervised by the World Bank. This involves extending the pension system basis by adding two more sources of pension (Pillar II and Pillar III), in addition to state public pensions (Pillar I). Unlike the old system based on solidarity between generations (Pillar I), the new pension funds are set up by individual contributions of payers in the system, these contributions being administrated by private companies and not by the state.

Social Security included in the *Pillar I* are administrated by the state and represent a *compulsory contributory scheme*, according to which the active generation (the employees) contribute to the payment of pensions for the beneficiaries of this scheme (the retired people). The *Pillar II* consists of *mandatory* contributions to pension funds, *administrated* not by the state but by *private operators*, that is by specialized administration companies or insurance companies. Within

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this pillar, each taxpayer will provide a certain percentage of their income during their active period, in an individual account. In Romania this pillar was introduced in 2008, the category of taxpayers aged 18 to 35 years being forced to join a private pension fund, without extra payment, but only based on forwarding a 2% contribution towards the social funds managed by the private sector. The accession was optional for the age category of 36-45 years old. The *optional pension system, under private administration*, still based on the individual contribution, is included in the *Pillar III*, having a number of specific characteristics different from *Pillar II*, the main of which would be the optional character of this system.

The relevance of accelerating the reform of the pension system should be pursued taking into account a number of generally applicable objectives:

- Ensuring an adequate level of pensions - in order to prevent social exclusion and maintaining an adequate standard of living after retirement
- Ensuring the financial stability of the pension system
- Ensuring sustainability by increasing the employment rate
- Providing the conditions for the elderly to remain active
- Maintaining a balance between the active people and the beneficiaries of the pension system, that would not put a burden on the people, but which would ensure an adequate level of benefits for the retired people
- Developing a legal framework and a management of the pension systems that would ensure efficiency, security, access and portability of pensions (for the purpose of a growing mobility of the European population)
- Building the confidence in the system performance and increasing the transparency and adaptability of the pension systems to meet new circumstances.

For Romania, according to EU officials, the next years will be critical and of paramount importance. Briefly, we can mention three major objectives that Romania would have to establish and for which urgent solutions must be found, in the absence of which the whole budget system will be in big impasse:

1. The quick and efficient reform of the public pension system - proved unsustainable - if currently pension payments represent a quarter of the public budget, the pension burden will be enormous, half of Romania's budget

2. The acceleration of the private pension system development – relatively recently introduced in Romania, but has proved effective in Central and Eastern European countries where it has been working for 10-15 years, reducing the pressure on public pension system.

3. The establishment of a sustainable path of expenditures on state pensions, by implementing measures that will target the private sector – objective which will be feasible under the circumstances of accelerating the percentage contribution mandatory for Pillar II and stimulating the voluntary contributions for Pillar III, by granting higher tax deductions.

Commensuration of the financial, economic and social crisis effects becomes more difficult, because beyond numbers and statistics the social effects experienced by the entire population are multiple, in conjunction with the challenges of the present: vital resource depletion, the aging of population in the developed areas of the globe, the amplification of armed conflicts, the emergence of extreme climatic phenomena, the terrorist threat, the growing scale starvation of the population in the supermarkets era. Europe is not deprived of anything, and the European Union institutions are forced to develop and implement durable social policies, the crisis imposing a reform of the European pension systems. Only future will tell, whether social Europe, subsequent to the economic crisis, will become more cohesive and more accountable to the challenges yet to come to significantly minimize the social impact of the major economic depression.

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## THE FUTURE OF THE EURO AND CURRENCY HIERARCHY

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**Abstract.** *This paper has as start point the different scenarios regarding “the probability of a breakup of the Euro area as idle talk among the chattering classes and speculators” (Munchau & Mundschen, 2009). The speculations about an eventual disappearance of Euro currency have increased during the period of financial and economic crisis started in 2007, but there are a lot of other solid arguments in favor of a brilliant future of the Euro currency. The paper analyses the first decade of economic and monetary union in Europe that was a huge success and accelerated the European integration process. Furthermore the paper analyses the differences in macroeconomic indicators appeared in the last five years among the Euro zone countries - such as: differences in growth, inflation, competitiveness, current account and budget balances – and their economic implications at European and global economic level. Overall, the paper presents several arguments in favor of Euro and its attractively and some lessons that could be learned from the Euro experience.*

**Key words:** Euro currency, fiscal and monetary policies, Eurozone, Maastricht criteria.

**JEL classification:** G00, G17, G18

### 1. INTRODUCTION

This paper has as start point the different scenarios regarding “the probability of a breakup of the Euro area as idle talk among the chattering classes and speculators” (Munchau & Mundschen, 2009). The speculations about an eventual disappearance of Euro currency have accentuated during the period of financial and economic crisis started in 2007. But, there are a lot of solid arguments in favor of a brilliant future of the Euro currency against another important foreign currency like American dollar, Britannic pounds, Swiss franc, Japans yen or Chinese Yuan.

Regarding the history of the Euro, the first years of economic and monetary union in Europe (EMU) were an incontestable success (Regling, Deroose, Felke, and Kutos, 2010). EMU has brought significant benefits to its member countries: it brings macroeconomic stability and accelerated trade and supported the financial integration in the euro area (European Commission, 2008). On the other hand, discrepancy inside EMU—differences in growth, inflation, competitiveness, current account and budget balances—have also increased during the last 10 years, and the global economic crisis has made these imbalances and their economic implications more visible. Many academics remained rather skeptical about the euro’s prospects. They wondered about “the ability of the single monetary policy to address country-specific shocks and about the interaction between centralized monetary policy and decentralized fiscal policy.” (Jonung & Drea, 2009)

The crisis could be seen as the definitely test for EMU. Like almost all the major industrialized economies, the euro area was living through the most severe recession in our lifetime. Thanks to the successful first decade of EMU, the euro area and its Member States are today in a

much better shape. The euro has protected EMU members during the crisis, and arguments that the crisis would conduct to a breakup of the monetary union are not convincing. In fact, the crisis has made EMU even more attractive, and most EU countries that are not yet members of EMU are interested to join in recent future (Munchau & Mundschen, 2009). For example, at the beginning of this year Estonia became the 17<sup>th</sup> state to join the euro area. The example undoubtedly illustrates that the Euro is still an attractive EU project (Thomas Mayer, Deutsche Bank Research, 2011).

“However, the events of last year have also shown that adopting the euro requires careful consideration and thorough preparation” (Mayer, 2011). Nevertheless for the member states in the euro area a careful ECB’s monetary policy decision making are strong required. We have to recognize that the introduction of the euro is not a miraculous medicine.

There are important economic and political lessons to be learned from the crisis. With the necessary political will, the crisis can be a catalyst for deeper and broader economic coordination and surveillance in the euro area.

## 2. A SHORT HISTORY OF THE EURO CURRENCY

On 1 January 1999, eleven member states of the European Union irrevocably fixed their bilateral exchange rates. At that moment the euro came into existence, but only for account transactions and three years later he came into physical existence and replaced the national currencies in the euro-area member states for all cash and noncash transactions.

Since 1999 until now six more EU member states have accomplished the conditions for euro adoption (Maastricht criteria) and joined the Economic and Monetary Union (EMU): Greece in 2001, Slovenia in 2007, Cyprus and Malta in 2008, Slovakia in 2009 and Estonia at the start of 2011. Today, the euro is the single currency for more than 330 million European citizens.

For EU accession, the necessary conditions to be met by candidate countries are based on the European Council in Copenhagen (1993), known at present, as the "Copenhagen criteria".

As regards convergence criteria to Economic and Monetary Union, their performance evaluation is the economic test for the evaluation of the economy preparedness for accession to the monetary union. These criteria were established by the Maastricht Treaty, ratified by all EU members in 1993.

### Maastricht Criteria – for Entry into EMU and the Euro Adoption.

<b>Budget Deficit</b>	Maximum 3% of GDP;
<b>Public Debt</b>	Maximum 60% of GDP;
<b>Inflation Rate</b>	Not to exceed with more than 1,5% the average of the inflation of “the best” three countries from the previous year
<b>Nominal Interest</b> on long-term debt (10 years)	Not to exceed with more than 2% the average of the interests of “the best” three countries from the point of view of the inflation
<b>Exchange Rate</b>	Participation for at least 2 years in ERM II without unilateral devaluation.

**Source:** National Bank of Romania

ERM = Exchange Rate Mechanism

Consequence 1: the “purgatory” period of ERM-II has to be as short as possible.

Consequence 2: in ERM-II has to enter only when there is the reality of the accomplishing of the five criteria.

Maastricht Treaty, signed on February 7, 1992, does not provide a strict timetable for euro adoption, leaving each country to decide, in collaboration with the European Commission (Brussels) and European Central Bank (Frankfurt) (European Commission will not grant any permanent derogation, in terms of switching to the euro, as it did for Great Britain and Denmark,

which enjoys such a derogation) However, as shown in the table below, this Treaty requires meeting five nominal convergence criteria at the time of entry into EMU and Euro adoption.

It's important to emphasize that the creation of EMU, the establishing of this five Maastricht criteria for EMU accession and the launch of the euro constituted an important step forward in the process of European integration. The final decision was preceded by a lively and at times controversial academic and political debate on the viability or desirability of the single currency (Regling, Deroose, Felke, and Kutos, 2010).

The first period of the single currency contradicted all skeptics, but also disappointed some of the most optimistic advocates. EMU constituted a response to macroeconomic instability. When the EU was founded in 1957, the member states intended to build a "common market" for trade. Over time, however, it became obviously that, for the internal market to develop further, and the European economy to do better, closer economic and monetary cooperation was needed. The economic and exchange rate turbulence of the 1970s and 1980s pushed European policy makers to take concrete steps that would ensure macroeconomic stability and avoid disruptions of the Single Market.

### **3. THE MACROECONOMIC AND MICROECONOMIC EFFECTS OF EURO ADAPTATION**

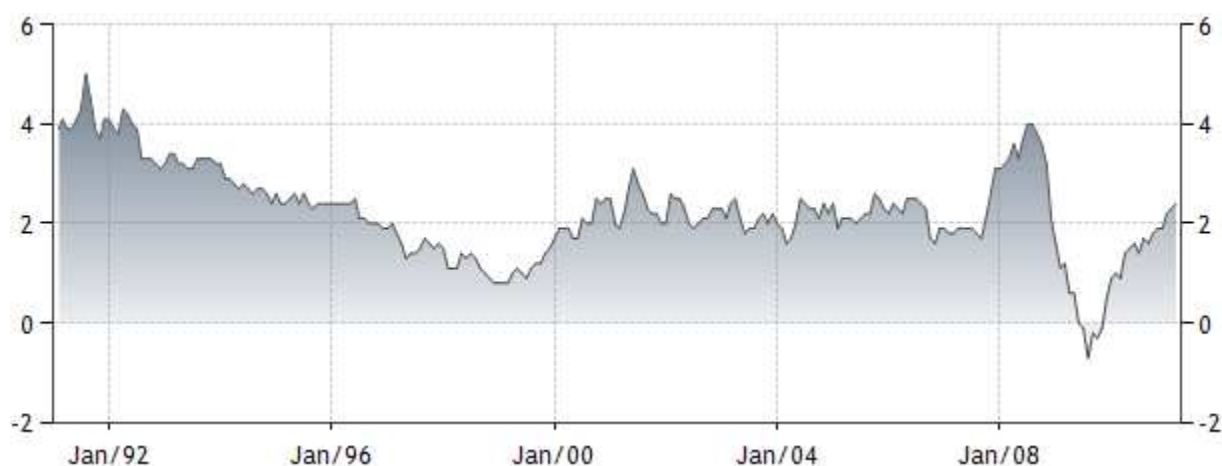
The advocates of a the single currency argued that removing exchange rate risks would have a lots of advantages for European countries such us: the cutting of transaction costs; the elimination of risk which comes from uncertain fluctuation of the exchange rates (Grauwe, 2000); the increasing planning security for international trade and investment; the increasing of economic welfare through economies of scale and more competition. All these are the results of an increasing macroeconomic stability as effect of the single currency. Furthermore the single currency and decreasing of macroeconomic volatility produced other important effects by lowering the cost of capital and bringing about closer financial market integration. Finally, a single currency was expected to give the European Union a stronger presence in the global economy.

But always existed and exists skeptics about any new idea .They wondered about the power of the single monetary policy to impose in every country and about the interaction between centralized monetary policy and decentralized fiscal policy. Given the diversity of the Member State economies, the skeptics said, the weaknesses of monetary policy and the exchange rate would make the adjustments less than optimal.

But, the many achievements of EMU and the euro have largely disproved the predictions of the early critics. As we said, at the macroeconomic level, EMU has created a zone of macroeconomic stability in Europe, with price stability and low-cost borrowing. The euro has put an end to expensive changes in intra-European exchange rates that were often triggered by currency problems outside Europe (Regling, Deroose, Felke, and Kutos, 2010).

Furthermore the inflation performance of the Eurozone contries proves very clear the effectiveness of its institutional setup in achieving macroeconomic stability. "Average inflation in the first 10 years of the euro area was broadly equal with the price stability benchmark of the European Central Bank (ECB) of close to but below 2% annual inflation (Regling, Deroose, Felke, and Kutos, 2010). The following chart is conclusive in this aspect:

**Figure 1 The evolution of Euro Area Inflation rate**  
(Annual Change on consumer Price rate - (January 1991 – March 2011))

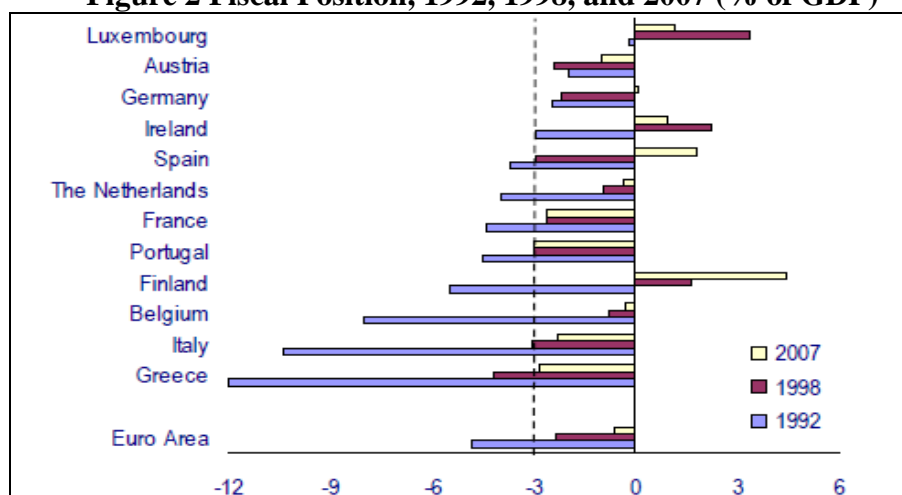


**Source:** www.tradingeconomics.com & Eurostat

As we can observe in the above graphic, from 1991 until 2010, the average inflation rate in Euro Area was 2.24 percent reaching an historical high of 5.00% in July of 1991 and a record low of -0.70 % in July of 2009.

Overall stability is further reflected in lower and less volatile long-term interest rates. Thus, the monetary union has solidified a Europe-wide culture of stability, with a decisive contribution from the single currency. Moreover fiscal policies have supported macroeconomic stability in EMU. Progress in fiscal consolidation has been significant, with fiscal deficits falling to only 0.6% of gross domestic product (GDP) in 2007 compared with an average of 4% in the 1980s and 1990s. (Regling, Deroose, Felke, and Kutos, 2010). But, the reality has always two faces: deficits increased at the start of the 2000s, calling into question the efficiency of coordination. Reform under the Stability and Growth Pact in 2005, building on the experiences of the first years of EMU, has improved the coordination of fiscal policies.

**Figure 2 Fiscal Position, 1992, 1998, and 2007 (% of GDP)**



Source: European Commission & Regling, Deroose, Felke, and Kutos (2010)

Regarding the consequences of euro at the microeconomic level we can distinguish: the strengthening of the European Single Market; the improving of consumer welfare; the promotion of the convergence of the money and capital markets through highly competition, market liquidity and transparency; the decreasing of risk as an effect of better possibilities for risk diversification and more efficient allocation of capital resources. The most immediate and extensive impact of EMU on financial integration has been felt in the euro-area markets for unsecured money and derivatives. Furthermore, the elimination of exchange rate risk within the euro area has increased price transparency, reduced transaction costs, and heightened competition, thereby promoting trade

within the euro area. For instance, trade in the euro area has been 24% higher on average since 1999 than previously, while trade between the euro area and outside countries has been only about 12% higher (Flam, Fatas, Holden, Jappelli, Mihov, Pagano, Wyplosz, 2009).

Other positive effects of the introduction of Euro, at the microeconomic level, could be mentioned: the dropping of export price volatility, growing of price transparency, the discouragement of price discrimination between national markets, etc.

While the euro effect is difficult to separate from the impact of other pro-integration policies, even the most conservative estimates find there is a positive and “exclusive” euro effect.

The euro has benefited foreign direct investment (FDI) within the euro area and elsewhere. The adoption of the euro has promoted FDI from outside the euro area, but this effect has been only about half as strong as the impact within the area.

#### **4. THE EURO DURING AND AFTER THE CRISIS**

The financial crisis, although caused by the collapse of the US sub-prime market, can be traced back to a complex conjunction of underlying causes and drivers, both at the global macroeconomic and at the microeconomic level. Ample liquidity and low interest rates were major underlying factors. But financial innovation, regulatory and supervisory gaps, weaknesses in risk management, and corporate governance failures and accounting weaknesses amplified and accelerated the consequences of excess liquidity and credit growth.

Monetary policies across the globe were rather easy in the years leading to the crisis. What began as a monetary policy reaction to the bursting of the dot-com bubble in 2000 sowed the seeds for an extended period of excess liquidity.

Strong global macroeconomic growth since the mid-1990s had nourished an illusion that such high and practically inflation-free growth was always possible. At the same time, the increasing integration of the People’s Republic of China (PRC) and other emerging markets in the global economy was exerting global pressure on commodity prices and restraining price and wage increases in the industrialized countries. Excess liquidity was plowed instead into credit, inflating asset prices and unbalancing the global financial markets.

Consumer credit and mortgages ballooned. The private sector borrowed heavily. In the US the credit expansion was financed partly by massive capital inflows from emerging economies with current account surpluses, notably the PRC. Such surpluses, which had accumulated through currency pegs, were recycled into US government securities and other lower-risk assets and thus added to an overall compression of yields.

The combination of high liquidity and low interest rates, coupled with compressed volatility in many key markets, drew investors to ever-riskier assets that promised higher yields. Easy credit and rising asset prices contributed to low default rates, which reinforced the perception of low risk. As a result, risks became systemically mispriced and leverage reached an unprecedented scale. A number of factors on the microeconomic side amplified this trend.

Significant technological change and product innovation in financial markets had led over the years to the creation of increasingly complex financial products that were bought worldwide. The securitization, packaging, and trading of loans and assets changed the relationship between banks and customers and reduced the incentives for lenders to comply with proper lending standards. These new instruments allowed market participants to take on more debt and at the same time posed significant challenges to the management of risk, both for the individual financial institutions and for the public supervisors. The complexity and dramatic growth of these instruments prompted a great reliance on the assessment of credit rating agencies, some of which had actually designed and promoted the use of such instruments.

In an environment of intense market competition, the incentive structure of managers in financial institutions encouraged excessive short-term risk taking as they were paid for short-term successes while problems showed up only over time.

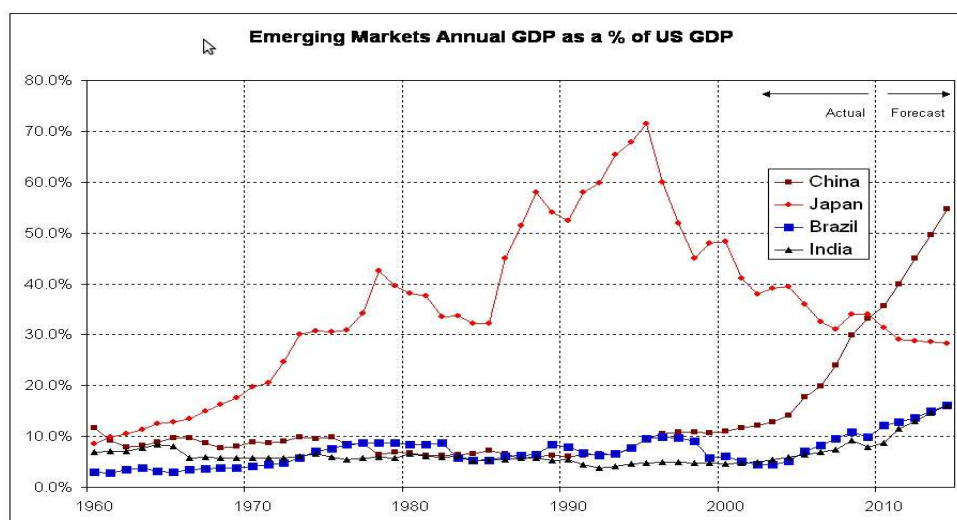
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The supervisors did not pay enough attention to a number of relevant financial market features, such as off-balance-sheet activities, the risks of new instruments, the implications of the changing model of credit distribution, and liquidity risks. Neither the supervisors nor the credit agencies thought it likely that market confidence could suddenly evaporate and certain categories of instruments could no longer be sold at any reasonable price.

The dramatic repercussions of the financial sector crisis are well known. After a few bank failures in the US, the crisis intensified sharply. Positive market sentiment in global production and world trade, after years of stellar growth, collapsed. As a result, the global economy at the end of 2008 was in its deepest and most widespread recession in the postwar era.

The euro area was particularly hard hit. The European Commission, in its autumn 2009 economic forecast, projected a decline of about 4.0% in euro-area GDP for the year, compared with a 2.5% contraction for the US and 5.9% for Japan, and in comparison with China, Brazil and India these things became more obviously. This has raised the question whether the euro area can stop the storm or whether the euro has further facilitated the spread of the crisis in Europe. Some commentators have even expressed doubt that EMU would survive untouched.

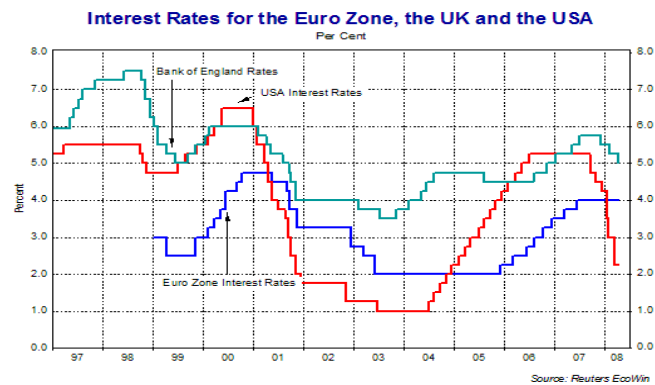
The following chart could be representative for give us an idea about the evolution of GDP emerging economies before and during the crisis.



Overall, regarding the European countries, the current events have highlighted the advantages of a single currency and demonstrated the benefits of deepening euro-area policy coordination. Thanks to the successful first decade of EMU, the euro area and its Member States are today in a much better shape to weather these truly testing times than ever before.

The euro is limiting the impact of the crisis in Europe and providing stability in several ways:

- ✓ It has prevented the exchange rate and interest rate turbulences among the euro-area Member States that used to be common during periods of financial stress in the past. We know from experience how damaging such intra-European currency turmoil can be for the functioning of the Single Market.
- ✓ The euro area's stability-oriented macroeconomic framework has reduced the level and volatility of inflation and interest rates, as well as output fluctuations.



- ✓ Overall successful consolidation of budgetary deficits in most Member States in recent years, even though imperfect, has created room for fiscal policy to play an important stabilizing function in the crisis.
- ✓ Since the start of the financial turmoil in 2007, the ECB has adopted an accommodative monetary policy stance and has skillfully managed liquidity. This has helped to improve conditions in the interbank market and to anchor inflation expectations throughout this period of uncertainty.
- ✓ The governance structure of EMU, while far from being perfect, has facilitated policy coordination across the euro area and the European Union as a whole. The close interaction of all actors involved in the Eurogroup and in the Ecofin Council has spurred a swift and bold policy response to the global economic and financial crisis.

Imagine for a moment how the crisis might have involved in the euro area without the euro. The coordination problems would have multiplied. Sixteen European central banks would have had to struggle for coordinated liquidity provision while trying to keep exchange rates and inflation expectations in check, and negotiate currency swaps with the US Federal Reserve.

However, the crisis has also revealed important weaknesses and vulnerabilities in the euro area. It has exposed in particular the vulnerability of Member States with significant macroeconomic imbalances, and underscored important shortcomings in the European regulatory and supervisory framework and in cross-border crisis resolution arrangements.

The crisis has shown that financial market regulation and supervision needs to be improved. Many of the challenges, such as systemic risk assessment, have not been specific to the EU or the euro area. But the fragmentation of Europe's supervisory landscape has clearly not kept up with the ongoing financial integration. Significant progress was made in the period before the crisis, in particular on regulatory reform through the Financial Services Action Plan, and on supervisory cooperation through memorandums of understanding, but this has not been sufficient to prevent the collective action problems that arose in particular at the start of the crisis.

On the upside, the crisis has shown the ability of the euro area, and the EU more broadly, to act decisively and in a coherent manner when this was vital. Despite some initial hesitation, concrete policy initiatives such as the European Economic Recovery Plan show political will and recognition of joint responsibility. The crisis teaches a key lesson on the importance of policy coordination and the need to take full account of the intensified interdependencies and spillovers within the euro area. An important concrete stepping stone is the envisaged strengthening of the EU-wide supervisory framework, on which the European Commission has made proposals for further discussion with Member States and the European Parliament. Regarding fiscal policy, the prevailing setup appears to be capable of delivering the necessary degree of coordination while maintaining its country-specific dimension and accountability.

The crisis also shows the urgency of consolidating the external representation of the euro area, not least with a view to addressing more powerfully such challenges as global imbalances, which are among the root causes of the crisis. The euro area and the EU need to provide global leadership in developing joint responses to restore financial stability and sustainable growth in the global economy and to design a better regulatory and supervisory system. This is not

to say that the EU does not play its part in managing the crisis. It plays a leading role in the G20 and other forums. But the clear and pressing need for effective external representation highlighted by the crisis may catalyze further progress toward consolidating Europe's role as a global partner in the future.

The euro area has already expanded from 11 to 17 members since 1999, and further Member States are set to join over the coming years. The framework for euro-area enlargement, based on the achievement of sustainable convergence, remains fully relevant. Establishing a track record of sound policies is in the interest of both existing and prospective euro-area members. Fears of the euro area becoming a closed affaire have proved unfounded, with four countries joining the euro area in the last 3 years. While not specifically designed with the NMS in mind, the euro-area enlargement framework has stood the test of time and fulfills an important role in safeguarding the credibility and stability of EMU.

## 5 . CONCLUSION

By establishing itself smoothly as the second international currency in the world behind the US dollar, the euro has changed the global economic and monetary landscape. It has allowed international public and private investors to diversify their asset allocation, and borrowers to find other sources of funding. Across many of the major functions that an international currency can play, the euro succeeds to surpass today the combined status of its legacy currencies 10 years ago, and it continues to strengthen its position. In global foreign exchange markets, the euro-dollar currency pair is the most actively traded one, accounting for more than one-quarter of global turnover. In debt securities markets, the amount of outstanding euro-denominated international debt securities has surpassed that of the US dollar, with the euro accounting for almost half of the world's stock of international debt securities. The single European currency is also widely used for invoicing and constitutes an important part of the foreign exchange reserves of non-euro-area central banks. Despite the growing global role of the euro area and the euro, progress in its external representation in international institutions and forums, such as the International Monetary Fund and the G7, G8, and G20, remains piecemeal and fragmented.

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## A CRISIS STRUCTURE OF BANK PROFITABILITY DETERMINANTS: EVIDENCE FROM ROMANIA

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**Abstract:** *This research paper used a multivariate regression model to analyze the influence of bank-specific factors and macroeconomic factors over bank profitability, on a sample of 20 commercial banks active in Romania in the period 2002-2009. The results – which can constitute valuable information both for authorities and bank managers in order to revert to the former upward trend - showed different determinations in the crisis years (2008-2009) comparative with the pre-crisis period.*

**Key words:** bank profitability, global crisis, explanatory variables

**JEL classification:** E44

### 1. Introduction

The recent global crisis has shown that banks, either in market-based or bank-based financial systems, have still an essential role for the performance and operation of modern economies. Again, it has been proven that the health of the banking sector is very critical to the health of the general economy at large. If the measure for the health of the banking sector is profitability, the questions that arise are the following: What are now the most important determinants of bank profitability? Are they bank specific or macroeconomic factors?

This paper intends to offer relevant answers to these questions for the case of the Romanian banking sector, so as to revert to the former upward trend. The analysis is focused on the profitability of 20 commercial banks over the period from 2002 to 2009. In order to highlight the differences in the post-crisis structure of influencing factors, I analyzed separately the crisis years 2008-2009.

The paper is organized as follows. Section 2 reviews the related literature on determinants of bank profitability. Section 3 outlines the econometric model and the variables used in the analysis, together with the description of the data sample of the methodology used. Section 4 reports the empirical results and Section 5 concludes this paper and offers paths for further research.

### 2. Literature Review

Literature on the topic of bank profitability determinants offers a wide range of studies that empirically validate the influence of internal and external factors over the profitability of banks, usually measured by two indicators – return on average assets (ROAA) and return on average equity (ROAE).

Analyzing the influence of internal/bank-specific factors, a recent study (Pasiouras and Kosmidou, 2007) argue that banks are more profitable if they maintain a high capital ratio, since they obtain lower costs of funding due to the lower prospective bankruptcy costs. Another study (Athanasoglou et al., 2008) documents the importance of the overhead costs as a determinant of profitability and validates the inverse relationship between the two variables. Another important

analysis (McKillop et al., 2002) of factors such as total assets, loans to assets ratio, bank's credit quality and cost-to-income ratio empirically explains their influence over the profitability indicator.

Focusing on the influence of external/macroeconomic factors, scholars (Delis, Papanikolaou, 2009) used a semi-parametric model to highlight the positive effect that bank size, industry concentration and investment environment have on banks' profitability. Furthermore, another study (Albertazzi, Gambacorta 2006) concluded that the influence of taxation over bank profitability is reduced because banks can transfer a large part of their tax burden onto borrowers, depositors or other clients. In 2010, the evolution of Herfindhal-Hirshman Index, the PIB growth/decline or changes in the inflation rate complete the profitability determinants structure (Flamini et al, 2010).

### 3. Data and methodology

In the table below I describe the internal and external variables that I considered to be explanatory for the dependent variable – the return on average assets – and the hypothesized relationship between these variables. Also, the variables' order is the hypothesized order of importance.

The return on average assets (ROAA), the resulting variable, is measured through the ratio between net profits and average total assets, reflecting the efficiency of bank's management. This indicator has become the most commonly used measure of profitability in the literature (Dietrich, Wanzenried, 2010), since the return on average equity disregards the higher risk that is associated with a high leverage.

**Table. 1 Explanatory variables and their hypothesized effect on profitability**

<b>Independent variables</b>	<b>Description</b>	<b>Hypothesized effect</b>
<i>Internal Factors</i>		
1. Capital adequacy	Equity / Total Assets	+
2. Cost to income ratio	Total expenses / Total generated revenues	-
3. Assets quality	Loan Loss Reserves / Gross Loans	-
4. Leverage	Net Loans / Total Assets	+
5. Net interest margin	(Total Interest Income - Total Interest Expense) / Total Earning Assets	+
<i>External factors</i>		
1. Fiscal burden	Taxes/ Pre-tax Profit	-
2. GDP growth	$(GDP_{t_1} - GDP_{t_0}) / GDP_{t_0}$ · GDP Deflator	+
3. Concentration	Herfindhal-Hirschman Index (IHH)	+

#### 3.1. Data

The source of data used for the bank-specific factors is Fitch's BankScope database, which provides comprehensive financial information on an annual basis for banks in 180 countries around the world and the data regarding macroeconomic factors was taken from Eurostat, the statistical office of the European Union and the site of National Bank of Romania for the Herfindhal-Hirschmann Index.

Table 2 lists the descriptive statistics for the variables included in the analysis over the whole period and separately, before and after the crisis years 2008-2009. Obviously, the values of almost all indicators have worsened in the crisis years. The only indicator whose value improved in the crisis years is the ratio between taxes and pre-taxes profit. An expectable result, since the monetary authorities all over the world have taken measures to help banks to recover after the shock they suffered.

Table. 2 Descriptive statistics

Period	2002-2007		2008-2009		2002-2009	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
%						
ROAA	1,20	1,71	,74	2,70	1,10	1,96
Loan Loss Res / Gross Loans	2,02	1,74	4,03	2,62	2,46	2,12
Equity / Tot Assets	13,96	6,07	9,97	3,51	13,10	5,84
Net Interest Margin	7,35	3,35	5,17	1,66	6,88	3,19
Cost To Income Ratio	79,19	35,88	65,97	34,06	76,338	35,77
Net Loans / Tot Assets	51,45	12,12	62,08	7,69	53,75	12,11
Taxes/ Pre-tax Profit	17,48	26,23	13,86	5,60	16,69	23,38
real GDP growth	6,20	1,53	2,86	6,77	5,48	3,66
IHH	1177,59	108,56	904,77	32,47	1118,48	148,89

### 3.1. Econometrical model

In order to empirically investigate the relationship between the selected variables, I use a linear multivariate regression model, which is widely used in the literature:

$$(1) Y = \alpha + \beta_1 \cdot X_1 + \dots + \beta_n \cdot X_n + \varepsilon$$

where:

Y – the return on average assets (ROAA), the dependent variable

$\alpha$  - a constant

$X_1 \dots X_n$  - independent/explanatory variables

$\beta_1 \dots \beta_n$  - estimated regression coefficients revealing the factors' order of importance

$\varepsilon$  - the errors term

The estimated model will be tested so as the errors to be normally distributed and independent and with constant variance (homoscedasticity). Furthermore, the simultaneous inclusion of certain variables may raise concerns of multicollinearity and I performed specific tests to make sure that this problem is eliminated.

### 4. Results and validation tests

The hypothesized relationship between the independent variables and the dependent variables are confirmed or infirmed through the Pearson coefficient, relevant for the correlation between variables. Table 3 presents the values of this indicator for the whole period (2002-2009), the crisis years (2008, 2009) and the pre-crisis period. In the case of the highlighted variables (loan loss reserves over gross loans and net loans over total assets) the relationship with profitability went from being direct to being inverse in the crisis period. The ratio equity over total assets became positive related with profitability in 2008-2009. This measure of capital adequacy was one of the firsts issues addressed when the crisis started, and the negative relationship with profitability before crisis in Romania emphasizes the legitimacy the measures imposing higher levels of capital.

**Table. 3 Correlations**

Pearson Correlation with ROAA	Period	2002-	2008-	2002-
		2007	2009	2009
	<b>Loan Loss Res / Gross Loans</b>	,253	-,610	-,114
	<b>Equity / Tot Assets</b>	-,288	,137	-,153
	Net Interest Margin	,382	,114	,318
	Cost To Income Ratio	-,771	-,902	-,760
	<b>Net Loans / Tot Assets</b>	,048	-,030	-,008
	Taxes/ Pre-tax Profit	,134	,770	,162
	real GDP growth	,055	,401	,266
	IHH	,017	,401	,107

The estimated coefficients that fit best the regression model for the entire period 2002-2009 are presented in Table 4.

The indicator measuring assets' quality is the most important determinant for profitability over this period, followed by the net interest margin and the cost to income ratio. The external factor, real GDP growth has a reduced influence over profitability.

**Table. 4 Bank profitability determinants over the period 2002-2009**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3,178	,399		7,963	,000		
<b>Loan Loss Res / Gross Loans</b>	-,183	,056	-,198	-3,258	,001	,690	1,449
<b>Net Interest Margin</b>	,165	,033	,268	4,941	,000	,869	1,151
<b>Cost To Income Ratio</b>	-,041	,003	-,744	-14,578	,000	,977	1,023
<b>real GDP growth</b>	,068	,032	,126	2,135	,035	,734	1,363

The results for the crisis years 2008-2009 are listed in the Table 5.

The estimated structure of the explanatory variables shows that the cost to income ratio is the most important bank profitability determinant, while the most of the influencing variables (2/3) are external factors –again an expectable result, since the crisis developed at a global level.

**Table. 5 Bank profitability determinants over the period 2008-2009**

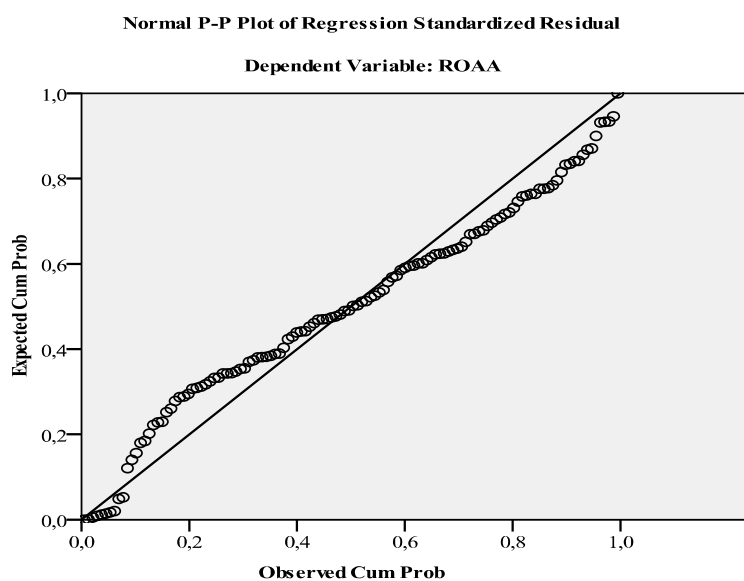
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-16,815	4,497		-3,740	,001		
<b>Cost To Income Ratio</b>	-,053	,006	-,670	-8,612	,000	,549	1,821
<b>Taxes/ Profit Pre-tax</b>	,138	,037	,287	3,698	,001	,552	1,811
<b>IHH</b>	,021	,005	,254	4,350	,000	,973	1,028

For the pre-crisis period, 2002-2007, the results reveal only two coefficients for the regression model: net interest margin and cost to income ratio.

**Table. 6 Bank profitability determinants over the period 2002-2007**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3,011	,379		7,950	,000		
<b>Net Interest Margin</b>	,128	,032	,250	3,998	,000	,967	1,034
<b>Cost To Income Ratio</b>	-,035	,003	-,725	-11,579	,000	,967	1,034

In each case, the *cost to income ratio* is the internal factor that explains best the profitability indicator through a constantly negative effect.

**Figure 1. Validation test for linear regression**

In what regards the tests computed for the validation of the regression model the Normal P-P Plot illustrates that all conditions were respected. The linear relationship between variables can be

easily observed in Figure 1. Also, in each table, in the last column, the collinearity statistics show that the problem of multicollinearity has been eliminated and that the independent variables are not explained one by each other.

## 5. Conclusions

The results of my study are synthesized in the table below, listing also the validated order of importance for the analyzed variables. Obviously, the crisis brought substantial changes in the structure of bank profitability determinants, reducing the number of internal determinants to only one.

**Table. 7 Summary of results**

<b>Bank profitability determinants Period</b>	<b>2002-2009</b>	<b>2002-2007</b>	<b>2008-2009</b>
<b>Internal factors</b>	Assets quality (-) Net interest margin (+) Cost to income ratio (-)	Net interest margin (+) Cost to income ratio(-)	Cost to income ratio (-)
<b>External factors</b>	real GDP growth (+)		Fiscal burden (+) Concentration (+)

O lower level of the cost to income ratio will contribute to a higher profitability and the bank manager will have to optimize this ratio, reducing costs and increasing the sources of income. This is a rule that could not be taught by this crisis, but simply be highlighted.

Banks' managers and monetary and fiscal authorities have now the responsibility to gather valuable information and to discuss with market participants in order to create efficient, non-intrusive legislation and reform private arrangements not individually, but as part of a network where over-regulation is counterproductive. The principal aim is now to leave crisis and to develop the banking sector and the whole financial system in a sustainable manner.

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## METHODS OF MICROENTERPRISES FINANCING - OPERATION OF MICROCREDIT PROGRAMS IN HUNGARY

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**Abstract:** *As is well known, businesses have an important role in the society and the economy of a country. In this article I want to present the micro-credit - as one method of microenterprises financing and in their operation, the microcredit programs in Hungary. The study that I've done, shows the difficulties faced by SMEs in this country, shows the relation between banks and the small and medium enterprise sector and not least, shows how microcredit programs operate in Hungary.*

**Key words:** methods of financing, microcredit in Hungary, banks, SMEs

**JEL classification:** A1, E59, G21

### **Introduction:**

In the literature we find several definitions of the enterprise.

The definition that reflects the fundamental features of an enterprise is the definition given by Robert Hisrich: "Enterprise is the process to create a new thing, valuable. In this, the developer provides time and effort that are required, assuming the financial, psychological and social risks. And of course, however, because at the end of this process to gain recognition that would provide the material and personal satisfaction".

During the week we are constantly in contact with the smaller businesses (e.g. bakeries) or the larger ones (e.g. utilities companies) because they purchase the various products, services or we offer them services or we are their employees. For society, the enterprises are crucial. The target group of my study in Hungary are the microenterprises.

One of the bases of the enterprises operation is the existence of the financing source, which provides the material background of the operation or development.

*In this study I want to present the micro-credit - as one method of microenterprises financing and in their operation, the microcredit programs in Hungary.*

The importance and the significance of this theme is illustrated by the fact that out of 533,240 enterprises in Hungary, in 2009, a total of 503,171 is represented by the microenterprises, those producing an added value of 9 billion euro in the total of added value of 49 billion. Also, the microenterprises contribute to employment at a rate of 35.4% compared with the European Union, where the average of employment in the microenterprises is 29.7%.

From the above, we note the important role of the enterprises in the Hungarian society and economy.

### **1. An overview of SMEs in Hungary**

The study that I've done brings the issues of microenterprises financing and describes the operation of the micro-credit programs and the micro-credit funds in Hungary.

In Hungary, the employment rate of labour is low, the unemployment rate is high and the bureaucratic state apparatus is oversized.

The multinational enterprises for reducing their costs often move their production capacities abroad, the firms that are installed in Hungary are not able to absorb labour force (often under-qualified and immobile).



Micro, small and medium enterprises which provide the occupation of 2/3 of those employees employed in the enterprises due to the above mentioned effects of the crisis cannot use that potential to create more and better jobs. For this reason, the micro-credits are not only used for the improvement of the microenterprises economic situation but also in helping the firms to become self-employed.

In Hungary these concepts are set out in the Law XXXIV/2004. The law not only provides a better definition applicable to distinguish enterprises, but it also defines their subsidies.

The definition of law is as follows:

"It is considered an enterprise any company which has its own market relations, which is privately owned, has a profit-oriented economic activity, and statistically, its task is to produce a profit".

In accordance with the article no. 3§ of the Law XXXIV/2004 about supporting the development of small enterprises:

1. It is considered a medium enterprise that which has a total of fewer than 250 employees and the annual net turnover not exceeding 50 million euro and the balance sheet total not exceeding 43 million euro.

2. It is considered a small enterprise that which employs fewer than 50 employees and the net income or balance sheet total not exceeding 10 million euro.

3. It is considered microenterprises, those with fewer than 10 employees, and net income or balance sheet total is less than 2 million euro.

It is not considered SME that enterprise where the State or the administration has direct or indirect participation and, under the voting rights, this proportion reaches or exceeds 25%".

The private household sector in Hungary is based on SMEs.

The vast majority of SMEs have formed during the regime change. Most have become entrepreneurs "of need" after they have lost their jobs, which means that previously lacked experience in business and management, which later became the source of the problem for SMEs.

Likewise, during the change of the regime the more microenterprises had less than 10 employees. In Hungary, the vast majority of companies are composed of this kind of enterprise and with the SMEs may have significant effect on the country's competitive ability and development of the economy.

Microenterprises and SMEs constitute 99.9% of all functioning enterprises. These enterprises under the data of the Central Statistical Office (*Központi Statisztikai Hivatal- KSH*) in November 2010 provided employment for an average of 773,900 employees in the private sector, compared with the same period of 2009, when the average number employees was 747.900.

The average net monthly earnings of the employees in the private sector were 133.191 HUF. Although the unemployment rate reached to a value of 10% during January-December 2009, at a value of 11.3% in November 2010, SMEs have an important role in employment and development the economy.

## **2. Factors which impede the development of SMEs:**

A study of the Hungarian Ministry of Economy and Transport has revealed that most of the factors which impeding the development of SMEs are *high taxes and social spending (administrative)*.

It is estimated that in Hungary the administrative costs consumed 6.8% of GNP, so, Hungary is situated on one of the last places in the EC. The Union average is around of 3.5%.

After that - as factors which impede the development - there are *competition and unpredictable economic regulation*, respectively *unfair competition*.

It can be taken in consideration the *lack of the capital and the labour shortages* which are represented with a small percentage that is not encouraging. Also it can be noted that in some areas *lack of skilled labour* may be a barrier in the development. Despite the development over the past decade and a half, the performance indicators of the SME sector in Hungary remain behind the average in the European Community. The biggest difference is the ability to produce the benefit.

The small and medium enterprises in Hungary have a nominal production of about one tenth of the average EU countries, and the comparison of the income shows similar proportions.

Small and medium business sector is one of the important parts of the Hungarian economy, which in the last 15 years has been able to achieve an increase in employment. The employment structure for small and medium enterprises is more balanced than for the large enterprises. The impact on the employment rates in the comparison Budapest-provincial regions and comparing the differences between them, the SMEs are less than the large companies.

The development of the companies registered in Hungary in the period between 2004 and 2009, I present it in the table below:

**Table 1: The Trade Organisations registered in Hungary (2004-2009)**

	LTD	SME	SA	SCS	Individual	Cooperatives	Total
<b>2009</b>	319,849	6,153	5,020	202,173	1,009,488	4,365	1,547,048
<b>2008</b>	292,165	6,486	4,828	211,823	997,431	5,245	1,517,978
<b>2007</b>	257,347	6,868	4,493	218,307	700,664	5,488	1,193,167
<b>2006</b>	238,411	7,244	4,373	221,152	668,748	5,860	1,145,788
<b>2005</b>	224,146	7,483	4,371	220,955	709,791	6,230	1,172,976
<b>2004</b>	209,720	7,725	4,357	219,023	717,323	6,532	1,164,680

**Source:** Jászai Dániel - *A Mikrohitelzés Magyarországon*, pdf. p.7, University of Debrecen, Electronic Archive (DEA), <http://ganymedes.lib.unideb.hu>

It is noted that in 2004-2009 the number of the companies increased by an average of about 25%. The highest values are in 2009, when there were over 1.5 million of enterprises.

However the functional companies show that their number is continuously decreasing, as shown in the table below:

**Table 2: Situation of the functional companies in 2008-2009**

Enterprises	Micro	Small	Medium	Total SMEs
<b>2009</b>	503,171	25,122	4,125	532,418
<b>2008</b>	527,511	24,730	4,116	556,357

**Source:** European Commission Enterprise and Industry, SME Performance Review, Small and medium sized enterprises (SMEs), SBA Fact Sheet Hungary 2008 and 2009, p.1 <http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/pdf>

The reason for these differences may be unable for the enterprises to pay and because of this, their entry into bankruptcy.

Backlog of the SME sector in Hungary is significant beside the average of the EU development, but the difficulty of this sector (and not only in Hungary but also throughout Europe) in 2008 was exacerbated by the financial crisis.

In addition to those presented, it had to face all sorts of difficulties both at the beginning and during their operation.

At present the biggest problems of SME sector, according to the *Strategy of development of the small and medium enterprises in the period 2007-2013* are:

- The regulatory framework which causes high operating costs;
- The problems about the market;
- The legal stability improper, unfair competition;
- Absence of the trade-related infrastructure and of the research and development;
- Difficulty of obtaining the credit and the capital.

For Hungary, in concordance with the analyses finished in 2009 the obligation to provide compliance data can be assessed at approx. 2800 billion forints, which is approx. 10.5% of GDP in the EU average of this value is around of 3.5%. Taxes related to the administrative burden of

providing data (part of administrative expenses that are unnecessary for normal business, but still occur due to processes which are required by the enactments) approx. 830 billion forints is about 3.1% of GDP, while the average in the EC countries is approx. 1.9 to 2.6%.

As it is noted, the enterprises expenditure has increased, so the capital has remained insufficient to cover them. After the administrative costs, SMEs are most affected by the lack of the resources.

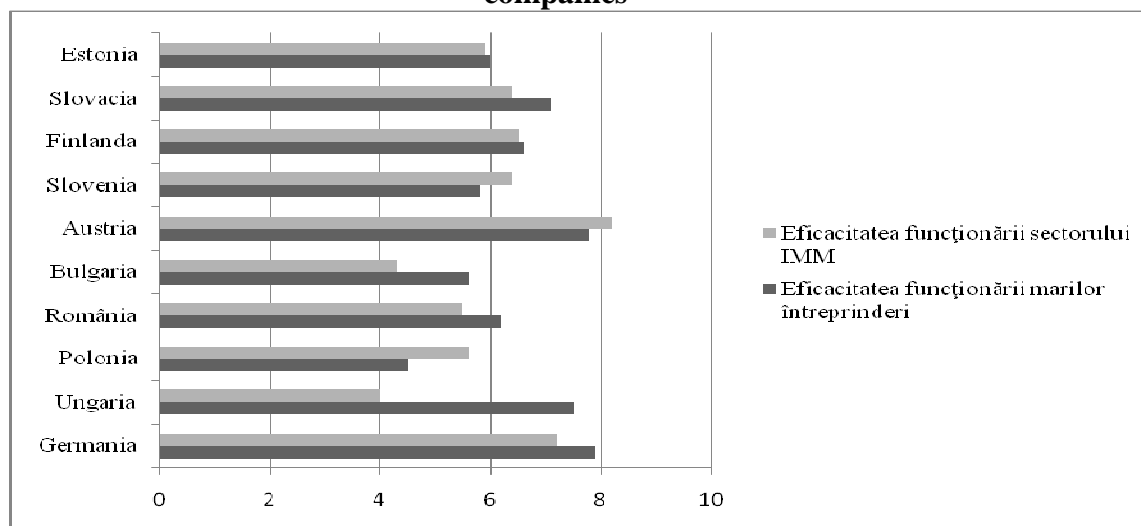
In 2007-2013 the main purpose of the enterprises development policy is to improve the performance by focusing on solving of the following problems:

- access to the financing;
- improving the professional and management knowledge;
- market strategy.

The most common reasons of the financing problems: higher taxes and fees, low capital equipment, chronic underfunding, shrinking willingness to participate in the projects.

Less than 10% of the enterprises intend to participate in the projects (procurement auctions) due to complicated procedures to tender for contracts (licenses, certifications, bank guarantees, surety, actual expenditure and investment transactions around 10%, and the tension that accompanies participation in such projects), high costs of transactions and the reduced sponsorship. The chart below shows that compared to the foreign large companies and SMEs, there are such inefficiency organizations in Hungary:

**Figure 1: Efficiency of SMEs in Hungary compared to the large international companies**



**Source:** Jászai Dániel - *A Mikrohitelzés Magyarországon*, pdf. p.11, University of Debrecen, Electronic Archive (DEA), <http://ganymedes.lib.unideb.hu>

On a scale of 1 to 10, where 1 = inefficient and 10 = efficient, the efficiency of the SME sector in Hungary remains far behind the efficiency of the large companies in 2009, and the international comparison is also very weak.

Another study done in April 2010 which is on the website of the Chamber of Commerce and Industry in Hungary shows that development on the class size of SMEs in the period April 2008-April 2010 is very low in the microenterprises, they standing as compared to small and medium enterprises in a negative zone (-0.1348 percentage points in April 2010 compared to 0.0729 percentage points in April 2010 for small and 0.0385 percentage points in April 2010 for medium enterprises).

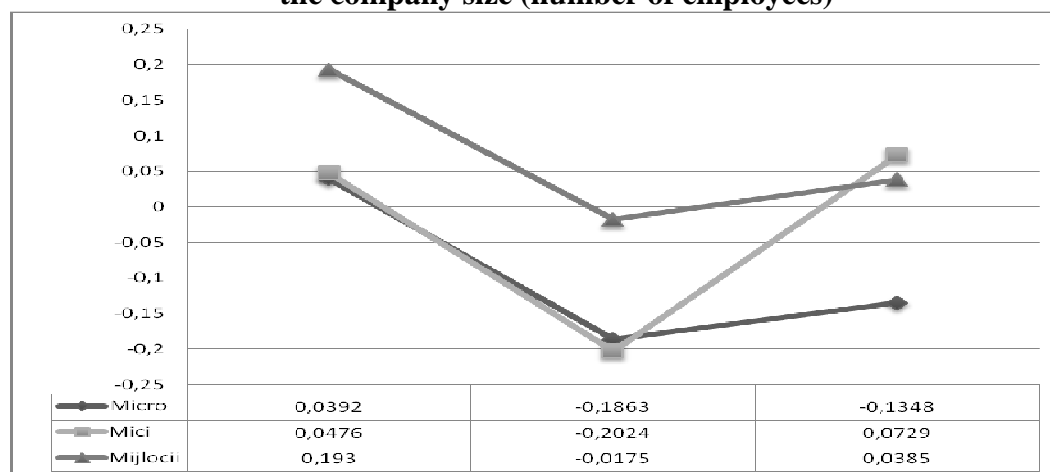
The Hungarian micro and small enterprises operate undercapitalized so that they are unable to grow, to renew, to reach on the EU markets and to keeping with the SME sectors with the other member states.

Because of their weak bargaining position, the large companies pay them with the higher payment period (60-180 days), so, their incomes appear far behind the expenses.

In many cases, despite claims of the purchasers, it is not received the amount of the debt because the buyer may have problems paying or he is on the bad faith. A large company can more easily manage the payment risks than a SME.

Given the small size of these firms, these are required to pay immediately, or they have a very short credit. From the above results that SMEs are facing liquidity problems and provide high problems on the permanent support for the ability to pay.

**Figure 2: Evolution of the business situation during April 2008-April 2010 according to the company size (number of employees)**



**Source:** Development of present business situation by company size (headcount), [www.gvi.hu/index](http://www.gvi.hu/index) - *SME Outlook Figures*

### 3. Banks and the SMEs sectors

The microenterprise sector and the SMEs sector are faced with the chronic lack of capital and obtaining the credit represent a problem for the entrepreneurs.

The fundamental reason of this problem should be searched in the guidance for the profit of the financial organizations because in the cost-benefit context, the SME financing is not advantageous for the commercial banks. In the context of the rules that governing the market economy is an understandable phenomenon, but for the beginning of the operations of the enterprise may need foreign resources, from the outset.

These banks are not pleasure to credit the inadequate firms or do not have the coverage for the loan, which have not yet experienced at the profit-oriented banks with the business plans and this is the only constraint imposed by access to the credit, for this reason in many cases their ability is questionable and may call into question.

While the big enterprises can get loans relatively easily, almost ninety per cent of the SMEs sector are not even eligible to get a loan.

Among many others, and this increases the risk of lending to such enterprises.

Other supplementary reasons for the banks would have reservations about lending to the micro and small enterprises are:

- high specific expenses because the loan gave to an enterprise is a small amount, so the gain is reduced to a credit transaction;
- high credit risk than the uncertainty of recovery of the amount credited;
- assessment of the banking system of the debtors is unsuitable for assessing the creditworthiness of the enterprise because a high share of the financial indicators;
- the businesses at their beginning have not financially quantifiable;
- because the high risk the enterprises can not demonstrate the existence of the coverage required.

But the relationship of the two parts of the wider perspective: Hungary's banks were open to small and medium enterprises in the late 1990s primarily due to weakening the credit conditions and the standards, which was materialized by increasing the banking products designed for the small enterprises. As a result, it was increasing the percentage of the SME loan in the portfolio of credit banks and improve the sourcing of the external financing of the banks.

The financial needs of the small enterprises typically have the form of short-term loan applications. The SME sector investment are very rarely that need long-term financing.

The most important goal of the small enterprises is maintaining the payments capacity because the income from the business does not always cover the current expenditures, the necessary of the current assets and the development resources. Most of the microenterprises (ineligible enterprise in terms of banking) can be satisfied only with the special micro-credit programs.

These programs are more flexible than the normal banking programs and granted to the enterprises not only subsidies but also, innovation and counselling.

#### **4. Microcredit programs**

The practice of microcredit in Hungary began in the early of 1990s. By then the sector in training was hit mainly by lack of experience and capital. This problem could not be solved without the government intervention.

The main microcredit programs in Hungary are:

The *National Microcredit Program (National Microcredit Scheme - MCS)* was launched by the European Union and the Government of Hungary in 1991 under the Phare SME development. First, the European Community's PHARE program, intended to support only the two countries (Hungary and Poland).

Under this program works the Hungarian Foundation for Enterprise Development.

Hungarian Foundation for Enterprise Development (MVA/CLI) is a public independent organization, it was created in 1990 with the aim of giving the support for training and development of the small and medium entrepreneurs in Hungary to help Hungary's economy to transform it in the market economy. The initial capital of 4.2 billion HUF was provided by the Government of Hungary, by the commercial banks and by the organizations of interest representation.

The fundamental purpose of the Foundation is to support the microenterprises sector and small and medium enterprises which have particular importance in terms of the social and economic, to support in terms of their professional, business and the market development and to create new enterprises.

Activity of MVA has national jurisdiction, it carries out its programs at the regional, county, and in some cases at the micro-regional level. The priority partners are foundations and the local public centers of the enterprises development, created partly by MVA (CLI).

The national network of foundations for enterprises development of the county and in Budapest in 1996 covering all of Hungary.

The principal MVA activities are financed by PHARE: counseling, training, insurance of the building (business incubator, industrial park) and generation of the micro-credit and development programs. Local Centres Entrepreneurs (CLI) form a national network with over 140 offices.

On April 28, 2000 the foundations were created Enterprise Development Network Consortium, which despite the MVA initial plans noone affiliated. In December 2003 under the auspices of the Consortium have created foundations Országos Vállalkozásfejlesztési Konzorcium Kht. (the public utility company of Enterprise Development Network Consortium-OVK) for the Network to participate independently in tenders for some projects.

The public utility company of Enterprise Development Network Consortium in 2007 changed its name to Enterprise Development Network Consortium of Non-profit Enterprises Ltd. (MVHK).

The consortium, known as the Hungarian Microfinance Network (KMMH) (*Hungarian Microfinance Network*) joined the European Microfinance Network (*European Microfinance Network - /EMN/*).

*Local Funds microcredit loans* have arrived in the management of county enterprises development foundations, and in some cases in their property.

For example, the Foundation for the Business Development in the Bacs-Kiskun County seeks appropriate financial support, advice and guidance to the small businesses in the sector, taking into account their specific features, encouraging the investments for the expansion of the business firms, etc.

The loan provided by these foundations can be used for the working capital or the intangible assets, and its value is up to 7 million HUF. The interest is fixed and has a value of 8%. The evaluation fee for the credit approval is 25,000 HUF.

Another foundation that supports the SMEs activities in the local microcredit program is the PRIMO Foundation. Thus the companies that meet eligibility requirements may opt for a working capital loan of up to 3 years or for the investment credit of up to 8 years. The maximum credit you can get is 7 million HUF. The own contribution should be 20% of the amount requested. Interest is 9% (it is fixed rate) and paid monthly.

*Új Magyarország Microcredit Program with CE co-financing* is a functional credit, capital and collateral foundation. The National Coordinator is MV ZRT and the intermediaries partners are the county foundations, the financial institutions and the commercial banks.

The purpose of this program is to support SMEs, providing loans for working capital or loans for the investment.

For example, I present in the table below the characteristics of such a loan that has an intermediary the Foundation for Business Development of Hajdu-Bihar County:

**Table 3: Loans granted by the Foundation for Business Development of Hajdu-Bihar County**

Intermedia te	Type of loan	Maximu m loan value	The maximu m duratio n of the loan	Own funds (invest-ment loans)	Grace period	Interest	Other costs
<b>Foundation for the Business Development in the Hajdú-Bihar County 4029 Debrecen, Csapo u. 26.Tel / fax: 52/500-330, 52/500-340 http://www.hbmvk.hu/info@hbmvk.hu</b>	Investme nt Credit	10,000,000 HUF	120 months	20%	24 months	6% (fixed rate)	Examinati on fee 10,000 HUF + VAT
	Working capital loan	6,000,000 HUF	36 months	-	2 months	6% (fixed rate)	Examinati on fee 10,000 HUF + VAT

Source: Új Magyarország Mikrohittel kondíciók, <http://ummikrohittel.hu>

**Microcredit Plus Program** is a MFB product developed by Magyar Fejlesztési Bank (Hungarian Development Bank) and district foundations, who use as intermediaries the banking agents, including the county foundations and companies.

This program is designed for microenterprises, which aim to develop investment, being a long-term credit.

For this type of loan may apply to those small businesses with fewer than 10 employees and total assets of up to 2 million euro.

The loan can be used to: purchase machinery, equipment, supplies, purchase of vehicles, and software.

The loan amount can vary between 1 and 15 million forints, and the loan period is up to 10 years. The applicant must cover at least 10% of the net investment. The examination fee is 15,000 HUF + VAT

#### **The Széchenyi Card Program**

This program has been implemented since 2002 and in 2007 awarded by the EU as one of the most successful initiatives to reduce corruption and to restart lending – it was later adopted by many other countries. The program is managed jointly by the National Association of Entrepreneurs and Employers and Chamber of Commerce and Industry of Hungary.

They have formed a joint venture KA-VOSZ Financial Services Trading Close Co and decided to create a system for providing low interest loans to its members and their partners from lending institutions in Hungary.

KA-VOSZ charges the coordinating program, intermediation between clients (SMEs) and participating banks, respectively of the management of clients' documents.

Ministry of Economy and Transport supports significantly the two institutions. State guarantees loans made by banks through Credit Guarantee Co.

The loan can be used to purchase machinery, equipment and other tangible assets for the development or working capital.

The amount borrowed may reach value of 7 million HUF and the repayment period can vary between 6 months and 120 months. Own contribution when it is applying for this type of loan is at least 20%.

The Szecsenyi Card Program has the following characteristics:

- It is a credit facility granted on the preferential terms by the state;
- The loan is renewable and it is addressed to SMEs operating at least one year.
  - SMEs can receive credit through a simplified electronic procedure. Application file contains far fewer documents than required by other banks.
- Each SMEs customer receives the personal advice before presenting the application.
- Registration Offices have online access to the company registration documents.

The government subsidizes up to 50% of the guarantee fee charged by Credit Guarantee Co. It also subsidizes the interest rate corresponding to the cards issued in a given period of time. The amounts are from the budgeted expenditure for the SMEs by the Ministry of Economy and Transport.

Credit Guarantee Co. perceives a fee of 1.5% calculated at 80% of the contracted amount. The enterprise pays only half of this fee, the remainder being paid by the state.

The tax credit (interest and administration fees of the loan) is equal to the interest rate BUBOR (Budapest Interbank Offered Rate) at 3 months + 5% + 1% of that company paid which exceeds the state subsidy.

Credit Guarantee Co guarantees the repayment of 73% of the total credit and the total interest.

*Among the benefits* of this program I can include:

- Simplicity – the applications can be submitted to the numerous points and local offices of the Chamber of Commerce and National Association of Entrepreneurs and Employers;

- Do not require collateral materials: if companies are allowed to guarantee a Hungarian citizen or a citizen of the European Union, with at least three years of permanent residence in Hungary, which is directly or indirectly the owner of the company (at least 50% of shares held jointly);
- There are eliminated the bureaucratic procedures;
  - It's fast, the Széchenyi card can be received within one week of application date;
- The management and evaluation of applications for this loan is done through automated and interconnected systems.

### Conclusions:

The SMEs sector is an important part of the Hungarian economy, which in the last of 15 years has been able to achieve an increase in employment.

However, the factors which impeding the most of the development of SMEs are *high taxes and social spending (administrative)*.

In 2007-2013 the main purpose of the enterprises development policy is to improve performance by focusing on solving the following problems:

- access to the financing;
- improving the professional and management knowledge;
- market strategy.

Microcredit is one of the sources of financing that is experiencing a strong promotion at European level in the recent years. In the broadest sense, the micro financing includes a range of the financial services to individuals and businesses (micro entrepreneurs), including guidance and technical assistance in order to obtain the profit or to answer a social need, the microcredit loan being the major credit product offered by the microfinance institutions.

Basically, the microfinance refers to the small loans needed to the entrepreneurs to start a business and SMEs, for the small investment or to control the various cash flow problems. Microfinance institutions have the common goal of providing financing to a maximum value of 25,000 euro for each person.

Most of the microenterprise (ineligible enterprise in terms of banking) can be satisfied only with the special micro-credit programs.

These programs are more flexible than the normal banking programs and granted to the enterprises not only subsidies but also, innovation and counselling.

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## THE DISTRIBUTION OF EUR/RON RETURNS IN A GENERAL EQUILIBRIUM MODEL WITH JUMPS

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**Abstract:** *In the present study a pure-exchange general equilibrium model with jumps is calibrated for the Romanian economy. The log-return of the endogenously determined exchange rate has a normal-mixture distribution. The calibrated model can be employed to infer some stylized facts in exchange rate dynamics. The main purpose of the paper is to compare the calibrated EUR/RON return distribution with the empirical distribution and with the estimated Generalized Hyperbolic Distribution. The results imply that the calibrated distribution is a good approximation of the empirical EUR/RON distribution, performing much better than the Gaussian one and is comparable with the Generalized Hyperbolic Distribution.*

**Keywords:** general equilibrium model, two-country exchange economy, jump-diffusion, exchange rate distribution, Generalized Hyperbolic Distribution

**JEL Classification:** D51, F31, G13

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### 1. Introduction

Many studies have investigated the empirical properties of exchange rate returns. Cont (2001) presents a set of stylized facts of asset returns in various financial markets: absence of autocorrelations, heavy tails, gain-loss asymmetry, volatility clustering. Concerning the distributional properties, the study concludes that the precise form of the tail of the distribution of asset returns is difficult to determine and that in order for a parametric distributional model to reproduce the properties of the empirical distribution it must have at least four parameters: a location parameter, a scale parameter, a parameter describing the decay of the tails and an asymmetry parameter. The Generalized Hyperbolic Distributions meet these requirements.

Generalized Hyperbolic Distributions were introduced by Barndorff-Nielsen (1977), and they were first applied in finance by Eberlein and Keller (1995). The Generalized Hyperbolic Distribution is a normal variance-mean mixture where the mixing distribution is a generalized inverse Gaussian distribution. Therefore, the models based on the Generalized Hyperbolic Distribution are a generalization of the normal mixture models with a discrete mixing distribution (Alexander and Lazar, 2006). The Generalized Hyperbolic Levy processes turned out to provide an excellent fit to observed market data. Many authors have successfully fitted Generalized Hyperbolic Distributions and, in particular, Normal Inverse Gaussian laws to returns in financial time series (Eberlein and Keller, 1995; Barndorff-Nielsen, 1997; Barndorff-Nielsen and Shephard, 2001;

Schoutens, 2003). Necula (2009) analyzed the distribution of several Central and Eastern European stock indexes and concludes that the probability density function of the estimated Generalized Hyperbolic Distribution represents a good approximation (at least up to the 4th order term) of the empirical probability distribution function, computed using a non-parametric kernel method. Also, the Generalized Hyperbolic Distribution can be easily embedded in models for analyzing the dependency structure of financial returns (Necula 2010b, 2010c). Hence, it is important to develop models with micro foundations to explain the excellent fit to the data of the Generalized Hyperbolic Distribution.

Market models based on Levy processes with jumps (like the Generalized Hyperbolic processes) are not complete and the risk neutral measure is not unique. Therefore, it is difficult to compute the fair price of a contingent claim. A solution of this problem is to evaluate the derivative in the context of a general equilibrium model taking explicitly into account the risk premium. Necula (2010a) develops a general equilibrium model with jumps for a two-country Lucas type economy (Lucas, 1978, 1982). The model assumes that the output in the two countries follows a jump-diffusion stochastic process. Necula (2008) analyzes a benchmark specification of the model consisting of constant growth rates and volatilities for the output and the money supply, and of log-normal amplitude of the jumps, and obtains a new currency options pricing formula. Using this specification, the exchange rate returns are derived to be driven by a mixture of normal distributions. This paper presents results regarding the distribution of exchange rate returns in this model. We calibrate the model in Necula (2008) for the Romanian economy, and compare the calibrated exchange rate distribution with the estimated Gaussian and Generalized Hyperbolic Distributions.

The rest of the paper is structured in three sections. The second section outlines the model in Necula (2008), in the third section we present the methodology for calibrating the model for the Romanian economy and analyze the calibrated and the estimated exchange rate distributions. The final section concludes.

## 2. The outline of the model

The benchmark model in Necula (2008) is build upon the framework developed in Necula (2010a). We consider a two-country Lucas type economy (Lucas, 1978, 1982). Both Home and Foreign representative economic agents have the same utility function consisting of the sum of two CRRA functions with different risk aversion parameters, namely  $\gamma$  for Home consumption, and  $\gamma^*$  for Foreign consumption.

The Home GDP equals  $2y_t$ , where  $y_t$  follows a dynamical equation consisting of a continuous part given by a diffusion process driven by a Brownian motion, and a discontinuous part modeled using a compound Poisson process quantifying the jumps due to rare events. The growth rate and the volatility of the output are constant:

$$\frac{dy_t}{y_t} = (\mu_y - \lambda E[J])dt + \sigma_y d\omega_{yt} + JdN_t \quad (1)$$

where  $\mu_y$  is the GDP growth rate,  $\sigma_y$  the GDP volatility,  $\lambda$  is the average number of jumps,  $\omega_{yt}$  a Brownian motion, and  $N_t$  a Poisson process with intensity  $\lambda$ . The amplitude of the jumps is log-normally distributed, namely  $\ln(1+J) \sim \Phi(\mu_J, \sigma_J)$ .

Regarding the money supply ( $M_t = 2m_t$ ), the model assumes a dynamics given by a diffusion process generated by a Brownian motion. Hence, there are no jumps in the evolution of the money supply. The growth rate and the volatility of the money supply are also constant. To keep the model parsimonious it is assumed that the GDP and the money supply are not correlated:

$$\frac{dm_t}{m_t} = \mu_m dt + \sigma_m d\omega_{mt} \quad (2)$$

where  $\mu_m$  is the money supply growth rate,  $\sigma_m$  the volatility of the money supply, and  $\omega_{mt}$  a

Brownian motion. The Foreign GDP and money supply have similar dynamics (the Foreign variables are denoted with  $*$ ). We assume that there is no correlation between variables across the two countries.

Necula (2008) shows that, in this benchmark economy, the theoretical distribution of exchange rate log-returns for period  $\tau$  is a mixture of normal distributions having a pdf given by:

$$\varphi_{\tau}(x) = \sum_n \sum_{n^*} p(n) p^*(n^*) \varphi_{n,n^*}(x) \quad (3a)$$

where  $p(n)$  is the probability that there will be  $n$  jumps in Home GDP,  $p(n^*)$  the probability that there will be  $n^*$  jumps in Foreign GDP, and  $\varphi_{n,n^*}$  is the pdf of the normal distribution with mean  $\mu_{n,n^*} \tau$ , and standard deviation  $\sigma_{n,n^*} \sqrt{\tau}$ , given by

$$\mu_{n,n^*} = (R - R^*) + \left[ \frac{(\gamma-1)^2 \sigma_y^2 + \sigma_m^2}{2} - \frac{(\gamma^*-1)^2 \sigma_y^{*2} + \sigma_m^{*2}}{2} \right] + [a_2(\gamma-1) - a_2(\gamma^*-1)] \\ + \left[ \frac{n}{\tau}(\gamma-1)\mu_J - \frac{n^*}{\tau}(\gamma^*-1)\mu_J^* \right] \quad (3b)$$

$$\sigma_{n,n^*}^2 = \left[ (\gamma-1)^2 \left( \sigma_y^2 + \frac{n}{\tau} \sigma_J^2 \right) + (\gamma^*-1)^2 \left( \sigma_y^{*2} + \frac{n^*}{\tau} \sigma_J^{*2} \right) \right] \\ + \left( \sigma_m^2 + \sigma_m^{*2} \right) \quad (3c)$$

where  $R$  and  $R^*$  are the domestic and the foreign nominal instantaneous interest rates and  $a_2(\gamma) := \lambda \left[ \exp \left( -\gamma \mu_J + \gamma^2 \frac{\sigma_J^2}{2} \right) - 1 \right]$ .

In the context of this benchmark economy a number of other interesting results have been derived. For example, the risk premium theorized by the model consists of two terms: the classical CCAPM term relating the premium to the risk aversion and the covariance between consumption and asset prices (Breedon, 1979), and a term, specific to this model, quantifying the premium required by the investors due to jumps in output. Since these results are beyond the scope of this study, one can consult Necula (2008, 2010a) for more details.

### 3. Econometric methodology and results

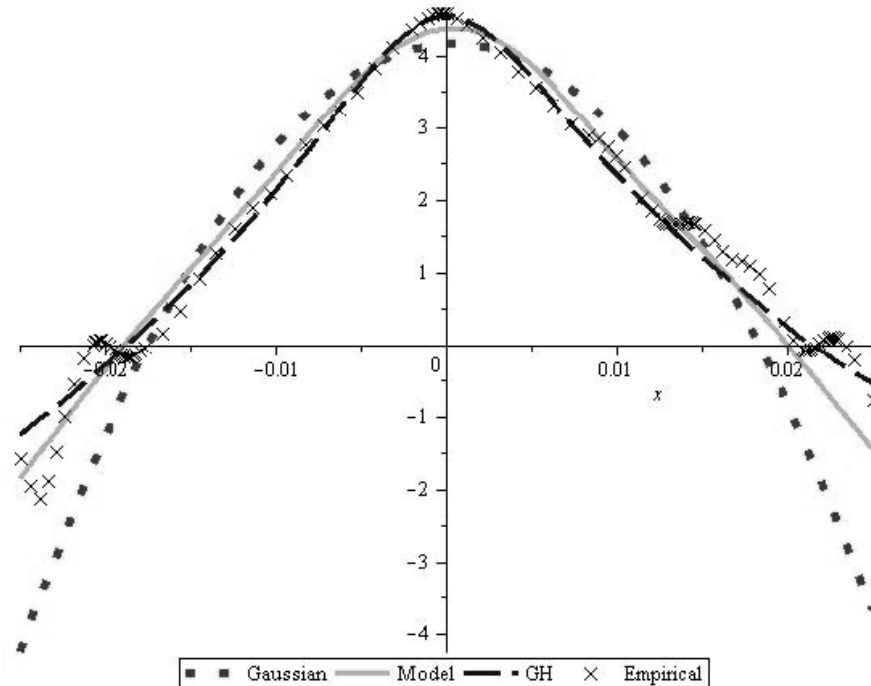
In this section we investigate the exchange rate return distribution by calibrating the model to Romania as the Home country and the Euro Zone as the Foreign economy. For the calibration of the model and for the estimation of different parametric distributions for EUR/RON we employ daily exchange rate returns for the period January 1999 - December 2010.

The methodology for comparing the empirical distribution of EUR/RON, the calibrated distribution, the estimated Gaussian distribution, and the estimated Generalized Hyperbolic Distribution consists in the following steps:

1. calibrating the model by minimizing the squared error function penalizing the deviations of the first two theoretical moments of EUR/RON exchange rate returns (i.e. mean, variance) from the empirical ones;
2. econometrically estimating the parameters of the Gaussian distribution, and of the Generalized Hyperbolic Distribution using the Maximum Likelihood Estimation (MLE) method;
3. computing the empirical distribution by using non-parametric econometric techniques (i.e. kernel density estimation); more specifically, we employ a Gaussian kernel with the bandwidth chosen according to the well-known "rule of thumb" of Silverman (1986);
4. assessing the goodness-of-fit by using the Kolmogorov-Smirnov and the Anderson-Darling statistics to compute the distance between the empirical distribution and the calibrated or estimated distributions.

Figure 1 depicts the empirical log-probability distribution function of EUR/RON returns, the calibrated one, and those of the estimated Gaussian and Generalized Hyperbolic distributions.

**Figure 1. The log - probability distribution function of the EUR/RON returns**



*Source: authors calculations*

The tails of the Gaussian distribution decrease exponentially, but the tails of the estimated Generalized Hyperbolic Distribution and of the calibrated distribution evolve according to the power law of the empirical tails. To better assess the goodness-of-fit of the calibrated distribution we computed the Kolmogorov-Smirnov and the Anderson-Darling statistics. The Kolmogorov-Smirnov statistic is 0.08240 for the Gaussian distribution, 0.02838 for the Generalized Hyperbolic Distribution, and 0.05517 for the calibrated one. The Anderson-Darling statistic could not converge in the case of the Gaussian distribution. For the Generalized Hyperbolic Distribution and the theoretical calibrated distribution the Anderson-Darling statistic is 1.3512, and 3.2838, respectively.

#### 4. Concluding remarks

In this paper we calibrated, for the Romanian economy, the general equilibrium model with jumps in Necula (2008), and investigated the theoretical distribution of exchange rate returns. Using the Kolmogorov-Smirnov and the Anderson-Darling goodness-of-fit statistics we may conclude that the calibrated distribution is a good approximation of the empirical distribution, performing much better than the Gaussian one. Although the Generalized Hyperbolic Distribution outperformed the calibrated one, the latter has the advantage of being derived in the context of a general equilibrium model. Hence, by taking explicitly into account the risk premium, one can compute fair prices of currency derivatives using the calibrated model. For further research we intend to extend the model by embedding a more realistic GDP dynamics, namely a mean-reverting jump-diffusion process.

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## AN EMPIRICAL INVESTIGATION OF MACROECONOMIC VARIABLES IN EXPLAINING STOCK RETURNS

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**Abstract:** *Every nation's economic development is directly impacted by volatility in its stock market. In this paper, we have examined the relation between expected returns and measures of systematic risk stemming from macroeconomic factors for a different time period. The research aims to identify factors which influence stock returns evolution and security portfolio performance. Further on, we examined the relative significance of each variable in explaining stock returns and finally we developed a multi-index model for Romanian firms trading at the BVB that can be used to monitor performance of security returns of portfolios by investors and managers.*

**Key words:** arbitrage pricing theory, macroeconomic factors

**JEL classification:** G1

### 1. Introduction

The major idea of this paper is macroeconomic developments exert important effects on equity returns. One of the most important developments in finance theory is the ability to talk about return in a quantifiable fashion. Knowledge on measurement and determination of rate of return enables us to value risky assets. This in turn leads to a better allocation of resources in the economy. The rate of stock return plays an important role too when it comes to investment appraisal. In evaluating risky investment opportunities, a market asset-pricing model (CAPM & APT), relates the acceptance of the project to its systematic or unavoidable risk to investors. The required rate of return is the risk free rate plus a premium for the systematic risk of the project.

Because of the importance of the concept of valuation of assets in financial decision making, knowledge of how the value of an asset is determined is essential. Stock valuation models determine either an expected rate of return or the intrinsic worth of a share of stock, which in effect represent the stocks "justified price".

To know the macroeconomic factors that influence the stocks volatility has huge implications for the stock markets and corporate finance. One can ask which are the macroeconomic factors that best explain the stock market volatility and which is the causality direction between the stock market volatility and these factors. Romanian financial market is an interesting „field” to apply a fundamental model of financial theory, the arbitrage pricing theory APT, elaborated by Stephen Ross in 1976. Starting with Chen, Roll and Ross (1986), studies regarding APT model offered new challenges for analysing the macroeconomic determinants of stocks returns. The research was centered to the significance of the risk premium attached to every macroeconomic factor.

The APT model does not indicate which variables should be taken into account, since the systematic factor is unidentified, and the existence of a linear relation between the factors and the stock returns represents a hypotheses in the model.

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## 2. From Theory to Data - APT, the multi-index model

The APT was developed by Stephen Ross in the early 70's and first published in „The Arbitrage Theory of Capital Asset Pricing” (1976). The APT along with the capital asset pricing model (CAPM) (of Sharpe (1964), Lintner (1965) and Mossin (1966)) is one of two influential theories on asset pricing. The APT differs from the CAPM in that it is less restrictive in its assumptions. It assumes that each investor will hold a unique portfolio with its own particular array of betas, as opposed to the identical "market portfolio". In some ways, the CAPM can be considered a "special case" of the APT in that the securities market line represents a single-factor model of the asset price, where beta is exposed to changes in value of the market.

The model suggests that the market equilibrium process is driven by individuals eliminating arbitrage profits across multiple factors. However the model does not tell us what the factors are or why they are economically or behaviorally relevant, its major handicap. It merely states that there is a relationship between security returns and a limited number of factors, in contrast to CAPM where the only relevant risk variable is the covariance of the asset with the market portfolio.

Through the arbitrage model the hypothesis that financial market (its total return) represents the only factor determining a stock return is eliminated.

Asset returns are assumed to be generated by a linear factor model:

$$R_{it} = \alpha_i + \beta_1 * F_1 + \dots + \beta_n * F_n + \varepsilon_i$$

The return on asset  $i$  depends linearly on  $n$  factors and unsystematic (idiosyncratic) risk. The extent to which the return on the asset depends on the factors is given by the factor loadings  $\beta_i$ . In statistical terminology, the APT risk factors are *orthogonal* to each other.

Empirically, following APT, a stock return can be computed as:

$$E(R)_{it} = R_f + \beta_1 * [R_1 - R_f] + \dots + \beta_n * [R_n - R_f]$$

In this equation,  $E(R)_{it}$  = expected or required return on stock  $i$ ;  $R_f$  = risk-free rate of return (typically Treasury Bills);  $\beta_i$  = stock's sensitivity (its "loading" or "beta" with respect to risk factor  $i$ );  $[R_i - R_f]$  = the risk premium of any asset having a beta = 1 with respect to risk factor number  $i$  and beta = 0 with respect to the other risk factors.

Although APT seems like a generalisation of CAPM, the application hypothesis of the two models are significantly different. APT considers that an asset return is bound of a series of macroeconomic factors, as the bond market return, the unanticipated changes in the rate of inflation, the changes in the exchange rate, the changes in the industrial production level (Dragota, 2003, pg. 97).

The Arbitrage Pricing Theory assumes that:

1. Only the systematic risk is relevant in determining expected returns (similar to CAPM). However, there may be *several* non-diversifiable risk factors (different from CAPM, since CAPM assumes only one risk factor) that are systematic or macroeconomic in nature and thus affect the returns of all stocks to some degree.
2. Investors must agree on what the relevant risk factors are. There must be a *linear* relationship between the risk exposure or sensitivity (its *loadings* on the risk factors) and expected return of a security.
3. Firm specific risk, since it is easily diversified out of any well-diversified portfolio, is not relevant in determining the expected returns of securities (similar to CAPM).

Although the APT model met many complaints from theoreticians and practitioners of financial markets, it brings at least five substantial ameliorations for the portfolio administration models elaborated before (Dragota, 2003, pg. 98):



1. The APT allows the equilibrium returns of assets to be dependent on many factors, not just one. The amelioration is evident, because an asset performance cannot be unilaterally explained but in a simplified analyses.
2. There is no special role for the market portfolio in the APT, whereas the CAPM requires that the market portfolio be efficient. Does not require investors to hold any particular portfolio or the risk-free portfolio, which eliminates the problems in their identification.
3. The APT makes no strong assumptions about individual's utility functions (at least nothing stronger than greed and risk aversion).
4. The APT makes no assumptions about the empirical distribution of asset returns.
5. The APT is easily extended to a multi period framework (see Ross [1976]).

In order to test the APT empirically, there are two main approaches. First, one can simultaneously estimate the asset sensitivities and unknown factors by exploratory factor analysis on stock returns. In that case a theory does not predict the exact content or even the number of relevant factors. Alternatively, we could try to specify prior general factors that explain pricing in the stock market. Such macroeconomic variables could be those affecting either future cash flows on companies or future risk-adjusted discount rates. It is generally accepted that the trend of pre-specifying factors seems to be a promising avenue of research in the search for meaningful factor structure (Iqbal, Haider, 2005).

In their paper, Chen, Roll and Ross (1986) test whether innovations in macroeconomic variables are risks that are rewarded in the stock market. Financial theory suggests that the following macroeconomic variables should systematically affect stock market returns in north-american economy: the spread between long and short interest rates, expected and unexpected inflation, industrial production, and the spread between high and low grade bonds. They found that these sources of risk are significantly priced. Furthermore, neither the market portfolio nor aggregate consumption are priced separately. Testarea acestor factori pentru intreaga piata de capital nu a putut conduce la validarea si generalizarea acestor factori.

Empirical evidence of the pricing of macroeconomic factors in the Japanese stock market was made (Azeez, Yonezawa, 2006) during the bubble period using Arbitrage Pricing Theory (APT) model. The authors also examined pre- and post-bubble periods in order to compare the robustness of priced factors over the bubble period. They found that the empirical content of the APT, namely the implied cross-equation pricing restrictions, was not rejected in any of the sample period.

Nardari and Scruggs (2007) analyzed a new class of linear factor models in which the factors were latent and the covariance matrix of excess returns followed a multivariate stochastic volatility process. They evaluated cross-sectional restrictions suggested by the arbitrage pricing theory (APT), compared competing stochastic volatility specifications for the covariance matrix, and tested for the number of factors.

In his paper, Zhang (2009) develops a test of the asymptotic arbitrage pricing theory (APT) via the maximum squared Sharpe ratio of the factors extracted from individual stocks using the Connor-Korajczyk method. The test treats the beta pricing relation as approximate without predetermining the systematic factors, unlike the existing tests that take the relationship as exact and systematic factors as given. This paper also examines the magnitude of pricing errors bounded partly by the maximum squared Sharpe ratio.

The newest empirical tests of the arbitrage pricing theory using measured variables rely on the accuracy of standard inferential theory in approximating the distribution of the estimated risk premiums and factor betas (Ouyse, Kohn, 2010). The techniques employed thus far perform factor selection and model inference sequentially. Recent advances in Bayesian variable selection are adapted to an approximate factor model to investigate the role of measured economic variables in the pricing of securities.

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### 3. Objectives of the study

- *The research will identify factors which influence stock returns evolution and security portfolio performance*

It is essential that all these factors should explain as much as possible the individual return of assets traded on the market. Chen, Roll and Ross (1986) identified the following macro-economic factors as significant in explaining security returns: surprises in inflation; surprises in GNP as indicated by an industrial production index; surprises in investor confidence due to changes in default premium in corporate bonds; surprise shifts in the yield curve. As a practical matter, indices or spot or futures market prices may be used in place of macro-economic factors, which are reported at low frequency (e.g. monthly) and often with significant estimation errors. Market indices are sometimes derived by means of factor analysis. More direct "indices" that might be used are: short term interest rates; the difference in long-term and short-term interest rates; a diversified stock index; oil prices gold or other precious metal prices; currency exchange rates.

The evolution of the stock returns depend on objective factors, but also on subjective ones, which are less evident or more difficult to modelate. For example, for the romanian capital market, the influence of the political factor is high, especially through the instability impact upon the foreign investors psychology. Also, Hasan, in his paper "Behavioral Approach to Arbitrage Pricing Theory", added a factor that captured the behavioral aspect of agent proxied by 'consumer's confidence' in the market. However, all the six factors used in his model showed evidence of joint significance.

In general, the determined factors have the disadvantage of being correlated, a present phenomenon between the most existing factors in the real life. In these conditions, it is recommended to transpose the initial factors in an orthogonal vectors system (through orthogonalization, it can be assured the completed uncorrelation between the factors), so it could be assured their independence (Dragota, 2003, pg. 98).

- *To examine the relative significance of each variable in explaining stock returns*

The macroeconomic variables instability represents an important issue that should be taken into account. The change in sensitivity to the macroeconomic factors is due to their instability. Instability can have different causes (Pocan, 2005, pg. 230), because it can come from different responses of stock returns to the macroeconomic factors in different moments of time: in recession, an unexpected growth of economic activity would generate an increase of the stock prices, but in expansion, the relation is inverse, generating inflationist pressures and decrease of the stock prices.

The sensitivity coefficients  $\beta_{ij}$  are determined using the past statistic prices and shows the dependence degree of the stock return to each of the factors  $F_j$ . These sensitivity coefficients are computed similar to the volatility coefficient.

- *To develop a multi-index model for Romanian firms trading at the BVB that can be used to monitor performance of security returns of portfolios by investors and managers*

A detailed analysis of the BVB's stocks performance will supply interesting questions about the way market works in the emerging markets. Knowledge of the factors affecting the ability of CAPM and APT to estimate the cost of equity more accurately would lower the level of uncertainty and spur investments in the long run.

### 4. Research Methodology

The approach we have used in this research is purely judgmental in that it is one in which the we have primarily used our intuition to pick factors and then estimated the factor loadings and checked whether they explain the cross-sectional variations in estimated expected returns.

Information or data was collected using a representative sample of the companies trading at the BVB.

We hypothesise some factors that are macro-economic variables, since they are supposed to explain asset returns of all assets. The factors are presented as follows. Then we regress on those hypothesised factors to obtain estimates of the factor loadings. Those factor-loadings estimates would then be used to obtain estimates of the risk premia associated with those factors.

#### 4.1. The data used for constructing the portfolio

The data consist of 8 actively traded stocks from the Bucharest Stock Exchange and the general market index (BET-C), covering the period from February 2008 to March 2011. Data on individual stocks regarding closing prices was obtained from the Bucharest Stock Exchange. These 8 stocks are the most active stocks at the present, with more than 85% weight of aggregate BVB market capitalization (see table 1).

**Table 1 – The componence of the portfolio**

No.	Symbol	Name	% in BVB market capitalization
1	EBS	Erste Group Bank AG	47,05
2	SNP	OMV Petrom SA	20,34
3	BRD	BRD – Group Societe Generale SA	8,82
4	TGN	SNTGN Transgaz SA	2,69
5	ALR	ALRO SA	2,30
6	TVL	Banca Transilvania SA	1,83
7	TEL	CNTEE Transelectrica	1,20
8	RRC	Rompetrol Rafinare SA	1,17

We have constructed an equiponderated portfolio by these assets. We have collected the monthly data. The returns have been measured using the first difference of monthly logarithmic price indices:

$$R_i = \log(P_t) - \log(P_{t-1})$$

Arithmetic and logarithmic returns are not equal, but are approximately equal for small returns. The difference between them is large only when percent changes are high. We used logarithmic returns because the main advantage is that the continuously compounded return is symmetric, while the arithmetic return is not: positive and negative percent arithmetic returns are not equal.

#### 4.2. Specification of factors

In APT, the specification of factors is essentially empirical in nature. Several a priori guidelines as to the characteristics required of potential factors are, however, suggested:

1. their impact on asset prices manifests in their *unexpected* movements
2. they should represent *undiversifiable* influences (these are, clearly, more likely to be macroeconomic rather than firm-specific in nature)
3. timely and accurate information on these variables is required
4. the relationship should be theoretically justifiable on economic grounds

When selecting the macroeconomic variables, they have been chosen using the criterion that they should affect the rate of return or future cash flow expectations of the firm share. All the variables are studied using the first differences of the logarithmic forms of indices. We hypothesise some factors that are macro-economic variables, since they are supposed to explain asset returns of all assets.

Because return on an asset, which is a function of prices, depends on 'expected future cash flows' and the 'discount rate', on the basis of this 'economic intuition' the factors were chosen. The factors are F1 = monthly changes in industrial production, F2 = monthly changes in interest rate on

loans, F3 = monthly changes in interest rate on deposits, F4 = monthly changes in inflation rate, F5 = monthly changes in Exchange rate of the euro and F6 = monthly changes in aggregate stock market return. We discuss first the rationality behind choosing these factors.

1. *Monthly changes in Industrial production (Business cycle risk)(MPI)*

The industrial production index measures the evolution of industrial activities results from one period to another, this index being a volume index. In order to capture the level of 'real activity', which is one of the indicators of the state of economy, I took monthly growth rate of industrial production. The basic series in the growth rate in Romanian industrial production were obtained from the national institute of statistics. If  $PI_t$  denotes the rate of industrial production in month  $t$ , than the monthly growth rate is:

$$MPI_i = \log(PI_t) - \log(PI_{t-1})$$

As an indicator of business cycle risk, it represents unanticipated changes in the level of real business activity. A positive value of this indicator shows that the expected growth rate of the economy has increased. Under such circumstances, firms that are more positively exposed to business cycle risk -for example, firms such as retail stores, which do well when business activity increases as the economy recovers from a recession - will outperform those such as utility companies that respond only weakly to increased levels in business activity.

2. *Monthly changes in interest rate on loans (interest on loans risk) (MDL)*

and

3. *Monthly changes in interest rate on deposits (interest on deposit risk) (MDC)*

Interest rates are among the most closely watched variables in the economy. Their movements are reported almost daily by the news media. They directly affect our everyday lives and have important consequences for the health of the economy. The higher the interest rate, the higher the discount factor, and lower the stock prices. The interest variable that we've taken into account is the change in monthly rates:

$$MDL_i = \log(DL_t) - \log(DL_{t-1})$$

and

$$MDC_i = \log(DC_t) - \log(DC_{t-1})$$

4. *Monthly changes in inflation rate (inflation risk) (MIR)*

To obtain more effect of expected future evolution of the economy, we also consider the impact of the 'pricing operator' of the economy. It is generally observed that stock returns are negatively related to expected inflation, unexpected inflation and change in expected inflation in several countries (Iqbal, Haider, 2005). If the cash flows and discount rate are not balanced for price rises, it will have an effect on asset returns. The inflation variable that we've taken into account is the change in monthly inflation:

$$MIR_i = \log(IR_t) - \log(IR_{t-1})$$

5. *Monthly changes in Exchange rate of the euro (exchange rate risk) (MER)*

We have taken into account an international factor, which is the monthly change of exchange rate of the euro. We have calculated this indicator using the end of the month values, as follows :

$$MER(RONEUR)_i = \log(ERRONEUR_t) - \log(ERRONEUR_{t-1})$$

6. *Monthly changes in aggregate stock market return (market risk)*

Market-timing risk is computed as that part of the market portfolio (BET-C share index) total return that is not explained by the first five macroeconomic risks and an intercept term. We have calculated this indicator using the end of the month values, as follows:

$$M\_BET - C_i = \log(BET\_C_t) - \log(BET\_C_{t-1})$$

Many people find it useful to think of the APT as a generalization of the CAPM, and by including this market-timing factor, the CAPM becomes a special case. If the risk exposures to all of the first five macroeconomic factors were exactly zero, then market-timing risk would be proportional to the BET-C share index total return. Under those extremely unlikely conditions, a stock's exposure to market-timing risk would be equal to its CAPM beta. Almost all stocks have a positive exposure to market timing risk, and hence positive market-timing surprises increase returns, and vice versa.

**4.3. Statistical Characteristics of the Macro Variables**

Table 2 displays the correlation matrix among the independent variables:

**Table 2 - The correlation matrix of the variables**

**Correlations**

	R_BET_C	R_IPC	R_CS	R_Ddep	R_Dcred	R_PI
R_BET_C Pearson Correlation	1	-.113	-.429*	-.492**	-.570**	.073
R_IPC Pearson Correlation	-.113	1	-.088	.028	.166	.175
R_CS Pearson Correlation	-.429*	-.088	1	.212	.065	-.137
R_Ddep Pearson Correlation	-.492**	.028	.212	1	.769**	-.248
R_Dcred Pearson Correlation	-.570**	.166	.065	.769**	1	-.096
R_PI Pearson Correlation	.073	.175	-.137	-.248	-.096	1

\*. Correlation is significant at the 0.05 level (2-tailed).

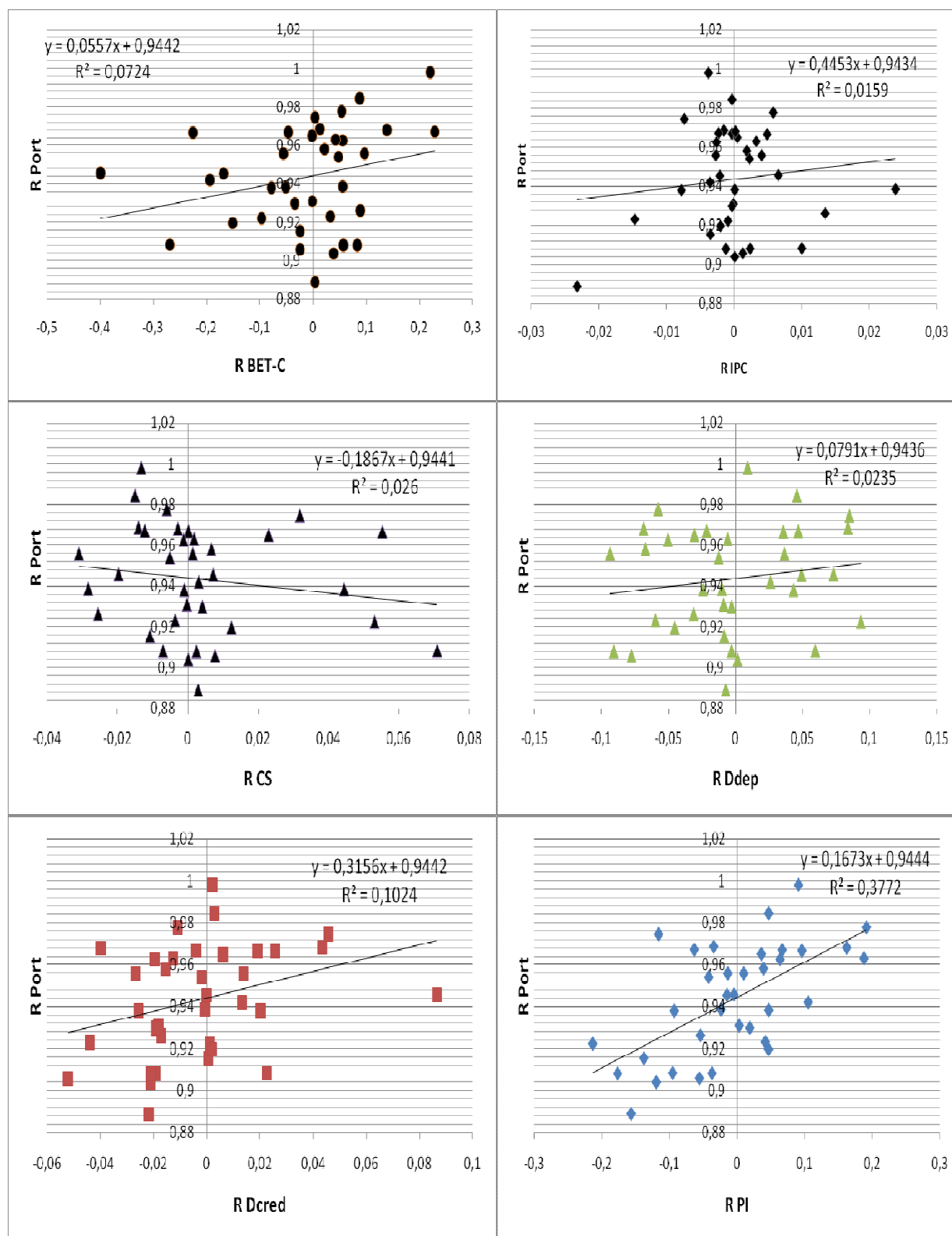
\*\*.. Correlation is significant at the 0.01 level (2-tailed).

Most of the correlations are not large except (a) between the two interest rates, on loans and on deposits, because usually they are positively correlated since they both use the long-term series. The resulting collinearity tends to weaken the individual impact of these variables; (b) also, the aggregate market index (BET-C) is the most exposed factor to the movements of the other factors. This is to be expected since this index shows the movements of the entire capital market which can be affected by the movements of the different macroeconomic factors taken into account. A number of other correlations are not negligible, but the variables are far from perfectly correlated, and no one variable can be substituted for any other.

**4.4. The six factor model specifications**

In the following analysis, we make the effect variable (the dependent variable) as the rate of return of the selected portfolio (R\_Port), and from the many influence factors we consider as causal factors which we can quantify at macroeconomic level, the following: the aggregate stock market return (R\_BET\_C), the inflation rate (R\_IPC), the exchange rate (R\_CS), the interest rate on loans (R\_Dcred), the interest rate on deposits (R\_Ddep) and the industrial production index (R\_PI).

To specify the form of the function, we graphically analyse the dependence of the dependant variable in relation to each of the causal variables as we can see in the following six figures:



To test the APT using pre-specified macro-economic factors, the following time-series regressions were first estimated for the stocks to obtain asset sensitivities and unknown factors in the APT:

$$R_{it} = \alpha_i + \beta_1 * F_1 + \beta_2 * F_2 + \beta_3 * F_3 + \beta_4 * F_4 + \beta_5 * F_5 + \beta_6 * F_6 + \varepsilon_i$$

where  $R_{it}$  is the return of the stock  $i$  at month  $t$ ,  $\alpha_i$  is the intercept term of the stock  $i$ ,  $F$  are in the above factor analysis estimated macroeconomic factors (factor scores),  $\beta_i$  are the sensitivities of

the return of the security  $i$  and  $\epsilon_i$  are the unsystematic return components of the stocks. Factor scores are used as independent variables and stocks return for each stock as dependent variable.

**4.5. Estimating the parameters of the model**

The assets' exposure to the economic state variables was estimated by regressing their returns on the unanticipated changes in the economic variables over some estimation period (we used the previous 3 years). From this we estimate factor sensitivity (factor loading), as seen in the following table:

**Table 3 – The regression parameters**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	.006	.007		.831	.413		
R_BET_C	.892	.074	<b>.993</b>	11.992	.000	.517	1.934
R_IPC	1.397	.952	<b>.091</b>	1.466	.154	.917	1.091
R_CS	.470	.353	<b>.094</b>	1.332	.194	.717	1.395
R_Ddep	-.375	.223	<b>-.168</b>	-1.682	.104	.355	2.813
R_Dcred	.634	.457	<b>.148</b>	1.388	.176	.310	3.221
R_PI	-.062	.075	<b>-.052</b>	-.828	.414	.890	1.124

a. Dependent Variable: R\_Port

Using these factor sensitivities as independent variable and stock average returns as dependent variable, the following regression was run:

$$E(R_i) = R_f + 0,993 * \lambda_1 + 0,091 * \lambda_2 + 0,094 * \lambda_3 - 0,168 * \lambda_4 + 0,148 * \lambda_5 - 0,052 * \lambda_6$$

where  $\lambda_i$  is the risk premium on factor  $i$ , or alternatively the risk premium on an asset with unit sensitivity to factor  $i$  and zero sensitivity to all other factors.

To know the exact influence exercised by the macroeconomic factors on the portfolio rate of return, i.e. to know the trend and intensity of the relationship between each two indicators, we calculate the Pearson's correlation coefficient (see Table no. 4).

**Table 4 - Pearson's correlation coefficient**

**Correlations**

	R_Port	R_BET_C	R_IPC	R_CS	R_Ddep	R_Dcred	R_PI
R_Port Pearson Correlation	1	.937	-.018	-.359	-.507	-.521	.051
Sig. (2-tailed)		.000	.916	.034	.002	.001	.770
N	35	35	35	35	35	35	35

We observe the following:

- between the aggregate market index return and the assets return from the chosen portfolio reference interest rate and the volume of outstanding credits there is a positive relation of very high intensity, because the market index shows the movements of the all the assets under the influence of macroeconomic factors;

- a near to zero correlation coefficient is available between the change in the rate of inflation (the movements of the consumer price index) and the assets returns, on one way, and on the other way, between the change in the industrial production index and the rate of return of the portfolio, which could be an atypical situation developed during this period in our country because previous studies showed that these factors had an important influence on the assets returns;
- an opposite relation of average intensity, acting indirectly on the rates of return of the assets traded at BVB. The increase of the interest rates on loans and credits will determine the decrease of the rate of return;
- between the change in exchange rate of the euro and the rate of return of the assets there is negative relation of poor intensity, which means that the growth of the first will determine the decrease of the rates of return.

#### 4.6. Verifying the model

An econometric model confirms the expectations concerning the adopted linear function if the  $R^2$  degree of determination is close to the value of 1 (100%), and the verification of the significance of every factor's role on the dependant variable is made through the F test, which confirms or refutes the model.

For the model we developed, the values for the  $R^2$  and the F test are presented below (Table no. 5 and Table no. 6).

**Table no. 5 : The  $R^2$  coefficient of determination and the F test**

##### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.949 <sup>a</sup>	.901	.879	.04010465870	.901	42.327	6	28	.000

a. Predictors: (Constant), R\_PI, R\_BET\_C, R\_IPC, R\_CS, R\_Ddep, R\_Dcred

This means that 90,1% of the variation in total rate of return is explained by the six independent variables, while 9,9% remains unexplained.

We observe that the model confirms the expectations concerning the linear function because the  $R^2$  degree of determination is close to the value of 1 ( $R^2 = 0.901$ ).

Furthermore, in order to see if the variation of dependent variable could be explained, we have to test the following hypotheses:

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$$

$$H_A: \text{At least one } \beta_i \text{ is not equal to zero.}$$

If the null hypothesis is true, none of the independent variables is linearly related to dependent one, and therefore the model is useless. If at least one  $\beta_i$  is not equal to zero, the model does have some utility.

The calculation of the test statistic is summarized in an analysis of variance table (ANOVA), which appears as follows in Table 6.

A large value of F indicates that most of the variation of dependent variable is explained by the regression equation and that the model is good. The rejection region allows us to determine whether F is large enough to justify our rejecting  $H_0$ . For our test, the rejection region is:

$$F > F_{.05,6,28}$$



**Table 6 – ANOVA table**

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.408	6	.068	42.327	.000 <sup>a</sup>
	Residual	.045	28	.002		
	Total	.453	34			

a. Predictors: (Constant), R\_PI, R\_BET\_C, R\_IPC, R\_CS, R\_Ddep, R\_Dcred

b. Dependent Variable: R\_Port

Note: The results were obtained using the SPSS software.

Since  $F_{\text{calculated}} = 42,327$  is superior to the corresponding table value (regarding the percentage points of the F distribution,  $\alpha = 0,5$ ) ( $F_{.05,6,28}$  is 2,45), we can say with a 5% error risk, that estimates are in general significantly different from zero, and that the whole model is valid.

## 5. Conclusions:

For the investors in the romanian capital market the APT model represents a viable solution for analysing stock returns. But the difficulty of applying this model is quite high, because it requests that the investor should realise a personal study of all the factors which affect the financial titles returns.

As limits of the study, we mention that the instability between the assets return and the macroeconomic factors could generate major differences in risk evaluation. If the models in which the macroeconomic variables influence the stock market return are used in order to estimate the requested returns, their instability could generate fuzzy conclusions.

That is the why it is difficult to develop a model for the romanian economy whose results to be consistent to the theoretical aspects, because we do not have sufficient informations about the variables or we can forget some variables which could have an important impact on the capital market movements. These causes could finally generate ambiguous conclusions (Pocan, 2005, pg. 234).

The potentially large number of factors means more betas to be calculated. There is also no guarantee that all the relevant factors have been identified. This added complexity is the reason arbitrage pricing theory is far less widely used than CAPM.

Although the model has determined empirically that it captures some important effects at the BVB, the model described here can in future be enhanced in several ways. This may involve using of data of certain economic indicators which was originally not available. Such data may include monthly returns of GDP, unemployment rate, etc. Another suggestion for future research is to introduce additional factors with zero risk prices. Although such non-priced factors (as, for example, measures of the legal environment like: measures of enforceability of contracts, rule of law, and corruption) do not contribute to expected return, they help to explain volatility, and they provide managers with a tool to evaluate the diversification of their portfolios. This may entail going beyond the traditional multi-factor approach of including macroeconomic factors.

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## INTERNATIONAL BANKING MARKET AND THE FINANCIAL CRISIS - WINNERS AND LOSERS

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**Abstract:** The global financial crisis modifies the shape, structure and functioning of the global banking market. After presenting the main trends in the international banking market, the article examines the role of the USA, EU, Japan and China in this market. The paper argues that we can talk about a power shift on the global banking market, where China has three banks in the top five largest banks in the world by market capitalisation.

**Key words:** international banking market, financial crisis

**JEL classification:** G01, G21

### 1. Introduction

The banking sector has experienced substantial changes in recent years. The industry has become more competitive due to deregulation and progress in financial technologies. Global banking markets have become highly volatile that lead to financial instability.

Globalization has led to ranking of international banks by geographical criteria, hierarchy that transforms from year to year. In the current global financial crisis context, such changes have occurred. Goldberg (2009) overviews macroeconomic consequences of banking sector globalization, including the role of banks in the international transmission of shocks, co-movements of business cycles, financial crises, and economic growth.

### 2. Evolution of the international banking market until 2007

In the 1960s and 1970s, there was considerable geographic dispersion in the banking industry, with many regional centres mostly involved in fairly traditional banking. International banking market increased and US institutions dominate as they were rapidly expanding into foreign markets. Competition among international banks became increasingly intense. In 1974, US had five of the world's biggest banks, with Bank America Corp, Citicorp and Chase Manhattan Bank coming in first, second and third place.

The development of the euro-currency markets determined the reformation of the European banks as tough global competitors, while depreciation in the US dollar in the middle and late 1980s aided the international expansion of Japanese banks. Japanese banks, long closely linked to major corporation in Japan for which they were the main source of funds, became major international players. US banks declined dramatically in terms of the international pecking order – at least in term of asset size (Hughes, 2002). There were no US banks in the top ten, which was dominated by Japanese and European institutions, with Chase Manhattan Bank on eighteen and Citicorp on twenty-one position.

The sharp increase in international banking activity in the 1970s was largely organized by the large transnational banks located in the leading financial centres. The assets of the major international banks grew by 95% from 1976 to 1980, with the US banks by far the leading ones (Sassen, 2001, p. 67).

The third world debt crisis of 1982 undermined the leading position of US transnational banks and deregulation of domestic markets impaired off-shore banking centres.

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Since 1985, the banking market structure has changed substantially. Banks have been consolidating and the number of banks has declined over time, which increased concentration in the banking industry.

Until historical barriers against interstate banking were largely removed in 1994, some US commercial banks were better able to achieve growth by penetrating foreign markets than by expanding at home (Madura, 2008, p. 494).

By the end of the 1990, international banking market was dominated by large institutions, especially in the most developed economies, such as USA, Japan, Germany, UK, France, Italy, and Canada.

In Asia, the banking industry consolidation has taken place after the Asian crisis. In the economies affected by crisis, bank mergers (Thailand, Indonesia, Malaysia, and South Korea) have been carried out to make them financially viable and large enough to compete with foreign banks in the domestic markets. Some banks were nationalized and restrictions were removed on the ownership of the foreign banks in the domestic markets.

China's booming economy has been accompanied by a fast growing banking sector. By the end of 2007, the total assets of China's banking sector reached RMB 52.6 trillion, indicating an average annual growth of 17.4% from 2003 to 2007 (China Banking Industry, 2008, p. 5).

### 3. Global banking market and crisis

In **Top 10 banks** ranked on total assets in **Bankers' Almanac** were in **2008** 6 banks from EU (Royal Bank of Scotland Group - UK, Deutsche Bank AG - Germany, Barclays PLC - UK, BNP Paribas SA - France, Crédit Agricole SA - France, Société Générale - France), 2 banks from USA (JPMorgan Chase Bank National Association, Bank of America), 2 banks from Japan (Bank of Tokyo-Mitsubishi UFJ Ltd) and 1 bank from Switzerland (UBS AG).

In February **2011**, Top 10 banks recorded slight changes: 7 banks from EU countries (France, UK, Germany, Spain), and one bank from China, Japan and USA.

**Table 1: Top 10 banks by total assets and capital in Bankers' Almanac (31.12.2009)**

Current Rank	Previous Rank	Bank	Assets USD billion	+ or - (local currency)	Capital USD million
1	1	BNP Paribas SA, Paris, France	2952.2	-0.86%	35.9
2	2	Royal Bank of Scotland Group plc, Edinburgh, UK	2739.3	-29.36%	23.6
3	3	Crédit Agricole SA, Paris, France	2234.3	-5.80%	40.6
4	4	Barclays PLC, London, UK	2226.6	-32.83%	4.6
5	5	Deutsche Bank AG, Frankfurt am Main, Germany	2153.0	-31.86%	2.2
6	6	Industrial & Commercial Bank of China Limited, Beijing, China	1726.2	-	48.9
7	7	Lloyds Banking Group plc, London, UK	1658.7	-	16.9
8	10	The Bank of Tokyo-Mitsubishi UFJ Ltd, Tokyo, Japan	1638.0	+3.32%	18.2
9	8	JPMorgan Chase Bank National Association, New York, USA	1627.7	-6.79%	1.8
10	9	Banco Santander SA, Boadilla del Monte, Spain	1593.2	+5.80%	5.9

Source: www.Bankersalmanac.com, Accessed in 16th February 2011

A different ranking of the **Top 25 global banks** by assets is presented by **The Banker magazine**. According to published data in 2009 were present 4 US banks (Bank of America Corp, JPMorgan Chase, Citigroup, Wells Fargo), 4 banks from UK (Royal Bank of Scotland, HSBC Holdings, Barclays, Lloyds Banking Group), 4 French banks (BNP Paribas, Credit Agricole Groupe, Groupe BPCE, Société Générale), 4 Chinese banks (Industrial Commercial Bank of China, China Construction Bank Corporation, Bank of China, Agricultural Bank of China), 3 Japanese banks (Mitsubishi UFJ Financial Group, Sumitomo Mitsui Financial Group, Mizuho Financial Group), 2 banks from Germany (Deutsche Bank, Commerzbank) and one bank from Netherlands (ING Bank), Spain (Banco Santander), Italy (UniCredit) and Switzerland (UBS).

**Table 2: Top 25 banks by assets in The Banker (2009)**

<b>Rank</b>	<b>Bank</b>	<b>Country</b>	<b>Assets (USD billion)</b>
1.	BNP Paribas	France	2965
2.	Royal Bank of Scotland	UK	2750
3.	Credit Agricole Group	France	2441
4.	HSBC Holdings	UK	2364
5.	Barclays	UK	2235
6.	Bank of America Corp	US	2223
7.	Deutsche Bank	Germany	2162
8.	JPMorgan Chase	US	2032
9.	Mitsubishi UFJ Financial Group	Japan	2026
10.	Citigroup	US	1857
11.	Industrial Commercial Bank of China	China	1726
12.	ING Bank	Netherlands	1677
13.	Lloyds Banking Group	UK	1665
14.	Banco Santander	Spain	1600
15.	Mizuho Financial Group	Japan	1557
16.	Groupe BPCE	France	1482
17.	Société Générale	France	1475
18.	China Construction Bank Corporation	China	1409
19.	UniCredit	Italy	1338
20.	UBS	Switzerland	1300
21.	Bank of China	China	1281
22.	Wells Fargo	US	1244
23.	Sumitomo Mitsui Financial Group	Japan	1220
24.	Commerzbank	Germany	1216
25.	Agricultural Bank of China	China	1026

Source: www.thebanker.com, Accessed in February 2011

According to The Banker, the *assets* of Top 25 banks accounted USD 14.6 trillion, 37% of the Top 1000 World Bank holdings of 39 USD trillion in 2001. The geographical spread of Top 1000 World Bank remained stable for many years. EU, USA and Japan accounted 60% of Top 1000 and 78% in terms of assets. Further, most of the top global banks were rooted in their domestic markets. Even Citigroup considered being truly global banking having presence in over 100 countries holds bulk of its assets in the US (Kavaljit, 2005, p. 42).

In 2009, banking assets have grown by 6.8% to USD 96.4 billion but at a much slower pace than previous years, with the doubling of the asset base between 2003 and 2008 now clearly visible as a key contributor to the crisis.

In Top 1000 by *total assets* in 2009 the first position was held by EU (USD 46.4 billion) followed by USA (USD 12.7 billion), Japan (USD 9.8 billion), UK (USD 9.6 billion), China (USD 8.6 billion) and Brazil (USD 1.3 billion).

In The Banker's Top 1000 World Bank 2010, the total assets of the Top 1000 decreased to USD 95.53 billion. The Top 25 banks accounted 40% of the total Tier 1 of the Top 1000 and 45% of assets in 2010.

The Top 25 recorded an unprecedented USD 32.4 billion *loss* in last year's rankings, having a positive contribution of USD 19.1 billion in 2010, but not as effect of major changes in the composition of the banks in the Top 25 (Alexander, 2010):

- two US banks switch places at the top of the rankings, and many others have hardly moved;
- there are two new entrants, products of post-crisis mega-mergers - Lloyds Banking Group absorbs HBOS and reached the position 12; Groupe Banques Populaires and Groupe Caisse d'Épargne, at 35 and 63, respectively, in 2009 rankings, have merged to form Group BPCE, which ranked 18.

*During the crisis*, Citigroup, Bank of America, UBS, Barclays and Deutsche Bank registered *losses* of USD 333 billion or 30% of the total (Blundell-Wignall and Slovik, 2009). But they are considered as “too big to fail” and the governments had put together massive packages of aid. In 2010, the worst *losses* are at the Royal Bank of Scotland, with USD 59.3 billion, followed by the Citigroup, with USD 53 billion, and Wells Fargo, which lost USD 47.7 billion. The HBOS produced the sixth worst losses in the world.

The financial crisis introduced the idea that banks are not only “too big to fail” but, in some cases “too big to save”. Politicians and regulators talked about capital levels, liquidity, securitisation and cross-border supervision but the question of size may challenge them the most.

In 2010 Chinese and Spanish banks dominate the top by highest *profits* with ICBC, China Construction Bank and Santander in the top three positions.

*Power shift in the global banking system* can be observed in recent years being accelerating by the global financial crisis: from US, Europe and Japan banks towards banks in the emerging markets. In top 25 by *market capitalisation* of The Banker, in 2009, financial institutions from China (ICBC, China Construction Bank, Bank of China, Bank of Communications, China Merchants Bank), Canada (Royal Bank of Canada, Toronto Dominion Bank, Bank of Nova Scotia) and Australia (Westpac Banking Corporation, Commonwealth Bank of Australia) have moved up the ranks. European banks still hold important positions (35% in the total market capitalisation of the top 25 banks), surpassing American (22%) and Japanese ones (4%).

*China's banks* are the biggest in the Asia-Pacific region, continuing to dominate the ranking, both in number (27%) and in terms of capital (44.89%), with Industrial and Commercial Bank of China, Bank of China and China Construction Bank holding onto the top three positions, respectively, for the fourth year in a row. Chinese banks also hold five of the top 10 spots in the 2010 ranking for the second year running (Price, 2010).

The global financial crisis has focused attention on the exposure of European banks to *Central, Eastern and South-eastern Europe* and the underlying risks that may undermine financial stability. Banks in these countries were generally well capitalized, so that the crisis did not affect them directly.

Western European banks dominate the region's banking systems, accounting for 60% to 90% of market share. The top three banks in the region on the basis of consolidated assets in 2008 were UniCredit (Italy) - 6.0%, Raiffeisen (Austria) - 4.7% and Erste (Austria) - 4.4%.

According to IMF (2009), several banking systems in Western Europe (particularly those of Austria, Belgium, and Sweden) “remain highly exposed to deterioration in asset quality in emerging Europe”.

Paul Krugman's comments that Austria was one of several European countries at risk from their exposure to Eastern Europe.

Roubini (2009) notes that “Austria is far and away the Western European country most heavily exposed to the CEE region” especially through two Austria-based banks with a collective exposure to the region that exceeds 70% of Austria’s GDP.

The risk profiles of European banking groups differ according to the relative share of exposures to more vulnerable countries in the region with various economic situations.

#### 4. Conclusions

After World War II, US banks have dominated the market for a long time.

In the '80, Japanese banks have become the most powerful worldwide. Japan had in 1990, 12 large banks in the top 20 global banks, while the US had no one at the top.

In the '90, U.S. banks were holding back on top about 18 strong banks in the top 100 global banks.

Power shift in the global banking system can be observed in recent years being accelerating by the global financial crisis: from US, Europe and Japan banks towards banks in the emerging markets.

We can talk now about a new order in the international banking market, where China has three banks in the top five largest banks in the world by market capitalisation. Chinese banks are the top gainers while Japanese banks are among the largest losses and largest declines in profit.

European banks were subjected of stress tests: 7 of the 91 banks tested failed, being considered that banks do not have enough capital reserves to survive another crisis. In the Top 10, there is 7 banks from European Union (UK – 2, Germany – 1, France – 3, Italy – 1), 2 banks from USA and 1 from Switzerland.

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## SIMULATING THE IMPACT OF FISCAL POLICY ON THE ECONOMY

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**Abstract:** *More literature is now focusing on the impact of internal and external shocks on the macroeconomic variable at national and regional level. Some of this paper highlighted the impact of fiscal measure on macroeconomic variable in order to sustain the economic recovery and to mitigate the negative effects of the international crisis. Following the Fatás and Mihov (2001) works we applied a three dimension VAR model in order to study the impact of fiscal measures taken in Romania on the main macroeconomic indicators, namely gross domestic product. Our result show that increasing government spending has immediate negative effect on gross domestic product per capita and the increase in net taxes (taxes less interest income and transfers) has a prolonged negative effect on about seven quarters of gross domestic product, which explains the delayed resumption of growth in Romania*

**Key words:** fiscal policy, VAR models.

**JEL Classification:** E2, E3, H3

## 1. Introduction

Economic and financial crisis started in late 2008 and extended worldwide highlighted the importance of knowing the nature and mode of shock propagation and interaction of various economic measures on national and international developments. A number of studies from both international and national literature focus on highlighting the impact of various shocks on economic aggregates, seeking solutions to enhance positive effects and mitigate negative ones. These studies focus on either analysis of a country, a group of countries (euro area or OECD) or of two or more countries, the analytical tools being influenced by this issue, as evidenced by the work of Shafik (2010), Perotti (2007), Marinas (2010). The conclusions learned from these studies are that the size of the impact varies with: i) the methodology used for assessment; ii) the theory underlying the model applied, iii) the type of economy (open or closed, developing or developed), iv) the combination of fiscal measures (tax cuts, increases in shipments, increase public spending for current expenditure or investment, etc.), v) the size of the internal and external deficits and vi) the country's debt degree, that affects sustainability over the medium term and long term fiscal policies.

This paper is divided into four chapters: an overview of relevant literature, presenting the model, model application and interpretation of results and finally, conclusions.

## 2. Aspects of Literature

The economic literature shows a wide range of models applied in highlighting the effects of fiscal policy on macroeconomic variables. Without claiming an exhaustive approach, we'll continue some of the models present in literature. The first range of models that we present is based on vector autoregressive technique (VAR) in semi-structured or variant having as a starting point the work of Blanchard and Perotti 2002 or so since 1999. In VAR-type models, we can distinguish three ways of identifying fiscal shocks, namely: i) *identification method based on elasticity*, of Blanchard and Perotti (2002) ii) *use dummy variables for evidence of events*, applied by Ramey and Shapiro in 1997, Edelberg and others (1999), Blanchard and Perotti (2002) in combination with other methods, iii) *the recursive method* by applying the ordering variables of Choleski type, used



by Fatás and Mihov (2001), iv) *the approach by imposing sign restrictions on coefficients*, introduced by Mountford and Uhlig (2005).

Blanchard and Perotti (2002) have combined a structural vector autoregressive (SVAR) tri-dimensional (variables calculated as net taxes less transfers and interest charges, government expenditure and Gross Domestic Product-GDP), with an event related to the study. They studied the dynamic response of GDP associated with a dummy variable included in the basic vector autoregressive (VAR) to highlight the effect of temporary reduction of taxes in 1975. According to the authors, using quarterly data for the period 1960:01-1974:04 allowed the separation of tax policy effects of any existing discretionary fiscal policy adjustments in response to some unexpected effects. The identification procedure used has only revealed the first effects of fiscal policy. They show that a positive shock in government spending has a positive effect on private consumption and government spending and tax increases lead to a reduction in private investment, consistent with the results of neoclassical models with distorted pricing system.

Claus, Gill, Lee and Mc.Lellan (2006) used in the empirical analysis of fiscal policy in New Zealand the SVAR technique, applied to a vector with three variables (income less transfer taxes, government spending and GDP) on September quarterly data 1982-September 2004, on deterministic and stochastic versions. Using the identification technique used by Blanchard and Perotti (2002), the authors conclude that contemporary negative impact of net tax increase of GDP is higher than that positive results from an equivalent increase in government spending, the differences obtained in the deterministic version and the stochastic one being minimal. In terms of dynamic effects, a one dollar increase in net taxes leads to a reduction of \$ 0.24 in GDP within the next four quarters for deterministic specification (compared with only two quarters in stochastic specification), while the government spending response to this shock is minimal.

Following highlighting the impact of fiscal policy on consumption and employment, Fatás and Mihov (2001) used for data analysis the VAR technique in the semi-empirical variant, adopting a variant of identification only in relation to costs, considering the contemporary relations between the system unrestrictive taxes and macroeconomic variables in the tradition of semi-structured VAR. Unlike Blanchard and Perotti, the vector used has five variables, including interest rate on government bonds and GDP deflator as additional variables to government spending, GDP and, income from fees. They compared those results with results from applying a model of real business cycles type (RBC). The empirical investigations demonstrated that the increased government spending has expansionary effect (multiplier is greater than 1), mentioning that it is stronger if consumption growth or employment is in government sectors, while increasing public investment has an insignificant effect on GDP. Private sector's output response to increased government spending is highlighted by the impulse function for the VAR model and was in contrast to the result obtained for the RBC model. Also, the RBC model could not show a positive correlation between employment and consumption, a relationship highlighted in the case of VAR model, which suggests the need for changes in the standard operation of the business cycle, to synchronize its results to the actual real results.

A similar approach for the analysis of fiscal policy shocks in the Euro zone and the U.S. we meet in Burriel's study and others (2009). To reflect the impact of aggregate and disaggregated government spending and net taxes, the authors turn to SVAR technique applied on quarterly data from the period 1981-2007, the fiscal variables used being government spending, net taxes, GDP in real terms, GDP deflator and the interest rate on government securities of 10 years, all the variables being seasonally adjusted and expressed in logarithmic terms, except the interest rate. Their study showed that short-term, expansionary fiscal policy has a positive impact on GDP and private consumption, the effect on economic activity being higher than that of lower taxes. In identifying the VAR's they applied the Blanchard and Perotti (2002) method, and the price elasticity of government spending that was set at -0.5 eclectic as in the study by Perotti (2004). The study showed that on both the U.S. and the euro area the expenditure multiplier increased in recent years and the persistence is higher in U.S. when compared to the euro area due to prolonged effect of

shocks in U.S. military spending. Also, it is showed that when seeking government debt control, the multiplier tends to exceed the standard level (which does not take into account a threshold of debt to GDP), which shows the "Ricardian" behavior of agents on the restriction placed on indebtedness. Testing sensitivity in case of control of deficit to GDP has not revealed major changes in multipliers, noting that in euro zone expenditure and tax multipliers become larger and more persistent than those in the U.S.

Fatás și Mihov(2003) deal with tax policy changes as a result of cyclical developments in fiscal policy and GDP, assuming that the political process in most countries does not like changes in discretionary government spending., Using data for 91 countries in the period 1960-2000 and the VAR technique on panel data they concluded that government spending does not react too much to economic cycles, while the budget deficit is much more sensitive to changes in macroeconomic conditions.

Table nr.1 Comparing results of different studies on the responses of various macroeconomic variables to a fiscal shock as shown in the literature

Responding to a spending shock										
	PIB (Y)		Total consumption (C)		Residential investment.		Real wage		No. employees	
	"S"	"M/L"	"S"	"M/L"	"S"	"M/L"	"S"	"M/L"	"S"	"M/L"
Fatas/Mihov(2001)	"+"	"+"	"+"	"+"			"0"	"0"	"+"	"0"
Blanchard/Perotti(2002)	"+"	"+"	"+"	"+"	"-"	"0"*	n.a.	n.a.	n.a.	n.a.
Perotti(2005)	"+"	"+"	"+"	"+"	"0"	"-"	n.a.	n.a.	n.a.	n.a.
Mountford/Uhlig(2005)	"+"	"0"	"-"	"0"	"-"	"-"	n.a.	n.a.	n.a.	n.a.
Edelberg și alții(1999)	"+"	"0"	"0"	"0"	"0"	"0"	"0"	"0"	"+"	"0"
Răspunsul la un șoc în venituri										
Fatas/Mihov(2001)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Blanchard/Perotti(2002)	"-"	"-"	"-"	"-"	"-"	"+"	n.a.	n.a.	n.a.	n.a.
Perotti(2005)	"0"	"-"	"+/-"	"+/-"	"+/-"	"+/-"	n.a.	n.a.	n.a.	n.a.
Mountford/Uhlig(2005)	"-"	"0"	"-"	"0"	"0"	"+"	n.a.	n.a.	n.a.	n.a.
Edelbergși alții (1999)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Note: S = short, M / L = medium and long term, "+" hit, "-" negative response, "\*" = total investment, na = no data

Source: Dario Caldara, Christophe Kamps (2006), What Are The Effects of the Fiscal Policy Shock? A VAR based Comparative analysis, Table 1, p.30

A second range of models is that of real business cycles, such models being applied by Caraiani (2010) in the analysis of fiscal policy in four EU countries: Czech Republic, Poland, Hungary and Romania. Using a dynamic stochastic general equilibrium model (DSGE) for an open economy (in the manner used by Moons et al. (2007) for the analysis of monetary policy in the euro area) based on a New-Keynesian model under a Taylor Rule for monetary policy and tax and applying the Bayesian technique to solve it, the author concludes that by increasing spending it will produce a positive effect on GDP in Romania, Hungary and the Czech Republic. The conclusion for Hungary is in contradiction to that obtained by Lendvai (2007) by using a SVAR for the period 1997Q1-2005Q4, taking into account the fact that the analysis is performed on pre-crisis data and the technique used was different. The study shows that an increase in government spending leads to a contraction of GDP, lower employment, while households respond positively, increasing their income, the situation of companies is different as they feel a negative impact after those changes.

Another range of models applied in analyzing the impact of fiscal policies are based on the *New Keynesian theory* of Smets-Wouters model type. Assuming a high degree of uncertainty in models, John F. Cogan, Cwik, Taylor, Wieland (2009) consider that the models used in practice are not robust and therefore propose *an alternative approach based on modern Smets-Wouters model* which allows to calculate *the fiscal multiplier* for determining the tax impact of fiscal policy. The authors compare the spending multipliers calculated in classical Keynesian philosophy (the model used by Romer and Bernstein, 2009) with those resulting from the application of Smets-Wouters model built according to the New Keynesian theory based on price and wage rigidity and rational expectations about future developments (rational or forward looking) of firms and individuals. So, they highlight the limits of the model used by Romer and Bernstein.

Seems interesting the presentation of the results obtained by applying different models to analyze the effects of fiscal policy, as is reflected in the work of Caldera, Kamps (2006) and is shown in Table 1.

It is noted that depending on the assumptions included in the models addressed in several studies, according to the theory underpinning the construction of both models, the effects are significantly different, both as influence over macroeconomic variables (the sign may be positive, negative or no influence) and over intensity influence, which led Perotti (2007) to consider necessary to deepen these issues both in terms of government spending influence and tax revenues perspective.

### 3. Presentation model

In analyzing the fiscal impulses in Romania we used autoregressive vector methodology in the manner used in the study of Fatás and Mihov (2001).

We started from a general form of three-dimensional vector:

$$X_t = \sum_{i=1}^k A_i X_{t-i} + e_t \quad (1)$$

Where X is one-dimensional vector including the consolidated budget expenditures (CHT), gross domestic product (GDP) and net income of consolidated budget (net charges),  $A_i$  is an  $N \times N$  matrix of coefficients, and the optimal number of lags  $k$  is determined based on Akaike and Schwartz information criteria. Note that in the studies of Blancherd and Perotti (2002), but in others it was considered that the best answer for a model  $k = 4$ , since the quarterly data used in the model.

Reduced form of the residue vector  $e_t$  is  $n$  dimensional, the variance-covariance matrix  $\Sigma_e$ , where

$$E [e_t, e_t'] = 0$$

Structural vector autoregressive form can be written as:

$$A_0 X_t = \sum_{i=1}^k A_i X_{t-i} + B u_t \quad (2)$$

Where  $A_0$  matrix describing contemporary relationships between variables  $X_t$  vector and matrix  $B$  describes the relationship between reduced form and shape structural residues of residues  $u_t$ , except that:

$$u_t = B^{-1} A_0 e_t$$

Effect of dynamic variables (as a result of an increase of one unit of structural residues fiscal equation, assuming that the other residues remain fixed), defined as structural fiscal shock can be expressed briefly as an impulse response function.

In order to calculate the impulse function is necessary to estimate the matrices:  $A_0$ ,  $B$  and variance covariance matrix  $\Sigma e$ , what can be achieved only by restricting some of the coefficients  $A_0$   $B^{-1}$  matrices based on theoretical considerations. Using recursive identification method, known as Cholesky decomposition, a technique used by A Girl and Mihov (2001), we assume that matrix  $B$  is unitary matrix and the matrix  $A$  is a triangular matrix with a main diagonal and zero in the above the diagonal and then we have:

$$\begin{bmatrix} 1 & 0 & 0 \\ a_{21} & 1 & 0 \\ a_{31} & a_{32} & 1 \end{bmatrix} \begin{bmatrix} e_{chelt} \\ e_{pib} \\ e_{taxe-nete} \end{bmatrix} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix} \begin{bmatrix} u_{chelt} \\ u_{pib} \\ u_{taxe-nete} \end{bmatrix}$$

It is noted that in this case, the order of variables is extremely important because it defines the direction of causal relationship. By choosing to place net taxes by GDP, we are aware that excludes a priori assumption of the contemporary effects of any component of GDP including private consumption, which recognize that a hypothesis is quite restrictive for the Romanian economic environment.

#### 4. Application and interpretation of model results

As already mentioned,  $X$  is one-dimensional vector containing the variables: CHT\_CONSDEF\_2000\_SA, which is consolidated budget expenditures per capita in 2000 prices, PIB\_LOC\_SA which per capita gross domestic product at constant prices of 2000, and is a TAXE\_NET\_2000LOC\_SA variable representing the consolidated revenues and transfers less interest, calculated per capita. All variables were seasonally adjusted with TRAMO / SEAT, were calculated in real terms by deflating by the deflator of GDP at constant prices in 2000 and were used in terms of percentage. The number of lags chosen by the method of Akaike and Schwarz criterion was 2. The data are quarterly, and cover the period 2000Q1: 2010Q3, and are provide by monthly bulletins of the National Institute of Statistic and NBR Monthly Bulletins.

Stationary test variables, Granger causality, tests for residue (autocorrelation test errors, Heteroskedasticity and normal distribution) are presented in Annexes 1-5 and the author can be provided upon request.

What interests us is the behavior of gross domestic product and other tax component of fiscal variables to a shock in a shock response function is reported on a horizon of 12 quarters, so three years, with a band of deviation errors  $+ / - 2$ , calculated by Monte Carlo method with 500 replicates.

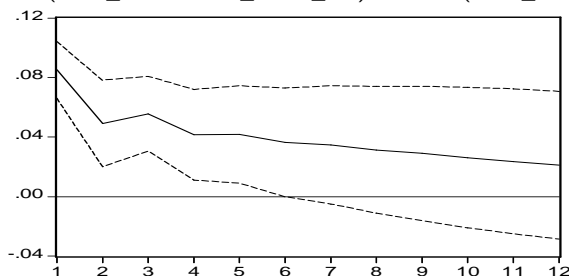
Figure 1 shows the response of gross domestic product per capita and net tax shock in spending. It is noted that the increased spending is felt with a delay of two quarters in budgetary expenditure but has a negative impact from the first quarter of gross domestic product per capita, according to the result obtained by Lendvai (2007) study on Hungary. We could say that in this

context, since the government to reduce budget spending has been felt yet the effect on gross domestic product in the same quarter. The fact that the impact is negative multiplier leads to the conclusion that private spending ahead of that of public spending and by crowding out the impact is negative. In terms of net tax response, there is an increase in the first two quarters followed by a rebound in the third quarter expectations, indicating that the increase in charges as a result of increased expenditure is checked.

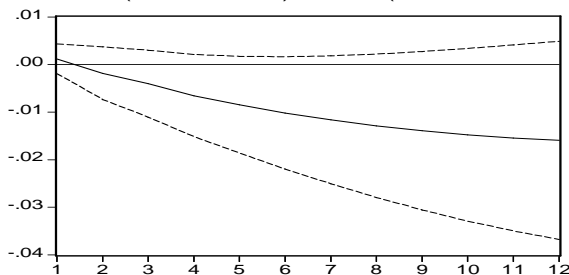
**Figure 1 response to a shock in budget spending**

Response to Cholesky One S.D. Innovations  $\pm$  2 S.E.

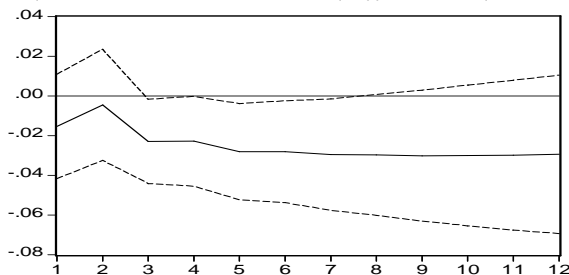
Response of LOG(CHT\_CONSDEF\_2000\_SA) to LOG(CHT\_CONSDEF\_2000\_SA)



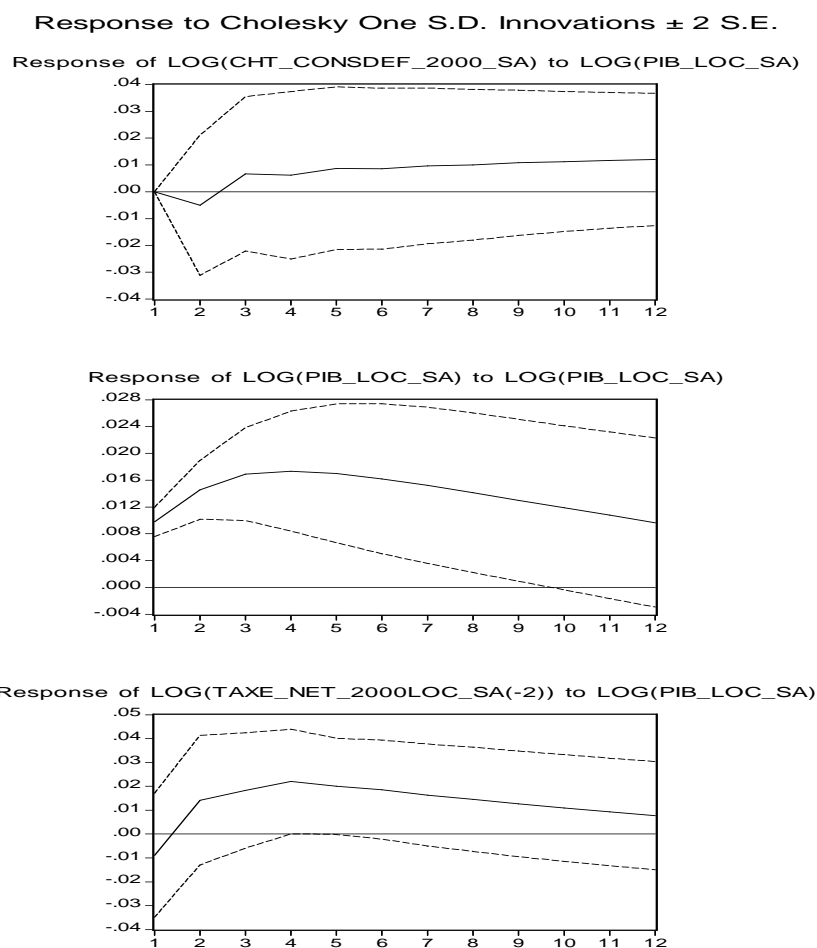
Response of LOG(PIB\_LOC\_SA) to LOG(CHT\_CONSDEF\_2000\_SA)



Response of LOG(TAXE\_NET\_2000LOC\_SA(-2)) to LOG(CHT\_CONSDEF\_2000\_SA)



Also a shock in GDP per capita leads to a positive reaction to the gross domestic product and net taxes from the first quarter, but at the expense, the positive effect is felt with a delay of two quarters, as evidenced by the data Figure 2.

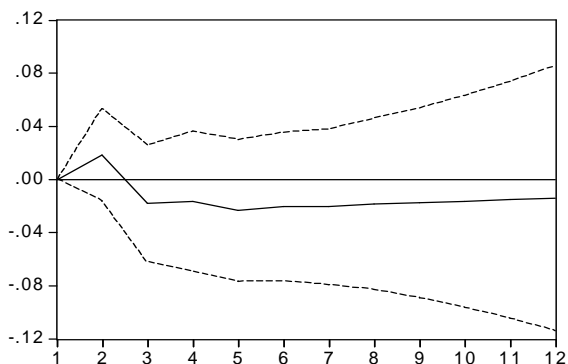
**Figure 2 Response to a shock in GDP per capita**

Regarding the response to a shock in net taxes is noted the negative effect of a shock to net taxes on GDP, similar to that obtained by (Claus and others, 2006), positive impact on expenditure but only in the short term (two quarters) of data as shown in Figure 3. Regarding the effect on gross domestic product, there is a loss which spans about seven quarters, after which growth resumes.

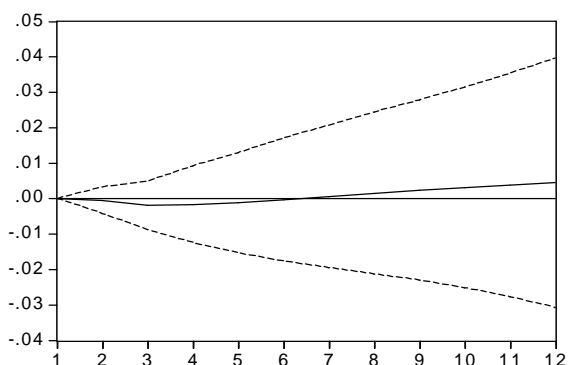
**Figure 3 Response to a net tax shock**

Response to Cholesky One S.D. Innovations  $\pm 2$  S.E.

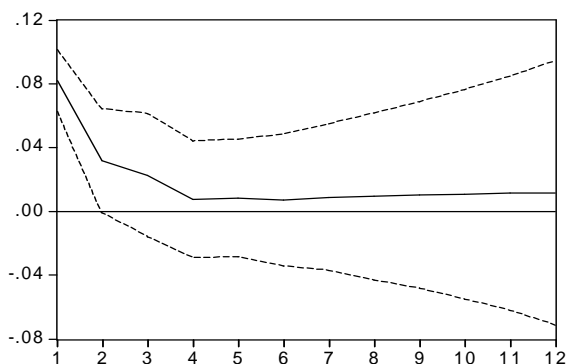
Response of LOG(CHT\_CONSDEF\_2000\_SA) to LOG(TAXE\_NET\_2000LOC\_SA(-2))



Response of LOG(PIB\_LOC\_SA) to LOG(TAXE\_NET\_2000LOC\_SA(-2))



Response of LOG(TAXE\_NET\_2000LOC\_SA(-2)) to LOG(TAXE\_NET\_2000LOC\_SA(-2))



Error decomposition analyses presented in Table 3 suggest that the percentage of error in forecasting a variable is related to a particular shock time horizon. Thus, over 12 quarters, 56% of the forecast error net of taxes of the consolidated budget is due to GDP per capita and expenditures. Moreover, about 18% of the forecast error for 12 months due to the consolidated budget expenditures in GDP per capita and net fees and 39% of the forecast error of GDP per capita is due to spending and net taxes. In fact, the data confirm the difficulty of forecasting expenditures on structure and difficulties in prioritizing their government investments in the absence of multi-annual budgets.

**Table 3 Decomposition errors**

Variance Decomposition of LOG(CHT_CONSDEF_2000_SA):				
Period	S.E.	LOG(CHT_CONSDEF_2000_SA)	LOG(PIB_LOC_SA)	LOG(TAXE_NET_2000LOC_SA(-2))
1	0.085113	100.0000	0.000000	0.000000
2	0.100148	96.31172	0.248024	3.440258
3	0.116170	94.49362	0.516836	4.989544
4	0.124626	93.23751	0.693800	6.068694
5	0.133758	90.66039	1.034115	8.305495
6	0.140358	89.07318	1.313921	9.612899
7	0.146341	87.57137	1.642880	10.78575
8	0.151143	86.41333	1.983039	11.60363
9	0.155284	85.35494	2.361117	12.28395
10	0.158717	84.42302	2.763461	12.81352
11	0.161621	83.55796	3.191731	13.25031
12	0.164041	82.76114	3.637256	13.60161

Variance Decomposition of LOG(PIB_LOC_SA):				
Period	S.E.	LOG(CHT_CONSDEF_2000_S A)	LOG(PIB_LOC_SA)	LOG(TAXE_NET_2000LOC_S A(-2))
1	0.009847	1.433856	98.56614	0.000000
2	0.017684	1.539162	98.37916	0.081680
3	0.024867	3.413470	95.96141	0.625116
4	0.031063	6.626000	92.68133	0.692665
5	0.036432	10.17599	89.20936	0.614645
6	0.041158	14.10665	85.40689	0.486459
7	0.045399	18.15036	81.43120	0.418439
8	0.049284	22.23018	77.31526	0.454566
9	0.052889	26.21758	73.18204	0.600378
10	0.056271	30.04168	69.10942	0.848895
11	0.059459	33.64037	65.17782	1.181807
12	0.062474	36.97929	61.43983	1.580881

Variance Decomposition of LOG(TAXE_NET_2000LOC_SA(-2)):				
Period	S.E.	LOG(CHT_CONSDEF_2000_S A)	LOG(PIB_LOC_SA)	LOG(TAXE_NET_2000LOC_S A(-2))
1	0.083888	3.355102	1.125079	95.51982
2	0.090895	3.102805	3.392392	93.50480
3	0.098118	8.110859	6.385904	85.50324
4	0.103387	12.19600	10.28087	77.52313
5	0.109310	17.52253	12.53673	69.94073
6	0.114611	21.95620	14.04709	63.99670
7	0.119826	26.19729	14.71153	59.09118
8	0.124656	29.88744	14.95406	55.15850
9	0.129273	33.21772	14.85786	51.92441
10	0.133594	36.14968	14.57901	49.27132
11	0.137667	38.74664	14.17904	47.07432
12	0.141467	41.02513	13.72192	45.25295

Cholesky Ordering: LOG(CHT\_CONSDEF\_2000\_SA) LOG(PIB\_LOC\_SA) LOG(TAXE\_NET\_2000LOC\_SA(-2))



## 5. Conclusions

Discussions on the impact of fiscal policy shocks on macroeconomic variables have been boosted by recent economic and financial crisis that swept around the world forcing governments to use fiscal instruments of monetary control with the negative effects. In this context, the paper seeks an answer on the impact of fiscal measures taken in Romania on the main macroeconomic indicators, namely gross domestic product.

Applying a technique based on vector autoregressive modeling, the usual impulses in the literature on fiscal analysis revealed the immediate effects on gross domestic product per capita. It is worth mentioning that increasing government spending, the immediate effect on gross domestic product per capita is negative, one possible explanation is the effect of crowding, low private sector investment with a much greater effect on per capita gross domestic product only partially offset by increased government spending. It is significant that the increase in net taxes (taxes less interest income and transfers) has a prolonged negative effect on about seven quarters of gross domestic product, which explains the delayed resumption of growth in Romania in terms of value added tax increase 5 percentage points, despite a 25% reduction of public sector wage bill.

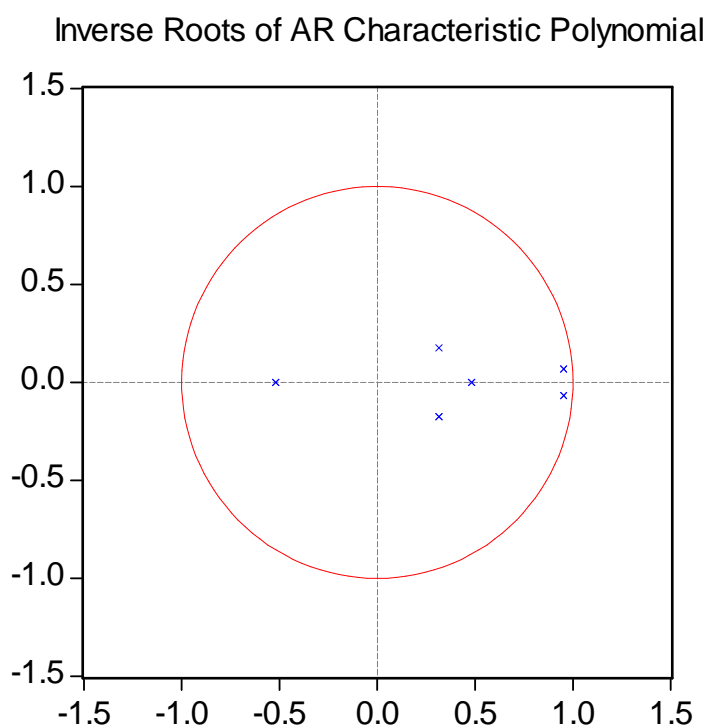
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## Annex 1.

### Test for stationary



**Annex 2.****Granger test**

VAR Granger Causality/Block Exogeneity Wald Tests

Sample: 2000Q1 2010Q4

Included observations: 40

Dependent variable: LOG(CHT\_CONSDEF\_2000\_SA)

Excluded	Chi-sq	df	Prob.
LOG(PIB_LOC_SA)	1.856655	2	0.3952
LOG(TAXE_NET_2000LOC_SA(-2))	5.722823	2	0.0572
All	7.690970	4	0.1036

Dependent variable: LOG(PIB\_LOC\_SA)

Excluded	Chi-sq	df	Prob.
LOG(CHT_CONSDEF_2000_SA)	7.018237	2	0.0299
LOG(TAXE_NET_2000LOC_SA(-2))	0.108694	2	0.9471
All	7.494370	4	0.1120

Dependent variable: LOG(TAXE\_NET\_2000LOC\_SA(-2))

Excluded	Chi-sq	df	Prob.
LOG(CHT_CONSDEF_2000_SA)	1.822226	2	0.4021
LOG(PIB_LOC_SA)	5.550818	2	0.0623
All	9.432239	4	0.0512

**Annex 3.****Autocorrelation test errors**

VAR Residual Serial Correlation LM Tests		
H0: no serial correlation at lag order h		
Sample: 2000Q1 2010Q4		
Included observations: 40		
Lags	LM-Stat	Prob
1	14.85310	0.0951
2	12.35936	0.1938
3	9.411655	0.4002
4	22.05292	0.0087
5	10.37976	0.3206
6	9.188730	0.4200
7	8.667542	0.4685
8	5.827951	0.7570
9	7.445621	0.5908
10	9.459942	0.3959
11	16.67284	0.0541
12	11.70997	0.2302
Probs from chi-square with 9 df.		

**Annex 4.**

**Test of normality of error distribution**

VAR Residual Normality Tests				
Orthogonalization: Cholesky (Lutkepohl)				
H0: residuals are multivariate normal				
Sample: 2000Q1 2010Q4				
Included observations: 40				
Component	Skewness	Chi-sq	df	Prob.
1	-0.420510	1.178860	1	0.2776
2	0.047324	0.014931	1	0.9027
3	0.117205	0.091581	1	0.7622
Joint		1.285371	3	0.7326
Component	Kurtosis	Chi-sq	df	Prob.
1	2.299505	0.817823	1	0.3658
2	1.989461	1.701981	1	0.1920
3	2.363515	0.675189	1	0.4112
Joint		3.194992	3	0.3625
Component	Jarque-Bera	df	Prob.	
1	1.996683	2	0.3685	
2	1.716911	2	0.4238	
3	0.766769	2	0.6816	
Joint	4.480363	6	0.6120	

**Annex 5.**

### Heteroskedasticity Test

VAR Residual Heteroskedasticity Tests: Includes Cross Terms

Sample: 2000Q1 2010Q4

Included observations: 40

Joint test:

Chi-sq	df	Prob.
166.5689	156	0.2667

Individual components:

Dependent	R-squared	F(26,13)	Prob.	Chi-sq(26)	Prob.
res1*res1	0.409324	0.346487	0.9896	16.37295	0.9268
res2*res2	0.794367	1.931517	0.1072	31.77468	0.2007
res3*res3	0.756827	1.556149	0.2033	30.27308	0.2565
res2*res1	0.665111	0.993033	0.5272	26.60445	0.4303
res3*res1	0.731388	1.361422	0.2849	29.25552	0.2996
res3*res2	0.709797	1.222932	0.3614	28.39188	0.3394

## FOREIGN DIRECT INVESTMENT IN ROMANIAN BANKING SYSTEM AND FINANCIAL STABILITY

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### **Abstract:**

*The opening of the banking sector to major international banking investors, played a key role in the restructuring of the Romanian banking system and was seen as a unique opportunity to create an efficient banking system providing a good service that could meet international standards. In the last two decades the romanian authorities conditinoed the financial FDI by the participation of the foreign investors in the restructuring of the banking sector. As a consequence, in the last period, the foreign direct investments in the Romanian banking system increased significantly. In December 2010 foreign banks had a part of approximately 76,9 % in the Romanian banking sector and controlled about 85,1% of total bank assets. Starting from this findings, in our paper, we aim to present the main features of the foreign penetration process in the Romanian banking sector, the impact of FDI on the banking sector, the impact of FDI on the banking economy and financial stability. Our research shows an increase in banking competition, banking profitability, economic and financial stability.*

**Key words:** FDI, banking sector, financial stability

**JEL classification:** G21, G32

### **Introduction**

After the collapse of the centrall-planned economy, as in other Eastern and Central European countries, in Romania had ocured radical changes in the financial sector. The most important change was the free acces of the private and especially foreign investors into the bank capital. The foreign penetration process in the Romanian banking sector started in 1993 but, for the beginning, at a lower level. After the restructuring of the Romanian banking sector at the end of period 1998-2000, the process of the penetration of FDI in banking sector has increased significantly. The main factors that were taken into consideration for the attractiveness of the Romanian financial sector for foreign investors were:

- the size of the Romanian market, which is the second largest among East European countries (22 million inhabitants);
- the lower level of financial intermediation, with total lending amounting to 12,3% of GDP (as compared to 140% in the European Union), total banking assets representing 31,62% of GDP (as opposed to 260% in the EU) at end – 2001 and total financial assets accounting 33,84% of GDP. The largest Romanian banks are small by international standards, and market capitalisation on the Bucharest Stock Exchange amounted to only 3,1% of GDP at end-2001.
- the fact that only a few part of Romanian households held a bank account in 2001 about 23 % ( this percentage can rapidly rise).
- the estabilishing of a subsidiary in Romania may be viewed by many investors as a one step towards developing a network in Eastern Europe.
- the perspective of Romanian joining NATO and UE.

As a result, the developing prospects of the romanian banking sector in the context of beeing UE member are promising.

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In according with specific literature ( Claessens et al 1998, 2001, Focarelli,D, F. Pozzolo 2000, Cull R. 2007) other several determinants work for penetration of FDI in Romanian banking sector:

- banks desire to service their customers abroad the so called "follow the clients" motive;
- host specific factors including market opportunities and regulatory barriers;
- economic and cultural ties, institutional and regulatory similarities between home and host countries.

Given that banking sector is the main part of the Romanian financial sector, assets held by banks account 88% of all financial assets; our study focuses on the commercial banking sector and we assess the impact of FDI on the Romanian banking sector and the financial stability.

Bonin *et al.* (1998), Dages *et al.*, (2000), Doukas *et al.*, (1998), clearly defined, the main expected benefits and drawbacks from the entry of foreign banks. According to their opinion, the main expected benefits include:

- Introduction of new banking technology and financial innovations (for foreign banks it is relatively easy to introduce new products and services to the local market).
- Possible economies of scale and scope (foreign banks can help encourage consolidation of the banking system, they have knowledge and experience of other financial activities: insurance, brokerage and portfolio management services),
- Improvement of the competitive environment (foreign banks represent potential competition to local banks),
- Development of financial markets (foreign banks entry may help deepen the inter-bank market and attract business from customers that would otherwise have gone to foreign banks in other countries),
- Improvement of the financial system's infrastructure (transfer of good banking practice and know-how, accounting, transparency, financial regulation, supervision and supervisory skills),
- Attracting foreign direct investments (the presence of foreign banks may increase the amount of funding available to domestic projects by facilitating capital inflows, diversifying the capital and funding basis).

The main arguments against foreign banks entry, according to Anderson and Chantal, 1998, are:

- Fear of foreign control (control over the allocation of credit implies substantial economic power in any economy);
- Banking as an infant and special industry (this argument is a version of the general infant industry argument, and banks are subject to various special protections due to their central role in economy),
- Foreign banks may have different objectives (foreign banks may be interested only in promoting exports from the home country or in supporting projects undertaken by home country firms),
- Regulatory differences (supervisors of the host country lose regulatory control and if the home country has weak bank supervision, this may lead to unsound banking in the host country).

According to this, we present in the beginning the main features of the foreign penetration process in the Romanian banking sector. Second, we are assessing the impact of FDI on the Romanian banking sector and financial stability.

### **1. The Foreign Penetration Process in the Romanian Banking Sector- Main Features**

The opening of the Romanian banking sector to foreign investors has taken place after 1993 under the constant control of Romanian authorities. Between, 1993-1999, the penetration of foreign capital was conducted by setting up foreign-owned banks and opening branches of international banking groups. At the end of this stage, the Romanian banking system has faced



particular problems. Economic environment, hostile, poor quality of managers and shareholders of banks led to the accumulation of tension. Bad loans are the main problem. At the end of 1998 they accounted for 58% of the total portfolio and 253% own funds reported. In this context, the Romanian authorities have started in early 1999, a restructuring program designed to prevent the risk of banking system that has included: a) solving the problem bank situation; b) improving the regulatory and prudential supervision of banks; c) creating or improvement of instruments of indirect support of the banking system. The system has been drained by assets and banks with problems. The result was the elimination of the system of nine banks, including Bancorex, one of the largest state-owned banks. During and after this process, Romanian authorities have closely monitored the banking sector and started the second period in the penetration of FDI in Romanian banking sector- the privatization a state- owned banks. Before 1999, the main objective of foreign banks was to “follow their customers”, while from 2000 onwards, foreign banks started to invest in specific segments of the banking sector, such as consumer credit, leasing, or mortgage loans. The Romanian authorities have also played a leading role in strengthening the Romanian banking sector by imposing specific criteria for selecting foreign investors and granting licenses. In the last two decades, the romanian authorities conditioned the financial FDI by the participation of the foreign investors in the restructuring of banking sector. The foreign investors were required to bail-out loss-making or low-profitability banks, as a condition for being granted a banking license.

### 1.1 Evolution of FDI in Romanian banking system some evidences

Between 1989 and 2000, the number of banks increased rapidly, from 4 stat – owned banks to 47 banks in 1988, with the establishment of a large number of private local banks. The acquisition of most of these banks by foreign banks, as well as the opening of subsidiaries of foreign financial institutions, gained momentum after 1993. In 2000, foreign investors controlled more than half of the market in terms of number, capital and outstanding assets, reflecting also the high degree of concentration of the Romanian banking sector. This process went on five years. Tables. 1, 2,3. present the main developments of the banking sector according to the nature and structure of capital and assets between 1994 and 2000.

**Table 1. The number of Romanian banks grouped by the nature of capital**

	1994	1995	1996	1997	1998	1999	2000
<b>I. The number of Romanian banks; of which</b>	<b>20</b>	<b>25</b>	<b>31</b>	<b>33</b>	<b>36</b>	<b>34</b>	<b>33</b>
a) owned by the state or majority	7	7	7	7	7	4	4
b) privately owned or majority	13	17	24	26	29	30	29
- wholly or majority owned by domestic private	8	9	14	13	13	11	8
- wholly or majority owned by foreign private	5	8	10	13	16	19	21
<b>II. Number of branches of foreign banks</b>	<b>7</b>	<b>7</b>	<b>9</b>	<b>10</b>	<b>9</b>	<b>7</b>	<b>8</b>
<b>Banking system (I + II)</b>	<b>27</b>	<b>31</b>	<b>40</b>	<b>43</b>	<b>45</b>	<b>41</b>	<b>41</b>

Source: NBR

**Table 2. Classification of banks according to the nature of social capital share in aggregate capital**

	Share capital / endowment		
	1998(%) )	1999(%) )	2000( %)
<b>1. Banks with majority domestic capital, of which:</b>	64,2	58,3	46,2
a) owned by the state or majority	52,2	41,1	38,4
b) privately owned or majority	12,1	17,2	7,9
<b>2. Banks with foreign capital</b>	24,3	38,2	46,6
<b>I. Commercial banks</b>	<b>88,5</b>	<b>96,4</b>	<b>92,8</b>
<b>II. Branches of foreign banks</b>	11,5	3,6	7,2
<b>Total banks with foreign capital banks, including branches of foreign commercial banks</b>	35,8	41,8	53,8
<b>Banking system (I + II)</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

Source: NBR

**Table.3 The market share of banks grouped by the nature of capital share in aggregate capital**

	Net assets		
	1998(%)	1999(%)	2000(%)
<b>1. Banks with majority domestic capital, of which:</b>	80,5	52,45	49,2
a) owned by the state or majority	71,02	46,77	46,10
b) privately owned or majority	9,03	5,68	3,02
<b>2. Banks with foreign capital</b>	14,26	40,48	43,11
<b>I. Commercial banks</b>	<b>94,31</b>	<b>92,93</b>	<b>92,23</b>
<b>II. Branches of foreign banks</b>	<b>5,69</b>	<b>7,07</b>	<b>7,77</b>
<b>Total banks with foreign capital banks, including branches of foreign commercial banks</b>	19,95	47,55	50,88
<b>Banking system (I + II)</b>	<b>100,0</b>	<b>100,0</b>	<b>100,0</b>

Source : NBR

After restructuring the banking sector spent in 1999-2000, the penetration of FDI has experienced a new stage. It moved to privatization of large state-owned banks, Romanian Development Bank, Agricultural Bank, Bank Post and the Romanian Commercial Bank. After this privatization the foreign capital became major in the romanian banking system. The data presented in tables 4, 5 that illustrate this situation are suggestive:

**Table 4. The structure of the banking system at the end of 2010**

	2003	2004	2005	2006	2007	2008	2009	2010
<b>Number of credit institutions</b>	39	40	40	39	42	43	42	42
<b>Number of banks with foreign capital, which:</b>	29	30	30	33	36	37	35	35
<b>Branches of foreign banks</b>	8	7	6	7	10	10	10	9
<b>Share in total assets of banks with foreign capital, including branches (percent)</b>	58,2	62,1	62,2	88,6	88,0	88,2	85,3	85,1
<b>Share of top five banks in total assets (percent)</b>	63,9	59,2	58,8	60,3	56,3	54,3	52,4	53,1
<b>Herfindahl-Hirschmann Index</b>	1264	1120	1124	1171	1046	926	857	874

Source:NBR

**Table 5. Market share and the structure of capital credit institutions according to shareholders and country of origin on 30 June 2010**

	<b>AU</b>	<b>GR</b>	<b>FR</b>	<b>I</b>	<b>NDL</b>	<b>RO</b>	<b>Other</b>
<b>The market share of the credit institutions according to ownership structure</b>	38,38	16,99	14,80	2,21	7,12	13,97	6,44
<b>The share capital of credit institutions depending on the country of origin (share in total foreign capital)</b>	21,89	33,79	4,50	na	na	-	25,82

Source:NBR

After 2000, the share of foreign capital in the Romanian banking sector reached 76.9% and the share of total banking assets in banks with foreign capital exceeded 85%. For instance, the largest Romanian bank in terms of assets (nearly 19,8% of total assets) is the former state-owned BCR, owned by Erste Group. It is noted that the main FDI in the banking sector comes from Greece, followed by Austria, Netherlands, Hungary, France, Italy, Portugal; the major banking powers like Germany, England and USA are less representative in the Romanian banking sector. Two relatively small countries, Austria and Greece have 55,68% of the capital foreign bank currently in Romania and 55,37% of the assets of the system. It can have a negative impact on the stability of banking system taken into consideration that, in these two countries the internal banking system manifested its vulnerability because of the actual financial and economical crises

## **1.2 Main features of the privatization process.**

The entry of FDI by foreign banks in the Romanian banking sector has not been linear since 1990. The opening of the banking sector for the foreign banks occurred at the beginning, gradually, through a reform that permitted the free access on the Romanian banking market. According to the Romanian banking legislation, a foreign bank could operate on the Romanian banking market by one of the next modalities: (i) establishment of a subsidiary, Romanian legal person; (ii) opening of a new branch; (iii) establishment of a consortial bank with local and foreign partners; (iv) the takeover of a bank with Romanian capital.

The privatization process and the entrance of FDI in the Romanian banking sector occurred in two stages; in the first stage, between 1991-1998, the privatization of the sector and the penetration of the foreign capital occurred exclusively through the first three methods. The result of this process is illustrated in tables 1,2,3. After year 1998, following the occurrence in 1997 of law nr.83 treating the privatization of the commercial societies where the state is shareholder and also following the process of improving the banking sector from the negative effects registered during 1992-1998, has taken to a second stage of privatization.

Beginning with the first quarter of year 1999, started the process of privatization and the taking over by the foreign capital of Romanian banks with private and domestic capital. At this stage has been used predominantly the fourth method of privatization. It has passed to the privatization of the banks with domestic capital like Romanian Bank for Development, Bank Post, Agricultural Bank, Commercial Romanian Bank. The modality of privatization chosen, was the selling to the strategic selected investors of some significant packages from the capital of domestic banks. Although since 1995 the stock market has worked properly, the privatization of the state participations by selling the stock market was not used. With 2005 sell of BCR the process of shift in private of the banking sector ended. The state owns two banks more, CEC Bank and Eximbank. Currently there is a debate in the political and economical environment about the opportunity and the modality of privatization of the last participations of the state from the banking sector. The second stage of the privatization process ended with the transfer of two thirds of the Romanian banking capital to foreign capital. (Tables 4,5)

The privatization process led to a complete change in the way in which foreign banks entered the Romanian financial sector: - before 1999, the main objective of foreign banks was to

“follow their customers”, as local banks were not properly equipped to meet the needs of foreign companies established in Romania. The core activities of these local satellites were, typically, documentary credits, cash management, or foreign exchange transactions; they would usually deal with local branches of foreign companies in the industrial or retail sector and, occasionally, with investment-grade Romanian companies. Since 2005 foreign banks started to invest in specific segments of the banking industry (such as consumer credit, leasing, and mortgage loans)

### 1.3. The impact of FDI on the Romanian banking sector and financial stability

The process of evaluating the impact of FDI on the banking sector is difficult. This because not always can be determined the causal relationship between the direct foreign investments and the capacity of the banking sector to increase productivity, profitability and efficiency, thereby contributing by the strengthening of the financial system.

To assess the impact of FDI on the Romanian banking system, we analyze the performance achieved by the banking sector during privatization. We will also assess the contribution of the foreign banks in developing new technologies and diversification of the new products and services

#### 1.3.1 The performance of the banking sector

Generally there are two ways to assess performance of a banking system. One approach is to focus on the overall economy, starting from the following assumption: the extent to which banks in a country can mobilize and allocate capital efficiently and prudently is an important determinant of how well its real economy performs. The second approach is based on the observation of bank performance in order to assess how they are performing as financial intermediaries. This analysis is focused on the following measures: (1) the scale of deposit taking and lending and the growth of this activity, (2) financial performance or profitability, (3) capitalization.

**The scale of deposit taking and lending growth.** The measures of intermediation in the banking industry are the levels of deposit taking and lending to the size of the overall economy. Evolution of deposits and loans in the Romanian banking sector are presented in Table 6.

**Table 6. The share of loans and deposits to GDP (%)**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Non-government credit</b>	9,8	11,3	14,4	16,6	20,7	26,8	35,6	38,5	40,7	40,7
<b>Non-bank customer deposits</b>	26,6	21,6	20,4	23,1	26,0	28,0	31,9	30,1	33,7	34,5

Source : Own calculations after data NBR

After the privatization of the grand banks with domestic capital and the growth of foreign capital share the level of bank intermediation increased both in terms of deposits attracted from non-bank customers and nongovernmental credits.

Banking intermediation regarded as non-governmental deposit ratio to GDP is still at a lower level, if we compare it with the intermediation realized at UE level or the one from the developed countries from ECE. The bank intermediation could have been remained at a lower level without the contribution of banks with foreign capital.

**Financial performance or profitability.** Usually the performance in the banking system is assessed by the evaluation of banks profitability. The indicators used for the assessment of the profitability are ROA and ROE. Table 7 presents the evolution of this indicators in the last 10 years.

**Table 7. Evolution of indicators of profitability in the Romanian banking system 2001-2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>ROA</b>	3,1	2,6	2,2	2,0	1,6	1,3	1,1	1,6	0,2	- 0,09
<b>ROE</b>	21,8	18,3	15,6	15,6	12,7	10,7	10,4	17,0	2,7	- 1.02

Source: Table built by the NBR data

At a aggregate level, in romanian banking system these indicators had fluctuating evolutions, reflecting the evolutions of the economical and financial activity and also the increased competition within the system. The profitability of the system was influenced by the high rates obtained by the large banks with foreign capital. Top ten banks obtained the highest profit and thus they improved the profitability on the entire system. The imprint that the crises has put on the profitability indicators in the last two years is evident. The profitability of the banking system is a important characteristic of the financial stability.

Once with the penetration of FDI in the banking sector, it's profitability recovered and began to grow. The increase was recorded in the large banks, thus compensating the profitability of the small banks and the reduced profitability of banks with romanian capital. Despite the recent decline in the last two years by both profitability indicators the performances of the banking system is not irremediably affected. With the return of economic growth and resumption of lending banking sector profitability can recover.

### Capitalization

In terms of actual crises the adequate capitalization of the banking sector is essential for the maintenance of the financial system stability. Capital requirements are increasing and the capital is becoming more expensive. Given that the banking sector does not generate from internal resources enough capital, the role of foreign capital is essential for ensuring the stability of the sector and financial system. In the banking sector the contribution of FDI is obvious. Tabel 8 illustrates this contribution. Foreign capital has become predominant and contributes substantiately at the capitalization of the system and at the maintenance of general solvability within the limits required.

**Table 8. Evolution of the share capital / equipment and solvability 2001 - 2010**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
<b>Banks with majority domestic capital (mil. Ron)</b>	1165	1421	1348	1508	2288	1401	1354	1591	1757	1791
<b>% in total banking capital</b>	44,8	43,7	33,7	30,7	31,1	14,9	12,8	11,4	12,2	10,6
<b>Banks with majority foreign capital (mil. Ron)</b>	1440	1831	2649	3406	5078	7407	8742	10771	11015	12993
<b>% in total banking capital</b>	55,2	56,3	66,3	69,3	68,9	78,8	79,4	77,2	76,5	76,9
<b>Total banking system</b>	2599	3252	3997	4914	7366	9400	11010	13953	14399	16896
<b>%</b>	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
<b>Solvency ratio</b>	26,2	22,9	18,1	20,6	21,1	17,3	12,7	13,8	14,0	14,66

Source: Table built by the NBR data

Large share of foreign capital in the romanian banking sector made possible absorbing shocks and crossing, without much loss, the peak of the financial crises. The intervention of the state was not necessary as in other UE countries. The commitment of the largest nine banks to maintain exposure to the romanian banking sector, has contributed decisively to maintaining the stability of the financial romanian system. Adequate level of capitalization offers good protection against macroeconomic shocks. This fact is proved by a series of stress tests of the banking system made by central bank in july 2010.

### 1.3.2. Introduction of new banking technology and financial innovations

FDI penetration in the Romanian banking system especially after 2000 led to a widespread transfer of management expertise and knowledge of banking on attracting funding, identifying and assessing risks, management of credit risks, market and operational. Through subsidiaries and branches of foreign banks have been disseminated and generalized in the Romanian banking sector technological information which allow a better management of the whole banking activity. New products and services were distributed to the market through electronic banking. All these contributed at the consolidation of financial stability. Thanks to the financial strength and the expertise gained on the mature market, foreign banks, diversified business models, defined as a combination of different banking activities -corporate, retail, private banking- and put on the market products and services that were missing from the portfolio of Romanian banks. Thus in addition to traditional products, deposits and loans had been innovated and offered to the market, services and products of electronic-banking-online banking, internet banking, home banking, mobile banking, phone banking. Also other products and services were put on the market like: bank assurance, pension funds, factoring, financial and operational leasing, asset management, brokerage, investment funds, direct debit and standing order. The assimilation of new products has imposed a transfer of know-how and best practices, an increasing of banking transparency and allowed the learning of financial rules, abilities of supervision and surveillance. The new technologies, the wide range of products and services brought on the Romanian market, claimed background and special training of the Romanian banking staff. Thereby the staff could qualify, specialize and take advantage of the abilities of staff that worked in parent banks. All this allowed the raising of quality standards, assimilation of professional codes and conduct which finally can contribute at the consolidation of the financial system in Romania. The complexity of products and services, required the assimilation of models and performant software management of risks generated by the new products and services, by the new business models. Thus were created the credit scoring models, credit rating models, management system of risks improved using the new informatic technologies. To promote and sell new products and services foreign banks have built financial holding companies. These holdings were created through equity participation in the establishment of non-bank financial institution, leasing companies, micro-credit, brokerage, investment management companies, insurance companies, pension funds, investment funds, etc. Foreign banks have contributed to the expansion of financial activity, the diversification and sophistication of the market structure and at the strengthening of capital basis by attracting new foreign investments. The result is the consolidation of financial stability on one hand, by dispersing risks, but on the other hand, could be a threat to the stability due to increased risk of contagion.

### **Some conclusions**

The penetration of foreign capital in the Romanian banking sector through FDI had produced many changes on the Romanian market both in terms of quantity and quality. Our study focused mainly on the influence that the foreign investment in banks had exercised on financial stability. In our opinion this influence was beneficial and had contributed on the strengthening and consolidation of financial stability of the system, confirming also on the Romanian market the conclusions of studies made by (Papi and Revolta, 2000, Capri and Honahan, 2000). These studies show that: in the receiving countries FDI has significant benefits like: the strong trade links of these countries with the developed countries, the strong impact on the economic and political stability of a country, a positive link between the foreign ownership of banks and the stability of the banking system, a positive link between the foreign ownership of banks and the stability of the banking system, local banks might have more access to international capital markets. Also, the entry of foreign banks develops the inter-banking market, and attracts as clients those businesses which would have otherwise been clients of foreign banks in other countries. Foreign banks represent a more sustainable credit source since the branch and affiliates of major international banks can draw on their parents additional funding.

All these findings can be verified also on the Romanian banking market. With the penetration of FDI in the Romanian banking sector, especially after 1999 the situation of the Romanian market changed for the better. The banking market has gained size and quality. It managed consistent financial intermediation, a growth of the volume of economic financing given, succeeding along with other factors to sustain an economic increase, during two consecutive years. In Romania the boundary between the banking system and the financial stability is direct and strong. Without support of foreign capital, commitment of parent banks that have subsidiaries in Romania the stability of the financial system would have been in great suffering between 2009-2010.

Although the research literature identifies also a series of disadvantages of penetration of foreign capital, we haven't identified significant ones. Exceptions are some speculative attacks and deliberate bankruptcy of Turkish Romanian Bank.

Stress test realised by BNR in July 2010 between 2010-2011 revealed that the Romanian banking system is properly capitalised and the damage of solvability indicators is insignificant in this period.

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## THE IMPORTANCE OF RATINGS FOR BANKS

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**Abstract:** *The main purpose of this paper is to highlight the importance of ratings for banks. The banks must consider permanent exposure to risk that is a condition to be or not profitable banking market. In these circumstances, we propose a methodology to identify, analyze, control and elimination of risk banks. The results of this research may lead to minimize the risk exposure, while maintaining a profitability that would assure a strong position in the bank's competitive market. In the absence of a systematic approach to risk assessment, easy to implement, a bank does not have any means to reduce risk costs.*

**Key words:** rating, financial risk, bank's performance

**JEL classification:** G20, G24

### 1. Introduction

Starting from the definition to say that ratings are evaluations of specialized agencies, expressed by ratings/specific symbols, regarding the risk of insolvency of a debtor's financial obligations, on time and in full, I will try to explain their utility.

The ratings utility for banks can be looked at from two perspectives:

➤ *For the analyzed bank:* for it's financing activity (borrowings and debt securities issues on capital market);

➤ *For business partners/investors:* better risk management.

The most important functions of capital markets issues ratings are:

- Gives new information for the market to reduce capital costs;
- Certifies the fact that issued standard securities are eligible;
- Divides securities into investment grade and speculative grade.

The most famous rating agencies in the world are: Moody's, Standard&Poor's, Fitch IBCA.

A rating agency evaluates the risk associated to stocks and shares – and specially bonds – issued on the international market.

*Ratings' effect for ratings' beneficiary* that is the commercial bank, from the financing point of view are:

- it proves the financial power, that leads to improving it's position in the negotiation with the correspondent institutions (banks, export credits' guarantee agencies, etc.);
- allows obtaining more advantageous financing conditions (smaller financing costs);
- it facilitates access to capital markets (allows financial flexibility growth);
- it influences the price of a company in case it is sold or privatized.

In terms of *image (marketing) the effects of rating* for the ratings' beneficiary are:



- it's the equivalent to a quality certificate;
- leads to the growth of confidence of traditional clients and partners;
- it confirms leadership maturity;
- the special importance for the new established groups.

*The rating effects for the investor are:*

- they represent a evaluation of the bank's strength;
- they represent an independent risk evaluation, of the bank's ability to meet it's obligations;
  - offers the possibility of comparing bank credibility from a global perspective;
  - it is a signal for investment opportunities (but not a recommendation)
  - it provides the opportunity of evaluating the gain taking into consideration the undertaken risk ;
- saves time regarding the analysis for investment companies

## 2. Types of ratings given by banks

The main types of ratings given by banks are:

- Ratings for the issuer
- Ratings for the issued object/title

Similar evaluations from agency to agency for the same issuer or object / title issued and "split ratings" – different ratings given to the same object / title issued, different ratings assigned by agencies are shown in Table 1.

The rating perspective evaluates the potential trend of the medium and long term loan of the rating. Thus, the ratings given to the international agencies of prestige have an important role in evaluating the risk limits for banks.

By the complexity of the operations carried out, a bank has a complex management framework of banking risks, where the rating system is applied, in addition to the credit activity, which is its main activity, even to other areas:

- a. *use of the ratings granted by prestigious international agencies (country rating, bank rating) in its own analyses, which aims to establish the risk limits towards partner banks;*
- b. *use of internal rating method for analysing the credit worthiness of the insurance and reinsurance companies and grant the risk limits towards them;*
- c. *establish the risk limits relating to the bank's maximum exposure to major corporate clients and the judicious scattering of credit exposures on every branch of the national economy.*

Country risk is differently marked depending on the nature of the debtor. If the debtor is a private economic agent, the procedure is the current „rating”, if it's a public company (management or government structure), due to the lack of essential documents such as the balance sheet and income statement, the procedure becomes an exception.

**Table 1: The main types of ratings given by banks**

	<b>Fitch</b>	<b>Ratings</b>	<b>Moody's</b>		<b>Standard &amp; Poor's</b>	
<b>Ratings of bank</b>	Individual rating banks	Evaluates the perception of one banks, in case this would be total independent, without any support came from outside  Evaluates how a bank will receive support if it will face difficulties.	bank financial strength ratings	Evaluate the safety and intrinsic solidity of a bank		
	bank support ratings		Bank deposit ratings	Evaluates the capacity of one bank to honor its payment obligations On time related to the deposits in local or foreign currency		
<b>Obligations</b>	international credit ratings	Evaluates the general capacity of one issuer in order to totally honor on time the financial obligations	issuer ratings	Evaluates the general capacity of one issuer in order to totally honor on time the financial obligations	issuer credit ratings	Evaluates the general capacity of one issuer in order to totally honor on time the financial obligations
			debt ratings	Evaluate the credibility of a borrower regarding the honoring of a specific payment obligation	issue credit rating	Evaluate the credibility of a borrower regarding the honoring of a specific payment obligation or to a specific financial program

Source :: Tunaru Ana Marie, 7-8 mai 2000, *Tipuri de rating acordate băncilor*, International conference: *Rating for Romania*, București.

### 3. Setting risk limits for banks

The setting of the risk limits for banks is carried out on areas of activity, namely: limits for general activity, limits for the activity with documentary letters of credit and limits for the arbitrage activity, exchange and monetary market respectively.

Qualitative and quantitative criteria will be considered in setting the risk limits for banks (Table 2).

**Table 2: Qualitative and quantitative criteria required for setting the risk limits for banks**

<b>a. Qualitative criteria</b>	%
Quality of shareholding	15
Bank's activity	10
Bank's manager	15
<b>b. Quantitative criteria</b>	%
Liquidity	10
Solvability	20
Profitability	10
Quality of assets	20

Source: Băncescu M., Han E., 2003, *Macro economy of country risk*, Ed. Economică, București, p.70.

The grades given to each qualitative and quantitative element multiplied by the percentage given to each element will form a total reflecting the analysed bank's quotation in order to establish the exposure limit. This is expressed in grades between 1 and 10.

For assessment of liquidity will be calculated the next indicators: total customer loans/total deposits from customers; total bank placements to total attracting banks; total loans and investments to total deposits and attract. These indicators reflect the quality of bank lending or loan review. Based on the calculated Liquidity indicator, grades from 1 to 10 will be awarded.

For assessment of solvency will be used the next indicators: Shareholder's capital/total balance-it's value must be at least 4% and the share capital + reserves(total equity)/total balance-it's value must be at least 8%. Depending on the percentage of the two indicators, grades will be awarded.(see Table 3):

**Table 3: Grades awarded for solvency indicators**

Solvency	Grades	values
	1-3	>10%
	4-6	=8%
	7-10	<8%

Source: Băncescu M, Han E., 2003, *Macro economy of country risk*, Ed Economică, București, p 72

The indicators that reflect the degree of bank profitability are the following:

- ROA=profit/total assets;
- ROE=profit/share capital + reserves;
- Gross revenue/total assets.

The following notes will be awarded based on the percentage of the tree indicators (Table 4).

**Table 4: Grades awarded for the percentage of the tree indicators of profitability**

Profitability	Grades	values
	1-3	ROA>5% ROE>10% Ascending from the previous year
	4-6	3%<ROA<5% 8%<ROE<10% Ascending from the previous year
	7-10	ROA ROE-Deadline from the previous year

Source: Bancescu M, Han E., 2003, *Macro economy of country risk*, Ed Economica, Bucuresti, p 72

The level of a bank's asset quality is reflected in the share of lower rated non-performing loans in total balance sheet, equivalent to less than 3%. To determine this share as accurately as possible, the risk provisions that were set up to cover these bad loans will be taken into account. Depending on the percentage of these bad loans in total assets from the balance sheet, the following grades will be provided (Table 5).

**Table 5: Grades given for bad loans**

Quality assets	Grades	Values
	1-3	Nonperforming loans <2% of total assets
	4-6	Nonperforming loans increasing, but impaired
	7-10	Nonperforming loans > 3% total balance sheet assets

Source: Băncescu, M., Han, E., 2003, *Country risk Macroeconomics*, Economic Publishing House, Bucharest, p.72.

The total grades obtained on each element of quality and quantity multiplied by the percentage allocated to each element will reflect the respective bank's quotation to determine the exposure limit. This quotation is expressed in notes between 1 and 10.

The rating given to a bank may not exceed the level considered the country's rating to which it belongs, in other words, the sovereign rating acts as a "cap" for the other ratings.

#### 4. Framing the listed banks in risk classes and exposure limits

The classification of banks in risk classes after a certain procedure is aimed at minimizing the risk that exists in business relationships.

Setting bank's exposure limits is different for Romanian and foreign banks, depending on the influence of politico-economic environment in which they operate.

Thus, foreign banks will take into account the ratings established by the reputable rating company: Moody's, Standard & Poor's, Fitch, IBCA and if the bank is evaluated by several companies rating, only the best rating will count.

If the banks are not assessed by either rating firms, there will be applied the methodology of risk classification in classes of Romanian banks.

Limit exposure of a bank can not exceed the bank's equity analysis and and rating of a bank can not exceed the rating of the country where it belongs.

In order to establish exposure limits for banks to assess risk, they can be classified into the following classes of risk (Table 6):

**Table 6: Framing the listed banks in risk classes**

Risk classes	
<b>A</b>	Banks rated by reputable international rating companies: Moody's, Standard & Poor's, Fitch IBCA. This group exposure limits will not exceed three quarters of the share capital + reserves (total equity).
<b>B</b>	Banks whose assets exceed 1000 billion. This group exposure limits will not exceed 30% of the share capital + reserves and as time 80 days.
<b>C</b>	Banks whose assets are worth less than 1,000 billion lei. General exposure limits will not exceed 20% of the share capital + reserves, and as time 90 days.
<b>D</b>	Banks which have a high risk and will not assign an exposure limit, the risk of being too much work with them

Source: Băncescu M., Han E., 2003, *Country risk Macroeconomics*, Economic Publishing House, Bucharest, p.73

**Table 7: Comparison of the symbols used by the main agencies, the investment and speculative categories**

Description	FITCH Ratings		Moody's		Standard & Poor's	
	L/T	S/T	L/T	S/T	L/T	S/T
	Investment Grade					
Best credit quality - very strong capacity of the bank to honor financial commitments.	AAA	F1+	Aaa	P1	AAA	A-1+
Bank's strong capacity to honor their financial commitments - minimum difference compared with AAA.	AA+	F1	Aa1	P2	AA+	A-1
	AA	F2	Aa2	P3	AA	A-2
	AA-	F3	Aa3		AA-	A-3
Strong capacity to honor its financial commitments - however, the bank may be vulnerable to changes that happen during the cycle or economic circumstances.	A+		A1		A+	
	A		A2		A	
	A-		A3		A-	
Adequate capacity of the bank to honor financial commitments - however, this capacity is likely to be affected by changes that happen during the cycle or economic circumstances.	BBB+		Baa1		BBB+	
	BBB		Baa2		BBB	
	BBB-		Baa3		BBB-	
	Speculative grade					
Highly speculative bonds - the bank's ability to honor financial obligations depends on a favorable business and economic environment.	BB+		Ba1		BB+	
	BB		Ba2		BB	
	BB-		Ba3		BB-	
	B+		B1		B+	
	B		B2		B	
	B-	B	B3		B-	B
High risk of default - the bank's ability to honor its obligations may be problematic.	CCC+	C	Caa1	NP	CCC+	C
	CCC	D	Caa2		CCC	D
	CCC-		Caa3		CCC-	
Obligations highly vulnerable to default risk.	CC		Ca		CC	
Very low probability of fulfillment of obligations in full and on time (not honoring financial obligations is imminent).	C		C		C	
	Fails liabilities D					

Source: Daily Kevin, 7-8 mai 2000, *Rating bancar*, International conference: *Rating for Romania*, București.

It will provide notes from 1 to 10, to banks which exposure limits are set as follows:

$\sigma$  notes  $< 6$  - banks are good and exposure limits are set for the class of risk;

$\sigma$  notes  $> 6$  - will not set limits because of the risk involved too.

The symbols used by major rating agencies on speculative investment categories and equivalence classes of risk in both the short and medium term and long term are presented in Table 7.

## 5. Conclusions

It is noted therefore that financial globalization has created a competitive restrictive. Long term planning can help bank managers to cope successfully in a dynamic future to determine both the future risks involved in the work they perform, to maximize the bank's performance and to determine how the bank will look into the future as part of the strategy of planning.

The banking evaluation in a competitive and volatile market environment is a complex process. Additionally to the actual management and supervision, other necessary elements to financial institutions safety guarantee and financial markets and systems stability include healthy and sustainable macroeconomics politics as well as consistent and well-developed legislative frameworks. The adequate banking infrastructure, an effective market discipline and enough safety nets in banking are, also, crucial.

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## THE IMPACT OF THE WORLD FINANCIAL CRISIS ON THE FULFILMENT OF THE CONVERGENCE CRITERIA

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**Abstract:** *This paper presents the way in which the international financial crisis has affected the EU Member States. The levels of the public debts are pointed out and also the levels of the budgetary deficit, but also the measures taken by the authorities in order to improve the economies. In consequence, the eight countries left in the Euro competition will have to reduce the budgetary deficit below 3% and to maintain it for the EU to analyse the other indicators which might lead to delays in the Europe adoption program.*

**Key words:** convergence criteria, budget deficit, public debt, inflation

**JEL classification:** G01, H63

### 1. INTRODUCTION

Where did the crisis start from? The answer given by all analysts was: from the very controversial practice of the subprime lending practiced on a large scale in the USA which expanded and became a real global crisis of liquidities, loans and credits at the same time with the sudden reduction of the trust and availability of the credits around the world.

The creativity of the American financial operators led to the emergence of some financial instruments and schemes as the subprime lending and the security mechanism. The subprime lending concept contains a variety of credit instruments: mortgage subprime credits, auto sub-prime credits, subprime credit cards, but the most frequently used type was the one of the mortgage subprime credits. The terms subprime (near-prime, non-prime, second change lending) refers to the statute of the borrowed person, of the customers having a score below a certain level (for example 600 points) and not to the interest rate. Even from their emergence these instruments were controversial. The arguments against them were related to the idea that the financial promoters focused on the subprime niche were committed to lending practices focused on granting credits deliberately to some debtors who were not able to meet their obligations.

The crisis started when the real estate boom from the USA burst out in 2005-2006. The real estate boom from the period prior to the crisis was supported by:

- Easier and easier standards for the approval of mortgage loans
- A significant growth of the incentives for credits, as initial advantageous credits
- A long term tendency of growth of the price of the houses.

In consequence the population did not hesitate to resort to burdening mortgage loans, with the hope of being able to re-finance them for more advantageous instalments. If in 1994 65% of the Americans has a house in 2004 there was a historical maximum of 69,2%. The prices of the houses increased very much between 1997 and 2006 the growth being of 124%. As compared to the annual average income of a household, the average price of the houses increased from 3 times the annual average income to 4,6 in 2006.

Seeing that the value of the houses was growing, many Americans put a second mortgage on the difference of value, and with the money the financed the growing expenses. Speculators also

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had their role. Seeing that the price of the houses is continuously growing they invested in houses, almost 40% of the houses sold between 2005 and 2006 were not permanent residences.

The subprime mortgage lending, with a high degree of risk went up from 5% in 1994 to 20% of the total of mortgage loans in 2006.

Some analysts say that this mortgage crisis is just the peak of the iceberg: the real source which generated this financial disaster is represented by the monetary policies of the central banks. It was thought that with the help of the credit relaxation and the monetary expansion generated by the policies of the central banks, the monetary authorities including EDF distorted the signals of the market regarding the resources left for the investors. The illusion of the capital which in reality became inexistent led to a series of non-sustainable investments, for which the economy did not have any resources.

So there was the situation where these projects had to be liquidated in order to stop the losses. The relocation of the resources stuck in non-sustainable projects can be done only with losses and capital erosion and decreasing productivity.

## **2. The fulfilment of the convergence criteria under the impact of the world financial crisis**

The entire global economy was affected by the loss of trust in the financial system which had as an effect the loss of liquidities, the growth of the interest rates and the internal and external funding costs. In most of the countries the central banks from the developed countries were forced to supply the markets with money. At the same time the surveillance rules of the financial markets roughened and determined the revaluation of the risks of investments.

As the states come between economies, either to save banks or companies from bankruptcy, or to support the economic activity and to create working places there is the need to re-balance the state budgets. The governments of the EU countries do not have various tools as the devaluation of the currencies and or the inflation, but a single one which is a combination between the reduction of the budgetary expenses and the tax increase.

The crisis affects the small and middle enterprises, because the state budgets are smaller, the banks do not offer loans anymore and the small companies lack a risk capital

The social assistance is also affected by the crisis, the resources for the health adopt some efficiency measures wanting the same results for less money, education, and research and culture are private by the necessary funds.

The negative impact of the crisis is also manifested on the pension funds. The effect determined by the crisis was the one of erosion of the money accumulated before the crisis. The proportion of erosion relied on the type of portfolio where the money where invested which the stock market shares went down by 50% in some states, the bonds experienced a more modest depreciation.

Under these circumstances the Maastricht Criteria regarding the budget deficit and the public debt are no longer respected. The budget deficits of some states go beyond the maximum limit of 3% and determine in time an amplification of the public debt of more than 60%. The Greek budget deficit reached 13,6% and the Great Britain budget deficit 11,5%, levels which do not have anything in common with the convergence criteria. Regarding the other convergence criteria, from Germany, the share of the public debt in GDP will reach 83% by 2014 with the perspective of coming back to 60% in 25 years.

On 24 March, there were evaluated the stability and convergence programs from other 10 EU Member States: The Czech Republic, Denmark, Lithuania, Latvia, Luxemburg, Malta, Poland, Romania, Slovenia and Hungary. From this group of countries, only Denmark and Luxemburg maintained their budget deficit below the level of 3% of GDP in 2009. These countries also experienced in 2009 a strong deterioration of their budget situation. Six of the 10 evaluated program



point out a public debt as compared to GDP below 60% in the period 2009-2012(the Czech Republic, Denmark, Lithuania, Luxemburg, Romania, Slovenia).

#### The level of the budget deficit and of the public debt in EU

Country	Budget deficit (%)	Public debt (%)	GDP/capita
Austria	3,4	66,5	6.248
Belgium	6,0	96,7	45.718
Bulgaria	3,9	14,8	6.248
The Czech Republic	6,9	35,4	19.006
Cyprus	6,1	56,2	30.583
Denmark	5,4	41,6	57.425
Estonia	1,7	7,2	13.559
Finland	4,1	44,0	45.869
France	7,5	77,6	44.464
Germany	3,3	73,2	40.688
Greece	13,6	115,1	31.014
Ireland	14,3	64,9	58.050
Italy	5,3	115,8	36.350
Latvia	10,0	36,1	11.154
Lithuania	9,5	29,3	10.354
Luxemburg	0,7	14,5	110.335
Great Britain	11,5	68,1	36.336
Malta	4,7	69,1	19.619
The Netherlands	5,3	60,9	53.428
Poland	6,0	51,0	11.127
Portugal	9,4	76,8	22.559
Romania	8,3	23,7	7.229
Slovakia	6,3	35,7	16.249
Slovenia	2,5	35,7	25.417
Spain	11,2	53,2	36.402
Sweden	0,5	42,3	45.663
Hungary	3,9	78,3	12.881

Source: Convergence report, May 2010,

**Austria** According to the predictions of the services of the EU Commission the economic recession from Austria reflects the drastic reduction of the private investments and of the foreign trade in the manufacturing industry oriented towards export, as a consequence of the worldwide financial and economic crisis especially the much lower growth perspectives of the main commercial partners (the Eurozone, Central and Eastern Europe). Moreover, the estimated overtaking of the reference value of the indicators regarding the budget deficit and the public debt cannot be considered temporary. The criterion of the deficit from the treaty is not fulfilled. According to the data from October 2009 registered by the Austrian authorities, the gross public debt was situated above the reference value of 60/5 from GDP from 2008, and reached the level of 66,5% from GDP in 2010. According to the predictions of the services of the EU Commission it is expected a growth of this share. We cannot consider that the share of the debt is decreasing and is getting close to the reference value in a satisfactory way in the sense of the dispositions from the treaty from the stability and growth agreement. The criterion of the debt from the treaty is not fulfilled. (EU Council Decision from 19 January 2010, JO L125/32).

Austria registered problems related to the performance of its bank subsidiaries from Eastern Europe and of the insurance companies from the same region. In spite of this, the Austrian economy did not suffer much and last year in spite of the recession the purchasing power of the population has grown. Analysts say that Austria's economy will start making progresses from 2013 until the level reached before the financial crisis.

**Belgium** According to the data given by the Belgian authorities it is expected that the Belgian public deficit will reach 6,0% of GDP being in this way above the reference value of 3% from GDP. This is also due among other causes to the significant decrease of the economic growth in the sense of the dispositions from the treaty and from the stability and growth pact. On the other hand according to the prediction from the autumn of 2009, the forecasted overtaking of the reference value cannot be considered temporary because it is anticipated a stabilisation of the deficit from 5,8% from GDP in 2011, taking into account the consolidation measures which are well stated up to the present and that is why the authorities have considered that the deficit criterion from the treaty is not fulfilled. The gross public debt went down constantly from 134% from GDP in 1993 to 84% from GDP in 2007. In 2008 the operations to make the financial sector stable have led to the growth of the debt to almost 90% from GDP. In consequence, the level of the debt continued to be situated above the reference value of 60%. According to the data given by the Belgian authorities it is foreseen that the gross public debt will be around to 97,6 from GDP. According to the predictions of the services of the Commission from autumn 2009 it is expected that it will reach 104% 2011. We cannot consider that the share of the debt is considerably decreasing and it is getting close to the reference value in a satisfactory rhythm in the sense of the dispositions from the treaty and the stability and growth pact and that is why the criterion of the debt from the treaty is not fulfilled.

The salaries of the public clerks are expected to be cut down, it is also expected a fight against the fiscal fraud and the growth of the retirement age. The aim is to reduce the budget deficit from 6% to 4,8% of GDP in 2011.

**Bulgaria** is not subject to a EU Council Decision regarding the existence of an excessive deficit. In 2009 Bulgaria's budget deficit was of 3,9% of GDP but the level of the public debt was inferior to the reference value of 60%. It is estimated that the sustainability of the public finances from Bulgaria registers a low level of risk, but there are necessary fiscal consolidation measures so that it could fulfill the average term objective.

Regarding the level of inflation Bulgaria registered an annual average rate of inflation IAPC of 1,7%, a higher level as compared to the reference vale of 1,0%. According to the most recent prognosis regarding the inflation this will be situated between 2,2% and 2,6% in 2010 and between 2,7% and 3,2% in 2011. The growth beyond expectations of the prices of raw materials on international markets represents the major risk in the sense of growth for the forecasted inflation. If we take into account the fact that in Bulgaria there are use monetary agreements like the ones from the monetary council and alternative anti-cyclic instruments the prediction of the re-emergence of some macroeconomic disparities is hard to prove, including that of the high inflation rates.

The Bulgarians have started the budget reduction from the top to the bottom. The government wants to reduce with 15% the budgets for parties and to cut down the transport expenses for the members of parliament. The legislative power will also reduce the amounts of money of its members for accommodation. On the other hand the Ministry of Finances analyses the possibility of increasing by 10% the basic salary in all the state institutions.

**The Czech Republic** was subject to a EU Council Decision regarding the existence of an excessive deficit. In 2009 the budget deficit was of 5,9% of GDP which was higher than the reference value of 3%. The share of the public debt in GDP was of 35,4% lower than the reference value. According to the studies carried out by the European Commission, the Czech Republic seems to be confronting with major risks regarding the sustainability of the public finances. It is expected that there should be taken comprising measures regarding the fiscal consolidation so that the Czech Republic could fulfill the average term objective.

According to the most recent available prognosis, the inflation rate will be situated between 1,3% and 2,2% in 2011. The growth of the level of inflation rate can appear as a consequence of the majority of the raw material prices especially that of the petrol price on the international markets. In what the long term interest rates are concerned there were situated around 4,7% a lower value than the reference value for the convergence criterion.

We can assess that in order to create a favourable environment for the sustainable convergence in the Czech Republic it is necessary to maintain a monetary policy oriented towards stability and the implementation of a credible fiscal consolidation process.

The right coalition which won the legislative elections from last year promised the cut off of some social and fiscal prudence benefits. The target is to reduce the budget deficit of 5,9% from GDP to 4% in 2011. The GDP of the Czech Republic went down by 4,1% last year but it is expected to grow this year by 1,5%.

**Denmark** The government launched an austerity plan on three years in order to spare 3,2 billion Euro, so that in 2013 it could have a deficit below 3% of GDP. Thousands of Danish people went on strike against this package which includes the reduction of the unemployment allowance period from four years to two years, freezing the development allowance and the family allowances.

**Estonia** reached a high sustainable economic convergence level and adopted the Euro currency on 1 January 2011.

The average inflation rate from Estonia in the 12 month before March 2010 was of 0,7% below the reference value of 1,0% for that month and it is likely to maintain below the reference value in the next period. Estonia will have to watch over the maintenance of a low level of inflation mainly by keeping an ambitious orientation regarding the fiscal policies and by guaranteeing the fact that the internal demand is complying with the fundamental economic principles.

The deficit and the public debt is framed in acceptable limits for the evaluation of the convergence: the deficit reached 1,7% from GDP in 2009 in spite of a decrease of 15% of the nominal GDP. It is expected that the deficit will increase to 2 ½% in 2010 and in 2011 according to the predictions of the Commission from spring. The public debt will increase by 7,2% from GDP in 2009, level which is much beyond the limits set in Maastricht and will remain below this even it is expected that the public debt is going to grow until 2013.

The criterion related to the long term debt is not applied directly to Estonia, due to the fact that neither the long-term reference governmental bonds are available, nor other relevant securities in order to assess the durability of the convergence as it is reflected in the long-term interest rate.

In what the exchange rate criterion is concerned, Estonia is taking part in ERM II from 28 June 2004. In the two years period which was concluded on 23 April 2010, the Estonian crown was not subject to some strong tensions and since the crown is taking part in the mechanism there was no deviation from the central ERM II rate.

Unlike the rest of the Baltic states, Estonia could increase the education and agriculture expenses due to the cut-offs from the beginning of 2009 and was able to create an emergency fund in order to help the local administrations in need. In spite of the unemployment which reached alarming numbers (almost 20%) and of the fast inflation the Estonians did not block the activity through strikes in no important sector.

**France** The budget deficit from 2009 is the equivalent of almost 144, 8 billion Euros according to the French statistics bureau. At the same time the public debt from France went up last year from 1.489 billion Euro or 77,6% from GDP under the circumstances when at the end of 2008 the indicator was around 67,5%. . Like other Euro member states, France has exceeded the limits regarding the debt and the deficit stipulated by the European legislation according to which the public debt of a country using the single European currency should not overcome 60% of GDP while the deficit should reach a maximum of 3% of GDP. In spite of these, the European Union states received last year exemptions for the temporary overtaking of these limits on the reason that it had made massive financial efforts in order to stimulate the economy. According to the estimations

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of the French government, the budget deficit of the country will continue to grow this year reaching 7,5% of GDP at the end of 2010 and coming back to 3% threshold in 2013. The public debt is expected to grow until the end of 2012 to 87,1% from GDP and will decrease starting with 2013.

Even if the Prime Minister Francois Fillon has promised that he will interfere in the pensions and the taxes, the 150 aid was cut off for the families with modest incomes and then the salaries of the clerks were frozen. Moreover they did not receive the 13<sup>th</sup> and 14<sup>th</sup> salary. The public expenses were frozen for 3 years and then the subventions and they decided to increase the retirement age, gradually up to 63 years old until 2015. The government announced that it might also increase the VAT.

**Finland** is along Luxemburg the single country which respected the Maastricht criteria for a long period of time with a budget deficit below 3% from GDP and a public debt of 60% from GDP. In spite of these in 2010 the EU Commission proposed the year 2011 as a deadline for the correction of the budget deficit in Finland (4,4%). With a social system envied by many people, Helsinki intends to increase the income granted to this sector in 2010. In order to eliminate the problems related to the ageing of the population, the government has decided to make easier the conditions for granting the nationality.

**Germany** Berlin has announced budget reductions of almost 80 billion Euros in the next four years in order to reach the limit of 3% from GDP up to 2013. 15.000 administration jobs will be cut off and the military expenses with 40.000 professional soldiers, the retirement age will grow from 65 to 67 years old in 2029 for a full pension. The unemployment benefits will be also reduced and there will be introduced a series of taxes.

**Greece** In the third trimester of the last year, the Eurozone economy contracted with 4% as opposed to the period corresponding to the previous year while the Greek economy lost only 1.7. The Greek GDP management to resist well during the crisis but this evolution as also due to the public expenses which were extremely high, expenses which generated a record budget deficit.

In 2009 Greece registered a record budget deficit of 12.7% while the average of the Eurozone was of 6.4% in 2009 and of 6.9% in 2010. The huge and unsustainable budget deficit on long term determined the European Commission to take attitude and to request the limit of 3% until 2012, but for some countries among which Greece it was impossible to maintain such a performance especially under the circumstances when the drastic reduction of the deficit cannot be done without the drastic reduction of the public expenses and the increase of the unemployment, measures which were not accepted by the trade union.

Greece was under an extremely bad position due to the fact that it has a high current account deficit, so that the "twin deficits" as the budget deficit and the current account are called will be extremely hard to finance.

On of the reasons for which there were voices which did not agree with supporting Greece was this abatement of the European Union from the norm which it imposed. While the government from Athens took the money, the situation of the deficit and of the public debt will be more complicated: debt degree of the state will reach almost 150% of GDP in 2013.

The state which took the most drastic measure was Greece which raised the VAT from 19% to 23% and increased the alcohol, tobacco and gas excise by 10%. It also reduced the average salary by 20%. The public clerks had their salaries cut off by 8% and they were taken also the bonuses – the 13<sup>th</sup> and 14<sup>th</sup> salary. The retirement age was also increased in order to make it equal with the retirement age of the men (65 years) and then the pensions were cut off by 105. Greece hopes to reduce the deficit with 5% this year and 7,6% next year. For 2011 other tax increases are planned – tax on property, on gambling, and the pensions will remain frozen. These measures generated the most violet social strikes in Europe which ended up with dead people and ravaged buildings.

**Ireland** In February 2009 an additional tax of 7,5% was imposed on the public clerks and the tax on profit was increased. In December 2009 the government adopted another series of drastic measures: decreasing the salaries of the public clerks by 5-10%, reducing the family allowances and the unemployment aids. More than 1000 manifested in Dublin on 15 May against these policies.

Ireland intends to reduce the budget deficit which is presently 14,3% of GDP to 2,9% in 2014. Ireland's deficit went down by 12% in the last four years.

The same as Greece, Spain and Portugal in spring Ireland's credibility depended on how seriously it would get involved in the direction of some austerity measures. Any measures are expected to be hardly supported by a country where the unemployment rate is above 30% among young people, where 100.000 people emigrated after 2008 and there 100.000 families are supposed to have great difficulties in paying their bank rates and current expenses. The situation of the companies is not good either, the worst position is that of the construction and real estate companies – "the engine" of the spectacular growth at the beginning of 2000 up to 2007. At present 300.000 of brand new houses build during the real estate "boom" cannot find their owners.

The Irish banks are the most affected by the crisis. They have become "black holes" after which they swallowed 50 billion Euros from public money ( one third of GDP) but the total of debts towards the foreign banks is of almost 800 billion. Irrespective of their sacrifice, the Irish tax payers cannot enjoy "an investment" which might be profitable for a long term period. The five Irish banks quoted in the Irish stock exchange index ISEQ value only 2% of they used to value in 2007, according to Bloomberg.

**Italy** Unlike Greece or Ireland, in Italy there was no breakdown of the real estate market or an implosion of the banking system. On the other hand, the same as Portugal its income did not cover the debt. Between 1998 and 2008, Germany's productivity increased by 22%, the French by 18% but Italy's productivity only by 3%. If the situation does not change, Italy will not be able to have an economic growth higher than 1% in 2010 and 2011. In this case according to the European Organisation for Economic Cooperation, the income from taxes will be reduced and Italy will not be able to reach the budget deficit target.

According to the analysts it is hard for the companies which could be able to generate innovation, productivity and growth to be developed because of the taxes system and of corruption, fiscal evasion and bureaucracy.

Although Italy has almost the highest public debt in Europe, it has a risk prime of only 1,7% unlike other countries from the Eurozone. For example Greece, Ireland, Portugal and Spain are paying between 5 and 7%. It is assessed that if the Italian economy will not manage to grow to a more accelerated rate of 1%, the investors will not hesitate to tax this. We have to take into account the fact that the debts will represent almost 120% of GDP a higher percentage than that of Portugal, which has a 85% of GDP debt.

The salaries of the clerks will be reduced by 20% and those of the Member of Parliament by 5%. The subventions for the political parties will be reduced and the funds for the regions, provinces, communes are reduced by 14,8 billion Euros while those for ministries by 4,6 billion Euro and those for the pharmacy industry by 1,5% Euro.

**Latvia** After the IMF agreement the salaries from the public sector went down in average by 28% while those from the private filed by 30%. There were fired 14.200 state employed people (20%). The tax on profit was increased from 16% to 23% and the VAT with 3% (from 18% to 21%). In this state there were important strikes, thousands of people demanding the resignation of the government.

As a consequence of the high level of budget deficit which was more than 3% Latvia was subject to a EU Council decision regarding the existence of the excessive deficit. The share of the public debt in GDP was situated around 36,1% inferior to the reference value of 60% but it is forecasted a growth up to 48,5% this year.

In what the convergence criterion on the inflation rate is concerned, it was noticed that although in the period previous to 2008 the annual average rate of inflation registered a level of 15,3% in 2009 and it was reduced to 3,3% as a consequence of the considerable and constant reduction of the consumption expenses. As a consequence of this state in Latvia there should be permanent concerns regarding the support of the convergence process of the inflation rate.

The long term interest rates were situated on average around 12,7% last year, a value which was higher than the reference value corresponding to the convergence criterion regarding the interest rates.

In order to provide a favourable environment for the sustainable convergence Latvia has to implement economic policies which should provide the economic and price stability. Due to the fact that the monetary policy is hindered by the existence of a fixed rate regime, the Latvian authorities have to use other economic policy fields as rebuilding a sound fiscal position and recovering the fiscal position in sustainable parameters.

**Lithuania** The same as Latvia, Lithuania is subject to a EU Council Decision regarding the existence of an excessive deficit as a consequence of a deficit level of 9,5%. The public debt of 29,3% of GDP is inferior to the reference value and will reach according to the European Commission estimations a level of 38,6%.

The monetary council agreements and the limits of the anti-cyclic policy tools might bring a higher effort from Lithuania in preventing the emergence of some macroeconomic disparities, and some high inflation rates. The inflation growth in Lithuania was due to the growth of prices for food products and energy but also to the more restrictive measures on the labour market and the growth of demand.

The long term interest rates were situated on average at 12,1% a higher value than the reference value corresponding to the convergence criterion for the long term interest rates. This was especially due to the international financial crisis, the decrease of the ratings for borrowings and the reduction of the liquidity volume which affected negatively the markets from Lithuania.

The Lithuanian government reduced the public expenses by 30% by reducing with 20% (even 30%) the public sector salaries but also by firing 20% of the state owned staff. The pensions were also reduced by 11% starting with 2010. And Lithuania increased the VAT from 18 to 21% and the tax on profit by 5%.

**Luxemburg** The international financial crisis has significant effects in the real economy. In 2009 Luxemburg passed through a recession of 4% and a shy comeback in 2010 according to the international bodies predictions.

The 4<sup>th</sup> semester of 2008 was fatal for the Luxemburg economy, the GDP went down so that at the end of the year it registered a decrease by 0,9%. The labour market from Luxemburg was facing some bleak perspectives: the growth of the unemployment rate makes the proportion of the unemployed to be of 7% of the active population until 2010. Luxemburg is one of the few EU countries to comply with the rule of the budget deficit below 3% of GDP. However, this year the deficit is thought to reach 4,2% of GDP due to the effects of the crisis. The issue of cutting expenses and strikes did not come into question. The public debt is 14,5% of GDP well below the limit imposed by EU.

**Great Britain** The European Commission considered the level of public debt and budget deficit is too high for Great Britain. In spite of this the European Commission cannot impose fines to Great Britain because Great Britain is not part of the Eurozone.

The government is taking into account to freeze some social benefits, to reduce tax incentives for families with children and to freeze the salaries increase in the public sector. The VAT increase is not excluded which is presently 17,5%. The budget deficit of the country is one of the highest in Europe exceeding 11% of GDP. The sterling pound has depreciated by 11% as opposed to the dollar this year. The changes to the taxation system might reduce the impact. The British with the highest incomes (more than 150.000 pound per year) will pay 50% income tax and the tax relief for the pension fund contributions will be reduced.

**The Netherlands** In 2009 the Dutch economy was affected by the world economic crisis, but the forecasts for the new period are optimistic. The Dutch government was to bring to zero the public deficit (estimated to 6,6% in 2010) and to reduce by almost 10% (20 billion Euros) the annual expenses of the state until 2015. The Netherlands was also among the 12 states nominalised

by Eurostat for overtaking the level of 60% of the public debt, but the level of this indicator will be evaluated in the sense of the evolution trend and not as absolute figures.

**Poland** Is the only EU country which registered economic growth last year but it has to reduce the budget deficit with almost 15 billion Euros in the next two year in order to be able to enter the Eurozone. The public debt is of 51% of GDP. The growth of the Polish deficit to 7,9% from GDP in 2010 much above the target deficit in 2010 weakened the credibility of the fiscal estimations of the country. The Polish government announced that the deficit will be situated around 7,9% of GDP much above the target set by EU of 3% from GDP but the Polish government announced that it will not meet this criterion sooner than 2013. The Polish government approved all the plans for the reduction of the working places in the budgetary filed and the limitation of the expenses in order to reduce the budgetary deficit and the public debt. The executive wants to reduce the number of employees from the state agencies and the funds by 10% in 2011 and to maintain a limited level of the labour force until 2013. At the same time the government has reduced the public expenses. The purpose of these measures is to reduce the public debt and cost of reimbursement. The measures will help to reduce the budget deficit at the limit of 3% from GDP imposed by the European Union, allowing Poland to adopt the Euro at a certain point in the future. The Ministry of Finances estimated recently that Poland's public debt will increase this year to 55,4% from GDP from 50,9% from GDP in 2009. The reformation of the pension system is desired and the growth of the retirement age from 57 to 62,5 years. Important amounts of money will come from the budget and from privatisations.

**Portugal** Portugal is making efforts in order to stabilise its public finances give then huge debts and the budget deficit which have reduced the confidence in this country and which have led to the growth of the funding costs on international markets.

Although the last OECD figures show the fact that Portugal's deficit is situated much below the level of Greece or Ireland (the forecast for this year is 7% from GDP and 4,5% of GDP in 2012) and a level of debt below 80% of GDP, the problems are the following : the lack of competitiveness on an international level which led to a modest economic growth (the average level of the GDP evolution registered in the last 10 years is around 1%), a high level of the private debt reported to GDP and a higher dependence towards the foreign capital flows.

Portugal proposed the comeback this year of the budget deficit until 7,3% from GDP, from 8,3% as it was initially estimated. In 2009 the budget deficit of Portugal reached a record level of 9,4% from GDP. Being a member of the Eurozone, Portugal is forced to maintain the annual public deficit below 3% from GDP. At the same time Portugal's public debt reached last year 76,6% of GDP and might reach this year 86% much above the maximum admitted level of 60% for the Eurozone countries. An austerity plan was launched and is meant to reduced the budget deficit to 7,3% from GDP in 2010 and to 4,6% in 2011. The salaries of the politicians and employees from the public sector were reduced by 5%. The value added tax was also increased, the income tax and the tax on profit were also increased (from 1% to 2,5%). According to the trade unions almost 300.000 people took part in the protests organised in Lisbon at the end of May

The long term interest rates were 6,1% higher than the reference value corresponding to the convergence criterion regarding the interest rates. This growth is due to the high level of the risk aversion of the investors and of the uncertainties regarding the economic perspectives. The creation of a favourable environment for the sustainable convergence in Poland needs a monetary policy oriented towards the stability of the prices on an average term and the implementation of a credible and comprising fiscal policy.

**Romania** According to the international funding agreement concluded with IMF/EC Romania has committed to reduce the level of the budget deficit to 4,4% from GDP in 2011 (almost 5% from GDP according to the European standards). Therefore, our country took some fiscal correction measures (increasing the VAT from 19% to 24% and reducing the salaries from the public sector) and reaching these objectives involves continuing the fiscal reforms in the next years.

And Romania is subject to a EU Council decision regarding the existence of an excessive deficit with a 8,3% value from GDP much higher than the reference value. The share of the public debt in GDP of 23,7% is lower than the 60% value and this is the single converge indicator fulfilled by Romania at the present moment.

The most recent available prognosis regarding inflation, delivered by the main institutions show that the inflation rate varies between 4,0% and 4,4% in 2010 and 3,0% and 3,5% in 2011. It is estimated that the process of recovering the disparities will exert an influence upon inflation and on the exchange rate because the GDP per capita level and the level of the prices are significantly reduced as opposed to the Eurozone. The long term interest rates were situated on average around 9,4% a higher value than the reference value with respect to the convergence criterion of the interest rates. The growth of the long term interest rates is explained by the aversion of the investors towards risk and the uncertainties regarding the perspectives of the economy.

After nine years of economic growth, when then deficit was of 8,3% and after 2009, a bad year from the point of view of the reforms, the Bucharest government with a weak support in Parliament was forced to take some drastic measures: 25% reduction of the salaries from the budgetary system, 15% reduction of the pensions, elimination of the privileged pensions, possible salary reduction in the state-owned companies.

**Slovakia** The Slovak economy contracted last year by 4,7% this being the first decline after the independence from 1993. IMF anticipated the Slovakia's economy will register a 4% advantage this year.

The government from Slovakia will increase the VAT with one percentage point to 20% in 2011, in a budget austerity plan which includes the reduction of the public expenses by 10% including the reduction of the salaries of the ministers and members of parliament. The austerity package approved in the Monday to Tuesday night also contains the increase of the excises for alcohol and tobacco. The VAT increase is going to be maintained at least until the public deficit will be reduced under the limit of 3% from GDP foreseen the European Union legislation, in 2013 according to the estimations of the Ministry of Finances. For this year the government anticipated a budget deficit of 7,8% from GDP and hopes that next year the indicator to go down by almost three percentage points.

**Slovenia** has initiated a austerity plan since 2008, managing to save one billion euro especially by cutting off the military expenses and the infrastructure investments. This year the expenses with accommodation and travel of the members of parliament have also been reduced. Students will not be able to work 14 hours per week and will be able to earn 6.000 Euro per year. The measure of working time reduction will be applied for other categories, a reason for which thousand of Slovenians protested in May in Ljubljana.

**Spain** If Spain's public debt is not a real short term concern reason, the economic growth and the fact that the state will come out of recession harder than their countries from the Eurozone is a reason for which the authorities should be concerned. Unlike Greece, Spain does not have a direct problem with the public finances. The public debts are around 60% from GDP being half of the ones of Greece and in consequence can be easily managed. Thus, taking into account only the public finances, Spain does not seem to have a problem which might undermine growth. But Spain's problems come from indirect debt, the ones that the Government might decide to take over in order not to endanger development and in order to provide that there are no difficult financial situation. Another reason of concern is the extremely high unemployment. Spain has a 20% unemployment rate which means that 4,5 million of people do not have a job. Under these circumstances the consumption comeback is impossible.

Spain has also cut off the population income: it has reduced by 5% the salaries of the public clerk and will suspend from 2011 the 2.500 aid for each family at the birth of a child. The pensions will be frozen from 2011 and the retirement age will increase to 67 years and the anticipated retirement conditions will be hardened. The public investments will be reduced between 2010-2011



with 6,45 billion Euro. VAT will be increase with 2 points up to 18%. After announcing these measures important strikes took place in all Spanish sectors.

**Sweden** has corrected its budget deficit and reformed the pension system in the 90s. In 2009 being in full recession, the National Bank took a measure: the bonus interests for the commercial bank deposits were on minus (0,25% per year). The result: the GDP increased by 1,4% in the first quarter of 2010. Sweden is not subject to a EU Council Decision regarding the existence of an excessive deficit because in 2009 it registered a budget deficit of 0,5% of GDP and in 2010 a 2,1% and the public debt is of 42,6% from GDP lower than the 60% level.

In the period 2009-2010 the annual inflation rate registered by Sweden was of 2,1% a higher level than the reference level of 1,0%. The most recent prognosis regarding the inflation point out that the inflation rate will be situated between 1,6% and 3,2% in 2011. The long term interest rates were situated at 3,3% a net inferior value to the one corresponding to the convergence criterion of the interest rates.

**Hungary** With a budget deficit of 4,0% of GDP in 2009 and 4,1% in 2010 Hungary is subject to a EU Council decision regarding the existence of an excessive deficit. The share of the gross public debt in GDP reached 78,3% in 2009 and 78,9% in 2010 much above the level of 60% from GDP. In the period 2009-2010 the annual inflation rate registered by Hungary was of 4,8% a higher level than the value of 1,0% corresponding to the criterion regarding the price stability.

Among the measures announced by Viktor Orban's government one can mention freezing the public expenses and the reduction by 15% of the salaries in the budgetary field, the increase of the retirement age from 62 to 65. The taxes for small and middle enterprises will be lowered from 19% to 10%, the VAT will grow to 25% and the real estate credits in foreign currency will be forbidden. They will also eliminate 10 taxes for small and middle enterprises. The government proposed an increased tax for the profit of the bank a measure which will also be applied for three years and the introduction of the single personal income tax of 16%.

### 3. Conclusions

The increasing public debt and the possible financing difficulties are causing more concern in Europe. The budget deficit problem was masked last year by generous cash inflows meant to stabilise the financial sector. Now, many governments from EU are forced to pay the price of the previous fiscal relaxation by applying austerity measures in order to slow down the rhythm of economic comeback.

The budget deficits from the Central and Eastern Europe have recently grown for two reasons. First of all, these countries did not take advantage of the favourable years from the economic development period in order to reduce their deficit. The strong economic growth has led to the growth of the volume of income from taxes. In consequence, the expenses increased more and they masked the structural deficit from the period 2005-2007. The sudden economic decrease pointed out this lack of a sound fiscal consolidation. Secondly, some of the governments were too late in reviewing the budgets and adjusting the expenses according to the changes on the level of the marco hypothesis. In consequence the structural deficits were deteriorated more and more in all countries except for Hungary and Romania which as a consequence of the IMF program were forced to act promptly and to supervise closely the growth of the expenses.

The public debt of four countries from the ECE region (Poland, the Czech Republic, Slovakia, Romania) is below 60% from GDP, much more reduce both in nominal and relative terms (as a percentage from GDP) than the one from the Euro zone. The analysis agree that the lower level of the current public debt and of the budget deficits from the ECE countries as compared to the ones from the Eurozone will make that the borrowings contracted for these states to be much more reduced.

The European Commission will grant a special attention to the fulfilment of the Maastricht criteria in a "credible and sustainable way". This means that the candidate countries will be

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requested to fulfil these criteria with a more extended margin and/or to maintain the deficit below 3% of GDP on a longer period of time (not for a given moment) in order to benefit from a positive evaluation. At the same time, the European Commission might impose a level of the structural deficit below 3% of GDP and the accomplishment of the structural reforms (the health system reform, the pension reform) which might reduce the vulnerability of the long term public finances. This means that the positive evaluation of the Maastricht criterion will be made at least one year earlier after the reduction of the deficit below 3% of GDP which might delay the adoption of the Euro currency until 2015-2016 in the case of ECE countries.

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## ENVIRONMENTAL SUSTAINABILITY AND SOCIAL RESPONSIBILITY AS NEW CORPORATE STRATEGIC DRIVERS: A PROPOSAL FOR AN ACCOUNTING EVALUATION BY THE POLIED(RO) RESEARCH PROJECT

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**Abstract:** *Aim and topic of the paper is to formulate a theoretical model for an accounting evaluation applied to environmental sustainability and social responsibility, that the present international crisis shows as two new corporate strategic drivers. To achieve this goal the paper presents an approach that follows an Italian research project entitled POLIED(RO): the study tries to accommodate the main suggestions of the International Accounting Standards and the final result tries to propose a model oriented towards the overcoming of the neutrality between the traditional accounting values and those derivable from social and environmental reports realised by the corporate system.*

**Key words:** Environmental Sustainability, Financial Accounting, Green Accounting, International Accounting Standards, Corporate Social Responsibility

**JEL classification:** M14, M16, M41

### 2. Introduction

During the last years the updated approach oriented toward a sustainable system has produced many world-wide experimentations, starting working on a deep reflection on how to incorporate macroeconomics by environmental and social parameters (Stiglitz et al., 2009). This need felt at the level of the European community is reproduced in the document of the European Commission “*GDP and beyond: Measuring progress in a changing world (Action Plan)*”, where it is stated that: “*(...) Gross Domestic Product (GDP) is the best known macro-economic measure of the performance of the market economy of a nation. Although by design and purpose it is not a welfare measure, it has also come to be regarded as a proxy indicator for overall societal development and progress in general. GDP does however not measure environmental sustainability or social inclusion and these limitations need to be taken into account to find adequate solutions to steer our economies (...)*” (EC, 2009).

The idea of sustainable development – first introduced in 1987 by the World Commission on Environment and Development (WCED) – is defined as “*(...) the economic and social development that doesn't compromise the environment and the natural resources the continuation of human species and the future development depend on (...)*” (WCED, 1987). Starting from this definition it was possible to explain sustainability in three different ways: “*(...) 1) environmental sustainability: the ability of preserving the quality and the reproducibility of natural resources; 2) social sustainability: the ability of assuring human welfare and growth opportunity respecting human rights and labour law; 3) economic sustainability: the ability of creating incomes, profits and stable and durable jobs (...)*” (CNDCEC, 2009). The issue under consideration concerns the accounting measurement applied to these new intangible assets (environmental sustainability and social sustainability) in the annual report (or budget) and may have as reference the following International Accounting Standards: a) for the Private Sector the main IAS/IFRS documents are: IAS 36 Impairment of Assets (it deals with impairment testing for all tangible and intangible assets, except for assets that are covered by other IFRS) (IASB, 2010); IAS 38 Intangible Assets (IASB)

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(IASB, 2009); for the Public Sector the main IPSAS documents are: IPSAS 21 Impairment of Non-Cash-Generating Assets (IPSASB, 2004); IPSAS 31 Intangible Assets (IPSASB, 2010).

However, looking at the main international accounting standards on this issue, a neutrality emerges between the results of the traditional reports and those concerning the social and environmental analysis realised by the companies: the mentioned idea of neutrality is that the information in the traditional reports is not directly influenced by the environmental and social variables highlighted by social reports, environmental reports and sustainability reports (etc.). In other words, the financial and the accounting information enclosed to the traditional final statement isn't directly influenced by the one enclosed with the environmental and social reports: the only link is that the environmental and social reports use the data produced by the traditional reports and elaborated by appropriate systems of accounting surveys.

The scientific objective of the project is to create an index based on a range of different criteria, combining the various aspects of sustainability with current market demands. The index, entitled POLIED(RO) (transl. POLYHEDRON) [POL Pollenzo (note: Pollenzo is the town which houses the headquarters of the unit research leader, the University of Gastronomic Sciences; for more information see at [www.unisg.it](http://www.unisg.it)), I index, E environmental and economics Design] (the project period started in December 2009 and will end in December 2011), is based on a variety of different aspects, all of which possess the same scientific weight in the index, and all of which have at least one thing in common with the others. The general aim of the index is based on three observations (Piedmont Region, 2009):

1) the fact that existing standards can be difficult to interpret, and the presence of an increasing range of certification without adequate consumer knowledge, has generated confusion for consumers. This uncertainty means that consumers do not therefore take these standards into account when making their purchases;

2) the demand for a "*return to the past*", namely consumers' desire to rediscover historic products connected to the traditional cuisine of a given area, representing an innate tourist attraction for the area, but also a cause for greater attachment to the area among those who live there and exhibit an increasing desire to rediscover time-honoured traditions and products;

3) safeguarding the environment and landscape. With reference to the most widely used voluntary certification systems, and product standards in particular, often these are only relatively successful, due to bureaucratic problems and a poor market response. These voluntary systems of process certification (ISO14001 and EMAS) implemented by local bodies, guarantee control of environmental aspects. In order to tackle these demands, which can become pressing in view of the fact that in some cases they prevent the certification mechanism from being effective, and in order to forge a closer bond with the local area by means of feedback.

The potential impact of the project consists in fostering increasing attention to product and local area sustainability among the institutions and the population. The aforementioned bureaucratic problems that standards encounter have often prevented them from being adopted by producers, and even when a certification process is initiated and completed, the widespread lack of knowledge, and sometimes also the costs involved, have prevented the general spread of these standards. The idea is to connect these virtuous, often isolated examples to the local area, by means of a mechanism based on a system to manage the organization of research and resources (which are complementary yet diversified) to arrive at the creation of the index in question. This will then be returned to the local area, with the application of at least some of the aspects of the environmental/landscape management system (Piedmont Region, 2009).

The joint use of these tools, the high degree of flexibility planned for the index, and the multidisciplinary nature of the project from its outset should represent a sort of guarantee of results, in view of the fact that in the organizational process and at the various stages of the project, nothing is left to chance. Moreover, the planned trial of the index in the Piedmont region could come to represent an exemplary point of departure, and a model for other regional areas, in Italy and elsewhere, interested in the index. The POLIED(RO) index results in fact constituted by manifold

field of study, all pertaining to the index with the same scientific weight, all interconnected and having at least one side in common: the accounting approach followed in the research is explained in the following paragraph.

### **3. The accounting approach followed in the research project**

During the last years, the topics of innovation and measurement of the results is assuming a progressively higher relevance with perspectives of sustainable promotion of the local and regional development. The increasing debate over the process of globalization (and of glocalization) (McLuhan, 1989; Nederveen, 2004; Robertson et al., 2003) and, at the same time some others drivers, like as the awareness of the important role that the innovation can assume in the economic and social development of Italy and the new demands shown by stakeholders, have stressed the need, for what pertains the activities related to the food and agricultural compartment, to develop and to use evaluating tools more precise and shared. In this way, the experience of other Countries and the related literature on the aforesaid issues underline that the substantial activation of both evaluating and innovative tools generally bring interesting benefits. Nevertheless it is to underline that such processes, when not properly developed, addressed and understood, can bred distortions on the same assessment activities (Piedmont Region, 2009). Moreover these evaluating activities can shape interesting opportunity to stimulate both the link with the paradigms coming from other disciplines and the process of internationalization of the business studies related with the issue of food and agricultural compartment.

In the light of the general objectives of the project, the contribution priority focuses on the economic evaluation sustainability – in general sense – applied on food and agricultural compartment through the work out of a “cause-effect” analysis model of the processes of production, distribution, sale and consumption of the food and agriculture commodities, directed on two profiles of analysis:

- the sustainability of the process, in different configurations that characterize it: social, environmental, etc.;
- the responsibility for the action of players (accountability) and the results policy asseveration related (assurance engagement policy).

Under the first profile of research, in an wider and above all in a much more “sustainable” vision of the food and agricultural compartment, the main purpose of the present contribution is, therefore, to identify, systematize and implement into the process of the compartment the informative tools pertaining the model of the Corporate Social Responsibility (CSR) (Ackerman et al., 1976; Carroll, 1979; Sethi, 1975; Wood, 1991). About the second aspect of research the main purpose of the model is to define a matrix of common valuing elements, related to the accountability and assurance engagement policies, that can be taken as reference in the sector of the integrated food and agricultural compartment. Therefore the present model wants to represent one aspect (the one purely business economics oriented), of the wider scientific objective of the whole project, that is to create a multi-criteria index that gathers in its own lay-out the aspects of the sustainability applied to the processes of production, distribution, sale and consumption of the food and agricultural commodities (Piedmont Region, 2009).

The POLIED(RO) index results in fact constituted by manifold field of study, all pertaining to the index with the same scientific weight, all interconnected and having at least one side in common.

The aim of the present theoretical study is related to a theory concerning accounting model that can farther reinforce the connection between the different accounting models defined by a mutual exchange process of information flow in which:

- the environmental and social reports can, on one hand, acquire the economic information they need to edit their own documents from the traditional reports;
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- on the other hand they can be in a position to reallocate the environmental and social performance previously got in the traditional final statement, influencing – in a direct way – the accounting results.

In this case the financial statement should become an independent governance instrument used by the company (public or private) to be accountable to its stakeholders of the results of its environmental and social policies realized in a sustainable development perspective: at the present moment several companies use dedicated documents regarding the environmental and social communications, such as e.g., social reports, environmental reports and sustainability reports.

The International Accounting Standards – mentioned above – present an accounting model where the financial, economic and patrimonial information enclosed with the traditional final statement isn't directly influenced by the one enclosed with the environmental and social reports: the main link is that the environmental and social reports use the data produced by the traditional reports. In the environmental public report models – see, e.g., the European CLEAR Model “City and Local Environmental Accounting and Reporting” or the one suggested by the Italian Institute for Environmental Protection and Research (ISPRA, 2009) – two different cluster of accounts (Giovannelli et al., 2000) are expected to be used (CLEAR, 2003): a) the first cluster is called Physical Accounts: it is related to the monitoring of air emissions and to the material consumption: e.g. the set of 10 European Common Indicators (ECI) is the most common Physical Accounts cluster used at European level and it has the focus of having indicators capable of measuring not a specific phenomenon, but the overall sustainability at a local level; b) the second cluster is called Monetary Accounts: it concerns the money that a public institution has to invest in the environmental protection.

Only the Monetary Accounts have an accounting derivation because the company fixes them toward a reprocessing of balance (budget plan and/or final balance): this reprocessing is the only one-way link between the two types of reports; equally it is not possible to have a parallel (and opposite) process where the final statement results could be – directly – conditioned by the performance got from the environmental report in a positive way (eco-efficiency) or negative trend (eco-inefficiency). Similar consideration can be made talking about the traditional social report models related to the public company (G.B.S., 2005) or to the private sector (G.B.S., 2001): during the last years the Italian Accounting Standards have used the Added Value as a referential quantitative indicator.

For the Italian Accounting Model the Added Value is considered very important in the social report field (Gabrovec Mei, 2002): the Added Value measures the wealth produced by the company with reference its shareholders that participate to the distribution of the wealth itself. Added Value is represented in two different tables: the table for the calculation of Added Value, identified by comparing interim revenues and costs (G.B.S., 2001: 21); the table showing the allocation of Added Value being the summation of the remuneration received by stakeholders within the company and the donations (G.B.S., 2001: 24).

In the document of the G.B.S., mentioned above, the table for the calculation of Added Value the articulated opposition between the positive and the negative elements involved in the working capital that come directly from the economic – financial accounting system of the company.

In both examined cases – the assessment of the Monetary Accounts in the environmental report and the Added Value determination in the social report – a common accounting derivation of the values is recorded: both of them are determined by a data reprocessing of the final statement of the company, but they can not able to reallocate the environmental and social performance previously found in the final statement of the company.

The central part of the study has the aim of suggesting a theoretical accounting model able to go beyond the informative limit (definable now as one-way informative flows) and where it can be possible to create a bi-directional link between the report models (an environmental and social one on one hand and a traditional one on the other hand): this model should have a reciprocal

exchange of the informative flow where the environmental and social reports can acquire the economic information they need from the traditional report, and – then – they can reallocate the environmental and social performance they got in the final balance, directly influencing the accounting results. The most virtuous companies from the point of view of environmental sustainability and social responsibility should deserve an award: a new intangible asset, a new “social-green goodwill” (André et al., 2009; Johnson, E.R., 2010; Kriström et al., 2003) having in return a equity increase of the company.

The present accounting model, that introduces a new intangible asset in the balance sheet as a reward to the most virtuous companies from the point of view of environmental sustainability and social responsibility, presents the following problems: 1) determining the composition of the board responsible for evaluating; 2) defining the evaluation process phases; 3) evaluating of environmental and social performances. Some proposal to the aspects mentioned above are outlined below.

1) Determining the composition of the board responsible for evaluating. About the first point, determining the composition of the board responsible for evaluating, the board may be: a) an internal board; or b) an external board (recommended choice). In the case of an internal board the components are represented by internal employees (or consultants) of the company subject, while in the second case (external board), the model would require: a) to chose an external and independent board in order to avoid the self – reference risk of the process realised by the company; b) to find the auditors in the professional categories having more ability both in the field related to the accounting profession [accountants have to have the Certification (or Asseveration) of the accounts], or in the field related to the environmental audits, that is “(...) *activities intended to quantify environmental performance and environmental position* (...)” (CLEAR, 2003) [auditors have to check the Environmental Management System (EMS) of a company (public or private) to see if it has the mandatory requirements asked according to the international standards EMAS or ISO 14001].

The auditor’s opinion should be independent, according to two aspect of the problem. The first aspect concerns the choice of the target in charge of the evaluation, that shouldn’t be the responsibility of the company, but – in order to limit the discretion – should be the responsibility of the central administration (such as the Ministry of Economy or the Ministry of Environment) or of a local administration (such as, e.g., the Court that has territorial jurisdiction, or the local office of the Court of Auditors, etc.). The second aspect regards the ways of payments of the auditors: instead of a direct payment between the company and the auditor, it should be used an indirect way between the central (or local) administration and the auditor (in this case the environmental fiscal system adopted by the single nation should provide for a correct reallocation of the resources needed to assure the correct payments of the auditor’s activities). In both cases mentioned above (evaluation by an internal board or an external board), the model would require a national or regional coordination achieved by a public institution (a central or local administration).

2) Defining the evaluation process phases. This step concerns the freedom of joining the evaluation process in the early on: the freedom of choice should be limited to the years after the first evaluation accession in order not to enforce the “budget policies” of the environmental and social performances. The adhesion to the evaluation process should be guaranteed by pre-emptively definite cycles (for example three-year cycles or five-year cycles) and the choice of exiting the evaluation process after a cycle should be at least as long as the length of the attended cycle in order to avoid a periodicity adhesion which is convenient to the evaluation process: once the minimum exclusion period is over, the company should be able to join the next evaluation processes of its environmental and social performance, following the same rules described before.

3) Evaluating of environmental and social performances. The final point – Evaluating of environmental and social performances – can produce, respectively, two kinds of outcomes: a qualitative result or a quantitative result. A qualitative result – as a qualitative assessment of the company – may be achieved by administering a questionnaire: it is the case realised by an internal

board above mentioned (this part of the research in working progress). The second case concerns the analysis of the companies from the point of view of environmental sustainability and social responsibility that should deserve an award, a new intangible value, above mentioned as “social-green goodwill”. This quantitative value can be analysed alternatively as: a) a non-accounting value (to say not included in the annual balance sheet); or b) an accounting value, a new accounting asset included in the annual balance sheet.

The methodological path to evaluate this new value (like a non-accounting value not included in the annual balance sheet, or like an accounting value included in the annual balance sheet) is shown in the following paragraph.

#### 4. The methodological path of the model

This paragraph is dedicated to present the discussion about the methodological path of the theoretical model that it is possible to divide into two parts:

- 1) the methodological path for evaluating the social performance;
- 2) the methodological path for evaluating the environmental performance.

The two parts are explained below.

- 1) The methodological path for evaluating the social performance.

The research of ways that have reference to social performance and are created by the company has the aim of finding those social shares able to underline what needs to be rewarded “more” than what has been made in the economic range. That being stated, in continuing the discussion, the components we need to isolate in order to quantify social politics that are actually virtuous, and therefore winning from the social point of view, should be referable to direct and indirect salaries of the subordinate employees with a long term contract: in the other circumstances, particularly in short term jobs, flexible jobs, etc., the nature of contract relations includes a priori that medium-long term planning so much wished – most of all for new generations - in the contemporary debate about the optimization of welfare models.

This argument finds solace in the definition made by the European Commission of social responsibility, as: “(...) *the voluntary decision of contributing to the progress of society and to the protection of the environment, combining social and ecological concerns in company dealing and in interactions with stakeholders (...)*” (EC, 2000): the increasing appeal to flexible job instruments, also in Public Administration and in our specific area of interest, the university, unfortunately doesn’t embody that spirit of cohesion and social welfare mentioned several times in the Community document cited before. The reflections done before have the purpose of bringing the attention to a delicate and complex theme, the flexibility in job market, that in our model depicts itself more and more like a physiological board towards a system structurally oriented on precariousness. A thorough reflection about the phenomenon – and about related corrective actions – is therefore appropriate, but is beyond the aim and the contents of this contribution: parallel reflections concern the coupling of these reflections to a model of management control oriented on the fundamental principles of efficiency, efficacy and company inexpensiveness. So the values of the social actions are to be isolated from those made voluntarily, in adherence to the above definition of social responsibility realised by the European Commission (E.C., 2000). Taking up our approach, the formula related to the quantification in the year (t) of the reward acknowledged for a social relevant behaviour, defined as Intangible Value Created by the Relevant Social Performance for Current Management ( $IVCRSP_{cm(t;s)}$ ) – placed under the assets of Immaterial Immobilizations with counterpart a net equity revaluation – could be written as:

$$IVCRSP_{cm(t;s)} = \sum_{i=1}^n (SC_{i(s)} * r_{(t-s)}) - \sum_{i=1}^n (SB_{i(s)} * r_{(t-s)}) \quad (1)$$

where:



- $IVCRSP_{cm(t;s)}$  = Intangible Value Created by the Relevant Social Performance for Current Management ( $IVCRSP_{cm(t;s)}$ ), quantified in the year (t) (year when the evaluation of social performances is realized) and related to the accounting year (s) (year when the Social Costs are paid and the Social Benefits are obtained);
- $\sum SC_{i(s)}$  = Sum of Social Costs (i) concerning the year (s);
- $\sum SB_{i(s)}$  = Sum of Social Benefits (i) concerning the year (s);
- $r_{(t-s)}$  = monetary revaluation rate (r) concerning the period between the accounting year (s) (year when the Social Costs are paid and the Social Benefits are obtained) and the year (t) (year when the evaluation of social performances is realized).

The monetary revaluation rate (r) used in the model, should be defined directly by the related set of rules, or indirectly referring to specific Prices Indexes for monetary revaluation produced by official national institutions (e.g. in Italy the Italian National Institute of Statistics – Istat) or by official international ones (e.g. in Europe Eurostat).

The same reflection concerns eventual patrimonial elements to isolate in order to quantify social policies actually virtuous, always referable to subordinate employees (like, for example, the capitalization of the costs of education and research, the construction of kindergartens and company refectories, etc.): also in this case, these accounts should be purified from possible subsidies collected in capital accounts for this purpose.

In this last case the formula of the quantification in the year (t) of the reward acknowledged for a social relevant company behaviour, definable as Intangible Value Created by the Relevant Social Performance for Asset Management ( $IVCRSP_{am(t;s)}$ ) – placed under the assets of Immaterial Immobilizations with counterpart a net equity revaluation – could be written as:

$$IVCRSP_{am(t;s)} = \sum_{i=1}^n (SA_{i(s)} * r_{(t-s)}) - \sum_{i=1}^n (SCB_{i(s)} * r_{(t-s)}) \tag{2}$$

where:

- $IVCRSP_{am(t;s)}$  = Intangible Value Created by the Relevant Social Performance for Asset Management ( $IVCRSP_{am(t;s)}$ ), quantified in the year (t) (year when the evaluation of social performances is realized) and related to the accounting year (s) (year when the Social Assets are paid and the Social Capital Benefits are obtained);
- $\sum SA_{i(s)}$  = Sum of Social Assets (i) concerning the year (s);
- $\sum SCB_{i(s)}$  = Sum of Social Capital Benefits (i) concerning the year (s);
- $r_{(t-s)}$  = monetary revaluation rate (r) concerning the period between the accounting year (s) (year when the Social Assets are paid and the Social Capital Benefits are obtained) and the year (t) (year when the evaluation of social performances is realized).

In conclusion, the quantification of the Total Intangible Value Created by the Relevant Social Performance ( $IVCRSP_{T(t;s)}$ ) in the year (t), is determined by the following formula:

$$IVCRSP_{T(t;s)} = IVCRSP_{cm(t;s)} + IVCRSP_{am(t;s)} \tag{3}$$

where:

- $IVCRSP_{T(t;s)}$  = Total Intangible Value Created by the Relevant Social Performance ( $IVCRSP_{T(t;s)}$ ), quantified in the year (t) (year when the evaluation of social performances is realized) and related to the accounting year (s);
- $IVCRSP_{cm(t;s)}$  = Intangible Value Created by the Relevant Social Performance for Current Management ( $IVCRSP_{cm(t;s)}$ ), quantified in the year (t) and related to the accounting year (s) (year when the Social Costs are paid and the Social Benefits are obtained);

- $IVCRSP_{am(t;s)}$  = Intangible Value Created by the Relevant Social Performance for Asset Management ( $VCRSP_{am(t;s)}$ ), quantified in the year (t) and related to the accounting year (s) (year when the Social Assets are paid and the Social Capital Benefits are obtained).

2) The methodological path for evaluating the environmental performance.

Even in this case the values of the environmental actions are to be isolated from those made voluntarily (so the model includes only voluntary actions, that are not required by law), in adherence to the above definition of social responsibility realised by the European Commission (E.C., 2000): for individualizing the areas of analysis it is possible to follow national standards [e.g. an Italian standard is the framework realised by ISPRA (ISPRA, 2009)] or international standards [e.g. an international standard is the COFOG (Classification of the Functions of Government) classification realised by United Nations (Eurostat, 2007)].

After we having individualized the environmental values on which we can apply the model, the formula of quantification in the year (t) of the reward to acknowledge, in these case, for an environmental relevant behaviour, defined as Intangible Value Created by the Relevant Environmental Performance for Current Management ( $IVCREP_{cm(t;s)}$ ) – placed under the assets of Immaterial Immobilizations with counterpart a net equity revaluation – could be written as:

$$IVCREP_{cm(t;s)} = \sum_{i=1}^n (EC_{i(s)} * r_{(t-s)}) - \sum_{i=1}^n (EB_{i(s)} * r_{(t-s)}) \quad (4)$$

where:

- $IVCREP_{cm(t;s)}$  = Intangible Value Created by the Relevant Environmental Performance for Current Management ( $IVCREP_{cm(t;s)}$ ), quantified in the year (t) (year when the evaluation of environmental performances is realized) and related to the accounting year (s) (year when the Environmental Costs are paid and the Environmental Benefits are obtained);
- $\sum EC_{i(s)}$  = Sum of Environmental Costs (i) concerning the year (s);
- $\sum EB_{i(s)}$  = Sum of Environmental Benefits (i) concerning the year (s);
- $r_{(t-s)}$  = monetary revaluation rate (r) concerning the period between the accounting year (s) (year when the Environmental Costs are paid and the Environmental Benefits are obtained) and the year (t) (year when the evaluation of environmental performances is realized).

Also in this case the monetary revaluation rate (r) used in the model, should be defined directly by the related set of rules, or indirectly referring to specific Prices Indexes for monetary revaluation produced by official national or international institutions. The same reflection concerns eventual patrimonial elements to isolate in order to quantify environmental policies actually virtuous: these accounts should be purified from possible subsidies collected in capital accounts for this purpose.

In this last case the formula of the quantification in the year (t) of the reward acknowledged for a environmental relevant company behaviour, definable as Intangible Value Created by the Relevant Environmental Performance for Asset Management ( $IVCREP_{am(t;s)}$ ) – placed under the assets of Immaterial Immobilizations with counterpart a net equity revaluation – could be written as:

$$IVCREP_{am(t;s)} = \sum_{i=1}^n (EA_{i(s)} * r_{(t-s)}) - \sum_{i=1}^n (ECB_{i(s)} * r_{(t-s)}) \quad (5)$$

where:

- $IVCREP_{am(t;s)}$  = Intangible Value Created by the Relevant Environmental Performance for Asset Management ( $IVCREP_{am(t;s)}$ ), quantified in the year (t) (year when the evaluation of environmental performances is realized) and related to the accounting year (s) (year when the Environmental Assets are paid and the Environmental Capital Benefits are obtained);
- $\sum EA_{i(s)}$  = Sum of Environmental Assets (i) concerning the year (s);
- $\sum ECB_{i(s)}$  = Sum of Environmental Capital Benefits (i) concerning the year (s);
- $r_{(t-s)}$  = monetary revaluation rate (r) concerning the period between the accounting year (s) (year when the Environmental Assets are paid and the Environmental Capital Benefits are obtained) and the year (t) (year when the evaluation of environmental performances is realized).

The quantification of the Total Intangible Value Created by the Relevant Environmental Performance ( $IVCREP_{T(t;s)}$ ) in the year (t), is determined by the following formula:

$$IVCREP_{T(t;s)} = IVCREP_{cm(t;s)} + IVCREP_{am(t;s)} \tag{6}$$

where:

- $IVCREP_{T(t;s)}$  = Total Intangible Value Created by the Relevant Environmental Performance ( $IVCREP_{T(t;s)}$ ), quantified in the year (t), year when the evaluation of environmental performances is realized;
- $IVCREP_{cm(t;s)}$  = Intangible Value Created by the Relevant Environmental Performance for Current Management ( $IVCREP_{cm(t;s)}$ ), quantified in the year (t);
- $IVCREP_{am(t;s)}$  = Intangible Value Created by the Relevant Environmental Performance for Asset Management ( $IVCREP_{am(t;s)}$ ), quantified in the year (t).

In conclusion the new immaterial asset can be defined as Global Intangible Value Created by the Relevant Social and Environmental Performance ( $IVCRSEP_{G(t;s)}$ ) and can be determined by the following formula:

$$IVCRSEP_{G(t;s)} = IVCRSP_{T(t;s)} + IVCREP_{T(t;s)} \tag{7}$$

where:

- $IVCRSEP_{G(t;s)}$  = Global Intangible Value Created by the Relevant Social and Environmental Performance ( $IVCRSEP_{G(t;s)}$ ): the value is determined in year (t) and refers to the activities supported in year (s);
- $IVCRSP_{T(t;s)}$  = Total Intangible Value Created by the Relevant Social Performance ( $IVCRSP_{T(t;s)}$ ), quantified in the year (t);
- $IVCREP_{T(t;s)}$  = Total Intangible Value Created by the Relevant Environmental Performance ( $IVCREP_{T(t;s)}$ ), quantified in the year (t).

The last formula concerns the Global Intangible Value Created by the Relevant Social and Environmental Performance ( $IVCRSEP_{G(t;s)}$ ) determined in year (t) and refers to the activities supported in year (s). At this point it is possible to extend the formula for social and environmental activities supported in a defined year cycle (w) (e.g. a three years cycle or a five years cycle, etc.), with  $w = 1 \dots (s) \dots m$ . In this case the Global Intangible Value Created by the Relevant Social and Environmental Performance ( $IVCRSEP_{G(t;w)}$ ) – determined in year (t) and referred in a defined year cycle (w) – can be determined by the following equation:

$$IVCRSEP_{G(t;w)} = \sum_{s=1}^m IVCRSP_{T(t;s)} + \sum_{s=1}^m IVCREP_{T(t;s)} \tag{8}$$

where:

- $IVCRSEP_{G(t;w)}$  = Global Intangible Value Created by the Relevant Social and Environmental Performance ( $IVCRSEP_{G(t;w)}$ ) determined in the year (t) and referred to the activities supported in a defined year cycle (w), with  $w = 1 \dots (s) \dots m$ ;
- $\sum IVCRSP_{T(t;s)}$  = Sum of Intangible Values Created by the Relevant Social Performance ( $IVCRSP_{T(t;s)}$ ), quantified in the year (t) and referred to the social activities supported in a defined year cycle (w);
- $\sum IVCREP_{T(t;s)}$  = Sum of Intangible Values Created by the Relevant Environmental Performance ( $IVCREP_{T(t;s)}$ ), quantified in the year (t) and referred to the environmental activities supported in a defined year cycle (w).

## 5. Conclusions

The present contribution has proposed a theoretical model oriented towards the overcoming of the current neutrality, previously defined, in the connection-conditioning (reciprocal or bidirectional) between the results of the traditional accounting and those derivable from social and environmental accounting of the company, in which is possible to assume an ideal bidirectional connection between the different accounting models. Therefore is evident that the aspects analyzed and the consequent solutions, need a natural consolidation obtainable through the realization of a comparative benchmarking between the actors of the system (scientific community, public companies, interested professional orders, guarantee institutions of the process, etc.), oriented towards the determination of a scientific method to evaluate a model that is commonly shared by all the subject interested in the process.

Adhering to the evaluation process, taking up what we said before, should be guaranteed for defined year cycles (for example three years cycles or five years cycles), and the possible choice of leaving at the end of the cycle should be confirmed for a period at least of the same duration of the one expected for the adhesion, in order to avoid an adhesion in alternation and for the convenience of the evaluation process. That being stated, it can meet the possibility, inside a single evaluation cycle, to proceed in reducing the value of the new intangibility asset (and the related net equity value): this is the case, for example, of a divestment of goods considered in previous managements relevant from the social and environmental point of view: in this case the consequent reduction would be just like the related revaluation previously done.

Consequently the counterpart created as a net equity revaluation has the function to compensate possible future company losses. It should be used for this aim just for the part that corresponds to the revaluation done on charges and of the proves of current management considered in previous managements relevant from the social and environmental point of view: all this in order to avoid the creation of potential negative values of this net equity fund showed previously (that, for example, of a subsequent divestment of goods considered in previous managements relevant from the social and environmental point of view).

Moreover the Global Intangible Value Created by the Relevant Social and Environmental Performance ( $IVCRSEP_{G(t;w)}$ ) is not subject to problems of amortization because the conditions are lacking (like, for example, the use of the economic good, the useful duration defined of new tangibility, etc.), whereas in adherence to the following International Accounting Standards: a) for the Private Sector the main IAS/IFRS documents are: IAS 36 Impairment of Assets (it deals with impairment testing for all tangible and intangible assets, except for assets that are covered by other IFRS) (IASB, 2010); IAS 38 Intangible Assets (IASB) (IASB, 2009); for the Public Sector the main IPSAS documents are: IPSAS 21 Impairment of Non-Cash-Generating Assets (IPSASB, 2004); IPSAS 31 Intangible Assets (IPSASB, 2010).

In conclusion it is meaningful to obtain that if the debate about how to individualize a model of accounting that combines more the economical and company evaluations with social and environmental ones, is quick, it is also – nowadays – a far off target: the final wish is that this contribution can, in some ways, stimulate the common interest towards the definition of an

accounting system in which the traditional analysis aspects are more integrated with the complementary ones (social and environmental values).

Further arguments and widening, combined with an experimentation on the field, will be able, therefore, to allow a useful consolidation of this proposal and favour at the same time a working progress process of a new vision of the concept of sustainable development referred to the accounting disciplines.

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**CORPORATE GOVERNANCE-CODES AND PRINCIPLES, MODELS, SYSTEMS**

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**Abstract:** *In this article I have attempted to highlight the distinctive features of corporate governance' concept, and to emphasise that the performance of companies quoted on the capital market is significantly influenced by the corporate governance' rules and regulations which are important components of the business environment in developed market economies and not only, taking into account the fact that we talk about processes involving long-term value creation. This article emphasises essential aspects concerning corporate governance models and systems used by European Union and Central and Eastern Europe companies, and aspects concerning the corporate governance system in Romania.*

**Key words:** corporate governance, management, shareholders, stock market

**JEL classification:** M14, M21, O16

## **1. Introduction**

Good management of companies is essential to establish an attractive investment climate characterized by competitive companies and efficient financial markets.

The performance of companies quoted on the stock market is significantly influenced by the ability of policy makers to identify and harmonize the interests of social partners. Conditions for the pursuit of greater competitiveness, top-management should avoid potential conflicts between business partners and to harmonize them. The harmonization of these interests is ensured by using appropriate corporate governance system. Managers cannot maximize the company's value if they ignore the interests of social partners: shareholders, managers, employees, creditors, suppliers, customers, etc.. From the corporate perspective, these interests may be contradictory, which may cause conflicts within the organization, adversely affecting its financial and economic results. For example, increasing wages and providing adequate working conditions ensure coverage the needs of employees, but also involves additional costs at the firm' level, namely the reduction of profits and its competitiveness. The ability of managers and other decision makers, such as shareholders, board of directors, auditors to harmonize and prioritize those interests, directly influences the risk and earnings generated from the investment in that company' shares. Quality and operational efficiency of the shape of corporate governance determines the control of variable indicators with a strong impact on economic and financial results of the companies. In this regard, according to a study conducted in 1997 by Ernst & Young Center for Business and Innovation, concerning the use of non-financial indicators, indicators related to corporate governance system are regarded as being the most important non-financial performance criteria used by investors to evaluate listed companies. Thus, half of the eight non-financial performance criteria relevant to investors relates to the administration and corporate governance of the companies: quality management, corporate culture, the effectiveness of executive remuneration policies and the quality of the management' system concerning communication with shareholders. Quality management is defined using indicators such as: strategy's quality and its degree of implementation, management experience, managers' leadership style. Also, the study by the McKinsey consulting firm concerning the institutional investors' point of view concerning corporate governance in emerging countries shows

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that these investors gave the same importance to information on corporate governance, and financial information regarding investment decisions. In addition, these investors are willing to pay a premium for companies that apply corporate governance standards.

Corporate governance' rules and regulations are important components of the business environment in developed market economies. The concept of corporate governance has been defined in many ways, but all definitions reflect the mechanism by which a company is managed and controlled. "Corporate Governance", sometimes referred to as "corporate leadership", is defined by the Cadbury Code as "the system whereby a company is managed and controlled." The concept specifies the distribution of rights and responsibilities of various categories of persons involved in such company: the board of directors, directors, shareholders and other stakeholders, and establishes rules and procedures for making decisions concerning the activity of the corporation. It was also found that corporate governance is the means by which providers of financial resources of a company shall ensure that they receive the benefits expected by making this investment. Corporate governance has been also defined as "the branch of the economy that studies how companies can become more efficient through the use of institutional structures, such as incorporation, organization and legal framework. This branch limites in most cases to studies on how shareholders can ensure and motivate executives in order to receive the expected benefits from their investments.

## **2. Corporate governance codes**

Corporate governance code is a set of principles, standards and best practices of governance given by a particular institution whose application is not binding, but optionally. The European Union (EU) has adopted a number of 35 codes, each country having at least a code of corporate governance. Most of these codes (25) have been issued after 1997, after the financial scandals and bankruptcies of companies quoted on the British capital market. Thus, the 1992 Cadbury Code was developed in order to prevent similar financial scandals and regain public and investors' confidence in companies' corporate governance practices. This code contains 19 recommendations concerning the structure, independence and responsibilities of the Administration Council, internal financial control and the remuneration policy for directors and executive management. The UK has the highest number of corporate governance codes (11), about a third of all codes issued by EU member states. There are also two international codes and two pan-European codes applicable to EU companies. According to the comparative study by the European Commission in this area, corporate governance codes applicable in EU member countries were issued by different entities such as government groups, committees or commissions organized by national governments or stock exchanges, business associations, industrial or academic associations, investor groups, etc.. Most of them, about a third of all applicable codes in EU countries, however, were developed by groups or associations of investors. This variety of issuers implicitly generates a different official status regarding these corporate governance codes in the issuing countries and these codes reveal their point of view. Thus, it appears that for some countries (Belgium, Spain, Portugal, Italy, etc..) and at international organizations (OECD), the objective of developing codes of governance is improving the information provided on the capital market and improve company performance, competitiveness and / or access to capital. For countries with a tradition in the field and liquid capital markets (UK, France, Germany, etc..) the main objective of the codes focuses on the Board's activity, or improve Board governance and improving the information provided on capital market. Although different in terms of their preparation and purpose and the degree of detail, all the codes available in the countries members of the European Union, all codes address four key issues: fair treatment of all shareholders, whose interests should be a priority, clear responsibility of the Administration Council and management, transparency of company, accuracy in time for financial and non-financial reporting, responsibility for the interests of minority shareholders and other social partners, and for complying with legislation. General characteristic of corporate governance codes is the character of recommendation. However in some countries, like Great Britain and Italy, reporting and explaining



their reasons for not applying is mandatory. Thus, the UK listed companies are not obliged to follow the recommendations of Combined Corporate Governance Code (1998). However, according to the requirements for listing, they must report if they have complied with the recommendations of the Code and to explain the reasons for such non-compliance. In this respect, there were not cases to apply sanctions for reporting the non-application of these recommendations, information provided by the Controller Institution of London Stock Exchange listing (Financial Services Authority). Although the non-application of these codes is expressly provided, they exercise a significant pressure on corporate governance practices of EU companies. On the other hand, the flexibility of corporate governance codes is a key advantage because it offers the freedom of decision and action of the company in order to achieve its strategic objectives. Contrary to the fact that these corporate governance codes are issued by entities belonging to countries with different cultures, traditions concerning the financing, shareholder structures, legal systems, remarkable similarities are noted between them, particularly in the functions and responsibilities of Board and recommendations on its' structure and functioning. All codes are trying to present and explain the details of good corporate governance practices, but their translation into practice requires time for companies.

In the context of business globalization the issue of business' and capital markets' integrity is a key dimension. Major fraud case registered in financial accounting over the past decade, fraud primarily affecting world class companies in the United States of America and Europe were those that were the basis of resounding failures. They have questioned the foundations of surveillance systems and capital markets have also triggered a crisis of confidence in corporation systems. Enron Cases (2001), MCI WorldCom (2002), One.tel (2001), Sunbeam (2001), Webvan (2001), and Parmalat (2003), have produced material for countless debates on firms' business administration and of international political institutions regulating the market, supranational financial organizations, the media, academia respectively. As the major corporate governance failures are caused by malfunction of the internal control systems, entities belonging either public or private sector must take a proactive stance to improve internal controls leading to increase profitability and providing long-term competitive advantage. Since between the success of corporate governance and the internal control system there is a direct causal link the relevant regulatory bodies worldwide have taken attitude developing standards. In 1992 the Cadbury Committee drew up the so-called Cadbury Report which was attached to a code of good corporate governance practices focused primarily on accountability relating to the entity's management structures and greater transparency of the business. Turnbull Report in 1999 focused on internal controls in order to build corporate governance framework and managed to revolutionize the practice in this field having a substantial international impact. In 2002 in response to the Enron bankruptcy and Worldcom, bankruptcy due mainly to conflict of interest and approach between the entities and their external auditors, according to U.S. Congress' view, it elaborates Sarbanes-Oxley law designed to limit the activities and services to external auditors can offer and this aimed to avoid conflicts of interest and strengthening the independence of external auditors. The same law is meant to put serious emphasis on the annual reports of entities providing these situations also must contain " Report on internal control ". This report focuses on assessing internal controls and financial reporting procedures of the issuer. In this regard the following aspects are covered:

- internal controls must be stable and continuous, providing the entity the ability to ensure that information offered is liable;
- evaluation on the effectiveness of internal controls must be highlighted in the report;
- any fraud involving management or employees of the control system must be reported to the entity's auditors and the Audit Committee;
- the report is meant to inform of any change that may affect the entity's internal controls.

### **3. OECD Principles of corporate governance**

Following the Asian financial crisis of 1997, the OECD Council, meeting at ministerial level, asked the OECD to develop a set of standards and guidelines on corporate management.

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Thus, in 1999 the OECD Principles on corporate administration were approved. These are currently the only set of governing principles internationally accepted, applied to the entire corporate governance framework - legal structures, institutional and regulatory framework and practices that create the context in which firms operate. OECD principles are recognized by the Financial Stability Forum as one of the 12 basic standards for sound financial systems. They are an important component of the Collection of Standards and Codes conducted by the World Bank and International Monetary Fund. These principles were adopted by the International Organization of Securities Commissions, and private sector bodies such as the International Network for Corporate Administration. The OECD Principles have also served as a reference point to achieve a large number of national codes on corporate management. Starting from the different codes and practical models of governance, have been identified some common elements that define an effective corporate governance. Thus, the OECD Principles of corporate governance have been formulated.

Between September 2001 - March 2003 were held four roundtables to discuss improving corporate governance practices in South-East Europe. Using the OECD Principles as a conceptual framework the roundtable examined the five key elements of a strong framework of corporate management described in the OECD principles:

- shareholders' rights;
- equitable treatment of shareholders;
- the role of the associated parties concerning corporate management;
- provide information and transparency;
- Board responsibilities.

Workshops were organized in cooperation with local partners and hosts. Romania's National Securities Commission and Bucharest Stock Exchange have jointly organized the first roundtable in September 2001 in Bucharest. OECD Centre for Private Sector Development, jointly with the International Agency for Cooperation from Turkey, organized the second roundtable in Istanbul in May 2002. Zagreb Stock Exchange held the third Roundtable in Zagreb in November 2002. The fourth round table was held in Sarajevo in March 2003 by the Securities Commission of the Federation of Bosnia and Herzegovina. In 2003 was published the Stability Pact for South-East Europe - White Paper on corporate governance in South East of Europe (Stability Pact for South Eastern Europe is a political declaration and framework agreement adopted in June 1999 to encourage and strengthen cooperation between the countries of Southeast Europe (SEE) and to facilitate, coordinate and focus efforts to ensure the stability and growth in the region).

South-Eastern Europe Agreement for Reform, Investment, Integrity and Growth ("Investment Agreement") is a key component of the Stability Pact Working Meeting II on economic reconstruction, development and cooperation. Private investment is essential to facilitate the transition to market economy structures and to support social and economic development. Investment Agreement promotes and supports policy reforms that aim to improve the investment climate in South-Eastern Europe, thus encouraging investment and developing a strong private sector.

The main objectives of the Investment Agreement are:

- improving business and investment climate;
- attract and stimulate private investment;
- ensure private sector involvement in the reform process;
- initiate and monitor the implementation of the reform.

Countries in South-Eastern Europe participating in the Investment Agreement are: Albania, Bosnia Herzegovina, Bulgaria, Croatia, Macedonia - the former republic of Yugoslavia, Moldova, Romania, Serbia and Montenegro. Starting from the basic principle that the reform belongs to that region, the Investment Agreement seeks to share the long experience of OECD countries. It provides studies on the entire region and provides increased capacity by initiating dialogue concerning the development of successful policies, ensuring the transition and identifying concrete steps for reform. Agreement on Investment activity' is actively supported and financed by 17

OECD member countries: Austria, Belgium, Czech Republic, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Norway, Sweden, Switzerland, Turkey, UK and United States of America. White Paper proposes a number of practical recommendations and should serve as a means for setting priorities and implementing reform at national and regional levels. It is a consultative document, which is not binding, reflecting discussions and recommendations from the roundtables. It was drafted, debated and approved by consensus by the Organization for Economic Cooperation and Development (OECD) - South-East Europe Agreement for Reform, Investment, Integrity and Growth. To ensure maximum relevance, was adopted and a general document presenting all the elements of interest in terms of corporate governance. Roundtable participants were also invited to make written comments on the various working versions of the White Paper. White Paper focuses primarily on companies traded on the stock market, though on many issues also addresses problems related to companies with large shareholders but not publicly listed. This is particularly important for South-Eastern Europe countries, because here privatization has led in some countries to the existence of unlisted companies, but with a large ownership and economic development will depend in a significant extent on the success of these small and medium-sized unlisted companies. Also, the White Paper can be useful on some aspects of management of private companies and state enterprises.

#### **4. Corporate governance models used by European Union companies**

The Member States of the European Union present two general models of corporate governance with distinct characteristics: the Anglo-Saxon corporate governance (specific for companies in the UK and the U.S., Hong Kong and Australia) and German corporate governance model (specific for companies in Germany and continental Europe and those from Japan).

The Anglo-Saxon corporate governance (similar to the American) is a system based on external influence (outsider-based system) carried out by active capital markets through acquisitions and mergers of listed companies. Thus, through active capital markets the corporate control is made for securities trading, in a dispersed ownership. All Anglo-Saxon countries are generally characterized by highly developed capital markets and investors' protection, under the lack of major shareholders, is an ongoing concern of the regulatory institutions of the capital market through corporate governance practices and policies. It follows that the Anglo-Saxon countries (UK, U.S., Australia and Canada), companies generally have similar corporate governance models, that a single independent Board monitors and controls management to improve its activity, but the last way to control, performance improvement and turnaround companies is done through hostile acquisitions made by the capital markets of developed countries.

German corporate governance model (like the Japanese one) is a system based on internal control, not being centered on the strong influence exerted by active capital markets, but on the existence of strong shareholders such as banks. The features of this model arise from the particular social and commercial environment in which it appeared. Thus, in Germany, as in Japan, shareholders who hold large blocks of shares usually are actively involved in the management of the respective companies. Their role is to penalize poor management, stimulate economic efficiency and social partners to achieve harmonization of the interests of the company, including its staff. Human capital is considered of utmost importance in the German model. In contrast to Anglo-Saxon model, which relies primarily on the capital market, the German model is centered on the banking system. Although Germany and Japan banks haven't got large equity holdings in the financed firms, they still exercise a strong influence and control over the companies' system of government.

The main advantage of this model is monitoring and flexible financing of companies and effective communication between them and banks. Involvement of banks in leading companies this system gives this system great stability and a priority direction for economic development. However, there are disadvantages concerning this system of corporate governance. Comparative study of the advantages and disadvantages of the two models of corporate governance in developed

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countries, angloamerican model and the German-Japanese model suggests that a company's governance system can be improved as a result of the action of the following factors:

- acquisitions of companies, in developed countries like Britain, USA, France, Germany, Japan is a regulated market of acquisitions;
- competitiveness of products and services, also influences the corporate governance of the company, but this factor is a slow action one, the shareholders can lose huge amounts due to degradation product quality, loss of customers and market segments due to low efficiency of company management ;
- the capital market, which actually provides official recognition of a company and hence the performance management through the company's share price;
- lenders entering into contracts with the company to protect their rights and in case of infringements may require opening of insolvency proceedings for their recovery;
- Institutional investors represent a potential force to influence the governance of companies, especially in the UK and U.S. At the same time, however, they constitute a danger in terms of strong controls on firms that can be exercised by virtue of a large percentage of their holdings in the companies' social capital. Thus, in the U.S. there are restrictions on the concentration concerning holdings of shares in the hands of institutional investors and banks and there are also restrictions on the exercise of control over public companies, while in Japan and Germany institutional investors have an essential role concerning the shareholders' rights;
- labor market for managers, which penalizes managers who receive excessive benefits without obtaining performance by their replacement done by the Board of Directors, which entails the impossibility of finding a similar job.

### **5. Corporate governance systems used by Central and Eastern Europe companies**

Unlike the German model based on internal influence (insider - based model), enterprises in Central and Eastern European countries have a common model of governance based on internal control as a result of privatization and restructuring process conducted over the past 13 years. Economist Aoki (1994) defined the model based on internal control as a form of firms resulting from the seizure of control rights by managers or employees of former state-owned enterprises in the process of privatization, ownership of substantial blocks of shares by persons inside the company (insider) in case of privatization or pursue their interests in decision-making process at the strategic business level when companies are still state owned. Internal control is considered a key issue because the managers who have an excessive control of enterprises may take action against shareholders, employees and other social partners, thus jeopardizing the financial health and performance of firms. Although not like taking corporate governance models of developed countries, Aoki analyzes the causes of this pattern of European countries in transition and also the need for efficiency by developing capital markets and banking systems as a means of external or internal influence concerning corporate governance systems for firms in transition economies. Inevitably, the establishment of appropriate mechanisms for corporate governance privatized enterprises belonging to these countries was difficult taking into account the lack of legal infrastructure, the appropriate regulatory institutions, and the lack of legal framework regarding property rights, financial and accounting reporting requirements, bankruptcy. For example, countries who have relied on funds investing in the privatization process have had problems on the functioning and efficiency of their activity. Governance structures of enterprises in European countries in transition were significantly influenced by the objectives of privatization, namely speed, political responsibility, and efficiency and legal regulation of privatization. Taking into account the priority of these objectives and specific political and economic conditions, the privatization process has taken quite different forms in the countries of Central and Eastern Europe. It follows that corporate governance systems in Central and Eastern European countries are inefficient, either due to the concentration of power in the hands of employees or management and lack of external or internal controls exercised by other major shareholders such as banks,

institutional investors or active capital markets. Although there are signs that economic and financial results of the privatized firms are on average higher than those of former state enterprises, however, restructuring is carried out slowly, and the investment is very low, which will affect long term performance of those companies. Dominant forces, such as employees and managers form coalitions in order to satisfy the prevailing interests and hamper the process of restructuring of production and staff or even lead firms to bankruptcy.

### **6. General aspects concerning corporate governance system in Romania**

In Romania, as in other countries of Central and Eastern Europe, companies are generally characterized by the same corporate governance model based on internal control of management and employees, but with certain peculiarities depending on national economic, social, political, conditions, specific cultural forms of governance that have emerged and developed. Corporate governance of Romanian enterprises' and thus their performance trend can be analyzed and understood only through the development of the reform process in the context of transition from planned economy to market economy, which led to profound changes in the micro universe. The main methods of privatization that have led to the birth of the private sector in Romania were MEBO mass privatization program and selling stakes to investors from outside the companies. In fact, Romania has the following types of business government as a result of the privatization process:

A. State-owned Companies - RAs or not fully privatized companies, where the state is still a shareholder. Within these companies, there is inevitably a conflict of interest between managers, employees and the state, leading to conflicting objectives: maximize profit, maintain jobs, increase tax revenues, political or individual interests satisfaction. Economic performance is not the major objective of these economic entities, but the interests of the managers.

B. Companies with private capital, closed (small, medium or large), their shares are not being traded on an official market. Owners usually are managers, so there is not a conflict of interests between them. Instead there are many conflicts between shareholders distorting into the lawsuits. Managers do not seek to maximize the value of the company as a priority, but rather expanding the business.

C. Companies privatized or opened, that are organised in a variety of forms, from those with a very dispersed shareholders whose rights are often neglected to those in which shareholders have a strong control over the company. In these enterprises there is a conflict of interests between management and shareholders or between the majority shareholders and minority shareholders. Taking the case of private firms closed, autonomous decision making and operational management team is high, organizational structures and information systems are flexible, dynamic and effective, economic and financial leverage is used predominantly as managerial tools. In Romania, adjusting mechanism concerning problems between the shareholders of a company and management team belongs to the Council of Administration (CA). It helps to set the company's development strategy and this should in turn performed by managers. Currently, in most companies there is the sole shareholder and sole manager. At larger firms, appear in CA and people who have family ties with the majority shareholder, and grandchildren, uncles or aunts. Thus, it is hard to say which company in Romania is implementing effectively the concept of corporate governance. Foreign Investors Council in early 2005 released an analysis of the Romanian business environment, contained in a White Paper for 2005. The paper contains a set of proposals to improve the business environment. Recommendations of the White Paper focus on seven areas of interest: employment, legal system, taxation, banking, corruption, environment and corporate governance. On March 16, 2005, in the work of the Committee on Economic Policy Reform and Privatization of the Chamber of Deputies, were heard representatives of the Foreign Investors Council (FIC) on economic policy arising issues concerning implementation of corporate governance principles. They appreciated the progress made by Romania in this area and in the capital market area as well. Representative F.I.C. underlined that in the last two years, Romanian authorities have addressed in

a balanced manner issues concerning conflicting interests between the majority and minority shareholders, by the new Capital Market Law no. 297 of 2004, creating new opportunities for discussion and debate. Both the CNVM and the Government have made efforts to adapt the Romanian legislation with the *acquis communautaire* and its directives. The Law on Capital Market included most of the provisions of European Union directives. However, the representative F.I.C. stressed that in the recent years, there have been numerous major frauds, particularly in accounting, affecting companies in the U.S. and Europe. In this regard, a group of company law experts recommended to the European Commission that each Member State to draw up a national code on corporate governance. Unlike the EU countries, Romania does not have such a code. FIC representative recommended that such a Code to be adopted by RASDAQ and BVB in cooperation with other stakeholders, the code should be based on principles and not binding regulations. In most cases, the principles remain valid for a long time and requires no changes. Thus, it may provide the best practices specific for mature capital markets. Requiring to all listed companies to comply with the principle "comply or explain", whereby they are obliged either to comply with the Code in its entirety, or to explain in their annual report why did not meet one of the principles of the Code. Regarding dividends, the FIC representative stressed the existence of problems with their distribution on time, after their approval in general meeting of shareholders, was amended by the Capital Market Law, but is not suitable with the Synthesis Commission works on 15, 16 and 17 March 2005, no. 21/99/17.03.2005. in a properly regulated framework. Representative F.I.C. recommended that the existence of a single register of shareholders, who have the right to vote and the right to receive dividends. Representative F.I.C. referred to the fact that Romania uses the cumulative voting method to elect board members at the request of a "significant" number of shareholders. Such a provision does not exist on any of the capital markets of the European Union. F.I.C. recommends eliminating this requirement. Representative F.I.C. referred to the fact that social capital increases, according to Capital Market Law, are allowed in-kind contributions, but only if approved by shareholders holding at least 75% of the capital, this threshold is extremely high. Representative F.I.C. recommended the replacement of certain requirements for the approval of the share capital increase through contributions in kind done under the requirements of Article 115 of the Companies Act, including the possibility of a second convocation. If the capital increase through contributions in kind is approved, each minority shareholder should have the right to opt for a matching contribution in cash to avoid dilution of its holding. Also, the representative F.I.C. made a recommendation on the role of auditors in this respect taking into account changing the law so that the provisions on reporting tasks are aligned to international standards and those of the European Union. Another recommendation of the representative F.I.C. was to eliminate restrictions on members of the Board of Directors for companies operating within the same group, this recommendation is extremely restrictive in FIC's view, administrators can not occupy this position in more than three CA at the same time. We appreciate that the F.I.C.'s representative opinion is questionable, given that, where there is an atomization of shareholders, the election of all board members can be done only by holding a simple majority of shareholder equity (50% plus one share). In this situation, if cumulative vote is not applied, a person who holds a significant number of actions, for example 25% of the capital share cannot influence the election of board members. Regarding reporting transactions with related party, those issuers are required to report transactions exceeding 50,000 euros. Representative F.I.C. considered that this provision is not realistic for large companies or banks which provide the majority of stock trading volume. F.I.C.'s recommendation was that this legislative provision to become more flexible and allow C.N.V.M. establish appropriate reporting limits for each issuer, such as large companies and banks which by their nature are engaged in a large number of transactions that exceed these limits, including intra-group transactions. Concerning the possibility of major shareholders to "exclude" the minority shareholders under specific conditions in return for appropriate compensation, is not required by the Capital Market Law or the Companies' Act. This can trigger unnecessary disputes affecting both companies and capital market highlights representative FIC. He made the recommendation that the

law should be amended in order to define clearer the conditions under which the withdrawal is mandatory for minority shareholders. The major problem concerning corporate companies in Romania is the conflict of interests between controlling shareholders and minority shareholders, which degenerates into conflict between management, the Board of Directors and minority shareholders and also between shareholders and the company's business partners, specific especially for economies in transition causing degradation of long-term companies' performance and finally, their bankruptcy. There are five major categories of investors that control the companies listed on BVB and RASDAQ: strategic investors, employees' associations (PAS's), institutional investors, the state represented by the Authority for Privatization and Management of State Property and individuals. According to international studies concerning the capital market in Romania, the most important forms of violation shareholders' rights are:

- dilution of minority shareholders' wealth;
- transfer of profits outside the company;

According to the Commission's Works Synthesis:

- tactics "empty shell";
- unfair allocation of profits;
- delay in the delivery of dividends;
- limited access to information for minority shareholders.

One of the reasons for these situation is the excessive authority of the major shareholders and the lack of control and a strong monitoring from other business partners of the company. Due to the high concentration of ownership, the company's governing bodies - Board of Directors, the directors and managers - are subordinate to the majority owner and act in order to satisfy his interests. Given the effectiveness of its system of governance and the quality of relations between the firm and its social partners, that provides companies' performance improvements under the premise of perennial can be appreciated that the corporate governance of Romanian enterprises is poor. Thus, in line with corporate governance standards, following a study by SG Emerging Markets Equity Research in February 2000, Romania ranked 7 with a total score of 20.6 out of 36 maximum possible points in a sample of 10 countries Greece, Israel, Hungary, Turkey, Poland, Russia etc.. Among the most important weaknesses of corporate governance in Romania revealed by this study are those related to unequal access to information to all shareholders, the prohibition of transactions for internal or majority shareholders, the decreased role of the Board, the access to other media in order to obtain information for investors. Although a major difference from the other countries examined cannot be identified, the most severe problem can be identified in the enforcement of shareholder rights in court, meaning the actual impossibility of their rights request in court, the score of -1 indicates an abuse concerning this aspect of corporate governance in Romania. Romanian companies quoted on the stock market have resulted from the MEBO privatization process, mass privatization or sale of shares, which led to the formation, on one hand, of highly dispersed ownership, lack of activism in managing companies and on the other hand, has triggered a strong or significant shareholders' majority. These companies have a system of governance dominated by management's and employees' control or controlling majority shareholders against minority shareholders' and other social partners' interests. The most important issue is infringement of minority shareholders' rights and the reduction of their property by majority shareholders. Board of directors and auditors have only a formal role in approving the decisions of managers or controlling majority shareholders.

Inefficient government of the enterprises listed adversely affect economic and financial results and future possibilities of development through the following levers:

- tracking priority short-term interests of employees and managers, meaning increasing wages and other benefits, job stability and protection etc.
- slowing restructuring and reorganization or delaying bankruptcy of companies in financial difficulty;
- improper sale of assets of managed or owned companies;

- investment and modernization failure, maintenance or development of the productive potential of enterprises;
- improper acquisition of more and more shares done by major shareholders;
- satisfy the interests of major shareholders by destructive methods of mitigation and transfer of minority shareholders' wealth ;
- impossibility of using programs in order to pay managers based on the actual value created;
- excessive mobility of staff as a result of internal conflicts and lack of programs concerning promotion and incentive according to the value criteria;
- late or no distribution of dividends to other shareholders in order to provide incentives to employees and managers at the end of the current year;
- restrict trading of securities on the capital market, leading to increased volatility and risk investment in the securities' concerned;
- maintaining a tense atmosphere as a result of conflict between management and / or employees and minority shareholders, or the conflict between controlling shareholders and minority shareholders;
- inability of an active involvement of other social partners, such as banks in the business process management;
- reduced access to bank loans due to poor delivery and quality of information and lack of sufficient guarantees;
- impossibility of making acquisitions or takeovers by other firms in the industry in order to improve their activities;
- loss of prestige on the capital market for listed companies.

## 7. Conclusions

I believe that applying the system of corporate governance to companies quoted on the stock market can be the crucial condition concerning economic and financial performance, but also investors' expectations regarding their future development opportunities. Thus, on the one hand, how the quality of management and leadership is an essential non-financial key concerning assessing performance for companies listed on global stock market. On the other hand, capital market' functions concerning the redistribution of capital available to finance the most profitable investments/companies can contribute decisively to improve listed companies' governance systems and thus to improve their performance through acquisitions and mergers or active involvement of institutional investors in their management.

If we consider the actual situation on the international market, we can conclude that corporate governance will remain on the list of top management time to come. All that implies this state of affairs is transcribed into a simple "equation": companies which will adopt a culture of transparent and efficient corporate governance model will have a much better performance compared to those which refuse to accept this reality and need to experience poor results.

In essence, the combination of factors such as market volatility, pressure from shareholders and economic uncertainty will create premises for the risk that the top management act ethically incorrect. As such, the importance of an effective model of governance that controls and evaluates the performance of a company, satisfying the needs of all stakeholders and thus creating long term added- value is vital for a company in a competitive environment marked by important changes .

Finally, corporate governance applied proactively, effectively, procedurally and for real at all levels of the economic entity, whether belonging to public or private sector becomes an essential tool in creating and maximizing long term value of the entity.

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## OPTIMAL FINANCIAL POLICIES VERSUS PUBLIC FINANCIAL BALANCE/IMBALANCE

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**Abstract:** *At present, one of the topics causing ample theoretical and practical debates is the one about decision makers’ choice between budgetary balance/imbalance and optimal financial policies. Choosing financial policies may influence the balance envisaged by an economy and thus, the fact should be taken into account when setting up the coordinates of optimal policies.*

**Key words:** financial policies, public financial balance/imbalance, budgetary deficit

**JEL classification:** E60, E61, H60, H61, H62

### 1. Introduction

Traditionally, public financial balance has seldom been put in practice. Budgets are undoubtedly balanced when they are submitted to the Parliament, yet during budgetary execution there are imbalances between budgetary revenues and expenses. An ex ante balance is usually related to an ex post imbalance. When an imbalance has a low magnitude, it can be seen as normal since any ex ante calculation or any prediction implies uncertainties, too. More often than not, the gap is much wider (between 3% and 5%). Thus, public financial imbalance opposes to the principle of budgetary balance which is already considered as a tenet.

In addition, although some economists have advocated the need to accomplish budgetary balance each and every year, there are also arguments against the idea. They rely on principles according to which there should be public deficits as they ensure the stability of output and unemployment, the redistribution of revenues among generations, the fiscal recovery if there are variations of the revenues subject to taxes etc.

### 2. Public financial balance versus public financial imbalance

The idea of achieving multiannual public balance is increasingly discussed upon even in the context of a budgetary deficit during one year of such a period of time.

That is why it is important to know the significance of quasi-constant budgetary imbalance as opposed to the repeated need for permanent public financial balance. It should be done by taking on the idea that imbalances occur by balances rather than deficits. Consequently, current beliefs state that imbalances and deficits have the same meaning.

Therefore, public financial deficit is the one causing major problems.

Public financial imbalance or, in short, budgetary deficit should be appreciated in terms of expenses, namely as a lack in fiscal revenues to an established amount of public expenses. It involves several specifications in order for its meaning to be well stated aiming on one hand at the way a deficit is improved and on the other the cases when it occurs.

In the context of budgetary imbalance, a state firstly sets the amount of expenses and secondly identifies the resources to finance them. Therefore, expenses are the major element which

financing modalities should adapt to. Additionally, observations show that public expenses are livened up by a long-term increase trend to which public revenues adjust. This is not due to high fiscal turnover, but the increase of public requirements which are met by higher financial efforts, therefore a much more important fiscal taking. There is no doubt that the chance to obtain a larger amount of fiscal revenues is the one allowing the expansion of public needs. Yet, public expenses and their long-term upward trend are the directing element of the changes that budgetary revenues should adapt to.

It is only in exceptional situations that revenues establish the level of expenses, yet the latter generally bring revenues to their level.

As a result, the notion of budgetary deficit expresses the fact that expenses are not generated according to the estimated amount of budgetary revenues and that a deficit is not an excess of expenses as related to the respective amount of budgetary revenues. A deficit is conceived according to the authority rule of setting the expenses after setting the revenues and shows the scantiness of fiscal revenues in financing the amount of public expenses. But this scantiness can be present in various ways that should be specified.

A deficit may result from a technical error while assessing the various constitutive elements of a budget or from a reduction of fiscal turnover due to an unpredictable event. Additionally, it may also be caused by a mistake while adjusting the revenues and expenses when the public budget is drawn up.

A deficit may also occur when the dynamism typical of public and private economy is not adequately adapted. The long-term picture of a stable or decreasing budget should be removed as studies have shown that budgets are increasingly large.

A deficit can also be caused by a disparity among growth rates. A budget can be balanced according to the augmentation of growth rates for the periods to come which have been present in the revenues and economic activity of previous years. But a slowdown or even a cessation of progress may occur, when the result is a deficit. Moreover, if the growth rate of expenses exceeds the revenues', then public budget encounters a deficit.

In modern times, a budgetary deficit maintained within certain limits means the rule of budgetary planning which has been imposed both by scanty resources as compared to fund needs, and by governmental policies which may believe a public deficit is a conjunctural economic policy instrument. Therefore, although public balance and public deficit are two opposite notions, they are closely related to each other, which has been proven both by the theoretical approaches of public financial balance also including considerations on public imbalance, and by the governmental decisions specific to financial policies (fiscal-budgetary policies) closely connected with the other types of macroeconomic policies.

### **3. Optimal financial policies versus public financial imbalance**

At present, one of the topics causing ample theoretical and practical debates is the one about decision makers' choice between budgetary balance/imbalance and optimal financial policies.

Fiscal-budgetary policies are believed to play an important role in establishing multiple balances. Diamond P.A. stated that "one of the goals of macroeconomic policy should be economic orientation towards the *best* balance ... after numerous macroeconomic shocks". In other words, Diamond asserted that choosing fiscal-budgetary policies may influence the balance envisaged by an economy and thus, the fact should be taken into account when setting up the coordinates of optimal policies. Whereas the forces generating various balances in macroeconomic patterns are clearly defined, the ways in which fiscal-budgetary policies orient an economy towards one type of balance are not known.

Formulating an optimal fiscal-budgetary policy generally requires dimensioning of the wealth level which is determined by each and every policy choice. When several balances are associated with at least a few options concerned with public policies, then it is not clear how things should be done. Their theoretical approaches ignore the existence of multiple balances

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supposing a Pareto-type balance will be reached. Thus, an optimal policy should be chosen in such a way as to maximize the expected usefulness in a Pareto balance. Consequently, in order to have optimal policies, governments should identify the distribution of probabilities for each potential choice of fiscal-budgetary policies. Along with such probabilities, expected wealth can be calculated for each and every type of policy until the optimal one is found.

Optimal fiscal and budgetary policies are meant to ensure:

- the development of an economy's functional feature;
- the long-term sustainability of economic growth;
- the increase of public finance stabilizing role thus helping to keep the decreasing trend of inflation and to limit current account deficits;
- the incentives for economic rebirth by improving economic involvement both by direct investment, and transfers and grants in order to support structural reforms;
- the improvement of stability in expense policies;
- the efficiency of budgetary allocations with the purpose to continue and enhance the budgetary approach focused on financing efficient public services managed within the culture of quality and performance;
- the monitoring of general budget deficit enhanced by setting up the priorities when allocating public funds for social programmes, infrastructure, human capital, regional development, structural adjustment, environment, along with the enhancement of fiscal mechanisms and improved acquisition of budgetary revenues.

#### **4. Optimal financial policies versus public financial balance**

The current issue is no longer about choosing between public financial imbalance and optimal financial policies, but between the latter and public balance. In other words, accepting public imbalance in the context of optimal financial policies should be accompanied by the need to provide public financial balance as it is believed that obeying this principle alone might allow the supervision of public expenses. Moreover, the supervision of public expenses may be done either by setting a limit regarding fiscal revenues, or by reiterating the principle of budgetary balance. In order that such ways should be observed, they must have a compulsory feature. Such a feature is rendered by introducing an amendment into each country's constitution regarding the limitation of fiscal revenues and/or the provision of budgetary balance in order to supervise public expenses.

In Romania, as far as local budgets are concerned, the principle of budgetary balance should be observed, which implies that the budget expenses of a village, town or county should be entirely covered by the revenues of the respective budget. If there is a gap between budgetary revenues and expenses during the execution of local budgets, the authorities of the local public administration may use the following for balance:

- the amounts in the accounts opened (on behalf of public finance general departments at the county capital treasury) and charged by the value of the 22% quota of the income taxes cashed in each administrative-territorial unit. During execution, the 22% quota is allocated by the county general departments of public finance within five working days after the end of the month when the taxes have been cashed, in order to balance the local budgets of villages, towns and counties, in direct proportion with the amounts allocated and agreed upon in the respective budgets for this reason;
- the amounts taken from some revenues of the state budget that are distributed by counties according to financial capacity calculated in compliance with the income taxes cashed per inhabitant, meaning 70% of the divided amounts, as well as to the county area, meaning 30% of the divided amounts;
- the working capital availabilities kept in a distinct account;
- the loans from the general current account availabilities of the State Treasury granted with no interest but only after having used the working capital. These loans may not

exceed 5% of total revenues estimated to be cashed during the budgetary year when a loan is made, nor should they exceed the fund level that local public administration authorities can pay back during the same budgetary year. The reimbursement of such loans should take place until the 31st of December, otherwise the public finance general departments have the authorization to execute the account of the respective administrative-territorial unit.

Moreover, administrative-territorial units have also set the limits concerning the level of debts. As a result, according to Law no.273/2006 regarding local public finance, the authorities of local public administrations are not allowed to access loans or guarantee any type of loans if their annual total debts exceed the 30% limit of their total revenues made up of taxes, fees, contributions, other payments, quotas taken from income taxes, namely their total debts are represented by mature installments of contracted and/or guaranteed loans, interests and commissions related to them, including those of the loan to be contracted and/or guaranteed during the respective year.

## 5. Conclusions

At present, a budgetary deficit maintained within certain limits means the rule of budgetary planning which has been imposed both by scanty resources as compared to fund needs, and by governmental policies which may believe a public deficit is a conjunctural economic policy instrument.

The aim of limiting fiscal revenues and/or accomplishing budgetary balance is to restrict political decision makers with respect to the limitation of public expenses, as it is believed that such expenses financed by fiscal revenues or loans negatively affect economic performance by transferring the resources from the production sector to the public one. They do not involve a supplementary restriction for expense financing by means of public loans. In such circumstances, there is a risk to gather high public debts which could have negative effects upon the economy (for instance, higher interest rates). To avoid excessive debts, it is necessary to define a clause concerning new debts, namely they cannot occur if most decision makers disagree.

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## “LIQUID ASSETS” OR TURNING FINE WINES IN A VERY PROFITABLE INVESTMENT

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**Abstract:** *In our paper we present the main characteristics of the fine wine market and the reason why specialists worldwide believe that this market has now an enormous growing potential. Fine wine has since grown in importance as an alternative asset class for investors looking to diversify their portfolio. So we will present the wine industry and his long history. In the end, we are going to show the reason why today, wine is a huge global market, which has become increasingly international over the last 20 years and we will present reliable data from well known financial sources.*

**Key words:** “liquid” assets, investment, profit, growth, wine market

**JEL classification:** D92

### 1. Introduction

Well known specialists have shown that the fine wine market has outperformed leading stock and commodity market indices over the past decade, turning it into a profitable alternative asset class.

Our intention to present the main characteristics of the fine wine market and the reason why specialists worldwide believe that the wine market is a market with an enormous growing potential comes from a strong believe that even in critical periods, such as the one we are crossing today, well trained people can find reliable assets in which to invest in and get a good profit as well. (Financial Planning (2010))

Our debate starts with the recent statistics that prove that the fine wine market, measured by the Liv-ex 100 Fine Wine Index (*London International Vintners Exchange*), has outperformed equity and commodity indices such as the MSCI World Index and the CRB Index since the start of the decade. Fine wine has since grown in importance as an alternative asset class for investors looking to diversify their portfolio.

The next step in our study is to present the wine industry which has a long history that dates back to the early years of humankind and at the end, we are going to show the reason why today, wine is a huge global market, which has become increasingly international over the last 20 years and we will present reliable data from well known financial sources. (Popescu, Gh.; Popescu, V.A.; Popescu, C.R. (2010b))

### 2. The history of a worldwide fine wines profitable investment

**A high - end wine** can be defined as a wine that was able to generate steady returns over a long - term investment horizon as a result of a large, consistent and growing demand.

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**Nowadays**, wine is considered to be the new liquid currency. Investment grade wines mainly come from France and they have been available on the market for centuries, being produced in limited quantities and mature with age. (Popescu, V.A.; Popescu, Gh.; Popescu, C.R., (2010d))

The interest in fine wine as an investment has become more popular in recent years. For instance, China's rapidly growing wealthy population, although still a small proportion of its total population, boasts an increasingly large group of fine wine consumers and investors. According to the 2009 Asia - Pacific Wealth Report by Merrill Lynch Wealth Management and Capgemini, the expected number of high – net – worth individuals is expected to triple in both China and India by 2018. This will in turn potentially lead to a further increase of wine customers. (Popescu, V.A.; Popescu, Gh.; Popescu, C.R. (2010b))

While the global consumption of wine demand has increased over the past decade, the production volume of mainly French high - end wines has declined in the past couple of years. The vineyards for high - end wines are fully planted, as French laws are very restrictive with regard to the expansion of vineyards and output. Moreover, production output is also affected by the producers and merchants. They do not necessarily want to raise their output, as they wish to keep their wines exclusive and rare.

### 2.1. Literature review

Taking into account the economic crisis nowadays, specialists in finance and accounting have shown several important facts, such as the ones presented below:

- a) diversification in your investment portfolio is critical;
- b) low volatility is actually hard to find;
- c) any asset that ticks the previous two boxes generally has unexciting returns.

Though, there is one asset which is an exception, which has a low correlation to the standard trifecta of equities, debt and gold, it's proven to be recession - proof and the returns are often spectacular. That special asset is known as "the fine wine asset". (Popescu, V.A.; Popescu, Gh.; Popescu, C.R. (2010a))

Fine wines have been in production for centuries and actively traded for the last 400 years. In a very recent article published in the newspaper "The Economic Times" (*on 10 October 2010*) (The Economic Times (2010)), there are presented the following important data:

- a) Looking back into history, Christie's had its first fine wine auction in 1776.
  - b) In 2009 there were more than 200 such auctions netting over \$200 million.
  - c) The fine wine market itself is worth \$2-3 billion annually. There is even a global electronic exchange (*www.Liv-ex.com*) accounting for 80% of trades that is quoted on Bloomberg daily. Only 1% of the world's wines are investible. Such fine wines last between 50-100 years getting better over time, are from the top Chateaux in the world, are made in tiny quantities. They are highly sought after and have exceptionally high ratings from industry reviewers (*similar to Standard and Poor's or Moody's ratings*). 90% of these fine wines originate from Bordeaux, and are primarily red wine.
  - d) Several economic studies (*Mahesh Kumar's the most famous, Masset & Weisskopf the most recent*) have shown that over the last 30 years an investment in fine wines outperformed equities, bonds and even gold and survived every recession. In no three - year rolling period has fine wine ever lost money. The correlation between wine and equities is less than 0.03 ie negligible, making it the perfect portfolio hedge. Also, the volatility in the return profile is far lower than traditional assets.
  - e) In the five - year period to June 2010, an investment in the top fine wines yielded 29% per annum. A similar investment in the Sensex would have returned 18% and in the NASDAQ less than 1% per annum. If we factor out the recent bullish recovery, the facts are more startling. In the two-year period January 2007 - 2009, taking the worst of the sub-prime, an investment in the BSE would have lost 18% per annum and the NASDAQ would have lost 23% per annum. In this same period an investment in the top fine wines still yielded 10% per annum.
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f) It has been proven that fine wines assets' returns are extremely high and the reasons are multiple:

- The best wines in the world are rare luxury collectibles.
- Lafite Rothschild, Latour, Petrus, Margaux, Mouton Rothschild and Haut-Brion are some of the most famous examples. These are the Maybachs and Hussains of the wine world.
- They are produced in very limited quantities, production being restricted by law and terrain. Chateau Latour only produced 9,600 cases of wine in the 2003 vintage. The demand on the other hand is global and growing.
- The fine wine market was traditionally dominated by the European, American and Japanese markets.
- In the last 10 years however Russia, Eastern Europe, Asia and now, spectacularly, the Chinese have caught on. China alone now accounts for over 30% of the fine wine market. In the spring of the year 2010, in a two - day auction in Hong Kong, \$19.5 million worth of fine wine was purchased.

## 2.2. The right way to become a good wine investor or an inspired collector

It is known that wine, like other luxury goods, requires special treatment by advisors, and that is the reason why accounting for a serious wine collection when doing financial and estate planning requires some thought, because it does not mean simply tacking it on to the end of the wealth statement or lumping it with other tangible personal property that does not appreciate in value, like non-antique furniture or cars. (Popescu, N. Gh.; Popescu, V.A.; Popescu, C.R. (2010c))

Becoming a successful fine wine investor means planning everything exactly like a portfolio of stocks. The cellar should have a complete inventory, and the valuation should be updated at least once a year, estate attorneys say. It should be insured, and there should be a plan for disposing of it after the client dies-assuming the heirs don't opt simply to drink it.

An individual can chose between being a collector and being an investor. Everyone who has a wine cellar is, by definition, a collector. Investor may sound common, but it's a more desirable designation; investors pay much lower taxes.

There are several ways to prove investor status, and shrewd clients will use most if not all of them. Meticulous recordkeeping is necessary to establish a pattern that a client is buying and selling wine to make a profit. One key is having a tracking system of some sort-usually a spreadsheet detailing at what prices clients bought and sold the wine. Keeping receipts is also wise. Clients must show they are realizing a return on their investment.

Further, they must show that they have a procedure for selling the wine. An example might be selling when a bottle has met two times cost basis.

In our paper we also present several ways in which an individual can become a good wine investor. There are several advices that specialists recommend in this particular matter:

- a) **The first possibility is for an investor to buy a wine that has a recognized label and that is also an old, good quality fine wine.** If an investor wants to invest physically in wine, a very good option would be **to invest in a recognized label with a solid track record of quality.** But investing in "a great name" is sometimes not enough, because **the real key is the vintage that turns great wines into good investments.** The recent top vintages are 1982, 2000 and 2005, with the Chateau Lafite 1982 emerging as the biggest winner. A case of 12 bottles of Chateau Lafite, which cost 325 British pounds (*382 euros or 515 US dollars*) when it first came on the wine market, can now be sold for 25,000 British pounds.
- b) **The second possibility is for an investor to buy wine at an auction.** The most important auctions are the five first growths of the premier crûs of Château Haut-Brion, Lafite Rothschild, Latour, Margaux and Mouton Rothschild. A case of wine can cost as little as 1,000 dollars. The bottles should then be stored in perfect conditions so that they mature properly.



- c) **The third possibility is for an investor to get into contact with a specialized wine merchant, that will help him in the future and that will guide his activity.** Some wine merchants offer to put investors' money into wines that they already own and provide a range of investment services including portfolio management services, cellar plans and advice services. In general, the merchants give advice on wines that small investors can buy to start or expand their own cellars. (Popescu, V.A.; Popescu, Gh.; Popescu, C.R. (2010c))
- d) **The fourth possibility is for an investor to invest in a wine fund.** This is a great opportunity for investors who prefer a more passive investment and do not want to take physical delivery of any wine, let alone be bothered with storage charges or worry about provenance, should consider investing in a wine fund.

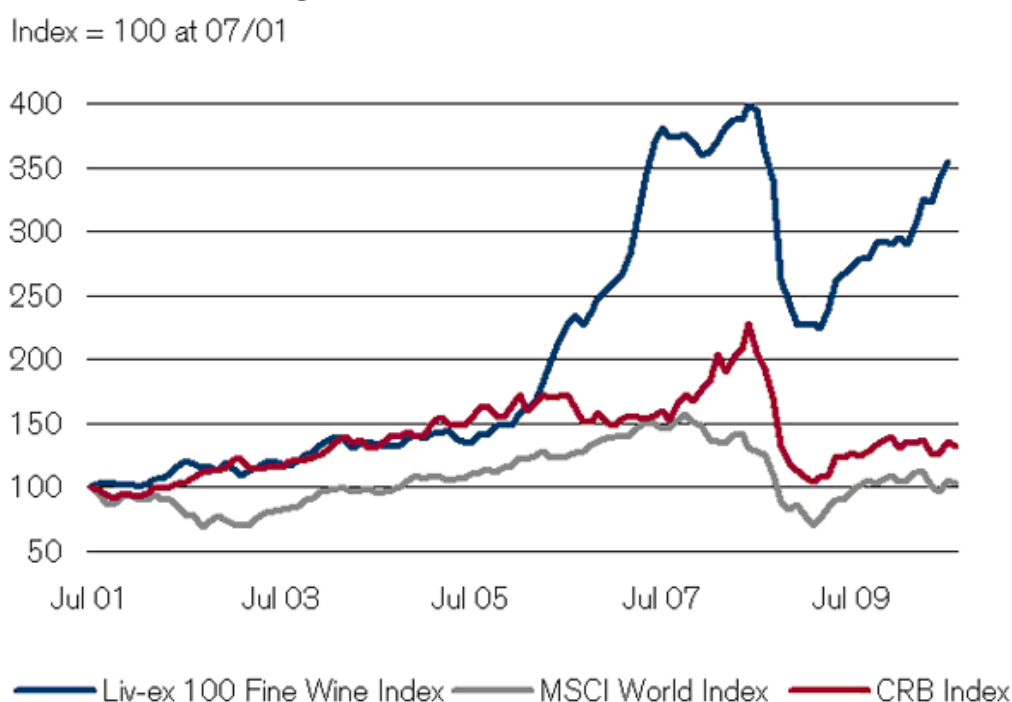
Sometimes people who want to become wine investors can get the help of a **wine advisor**. A wine advisor is not necessarily an oenophile; it can be a simple person that has a good crew with the right expertise. This group should include a wine investment expert. Financially managing a wine cellar also calls for an estate attorney knowledgeable in tangible personal property law. There might be the need of an accountant with specialized knowledge is nice, but that depending on the length of the investment and the money involved.

### 2.3. The Liv-ex 100 Fine Wine Index - a leading wine benchmark

The Liv-ex 100 Fine Wine Index - a leading wine benchmark - tracks the performance of the 100 most sought-after fine wines. While this index mainly consists of Bordeaux wines, it also includes wines from Burgundy, the Rhone Valley, Champagne and Italy. So far, fine wine has seen strong returns, particularly from the end of 2005 to the summer of 2008. Over this period the Liv-ex 100 Fine Wine Index rose by over 160 percent, while the benchmark global stock index, the MSCI World Index, rose a mere 12 percent. Since 2001, fine wine has also outperformed the commodities CRB Index by more than 200 percent (*see, in this matter, Figure 1: "Fine Wine Index"*).

Fine wine continues to outperform both the equities and gold markets throughout the year despite a slowdown in growth of 0.8% in September. The findings, from Bordeaux Index, point to what it calls will be "solid, respectable" price rises for the rest of the year. Although gold at 5% and equity markets at 7% outperformed fine wine's 0.8% growth in September 2010, they still lag overall for the year.

**Figure 1: "Fine Wine Index"**



Source: Bloomberg, Credit Suisse

The data presented above shows that a settling of prices is pretty rational and to be expected - no market goes up 5% a month forever and also that the wine market has been such a dynamic market over the last 12 months, with prices rising on average 30% (*index 31% year on year*). Specialist in fine wine market believe that structurally the supply side is still very restricted and for the top wines and despite September's 2010 small headline rate, wine is still outperforming gold (*see, in this matter, Figure 2: "Comparing valuable data. Annual Growth Rate in 2010"*). Despite the relatively small headline figure, the industry is still being kept busy with trade in the 2008 and 2009 Bordeaux vintages. While prices for the top 2009 vintages continue to settle, the fine wine trade remains brisk for the best parcels of the 2008s.

**Figure 2: "Comparing valuable data. Annual Growth Rate in 2010"**

Asset	Percent Change	Annual Growth Rate
Fine Wine (Liv-ex Fine Wine Investables Index)	178.3%	10.9%
Crude Oil (Brent Crude Spot GBP)	177.7%	10.9%
UK Residential Property (FT House Price Index)	118.2%	8.2%
Collectible Stamps (Stanley Gibbons 100 Stamp Index)	60.9%	4.9%
Fine Art (ArtPrice Index UK)	9.1%	0.9%
Equities (FTSE All Share)	-17.5%	-1.9%

Source: /www.cultwinesltd.com

### 3. Conclusion

At the end of our study we are willing to highlight several ideas, such as:

- Christie Sept. 18 Hong Kong wine sale involved a collection of 400 cases from the top 13 wineries in Europe — including Chateau Lafite Rothschild, Chateau Petrus and Chateau Haut-Brion. The seller was South Korean conglomerate SK Networks, and the total sale price – 48.13 million Hong Kong dollars (US\$6.2 million) — was the highest ever for a Christie's wine sale in Hong Kong.
- On the same day, Acker Merrall & Condit's own Hong Kong sale recorded even more impressive results. The U.S. fine wine merchant recorded a combined sale total of more than HK\$68 million, surpassing its own presale estimate by almost a third. Bidders bought every one of 920 lots on offer, in a sale that Acker's auction director said showed "the increasingly sophisticated taste of wine collectors in Asia."
- It is a fact that most wine collectors worldwide are not buying wines to drink, but as an investment because the perfect bottle has less to do with flavor than with value.
- French wines are believed to be the kings of the wine market. Producers of Bordeaux, such as Haut-Brion, Lafite, Chateau Latour, Chateau Margaux and Chateau Mouton-Rothschild, are considered the industry's blue-chip labels. In particular, those five are formally classified as "first growths" or Premiers Crus. Burgundies are a good second choice.
- Asia is believed to be a great source for rare finds. Statistics have shown that in the months following the financial crash of 2008, lots of European and American sellers pushed their inventory to Asia, and as a result, there's a higher chance to find a rare bottle out here in the Asian market than in the West. (Asia One Business (2010))
- The wine has to be stored well in order to keep on being valuable. Buyers today insist on knowing exactly where bottles have been, to reduce the possibility of paying top price for wine

damaged by improper storage. Some storage facilities have even started to use laser engraved codes to help track a bottle or a case. A proper storage facility, where temperatures sit at 13 degrees Celsius and humidity levels stay between 55% and 60%, is a worthwhile investment. It costs just US\$2 to \$5 a month a bottle and ensures the wine won't deteriorate.

- There are always **reliable alternative investments such as gold**. When inflation besets the economy and the dollar starts to lose its value, gold is traditionally the best proverbial mattress in which to stuff your cash. Between 1976 and 1980 inflation rose at a rapid +8.84% per year, a significant move by any standards. (Popescu, Gh.; Popescu, V.A.; Popescu, C.R. (2010a)) This means that if you had literally stuffed your cash in a mattress during this decade, it would have lost nearly -30% of its purchasing power. On the other hand, the value of gold increased +369% during the same period (*after correcting for inflation*). As soon as investors regained confidence in the dollar, gold bullion quickly lost nearly -50% of its peak value. Still, investors who got in before the bubble made a handsome profit. To compare, gold appreciated +109.3% from 2006 to 2010. This time the gain was due to increased uncertainty surrounding debt and equity markets alike. During the previous great spike in gold prices, it was more difficult to jump on the bandwagon, as the only way to gain exposure to the commodity was to own physical bullion. Today, it is easier to own gold through an investment in an ETF such as SPDR Gold Trust (NYSE: GLD) or via options and derivatives.
- Asia is driving the world wine market right now. In the past year we have sold more wine out of Hong Kong than we have out of London and New York combined.
- Explanations for the continent's strong thirst for fine vintages have ranged from the financial downturn's dampening effect on demand in America and Europe to the strength of the Chinese economy to the decision of Hong Kong authorities to lower the tax on wine sales from 80 percent to zero.
- On the first day of the sales, a vast selection of blue-chip classic Bordeaux and Burgundy wines was on offer from the cellar of Texas collector Marcus D. Hiles. Among them was the largest selection from the Domaine de la Romanée-Conti ever sold in Asia, including 15 cases of La Tache and 74 bottles and three magnums of Romanée-Conti of various vintages. The majestic 1990, as rare in the wine world as the snow leopard is in the wild, was represented by a single bottle that fell to the hammer at \$HK85,000 (\$10,958). The most expensive lot of the two days was a case of Romanée-Conti 2005, knocked down for \$HK1.5 million (\$193,370).
- Additionally, Chinese buyers may be chasing high investment returns. According to China Daily, Chinese billionaires are finding that premium French wine vintages have provided yield rates of over 30 percent in the first half of 2010 — making it a better investment than most real-estate properties, stocks, and antiques. The worry is that the Chinese might be creating a bubble in the market. The report noted that the French fine wine index (the Liv-100 Index) is up 37 percent from a year ago, and there seems little doubt that Chinese expenditure is the main driver of this effect. For Sleight, prediction of a bubble in the market is a chancy business. “We just don't know where this is heading,” he said.

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## INNOVATIVE SOLUTIONS EFFECTIVE SME FINANCING IN THE CONTEXT OF THE RECOVERY AFTER THE GLOBAL CRISIS

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**Abstract:** *SMEs represent one of the most efficient engines of growth, capable to sustain innovation in recovery after crisis periods. SMEs are characterized by high growth potential but also high risk, high information asymmetry, and vulnerability to shocks. The higher risk is transferred into liquidity problems and into an impossible scalability of financing mechanisms in relation large firms. Because of their important contribution to growth, it is necessary a special focus on the strategies capable to facilitate active SME financing through a mix of classic and innovative mechanisms. The low level of funding capacities is explained by high transaction costs and credit risk, information asymmetry and a shortage of collateral. Credit enhancement should be provided also through additional channels including credit guarantee funds. The use of capital market instruments is restricted by another problem, namely the difficulty to secure SME financing.*

**Key words:** SME (small and medium enterprises), innovation, innovative financing, venture capital, close-end investment fund.

**JEL classification:** G01, G24, G32

### 1. Introduction in SME financing

After the global crisis (2007-2008/9), one of the most effective engines of recovery was expressed by innovation and SMEs represent the associated vehicle of innovation. The term "innovation" represents a radical change, and is associated with a robust process of change/transformation. The technological innovation and financial innovation work together in a complex process of creation/ invention and dissemination/ diffusion of new instruments, technologies, institutions, and markets.

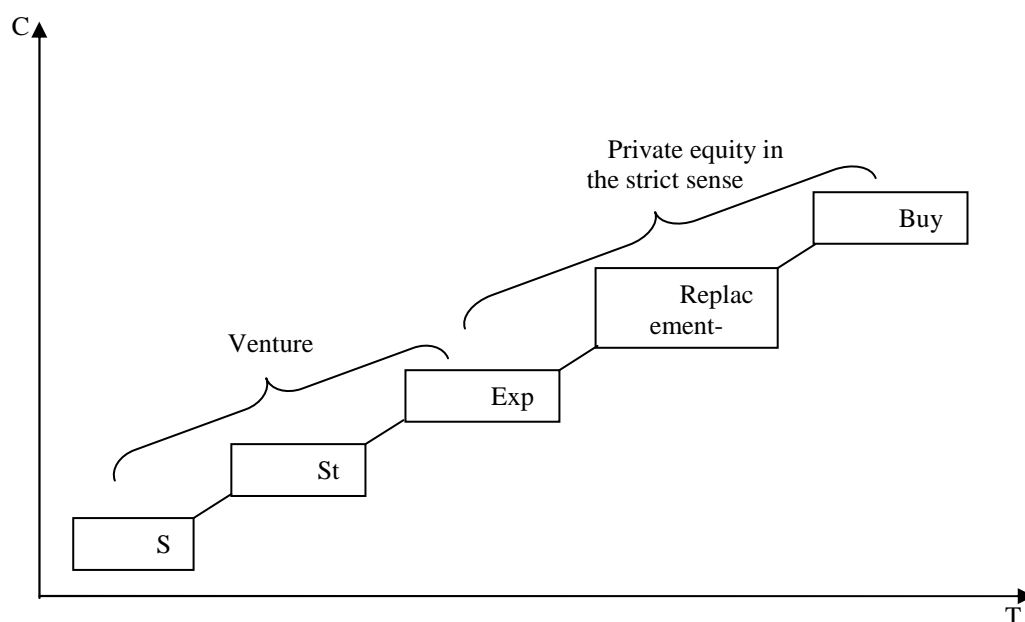
One of the most interesting applications of financial innovation is related to the optimal decision of financing according the different types of structure of SME's capital. In the first Modigliani-Miller theorem- MM1 (the capital structure theory) there are not considered the effects of taxes and it results a preference for debt financing. But firms, especially SMEs should consider the impact of a possible future financial distress. In the case of ignoring financial distress costs, MM2 overstate the value of leverage but in practice debt ratios are on average lower than 40-50%. In the literature of trade off theory of capital structure is demonstrated that the optimal amount of debt depends on the particularities of the firm. Due to their severe constraints the importance of capital structure in the case of SMEs is even more relevant. In turbulent or crisis periods we can see a flight to quality or a flight to liquidity and the financing problem is even more complex.

SMEs are characterized by high growth potential but also high risk, associated to the information asymmetry, the vulnerability to macroeconomic shocks or sudden changes in the competitive environment. The higher risk is expressed by liquidity problems and the scalability of the mechanisms for SMEs from the large corporations features could not work. In this case, the analysis of the optimal way of financing is critical.

There is a large diversity of SMEs (size and characteristics) from small start-up to listed SMEs and a variety of sources for financing coming from the 'informal sector' (internal savings, retained earnings, and borrowing from family, friends, and individual money lenders) to the 'formal sector' (loans from banks, bonds and equity). There are SMEs with high growth potential (innovative SMEs - ISMEs, early-stage SMEs) not capable to match their development with the financing needs and is necessary a special focus on the strategies to facilitate active SME financing through other mechanisms.

The financing solutions for SMEs, depends on the position in the life cycle or on the stage of growth/ development (Figure 1). From very small start-ups to listed companies, financing solutions could dramatically differ. Start-ups depend heavily on the informal sector, but as the firm grows, the focus is on the loans from institutional lenders.

**Figure 1: Financing solutions in the typical life cycle of a high growth SME**



The characteristics of SME financing should be analyzed based on both the supply and demand sides, in the context of a significant financing gap (extra- demand/ lack of access to new funds) that differs according to the stage of development. The financing gap is expressed by the difference between the demand and the supply of funds, and depends on the lack of access to funds, market imperfections, information asymmetry and macroeconomic uncertainty.

The use of capital markets is not a simple way because financial instruments related to SMEs are often illiquid, not attractive, there is a lack of information and is necessary an efficient capital market. It is difficult to design and implement efficient solutions for SME financing through capital markets in the context of a higher financing gap. It results that the government should play a new role in building a safer environment for attracting investors via the infrastructure necessary for efficient capital markets. In crisis periods the rating of SMEs impose a high spread and the market could be freeze.

## 2. The support of government in conventional SME financing

The classical solution via banks still represents the main source of SME financing. Banks offer a wide range of short, medium, and (only to a lesser extent) long term loans, as well as various supplementary financing instruments, such as trade credit, export financing, factoring, and discounting. Banks do not have financial instruments such as credit derivatives and this fact reduces lending to high risk borrowers (collateral, guarantees).

The direct interventions of the government are essential to improve the liquidity and are focused on actions capable to remedy the financing gap and are represented by grants, tax breaks, and active support for government-funded intermediaries specializing in SMEs. The most common commercial credit program is expressed by interest subsidies, credit guarantees, insurance schemes, loan quotas, and export financing. During turbulent or crisis periods the **government support for SME financing is focused on** credit guarantees to stimulate SME financing with a special focus on high growth perspectives (high technology or early-stage venture). Policy loans represent a classical solution used also in the context of the recovery after the recent crisis. The funds were provided to SMEs at interest rates lower than the market rate through banks with the objective to promote equipment investment, restructuring, and commercialization of new technologies or to assist start-ups with difficulties in attracting funds via private market arrangements. We should mention that after the first stage of recovery, it is possible to think again about SME financing via capital markets. Governments should consider both classic solutions but also innovative solutions capable to restart the SMEs with high growth perspectives.

### 3. Aspects of SME financing through capital markets

Long-term financing through the banking sector is not desirable for SMEs because the main mechanism is expressed by a simple roll-over for the maturing loans. SMEs or start-ups usually have negative cash flows, untried business models, and high risk. In this case it is difficult to evaluate the business plan and it results severe limitations to financing through banks. In this case the funding sources should be diversified to other solutions, more complex, more innovative, like risk capital through equity, mezzanine finance and hybrid products.

In the literature it is shown that long-term solutions for financing necessary for the effective transition from bank intermediation towards capital markets instruments still represent only a small share. The propensity of SME financing to capital market solutions financing gap is most prominent in capital market financing and the problems associated with this transition are related to higher unit cost (information, monitoring and other fixed costs are the same for all size of funding) and the difficulty to build an adequately developed capital market in terms of depth and liquidity for small caps.

Let analyze the main obstacles for SME financing via capital markets solutions. First of all, SMEs are characterized by high growth potential, but are more vulnerable to shocks and higher credit risk. In this case the solution to reduce the credit risk exposures of SMEs with various degrees of quality is represented by pooling together the firms like in a prudential portfolio capable to offer a better profile of risk. Next we should analyze the information asymmetry and high access costs. The solution is a governmental initiative capable to play a major role in data collection process, and to actively reduce the information asymmetry in the SME sector. Another problem for investors is linked to a higher unit cost due to the smaller size of funding, higher information costs, transaction costs, monitoring costs. In this case there is not possible to think about scalability and is necessary a significant change of the architecture focused on solutions to increase the size of the deals via a number of tranches according the level of risk of SMEs. There are sufficient only 2-3 tranches of risk and the SMEs are pooled in these portfolios based on a simple valuation.

#### *3.1. Collateralized bond obligation for SMEs (CBO-SME)*

The capacity of SMEs financing in the context of bond market is influenced by a critical inefficiency in trading due to a large number of trades of SME bonds issued in smaller units, and a relative illiquidity/ inactivity of the actual high-yield bond market.

Primary collateralized bond obligation for SMEs (CBO-SME) is represented by an asset-backed security (ABS) with newly-issued corporate bonds as the underlying asset. This solution is

based on a better supply of liquidity with active support on innovative companies with poor credit ratings capable now to issue corporate bonds through capital markets. CBO-SME sustains especially SMEs with low credit ratings, facilitating the issuance of bonds via special portfolios. SMEs issue bonds and sell them to a special purpose vehicle (SPV) that issues the CBO-SME and sells them to investors on different types of ratings. CBO-SME represents a relatively safe asset and can offer higher yields according to the associated risk.

The mechanism is the following. SMEs issue new bonds and sell them to a special purpose vehicle (SPV). SPV issues the PCBO based on the different tranche SMEs bonds, and sells them to investors. In this case, the main steps are the following: the selection of candidates; credit rating based on the risk of default and cash flow; selection of SPV's and liquidity reinforcement; bond redemption.

We should mention that CBO-SME pool bonds with different levels of risk should be issued via strict procedures. The main advantage for investors is that it is possible to offer higher yields than typical bond market, but most important they can solve the credit mismatch problem and the financing gap of SMEs.

### *3.2. Venture Capital and SME financing*

Venture capital investment is based on a proper selection of high growth firms and an active support in upgrading and raising their value through cooperation with the management. The venture capital industry is an appropriate solution because it implies specialists and techniques to deal with the risks. The exit strategies are essential in fuelling VCs especially in difficult periods, characterized by risk aversion and non liquidity.

Direct investments in SMEs are difficult and the indirect way via investment funds made by venture capital companies represents a viable solution in the actual context of recovery after the crisis. Venture capital investment funds assume a partnership role and the main actors in this case are pension funds, institutional investors, financial companies and government, with various government entities specialized for different parts of the process. The fund of funds arrangement allows a fund manager to evaluate, select, and distribute the liquidity into a number of funds. The public authority should play a critical role in making the VC market more transparent and efficient. The role of government is to offer a favorable environment throughout the entire cycle of VCs, from entry to exit, in a market based philosophy.

VC Investments could increase in the context of a capital market rally. After the blue chips bullish run, investors search new opportunities for high return investments and special vehicles that pooled together high growth perspectives companies could be attractive. There are three stages of VC investment: fundraising, investment, and exit (based on an initial public offering- IPO in the market or via mergers and acquisitions- M&A).

In the fundraising stage the interest is to build a high risk- high return instrument. If institutional investors play an actively role in VC funds, then soundness in this market would be enhanced via a better monitoring of the fund's management. It results a high risk- high return instrument.

In the investment stage, the focus is on fund's growing. The efficiency of a fund's operation is directly proportional to its size. In addition, conflicts of interest can be avoided when the size of the fund is larger. In the context of recovery after the crisis is expected a larger share of investment funds toward early stage companies (fewer than 3 years) and a lower interest on expansion stage (3-8 years). It is essential the governmental support because early stage SMEs are more fragile. The exit stage is critical in VCs and need a special attention. Because it takes a long period for an early stage venture firm toward a successful IPO, venture capital companies hesitate to invest in these firms and prefer investments in expanding or later-stage firms, situated closer to an IPO.

The interest of early stage SMEs is to gain more transparency to attract more attention of investors. Fast growing firms represent the target for VC investment and the average duration for a VC firm from start-up to IPO is 6-8 years. IPOs of VC firms are the most popular procedure but the



exit channel of venture capital companies should not be limited to IPOs. In this sense, M&A is a market that represents also a new opportunity in the context of recovery after the crisis. The perception about risk is not radically changed after the crisis and is necessary again the governmental support. In Section 4 an innovative solution is also proposed.

### **3.3. Fund of Funds (FoFs)**

The government needed a stable and unified source of venture investment. In contrast with the previous system, where the government directly chose the recipient firms as well as determined the amount of funds, FoF system allows a fund manager to evaluate, select, and distribute capital to a number of funds. FoF (public fund) is a more complex structure and offers the following advantages:

- the scheme meets public interest and operates more efficiently;
- the fund may protect/ revitalize the VC market when the economy is in recession;
- the VC market will become more transparent because there are high standards for the selection and management of sub-funds.

## **4. An innovative solution for SME financing based on a close-end investing fund**

This innovative solution for SME financing is based on the creation of a special investment fund from government sources, privately managed, and is based on the principle of clustering of bonds issued by the companies; they usually involve higher costs of issuance, distribution and administration and monitoring.

Small and medium access bonds continuously in the sense that there is a certain period (even if the fund is closed because it has a clear structure), limited by the liquidity of the Fund. Initially, the fund has offered a 100% liquid structure and the administrator (private management company, selected by the government) puts liquidity in government securities money market fund or money market instruments.

As SMEs require medium and long term funding, the Fund allocates the amounts of money, and the companies will pay the coupon rate quarterly or half-year. The advantage of an open-end fund is given by the lack of rigidity and of maturity period of bonds, which help companies to finance projects in a personalized way.

When the funds were placed in 90% of funds in bonds, the manager prepares the exit solutions and suggests firms that received financing through bonds, the launch of new issues or convert their bonds into shares of the specified company.

In this way, the fund initially was purely monetary, and later became a bond fund is a balanced fund that is composed of bonds, convertible bonds and equity shares in the fund's revenues come from interest rate, coupon bonds in progress, the dividends of the companies closed proceeded to convert the bonds into shares.

In limited circumstances in which all firms would choose to convert into shares, fund would function as a Venture Capital Fund, and the administrator could choose either to sell shares of some companies or to increase the capital fund through a private component. This involves an initial public offer in which government participation decreases from 100% to a percentage 50% and the fund becomes liquid again and can lend bonds.

It should be noted that this structure evolves during the life cycle of the Fund must evolve in accord with market conditions, the macroeconomic environment and should stimulate those sectors with growth potential.

The administrator should also be alert to the liquidity fund (which will include a limit of 10% of the unpaid and income retained 40-80% non-convertible bonds, which generate revenues of about 4-8% coupon per annum, no matter the liquidity component produced on the basis of dividend).

Private VC funds could also redeemed by a takeover bid by SMEs which belonged to the fund.

Life of the fund is around 15 years and the issuance of bonds will be issued for a period of 5-10 years. If the fund is closed to semi-private component, it could be listed and then it could run indefinitely.

The owner of the fund, meaning the government will pay a management fee structure based private company fund (a fund initially is close to the monetary fund, bond fund or fund after the Balanced Fund and Equity Fund)

The main advantages of the proposed solution are the following:

- flexible financing rapid periods;
- flexibility for the issuance of bonds by maturity;
- can repurchase shares through a takeover bid;
- possibility of entering a private component, either by repurchase of shares of SMEs by a private VC fund, by hook or by opening a program fund of fund units open private investors;
- liquidity will be assured through private investment fund on the stock exchange listing;
- share of guarantees required by the fund is much lower than in a bank loan and grant funding period is much higher;
- contributions to the creation of culture on the capital market.

There are of course some disadvantages like the following:

- fund management is quite complicated because firms in difficulty may cease payments, in which case the Fund would record a loss on acquisition of assets which do not produce revenue;
- liquidity fund could grow to a level of 10% in a small time interval, because a large number of requests from SMEs, but this fund will evolve towards a structure with 90% bonds and became practically a bond fund that could be attractive for new private investments and listed on stock market;
- if most of the bonds loans may be converted into shares, the fund would become illiquid and hard to manage if the manager's attention should be focused to output solutions, whether by private VCF, either by encouraging firms to redeem actions;
- the costs associated with the process of designation of manager.

Regarding the dividends received by the fund from the firms that prefer the transfer of bonds into equity, the decision about how much of earnings to pay out as dividends versus retaining and reinvesting is expressed in the following theories. In Gordon-Linter the dividend is essential for determining the value of the firm. In the second Modigliani-Miller theorem - MM2, investors are indifferent between dividends and retention generated capital gains. In the case of Lintzberger-Ramaswamy theory, there is a fiscal preference for reinvesting or a preference for long term value. In all these theories, the role of dividend is to signal the real financial performances of the firm, capable to build trust for the future perspectives. MM2 supports the irrelevance of dividends in the context of unrealistic assumptions (no taxes, no brokerage fees), but technical is close to the situation of a close end fund with a diversified portfolio. If we consider an open end fund, the fund management should be focused on the liquidity constraint.

## 5. Conclusions

The building of a new infrastructure for SME financing through capital markets, such as a public fund and other financial instruments, seems to be more efficient than directly financing SMEs, especially in the recovery periods after crises or turbulences.

The main difficulty in removing the financing gap in SME financing is information asymmetry. Governments should build robust information sharing mechanism, and this represents a synergic way that reinforces the simple direct assistance of SMEs.

If SMEs with different degrees of risk exposures are pooled together, the portfolio will have better credit risk perspectives, attractive for investors. Government may provide credit guarantee programs together with the build of a favourable VC environment from entry to exit. The main risk

associated to VC industry is expressed by the exit strategies channel. In addition for emerging markets there are necessary special solutions capable to respond to the liquidity constraints. An efficient way to use/ allocate resources is the public FoF solution, based on a good coordination between government programs and private funding

The new role of government role in mitigation the SME financing gap should be based on active stimulus for the participation of the private sector and investors. The focus is also on identifying the specific sectors of SMEs that are faced with the most severe financing gaps in the capital market. The resources should be distributed more efficiently, with a better focus on assisting prospective SMEs that cannot easily access funds normally available in private financial markets.

The government should be focused on the following aspects:

- an active building of a credible SME information sharing system, based on collective data bases and capable to reduce the information asymmetry;
- active support for SME financing through bond market by using collateralized bond obligation dedicated to SMEs (CBO-SME), an efficient solution to reduce the credit risk and transaction costs;
- fostering a VC market, with active VC investors and equipped with exit strategies facilities;
- the support of a new cooperation with private sectors.

Finally we should mention that the government's role is a necessary, but not sufficient, condition for building a stable capability for SME funding through capital markets.

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## CREATIVE ACCOUNTING IN VOGUE AGAIN IN THE CONTEXT OF THE CURRENT ECONOMIC CRISIS IN ROMANIA

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**Abstract:** *The major accounting scandals in the past decade could have been avoided if the creative accounting practices had been detected in time. From this point of view our research has a major interest because we aimed to conclude if the creative accounting techniques are applied more frequently during a crisis and if so, we wanted to reveal which are the techniques of creative accounting most commonly used. Ultimately the research seeks to bring a series of individual contributions based on a critical analysis in order to exemplify the way in which the aggressive application of creative accounting practices is made and to propose some solutions in order to limit the use of creative accounting.*

**Key words:** Creative accounting, financial crisis, financial statements, transparency, Romania

**JEL classification:** M41

### 1. Introduction

Taking into account the fact that the economic environment is marked by increasingly rapid and complex changes, accurate and timely information is fundamental to all decision makers. The major accounting scandals could have been avoided if transparency would have been provided to all information contained in the financial statements and if creative accounting practices would have been detected on time.

Being aware that third parties (bankers, shareholders, etc.) use the financial statements they publish, enterprises will often try to give a better picture to their existing situation, closer to their needs than to the reality, both in terms of performance and in terms of their financial position. For this purpose enterprises will take advantage of all the gaps and the degrees of freedom that the accounting regulation permits.

In this context the theme of the paper answers the current informational needs in the financial accounting domain.

The main objective of our paper is to investigate if during crisis periods the creative accounting techniques are applied to a larger scale and, if so, the research purpose is to reveal the creative accounting practices that are most often used by enterprises. In this respect, the sample was composed of both large companies and small firms operating in various domains in Romania.

Briefly, the paper is organized as follows: after critically reviewing the related researches, the paper seeks to bring a series of individual contributions based on critical analysis of the current state of knowledge in the accounting field. The next section details the research methods employed, which are quantitative research methods, accompanied by the specific instruments of qualitative research methods. As a result of the conducted study, the following section tries to exemplify the way in which the aggressive application of accounting practices is made during crisis periods. The

last section shows some solutions that are designed to limit creative accounting practices. Finally, the paper ends with some concluding remarks. Our study contributes to the widening of creative accounting research, being helpful to the users of the accounting and financial statements.

## 2. Literature review

The current state of knowledge in the field of creative accounting was traced by the main publications including journals devoted to international traffic, collections of books and electronic publications from our country and especially from abroad.

Although it is still a very topical subject, the term of "creative accounting" was used for the first time in the early '80s in Britain, describing the techniques used to maximize the business benefits achieved, resulting not from a better management of resources, but from accounting tricks in order to attract new investors.

Moreover, this phrase has been frequently approached in the accounting literature, but only a few authors have managed to develop precise definitions. Most commonly the term of creative accounting had been generally accompanied by a negative connotation.

In the last decade because of the major financial scandals which have rocked the economic reality, the publications have attracted more attention to the phenomenon of creative accounting. For example, Enron, the huge company that practically reinvented the gas and electricity trading market after the U.S. energy sector liberalization, was characterized by magazines as one huge company, built on a fictional accounting.

These warning signs have been a catalyst for the research in the field of creative accounting. In most of the cases the literature highlights an overview of creative accounting, focusing more on the impasse of the information contained in the financial statements (balance sheet, profit and loss account and notes) and less on the techniques for the elimination of this phenomenon of figures manipulation.

From the perspective of the authors who have debated creative accounting we can retain the following visions:

De Rhuyter and Gérald (1992) consider that the imagination of modern financial engineering unceasingly creates new products or montages which can have as primary purpose to detour the accounting rules, hence the term "imaginative accounting".

After Pasqualini (1993) in the field of accounting the idea of creation would be equivalent to giving free rein to imagination, or, more precisely, the abandonment to imagination, in order to give accounting the means to adapt to the continual sophistication of markets and financial products. In this context, we can speak about financial creativity through accounting objectives.

The definition of Libby and Trotman (1993) renders an overview of creative accounting. The authors see creative accounting as a presentation technique for the financial statements of entities, which allows reflecting the best possible picture of performance and financial position. It is also a communication technique designed to increase the value of an entity in the eyes of individuals or institutional investors.

**Naser (1993)** thinks that creative accounting is the transformation of the accounting figures from what they are into what accountants want them to be, by taking advantage of the existing rules or by ignoring some of the rules or all of them.

For **Colasse (1992)**, in the context of optimization, creative accounting is equivalent to a number of practices designed in order to give to the financial statements of companies' the most flattering image possible. Also **Colasse (1995)** believes that the expression "creative accounting" designates the practices of accounting information (often at the limit of legality) practiced by certain entities that taking advantage of the limits of regulation and normalization seek to beautify the image of their financial position as well as the image of their economic and financial performance. In our opinion, this definition which dates from 1995 doesn't lose any significance until now, because unlike other definitions cited above this one introduces the idea of the crossing of creative

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practices to illegally as a result of skipping the accounting rules. In this context accounting will not be able to meet the objective of ensuring accurate reflection of a true and fair view.

In an artistic way, other authors talk about „decorated accounts”(Audas J, 1993) , after having been "cleansed" (Fetiz A, 1994) (Sibert N, 1994) and „their toilet have been done” (Polo J.-F, 1994) “accounts wearing make-up with depreciation mascara and a blush of provisions” (Agede, 1994), „embellished accounts”(Loubiere P, 1992) and „filled and dopped accounts”(Groussard V, 1992).

In the context of creative accounting, many authors consider accounting as being an art:” the art of calculating benefits” (Lignon, 1989);”art of presenting a balance sheet” (Gounin, 1991);” provisions or the art of putting money aside” (Pourquery, 1991),”the art of faking a balance sheet” (Bertolus, 1998), etc.

Unlike the earlier points of view for Rybaud-Turillo B. and Teller R. (1997) the emergence of creative accounting appears as a result of an evolution of management sciences because the creative accounting is a tool for improvement of financial statements, a logical and a natural evolution in the practice of professional accountants, “a consequence of financial and tax engineering”.

With the same indulgence Bonnet (1999) mentions that "if people have the right to dress well (in order to attract other people), then an accountant has the right to dress well the accounts (in order to attract bankers and investors)."

After lecturing the definitions above, we can conclude that the academic authors, probably absorbed by the creative techniques themselves, do not focus very much on the legality or illegality nature of these techniques.

After the explosion of the technology bubble in 2000 and 2001 and after the financial scandals at WorldCom, Enron, Vivendi, Parmalat and Tyco the creative accounting topics resonated more than ever in the accounting literature.

McEnroe (2007) shows that such financial scandals have led to the decline of the trust in the information contained in the financial statements, even if they have been previously audited.

Thus, the literature of the past four years still contains new writings, visions and points of view regarding to creative accounting.

For example, Cummings (2007) has an interesting approach because of its originality. The author showed that creative accounting involves both essential ingredients and methods. The author concludes that creative accounting may be a real recipe for success, though it may leave a bitter taste after.

Another interesting approach is that of Evans (2008) who affirms that " the story must be sung, danced, drummed, painted beyond the meaning of the true".

Omurgonulsen M. & Omurgonulsen U. (2009) conducted a study which found that "the deficiencies in the legal frameworks for banking and accounting, inadequacies in the autonomy of governmental regulation and supervision bodies, practical difficulties in enforcing legal and ethical rules due to the slow functioning of the judicial system are significant reasons for creative accounting practices in addition to the personal greed of both owners and top managers".

With the same regret, Barnett (2010) believes that creative accounting remains an issue even when rules and laws are clearly established.

Such recent studies prove that, although it is no longer disputed as it was during the first four years of the second millennium, the subject has not lost his importance with time, yet the manipulating of the figures contained in the financial statements continuing to be a crucial problem.

As a conclusion on the above definitions we can synthesize that the majority of them have two common elements:

- perceive the incidence of creative accounting as being common;
- perceive creative accounting as a misleading and undesirable practice.

Regarding the phenomenon of creative accounting, compared with foreign specialized publications, the literature in our country is still insufficient.

Like abroad, in Romanian literature opinions on creative accounting are also divided. For example Patroi (2006) believes that creative accounting techniques "can be a direct and dangerous threat to stability in accounting rules" while Gotcu (2007) believes that „the accountant’s creativity should not be placed on the wall as long as the marketing agent’s creativity is so treasured by professional circles”. Through the economic theory of rational expectations Gotcu argues that the users of financial information are not necessarily harmed by creative accounting. Therefore the author believes that the concentration of efforts in order to limit creative accounting by accounting normalizing is a waste of resources without results.

Although the subject of creative accounting has not been largely discussed in specialized publications from Romania, the phenomenon of manipulation of the financial statements is more frequently encountered also in our country. Under these considerations we want to draw attention to the need for enrichment of accounting literature on this subject in Romania.

### 3. Research Methodology

The investigation of the perceptions of companies over the use of creative accounting techniques followed two different methodological approaches.

Referring to the research methods used in order to carry out the study, a short presentation of them would highlight the use of quantitative research methods (social survey and empirical study), completed by the specific instruments of qualitative research methods.

More precisely, in order to obtain reliable data, we developed a survey that was transmitted by email to a number of 74 companies listed on Bucharest Stock Exchange, categories I and II. The selected period in order to carry out the survey was 4 January 2011 - 14 January 2011. The selection for the study sample of the 74 companies was based on the following facts:

- The companies are contained in BET-10 index which is a reference index for the Romanian capital market
- The sample comprises the 10 most liquid companies on the market;

The questionnaire included 15 questions relating to the creative accounting techniques, covering the following sections:

- opinion on creative accounting: 1 opened question;
- opinion on the fact if creative accounting is a sum of misleading techniques or a necessity: 1 question;
- opinion on the influence of the crisis on the financial reporting: 2 questions;
- the need of flexibility: 2 questions;
- communication and transparency: 3 questions;
- ethics in accounting: 2 questions.
- other issues: 4 questions;

In order to receive the answers from the companies selected in the sample, we have taken into account a waiting period of 20 days. After the deadline, unfortunately the response rate was zero.

Under such circumstances, since we haven’t received any completed questionnaire, it was necessary to rethink the research methodology, so that the objective of the analysis could be achieved.

We selected some of the companies that were in the initial sample and we analyzed their financial statements (balance sheets, profit and loss accounts and notes) for 3 consecutive years: 2009, 2008 and 2007. Also we analyzed the financial statements for a couple of small entities for the same 3 financial years. This empirical study of the financial statements of these big and small entities aimed to reveal if the economic and financial crisis influenced the financial reporting of the companies and to see if they used creative accounting techniques.

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#### 4. Research results

The conducted study described above found that although companies are reticent in talking about creative accounting (conclusion based on the response rate of our survey), they apply some of its techniques. Perhaps, because of the fact that these practices do not break the law, managers think that they are pure accounting options and they have nothing to do with creative accounting.

Because of the fact that we were not able to gather many input data, our conclusion are based on the analysis of the financial statements of a few companies (10 big companies and 10 small and medium enterprises). In spite of this, we can conclude that we observed that in 2008 and 2009 the companies changed more their accounting policies than in 2007.

Also we found the fact that most of the big companies studied applied accounting policies that conduct to a grater profit (perhaps in order to attract new investors during crises periods) while small and medium entities chose the accounting policies that conduct to a smaller amount of profit and also they engaged greater expenses (perhaps in order to pay less tax).

The most common creative techniques used by companies were the modification of the depreciation policy (depreciation period and depreciation method), the modification of the provision policy and the modification of the stocks evaluation method.

In the next paragraphs of the paper we intend to show an example of how only one creative accounting technique can artificially modify the company's profit.

We present the case of company ALFA that owns equipment that worth 300,000 lei and uses the linearly method of depreciation over a period of three years. Subsequently the company decides to amortize the equipment over a period of five years. We assume that the annual turnover is 150,000 lei. The situation can be summarized as follows:

ALFA – depreciation over a period of 3 years	Year 1	Year 2	Year 3	Total
Turnover	150.000	150.000	150.000	450.000
- Depreciation	100.000	100.000	100.000	300.000
- Other expenses	50.000	40.000	30.000	120.000
= Result	<b>0</b>	<b>10.000</b>	<b>20.000</b>	<b>30.000</b>

ALFA – depreciation over a period of 5 years	Year 1	Year 2	Year 3	Total
Turnover	150.000	150.000	150.000	450.000
- Depreciation	60.000	60.000	60.000	180.000
- Other expenses	50.000	40.000	30.000	120.000
= Result	<b>40.000</b>	<b>50.000</b>	<b>60.000</b>	<b>150.000</b>

This example shows that by choosing a longer depreciation period one company may appear like having a better performance, apparently. In reality, performance does not improve because the company will record depreciation expenses in years 4 and 5 which wouldn't have happened if the company continued applying the old option. However, by using the second option it can be seen that the displayed results are much higher, which is especially important during crisis periods, when performance is more difficult to achieve.

#### 5. Solutions designed to limit creative accounting

The accounting professionals and normalizers are increasingly concerned about creative accounting. Accounting regulatory bodies are also continually seeking for ways to limit creative accounting practices.

In order to protect ourselves from being influenced by creative accounting there are several possibilities.

First we should use more often cash flow information. Although accrual accounting has undeniable advantages over cash accounting, it is never useless to consult the cash flows, which



cannot be affected by creative accounting which aims arranging the profits, but does not generate cash.

Also it is important to compare financial statements over time in order to observe how accounting policies and options have changed from one period to another.

Finally attention should be given to explanatory notes that contain a number of relevant materials on how financial statements were prepared.

As we mentioned before, normalizers also take action towards creative accounting.

Some authors believe that the choice of accounting methods can be minimized by reducing the number of accepted accounting methods or by specifying the situations in which each method should be used. Imposing consistent methods is useful because a company that chose a method that gives a positive image in a year will have to use the same method in the next years when the result might be less favorable. However we think that some flexibility is needed because there are also situations in which due to some modifications that occur, methods also must be changed from one period to another in order to better reflect economic reality. It's hard to find an equilibrium, because flexibility needed in certain cases can translate as abuse in other situations.

International standards often demand for the application of professional reasoning which can also be interpreted and may leave space for certain degrees of freedom.

Finally there may be differences between the accounting treatments permitted by the laws of different countries. The Anglo-Saxon system is more flexible; it requires more often the professional reasoning and uses more the substance over form prevalence. That's why it is more exposed to creative accounting than the continental system.

### **Conclusions**

The paper makes a series of individual contributions based on a critical analysis of the current state of knowledge trying to explain why there is flexibility in the way of preparation and presentation of financial statements, to exemplify the way in which the aggressive application of accounting practices is done and to propose some solutions that are designed to limit creative accounting.

Internationally were written ,numerous papers which describe the accounting methods that lead to artificially increased profits (preferred by businesses seeking to attract new investors or having a higher degree of leverage), and accounting methods that favor the contrary, showing more modest results (usually used for payment of lower taxes). This paper comes to emphasize once again the conclusions of these studies and also concludes the fact that during crisis periods this fact occurs even more.

Instead of being concerned with finding techniques for embellishing the result in order to display higher profits that attract investors, it would be better for companies to be concerned with finding ways to maximize the results effectively, by better managing the resources and avoiding the waste, thus eliminating the risk of giving higher dividends than they can really afford and also eliminating the risk of paying an additional tax on accounts embellishment.

### **Acknowledgements**

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## IMPLICATIONS OF THE CURRENT GLOBAL ECONOMIC AND FINANCIAL CRISIS ON BANK'S LENDING ACTIVITY IN THE NEW EU MEMBER STATES

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**Abstract:** *The economic and financial crisis had a tremendous effect on the banking systems around the world, proving that prolonged credits booms and high level of indebtedness can lead to an increase of the different macroeconomic risks. In this context, it becomes important to analyse the characteristics of the credit activities in the new EU member states from Central and Eastern Europe as these countries have registered prolonged credits boom prior to the crisis and have suffered severe consequences as a result of these developments. In order to achieve this, our research uses a literature review witch highlights the main academic literature on the subject and provides an overview of the main methodological approaches used in these studies and a comparative analysis which emphasis the effect of the credits boom – credit crunch cycle on the banking sectors from the analysed countries.*

**Key words:** Banking system, global financial crisis, lending activity, credit boom, new EU member states

**JEL classification:** G21, E44, E51

### 1. Introduction

Despite the fundamental importance that the banking credits have on the investment, financial innovation and the general economic growth of an economy, the current economic and financial crisis has clearly underlined the fact that prolonged credit booms and a high degree of indebtedness can present a tremendous risk for any economy around the world. The economic theory has fully acknowledged the fact that the financial conditions of the private sector can have a deep impact on the macroeconomic outcomes. In this context, it becomes clear that a better understanding of the banking sector lending activity is crucial, in order to ensure that episodes like the current crisis will not happen again.

Taking these into account, this research is focused on the banking sectors from “EU-8”— eight EU new member states from Central and Eastern Europe (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and Romania) and examines the way in which the global financial and economic crisis affected the development of these key economic sectors. The countries from our panel have all similar economical backgrounds, joining the EU between 2004 and 2007, similar financial and monetary institutions, two layers banking systems which include independent central banks and are using the same convergence framework in order to guide their macroeconomic policies, thus undertaking key structural reforms as part of their plan which aims at fulfilling the Lisbon agenda. Despite these similarities, these countries tend to register fundamental differenced regarding the way in which they were affected by the credits boom – credits crunch cycle, with the Baltic States experiencing the most devastating effects, while the Czech Republic being one of the least affected states in the European Union.

In order to underline these developments the research is structured in *five parts*: the first part contains introduction remarks regarding the importance and relevance of the approached theme; the second part is dedicated to an extended literature review which summarised the main researches undertaken so far on this theme, pointing out their conclusions and limits while also providing a look at the different methodologies used; the third part is dedicated to a comparative analysis which underlines the way the lending activity has been affected by the financial and economic crisis in the case of the chosen states; part four contains an analysis on the way in which the banking consistency index of the banking sector has been deteriorated as a result of the crisis and also provides an overview of the measures undertaken by the authorities from the states considered in order to sustain their banking sectors; while part five provides the concluding remarks of the research.

The *methodological approach* used in order to develop this paper starts with a literature review, which establishes the role and the place of this research. This approach has been useful because, on one side, it allow us to be familiar with the methodology used in these researches, being thus able to avoid any overlap and repetition in our study, and on the other hand, it underlines the way in which our research will cover the least approached areas of this field, especially the problems regarding credits boom and their effects on the stability of the banking sector or regarding the way in which the countries in our panel have approached the management of the current financial and economic crisis.

In order to obtain our data, we have used mediate techniques for data gathering, like official statistics of the central banks from the analysed states, official statistics of the ECB, IMF, World Bank, different reports, studies and researches. As a method of data analysis we have used systematisation techniques and also a series of various indexes and indicators. The usage of these methods has been materialised in a series of comparative tables and graphics showing the imbalances accumulated in the financial and banking systems from the analysed countries, the impact of the credit crunch on the banking sector and the measures undertaken by the authorities.

By focusing on the vulnerabilities and the challenges of the financial systems from some of the Central and Eastern European Union member states, our research is tackling a field less approached in the current academic literature and provides a great *added value* throughout enriching the literature written on this very important subject, using a good and original methodological approach in order to achieve this.

## 2. Literature review

There is a strong current in the academic community that the development of credit booms tends to decrease the lending standards used by banks, which seek aggressively to maintain their market share. Alan Greenspan underlined this idea by pointing out the existence of “an unfortunate tendency” in the banking sector to decrease lending standards at the peak of the credit boom cycle, mainly because of the aggressive politic used by banks in order to maintain market share. If we take an historical look, we can argue that in the last 25 years most of the banking crises have occurred at the end of a credit boom period. Despite this, the evidence from the academic literature and the researches undertaken tends to have mix results.

Thus, in order to carry out our literature review we took into consideration the academic literature on credits boom and their effects on the stability of the banking sector and also the researchers that analyse the development of the banking credits in the case of the new European Union member states from Central and Eastern Europe.

Despite a broad academic literature covering the subject of credit booms, there is no universally accepted theory regarding their effects on the stability of the banking sector. There are several major studies which are underling the connections between the development of credit booms and the occurrence of banking and balance of payments crises. Honohan (1997) paper is focused on a panel of 24 developed and emerging economies and underlines that regime changes represent an important cause for banking crises. Also, the paper argues the possibility to use credit

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boom indicators as an early warning index regarding the possibility of an impending crisis. In an extended review of the academic literature Kaminsky, Lizondo and Reinhart (1998) examined 27 empirical researchers carried out on the subjects of banking crisis, most of them underling the development of a credit boom as one of the early signs of an upcoming financial distress, either as a banking or balance of payment crisis. In her paper, Hildebrandt (2006), after examining a large data set from 10 economies which have undergone severe banking crisis, underline the fact that credit booms represent a good early warning singe for most of the banking and currency crisis, with a delay of two years between the expansion of the credits and the start of the turmoil. These conclusions are confirmed by the research undertaken by Ball and Pain (2000) which is also pointing out domestic credit booms as a signee of an impending crisis. Terrones and Mendoza (2004) underline the fact that in the case of the emerging economies in 75% of the cases a credit boom is associated with a banking crisis, while in 85% of the times the development of a currency crisis is imminent.

On the other side, there are several academic researches and authors which claim that the relationship between the credit booms and the development of a banking or balance of payment crisis is not as strong as it was thought. In an extensive study carried out over a 40 years period, Gourinchas, Valdes and Landerrechte (2001), conclude that the direct link between a credit boom and the development of a banking or currency crisis is strong only in the case of the Latin America panel. If the analysis doesn't take into account these countries then there is no statistical relationship between credit booms and crisis in the case of the other states. Moreover, Hernandez and Landerrechte (2002) after examining a panel of 25 developed economies and 35 emerging ones, argue that the link between credit booms and banking and currency crisis is weak, being rather a consequence of the poor regulations and supervision that were in place. These researches are completed by the one of Bakker and Gulde (2010) which after an analysis on 9 emerging economies conclude that taking into consideration the fact that some countries from the panel managed to avoid most of the excesses, including asset price bubbles and foreign exchange lending, suggests that policies and policy failures ("bad policies") - in particular overly expansionary macroeconomic settings and excessively optimistic views on prudential risks - have played the critical role.

There is also a wide body of academic literature which points out the fact that, despite the high increase in the possibility of a crisis to occur as a result of a prolonged credit boom period, only about 20 percents of these episodes tend to end in financial distress. A good example in this sense is represented by the research undertaken by Barajas et al. (2007) which after studding 135 periods of credit booms have established that in only 23% of these cases these episodes were followed by a banking crisis of systemic implications. Despite this, if we take into account their sample of banking crisis, approximately 50% of them where preceded by credit booms. Still, this is not surprisingly as long periods of credit booms which are accompanied by high inflation and low economic growth tend to lead to banking crisis situations, this trend being more aggressively if the credit boom is correlated with rising assets and real estate prices.

### **3. The banking activity in the period prior to the start of the economic and financial global crisis**

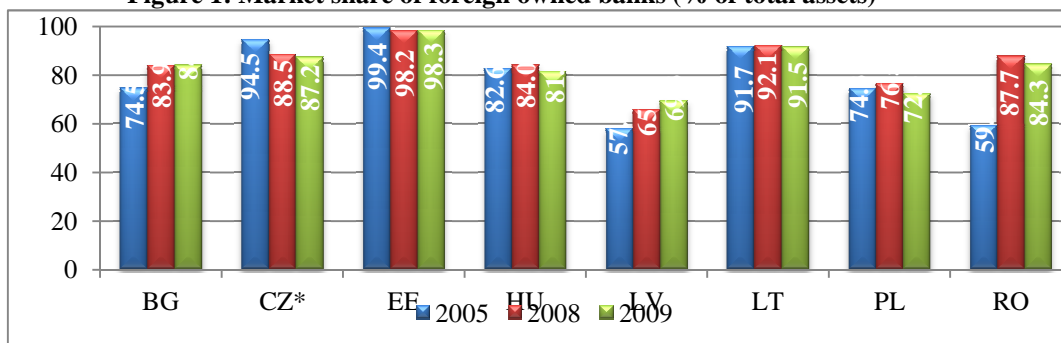
In the last decade the banking sectors from Central and Eastern Europe have registered an extremely rapid development. The quick liberalisation of the internal market and the opening of the capital accounts have attract important capital flows and a rapid growth of the foreign banks presence, which now have a dominant position on these national markets, especially in the case of Estonia, Lithuania, the Czech Republic, Romania and Bulgaria (see figure 1).

A fast financial development has been registered in these markets as a result of the entrance of the foreign banks, which have significantly enhanced the competition level. Thus, if we take a look at the financial intermediation index, which is calculated as a ratio between the total banks actives and GDP, we can see a significant raise of this indicator in the analyzed countries in 2008 from 2005, despite the fact that these values are still below the EU-27 and the euro zone average (see figure 2). Such a development underlines the growth potential that these banking markets had. Taking into account the period prior to the

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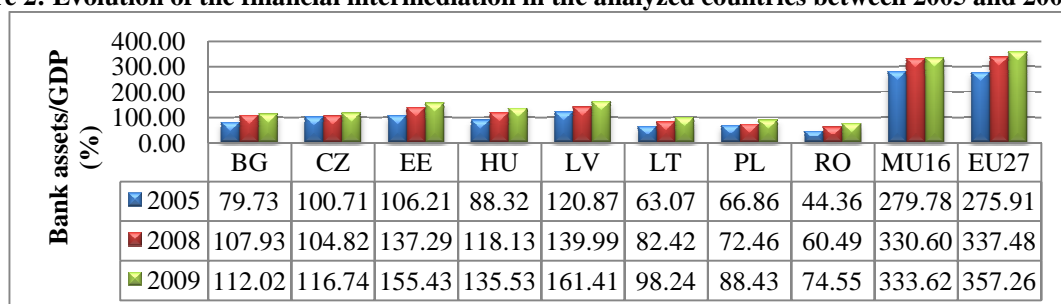
financial crisis, between 2005 and 2008, we can see that the sharpest growth, with over 25%, of this index was obtained by Estonia, Hungary and Bulgaria. Two digits growth rates have been registered also by Lithuania, Latvia and Romania, while in the case of the Czech Republic and Poland the growth was more moderate, with an increase of 4,11% respectively 5,60%. In 2009 the increase of the banks active in GDP can be attributed to the strong contraction of the GDP as a result of the economic recession that characterized most of the analyzed countries (ECB, 2010, p. 9).

**Figure 1: Market share of foreign owned banks (% of total assets)\***



\*Share of total bank sector assets in banks with foreign ownership exceeding 50 per cent, end-of-year.  
Source: [EBRD, Transition 2010 and \* Raiffeisen Research, 2010]

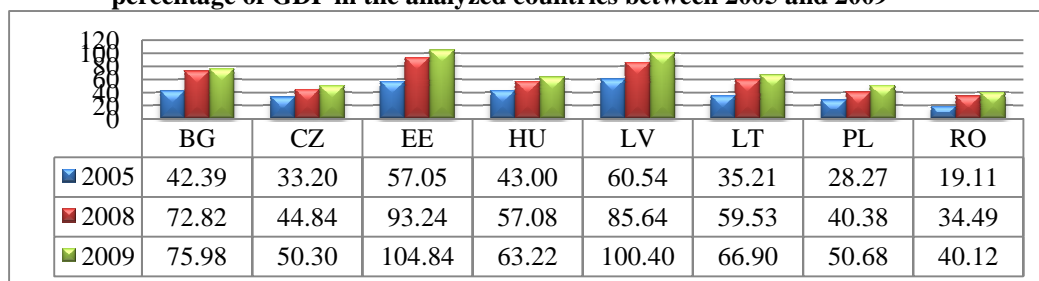
**Figure 2: Evolution of the financial intermediation in the analyzed countries between 2005 and 2009**



Source: [Own simulation based on the data provided by ECB, 2010]

The significant expansion of the financial intermediation process in the analyzed countries can be underlined also through the ratio of the loans granted to non-financial corporations and households in GDP. Thus, in all the countries from our panel, this indicator has registered two digits growth rates, when we compared the values from 2008 with the ones from 2005 (see figure 3). The highest growth, with over 25%, was registered by Estonia (36, 20%), Bulgaria (30,43%) and Latvia (25,09%).

**Figure 3: The evolutions of the loans granted to the economy (non-financial corporations and households) as percentage of GDP in the analyzed countries between 2005 and 2009**

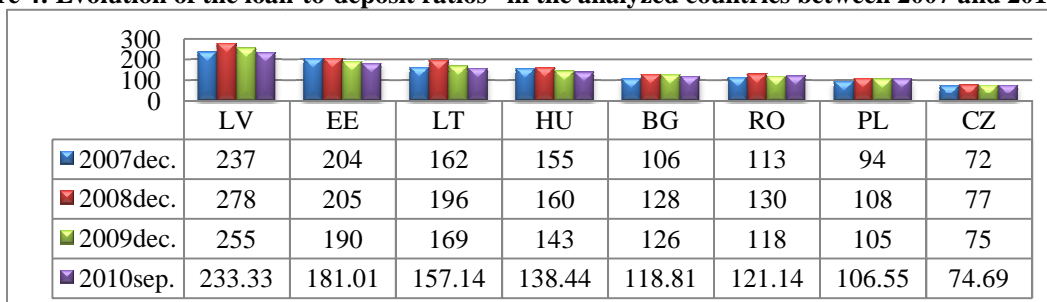


Source: [Own simulation based on the data provided by ECB, 2010]

The sharp increase of the lending process can be underlined also by the ratio between the value of the granted credits and value of the deposits (see figure 4), which, in the case of most analyzed countries, is at over 100% underling a significant development of the lending process in comparison with the attract deposits at national level, especially in the case of the Baltic counties and Hungary. Such a development was possible through external financing at very low interest rates, as international markets were characterised by

abundant and cheap liquidities and a relatively facile access to lending opportunities. By comparison, in the case of the Czech Republic, this ratio is well below 100% which underlines a financing strategy of the banks present in this country based on the attraction of deposits. As a result of this, the Czech banks had a lending policy which didn't depend very much on their ability to obtain foreign financial resources.

**Figure 4: Evolution of the loan-to-deposit ratios\* in the analyzed countries between 2007 and 2010**

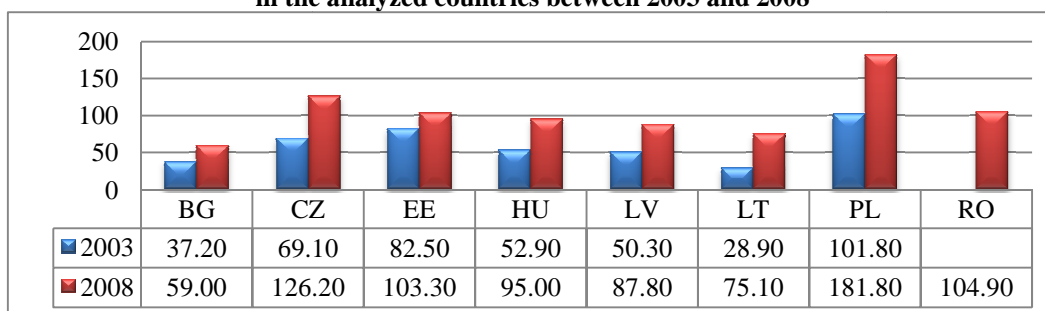


\*Total loans as a percentage of total deposits

Source: [National Bank of Hungary, 2010a and 2010b]

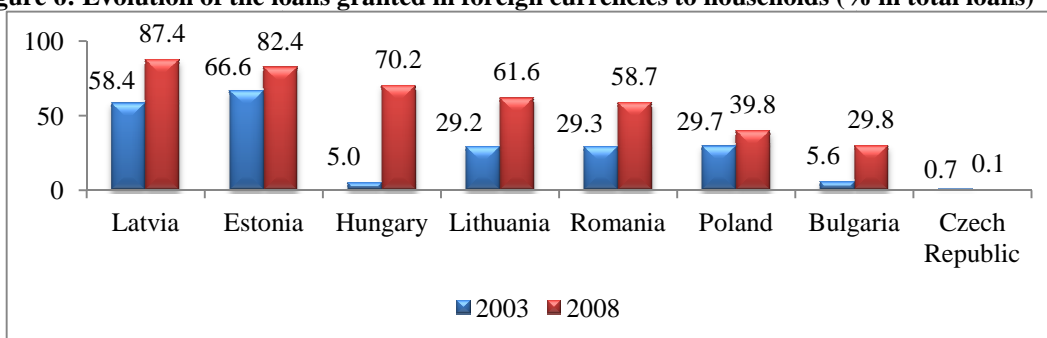
Another characteristic of the bank's lending activities in the analysed countries is the rapid development of household credits. Thus, if we compare the ratio of households lending to the ratio of corporate lending we can see almost doubling of the households lending in most of the countries between 2003 and 2008 (see figure 5). In this context we can argue that households lending was the main engine of the credit expansion process in the case of the analysed countries.

**Figure 5: Ratios of lending to households to lending to corporate (%) in the analyzed countries between 2003 and 2008**



Source: [World Bank, 2009, p. 51]

**Figure 6: Evolution of the loans granted in foreign currencies to households (% in total loans)**



Source: [National Bank of Hungary, 2009]

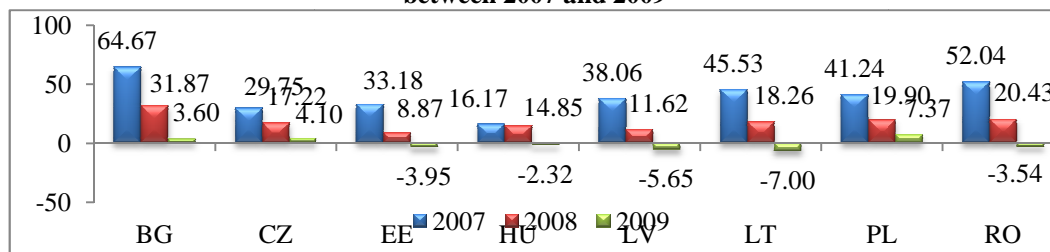
The rapid growth of households lending, especially in foreign currencies (see figure 6), stimulated by the relatively low interest rates and the strengthening of the national currencies of the analysed states, has significantly boosted the internal demand, which raised pressures on inflation and the general level of the prices, deepening the current account deficits, especially in the case of Bulgaria, the Baltic states and Romania. By contrast, in the Czech Republic the foreign currency lending of households is almost inexistent. In this context, the monetary authorities which aim to achieve price stability, including financial stability, have adopted a series of measures in order to limit the growth of the households lending, especially in

foreign currencies and for housing purchases. The measures undertaken, especially in Bulgaria and Romania, included the use of indirect monetary policy tools (like, minimum banking reserve requirements and the adjustment of the monetary policy interest rate) and also measure of management nature, such as introducing some crediting limits and limits to loans expressed in foreign currencies (Roman A., Anton S., G., 2010). Unfortunately, the impact of these measures wasn't as expected as some banks circumvented the new requirements and regulations and preferred to conduct lending operations as usual while willingly paying the subsequent fines. Despite these developments, the measures adopted have contributed to the building of capital and liquidity buffers, which have allowed the banking sectors from the analysed countries to have a position of relative strength when the global economic crisis started.

### 1. The decline of the banking activity in the context of the economic and financial global crisis

Between 2008 and 2009, the growth rate of the loans granted to the economic sector has decreased in all the analysed countries, but with different intensities (see figure 7). Also, in the case of the Baltic states, Romania and Hungary, the credits contraction was stronger as a result of significant cross-border capital flows (IMF, 2010b, p. 20), the level of credits granted to the economy dropping by 7% in Lithuania, 5,65% in Latvia, 3,95% in Estonia, 3,54% in Romania and 2,32% in Hungary.

**Figure 7: The evolution of the loans granted to the economy (non-financial corporations and households) between 2007 and 2009**



\*growth in % year on year

Source: [Own simulation based on the data provided by ECB 2008 and ECB, 2010]

A different situation was registered in Poland, the Czech Republic and Bulgaria, where the drop was less deep and the credit expansion ratio remained positive. Such an evolution was possible as a result of some repurchases of loans by parent banks in the case of Bulgaria, a higher independence from international financing in the case of the Czech Republic, a higher presence of national capital in the banking sector in Poland and nevertheless to the fact that these countries managed to maintain a relatively small positive economic growth during this period of time.

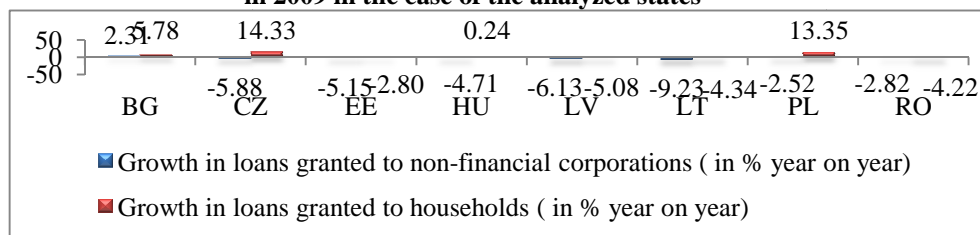
Overall, in the case of the analysed countries, it can be remarked that the current crisis has stopped the fast credits boom characterised by two digits growth rates. Also, taking into account the economic development registered in 2008 and 2009 we can see that the countries that had an unsustainable credit boom have been the ones most affected by the crisis.

The diminishing of the loans granted to the economy in the case of the analysed countries has been determined by a rapid and significant contraction of the supply and the demand of credits. The reduction of the supply was determined by liquidity issues that existed on the international financial markets and which have affected the foreign banks that had subsidiaries opened in the analysed countries and also by the increased risk aversion of the banks, which have raised their standards and terms in regard to credit operations. The diminishing of the demand for credits was determined especially by the increase of the credit costs, the depreciation of the national currencies from the analysed countries and the high volatility of the rates of exchange and also by the negative perspectives regarding the economic development and the evolution of the unemployment rate.

From the start of the current crisis, the growth rate of the loans granted to the economy has registered a decline, especially in the case of the non-financial corporations. Thus, in 2009, the growth rate of the loans granted to non-financial corporation was lower than in the case of the loans granted to households (see figure 8) in most of the analysed countries, except Romania where as a result of the raise of the unemployment rate and the diminishing of the households incomes, the banks have become more restrictive in lending to this segment.



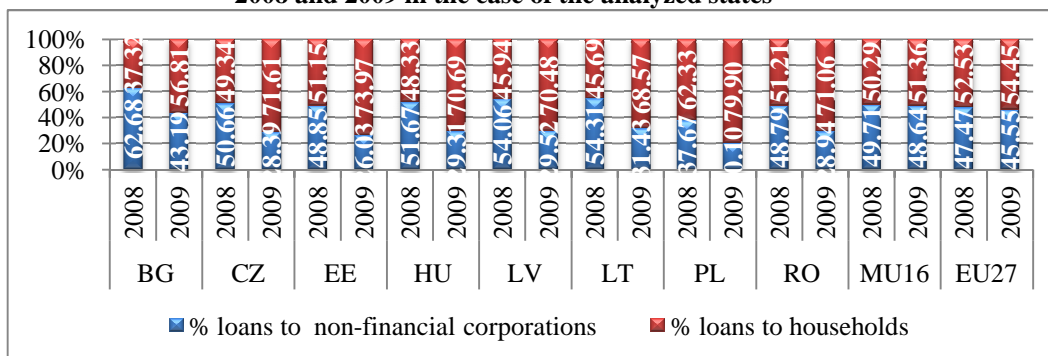
**Figure 8: The increase of the loans to non-financial corporations and households in 2009 in the case of the analyzed states**



Source: [Own simulation based on the data provided by ECB 2008, ECB, 2010]

Taking into account the structure of the credits portfolio based on its beneficiaries (non-financial corporations and households) we can see that in 2008 in the case of most analysed countries and at EU level the credits granted to households had a ratio of over 50% in the total amount of credits granted to the economy (see figure 9), especially in Poland (62,33%), Romania (51,21%), Estonia (51,15%) being very close to the EU average (52,53%). By contrast, in other countries in 2008 the credits granted to non-financial corporation held a percentage higher than 50%, like in the case of Bulgaria (62,68%), Latvia (54,06%), Lithuania (54,31%) and Hungary (51,67%). In the case of the Czech Republic the structure of the credits is very well balanced similarly with the one of the euro zone.

**Figure 9: The structure of the loans granted to the economy (non-financial corporations and households) in 2008 and 2009 in the case of the analyzed states**



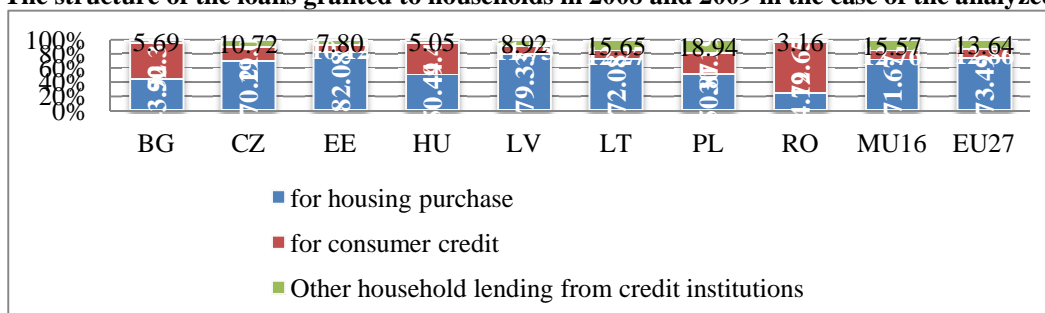
Source: [Own simulation based on the data provided by ECB, 2008, 2010]

The extremely negative consequences of the global economic crisis had a direct impact on the analysed countries, determining in 2009 a significant change in the distribution of the credits granted to the economy between the two categories of beneficiaries. Thus, in 2009 by comparison to 2008, in all the analysed countries the loans granted to non-financial corporations have dropped with an average of 17% (see figure 9), especially in Latvia (24,54%), Lithuania and Estonia (with approximately 23%), the Czech Republic (22,27%), Romania (approximately 20%) and Poland (17,57%). This evolution was prompted by a decrease of the supply of credits by banks to this type of beneficiaries and also by the diminishing of the financials resources request from firms. In the context of negative economic evolutions under the impact of the crisis, the credit risk associated to non-financial corporation has risen, thus banks have tightened their credit norms and required additional guarantees in order to grant new credits. With regards to firms, they decreased their need for funding as a result of the diminishing of production capabilities and the delay of investment projects.

With regard to the structure of the loans granted to households (see figure 10) we can see that in 2008 most of them were represented by loans for housing purchase, especially in Estonia (81,24%), Latvia (78,97%), the Czech Republic (70,51%), Lithuania (69,30%), these figures being very closed to the euro zone average (71,40%) and the EU average (73,49%). A completely different situation appears in Romania where most of the households credits were represented by consumer credits (74,29%), a situation which underlines the relative low purchase power of the households and their orientation toward consume and the acquisition of durable goods (National Bank of Romania, 2006, p.40). In the case of the other analysed countries the distribution between, on the one side the credits for housing purchase and on the other side the consumer credits and other types of households credits is relatively well balanced. In 2009, in full economic crisis, in almost all the analysed countries the consumption has dropped as a result of the decrease of the

household's income, the raise of the unemployment rate, the uncertainties regarding the work place and also the increase of the household's savings. In this context, the structure of the households credits registered an interesting development in Romania and Lithuania where housing purchase credits have increase faster that in the case of the other analysed countries, with 3,71% in the case of Romania (stimulated in part by the "Prima Casă" project) respectively 2,78% in the case of Lithuania. Also a special situation was registered by Poland (the only EU country that managed to obtain a positive economic development in 2009) where the consumer credits have risen, especially as a result of the diminishing of the households credits for other purposes.

Figure 10: The structure of the loans granted to households in 2008 and 2009 in the case of the analyzed states



Source: [Own simulation based on the data provided by ECB, 2010]

#### 4. Impact of the crisis on the banking sectors consistency indicators and the measures undertaken by the authorities

A direct consequence of the current severe crisis on the banking credit activity from the analysed countries is represented by the significant deterioration of the quality of the banks credits portfolio starting with 2009. As a result of the economic downturn, the raise of the unemployment rate, the diminishing of the households incomes and the depreciation of some national currency from the analysed states, the banks have registered an increase in the ratio of non-performing loans (see table 1), especially in Latvia, Lithuania and Romania. In this context, the banks were forced to create additional provisions which had an important impact on their profitability. Thus, the profitability indicators were substantially depreciated, especially in the Baltic states where the banking sector has registered substantial losses in 2009 (see table 1). It is remarkably that, despite these evolutions, the capital adequacy index has registered a value above the minimal requirements of the European and international regulations (of 8%) in all the analysed states.

Table 1: The indicators of banking sector soundness, between 2008 and 2010

Country	Bank non-performing loans to total loans <sup>1</sup>			ROA <sup>2</sup>			ROE <sup>3</sup>			Capital adequacy <sup>4</sup> % of risk weighted assets		
	2008	2009	2010	2008	2009	2010	2008	2009	2010	2008	2009	2010
BG	2.5	6.4	7.8	2.1	1.1	1	23.1	10.2	8.7	14.9	17	18.2
CZ	2.8	4.6	4.9	1.1	1.5	1.5	20.7	26.4	25.2	11.6	14	14.2
EE	1.9	5.2	5.6	0.3	-5.8	-0.3	13.2	-56.8	-3.4	13.3	15.7	22
HU	3	6.7	7.8	0.8	0.7	1.8	11.6	9.8	21.9	11.2	12.9	12.9
LV	3.6	16.4	17.9	0.3	-3.5	-2.5	4.6	-44.6	-29.8	11.8	14.6	14.2
LT	4.6	19.3	19.2	1	-4.2	-1.1	13.5	-48.4	-16.6	12.9	14.2	15.1
PL	4.5	7.6	....	1.5	0.8	...	20.5	10.7	11.3	11.2	13.3	13.9
RO	6.5	15.3	17.5	1.6	0.2	0.6	17	2.7	5.9	13.8	14.7	15

<sup>1</sup>BG, CZ, EE,HU, LV, LT - March; RO - April; <sup>2</sup>BG, CZ, EE,HU, LV, LI, RO - March;

<sup>3</sup>BG, CZ, EE,HU, LV, LT, RO - March; PL- september; <sup>4</sup> % of risk weighted assets; BG, CZ, EE,HU, LV, LI, RO - March; PL- september

Source: [IMF, 2010b National Bank of Poland, 2010]

The sever implications of the global economic crisis on the European economies and financial sectors have determined the European Commission to adopt in November 2008 the

European Economic Recovery Plan which contains several measures that aim at supporting the real economy (Commission of the European Communities, 2008). In regard to the loan activity and the role of the banks in the national economies the European Economic Recovery Plan emphasises the necessity that the European Union member states will financially support the banking sector in order to ensure that the real economy can access its credit facilities. Also as a result of the current crisis several measures have been adopted at EU level which aims at reforming the European financial sector, including a rethinking of the financial regulatory framework based on the activity of the Larosière group.

An important role in the re-establishment of the trust in the banking sector of the analysed countries and the prevention of the possible redrawing of the foreign banks from these markets was attributed to the initiative of the International Monetary Fund, the European Bank for Reconstruction and Development (EBRD) and the European Union which created the “Vienna Initiative” also known as “the European Bank Coordination Initiative” (IMF, 2010c, p. 63). Through this initiative the parent banks engage themselves to refinance and even recapitalised their subsidiaries from the Central, Eastern and South Eastern Europe.

Regarding the measures adopted by the monetary and governmental authorities from the analysed countries as a response to the credit crunch, it can be underlined that their focus was on three main areas: standard monetary policy measures, based especially on the modification of the monetary interest rate, non-standard monetary policy measures which were focused on maintaining the overall liquidity and the stability of the rate of exchange and nevertheless fiscal policy measures. Alongside these measures an important role had also the international policy measures, which were materialised in the received financial support, mainly from the IMF and EU.

In regard to the monetary policy adopted by the analysed countries central banks in the context of the crisis, most of them promoted a relaxed monetary policy, which was materialised in a prudential reduction of the monetary policy interest rate without discouraging capital inflows and avoiding fluctuation of the rate of exchange. Also, the analysed states have adopted a series of extraordinary measures which aimed at limiting the effects of the crisis on their national economies and ensuring the overall financial stability. Several central banks from these states have signed currency swap arrangements with the ECB (e.g. Hungary and Poland), Sveriges Riksbank (Estonia and Latvia) or Danmarks Nationalbank (Latvia).

**Table 2: The governmental measures undertaken in the analyzed countries\*, between 2008 and 2010**

	Capital injection		Liability guarantees		Asset support		Total commitment	Deposit insurance
	Within Schemes	Outside Schemes	Guaranteed issuance of bonds	Other guarantee loans	Within Schemes	Outside Schemes	as % 2008 GDP	EUR
<b>BG</b>	- (-)	-	- (-)	0 (-)	- (-)	-	-	50.000
<b>CZ</b>	- (-)	-	- (-)	0 (-)	- (-)	-	-	50.000
<b>EE</b>	- (-)	-	- (-)	0 (-)	- (-)	-	-	50.000
<b>HU</b>	0.1 (1)	-	- (-)	2.3 (5)	- (-)	-	7%	45.252
<b>LV</b>	- (-)	0.3	- (6)	0 (-)	- (-)	-	27%	50.000
<b>LT</b>	- (-)	-	- (-)	0 (-)	- (-)	-	-	100.000
<b>PL</b>	- (5)	-	- (-)	0 (5)	- (-)	-	3%	50.000
<b>RO</b>	- (-)	-	- (-)	0 (-)	- (-)	-	-	50.000

\*billions of EUR unless stated otherwise.

Source: [Data centralisation based on Stolz Stéphanie Marie, Wedow Michael, 2010, p. 9]

Regarding the governmental measures adopted by the analysed countries (see table 2) the most important one was the raise of the minimum guaranteed level for deposits, in order to prevent mass panic and to re-establish the trust of the depositors in banks.

Overall, all the measures adopted at EU level and also by each member state have contributed to avoid the collapse of the financial systems and the stabilisation of the financial markets. In the current state, the challenge for the European and national authorities is represented by the implementation of strategies which will allow them to abandon the exceptional measures undertaken, as the bank's lending activity of the real economy is re-lunched and the financial markets start to function normal again.

## 5. Concluding remarks

The credits boom was one of the main characteristics of the banking sectors from the analysed countries in the years before the economic downturn, which has registered two figures growth rates, which determined sever economic imbalances, mainly manifested through a high increase of the consumption and a quick depreciation of the current account balance. Such a development was possible mainly because the international monetary markets were characterised by an abundance of liquidity, which enabled the banks from the analysed countries to obtain the necessary funds for their lending activities at very low rates. In this context, the economies of these countries have registered a quick expansion of the credits granted by banks, especially to the households sector, which was considered the engine of the whole credit boom. From October 2008, once Lehman Brothers went bankrupt, the banking sectors from the analysed countries registered a severe liquidity crisis followed by a deep recession.

From the beginning of the current crisis, in the case of the analysed countries, the growth rate of the credits granted by the banking sector to the economy has registered a decline, as a consequence of the tightening of the credits standards by banks but also as a result of the diminishing of the credits demand from non-financial corporations and households, which came as a result of the economic downturn, the raise of the unemployment rate, the drop in revenues, the significant depreciation of some national currencies and the general uncertainty related to the economic perspectives.

As a result of the credit crunch, the diminishing of interest rates as a result of the raise in financing cost and the ratio of un-performing loans, most of the banking sectors from the analysed countries have registered a decrease of their profitability.

Overall, the current economic crisis has stopped the credit boom in the case of the analysed countries, inhibiting the two digit growth rate.

The sever implications of the global economic crisis on the economies and the banking sectors from most of the analysed countries has triggered an unprecedented reaction from the international, European and national authorities. Overall, all the measures undertaken were aimed at preventing the collapse of the financial and banking systems, at correcting the dysfunctions of the financial markets and at the re-launching of the bank's lending operations of the real economy.

As the situation on the financial markets tend to ameliorate and the banks return to their normal activities the challenge for the authorities will be represented by the implementation of strategies that will allow the renouncement of the extraordinary measures conceived and undertaken during the crisis.

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## THE EFFECT OF FISCAL RULES ON PUBLIC FINANCE SUSTAINABILITY IN THE EURO AREA

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**Abstract:** *This article presents the impact of fiscal rules on the public finance sustainability in the Euro Area, which resulted from a wrong strategy of the Economic and Monetary Union. The situation has become critical for countries such as Greece, Portugal, Ireland, Spain. Without large-scale structural reforms, the sustainability of the European Union is under question mark. The optimal solutions for ensure the fiscal sustainability in the euro area could be the fundamental changes regarding the restructuration of the Economic and Monetary Union and the solution of the contradictions referring to imposing a single currency and a common monetary policy in countries having different fiscal policies.*

**Key words:** debt crisis, governmental deficit, public debt, fiscal rules

**JEL classification:** E52, E58, E63, F36.

### 1. Introduction

The current economic crisis revealed a series of deficiencies, weaknesses of the Stability and Growth Pact (The Stability and Growth Pact, adopted by the European Council in 1996 in Dublin tries to prevent the adoption of a loose budgetary policy, inadequate, in one or more member states of the European Union.) concerning the surveillance and fiscal coordination mechanisms. The inefficiency of the Stability and Growth Pact becomes clear in the case of the high public debt of Greece. Although starting with 2003, 30 states were subject to an excessive deficit procedure, the European Commission didn't apply any financial sanction against them. The interventions of the European Union towards these states consist in recommendations and warnings regarding the consolidation of public finances. The role of the Stability and Growth Pact was rather limited concerning the public debt chronicity of some states form the Euro Area, such as Ireland, Spain, France (Rebecca M. Nelson, Paul Belkin, Derek E. Mix, 2010).

In 2008, in the context of the economic and financial crisis, a large number of states violated the stipulation of the Stability and Growth Pact. Thus, 20 states out of the 27 member states registered a deficit ratio above 3 % of GDP and the public debt of the states in the Euro Area reached in 2010 84% of GDP, 18% higher than the level of 2007, a lot above the imposed limit, of 60% of GDP (Will James and John Butters, Carolina Braken, 2011). A major deficiency of this Pact consists of the incapacity to prevent or manage the financial crises.

The European Commission worried about the public debt spiral of Greece, considering that it will affect the financial stability in the Euro Area. Besides the austerity measures, Greece benefited from financial assistance from the Euro Area states (€ 8 billion) as well as from the International Monetary Fund (€ 3 billion). At the end of 2010, Ireland faced similar problems and the Euro Area states agreed to grant Ireland a 11,7 € billion financial assistance. Besides this measure a Special Purpose Vehicle was created: the European Financial Stability Facility worth € 440 billion consisting of guarantees of the European Union member states which will finance the

future cash in-flow. Thus, there is the possibility of refinancing the public debt of Ireland, Portugal and Spain.

We have to mention the incompatibility between the fiscal policy which belongs to each democratic state as the expression of its sovereignty and the objective of coordinating the budgetary policies at a European level. A monetary union with strong connections between the banking systems can face problems without a fiscal coordination, because the national governments may be tempted to increase inefficiently their public debt, which, in case of contagion, can have serious repercussions on other economies.

## 2. The Sustainability of Government Debts in the Euro Area

Many member states of the European Union finance the governmental deficit by public borrowings. When contracting a public borrowing, the states must correlate the current market value of debt and the up-dated value of future budget surpluses. If the value of the public debt increases faster than the economic growth rate, it means that the budgetary policies need to be revised. A public debt is considered to be efficient and sustainable when the evolution of its debt-to-GDP ratio follows the economic growth trajectory. Otherwise, the debt is unsustainable.

The risk of Greece's sovereign debt shocked the European Union and raised the problem of the public debt sustainability in the Euro Area. The effect of the fiscal policies adopted by a government is extremely important for the decrease of the public debt. Regarding the fiscal policies of the member states, the European Union drew up clear rules of budgetary behaviour, *i.e.*: The Excessive Deficit Procedure, based on the two criteria - the budget deficit must not exceed 3% of GDP and the public debt must not exceed 60% of GDP.

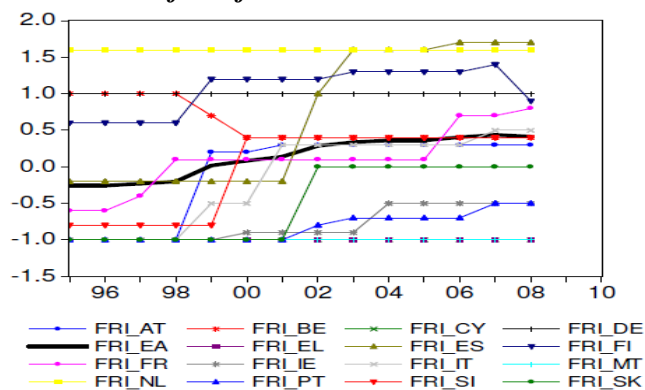
If we analyze the evolution of the steady state debt level, we can notice that it increased in the period 1980-1990 and it was characterized by high interest rate and slow growth. When the monetary union was created, the debt-to-GDP ratio became stable in Austria, Belgium, Greece and Spain, decreased in France and Germany and increased in Finland, Ireland, Italy, Holland and Portugal. The financial crisis led to an increase of the level of the debt-to-GDP ratio in nearly all the member states, canceling thus the progress made in the years before the crisis. In 2010, the public debt of the Euro Area increased to nearly 84% of GDP and the public debts of the European Union increased to approximately 79% of GDP, 20% more than in 2007. The evolution of the public debt in time present serious deviation from the balance level in the following states: Italy, Belgium, Germany and France. Moreover, the public debt of Ireland, Sweden, Spain, France and Finland registers oscillatory tendencies.

Some of the causes of the public debt crisis in the Euro Area could be:

- *the non-observance of fiscal policies*, precisely violations of the fiscal rules imposed by the Stability and Growth Pact, such as the disclosure of false financial information (for example, in the period 2000-2008 Greece reported a government deficit of almost 3% of GDP, while actually its level was 5% of GDP), the insufficient decrease of the public debt in Italy, Portugal and Spain.
- *Major macroeconomic lacks of balance*, which determined an increase in credit tendencies, the growth of the building sector, strong currency appreciation in states like Ireland and Spain; in 1999-2007, Ireland had fiscal positions indicating budget surplus, as well as a public debt decreasing from 50% of GDP in 1999 to 25% of GDP in 2007;
- *Weak regulation of banks having low capital reserves*, which obliged the governments to transform the private debt into public debt when the crisis began. Ireland and Great Britain are the most relevant examples for this situation.

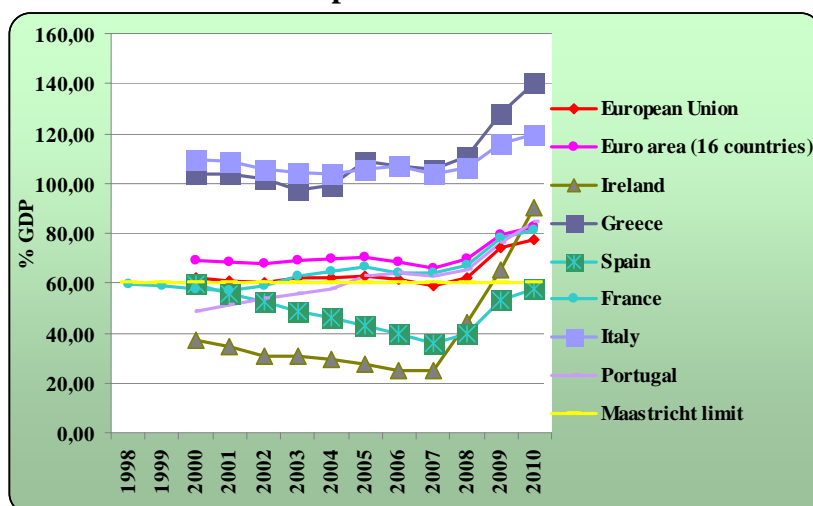
DG ECOFIN has constructed an index of strength of fiscal rules (FRI) based on the following elements: statutory base of the rule, the body in charge of monitoring the respect of the rule, the body in charge of enforcement of the rule, and the enforcement mechanisms relating to the rule (Wim Marneffe, Bas Van Aarle, Wouter Van Der Wielen, Lode Vereeck, 2010).

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**Figure 1** *The evolution of the fiscal index in the Euro Area in 1996-2008*

Source: Wim Marneffe, Bas Van Aarle, Wouter Van Der Wielen, Lode Vereeck, "The Impact of Fiscal Rules on Public Finances: Theory and Empirical Evidence for the Euro Area", CESIFO Working Paper no. 3303, p. 18

The effect of the adoption of various fiscal rules on the evolution of the public debt can be analysed from the figure below:

**Figure 2** *The evolution of the public debt in the Euro Area in 1998-2010*

Source: data processed by the authors upon the information published on Eurostat

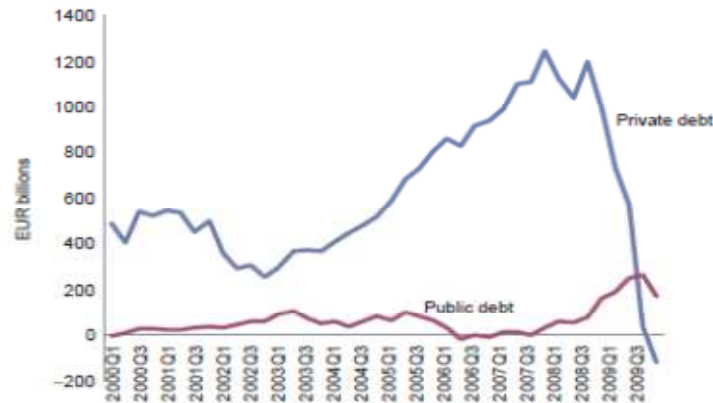
The effect of the measures adopted by the Euro Area states to support the financial sector upon their public debt was significant in comparison to their effect upon the governmental deficit. Despite the dimension of certain financial institutions, they risk to turn from „too big to fail” into „too big to be saved” (Gros and Micossi, 2008), endangering the entire state (Richard Baldwin, Daniel Gros and Luc Laeven, 2010). This is how the phenomenon of contagion to other economies is created.

From the national governments, the effective measures for banks safeguarding under the supervision of the European Central Bank consisted in: governmental guarantees for the interbank credits; recapitalisation of financial institutions having problems, including national capital inflows; extending the coverage of the Retail *Deposit* Guarantee Schemes. While countries like Germany, Austria, Greece, Spain, France and the Netherlands chose to guarantee the credits and to apply recapitalisation measures, other states, such as Belgium, Holland, Luxembourg, Ireland chose to make aleatory interventions, even the nationalisation of individual financial institutions threatened with the solvability risk. Other states, like Spain, Holland, Italy adopted measures of buying assets, taking over/canceling debts, temporary swap arrangements or guaranteeing the deposits and debts



of internal banks and external branches in the case of Ireland. In April 2009 Ireland announced the creation of the National Asset Management Agency, a non-governmental institution, which started its activity in May 2010. The main attribution of this agency is to buy risky credits from banks, allowing them to consolidate their balance sheet.

**Figure 3** *The evolution of public debt and private debt in the Euro Area*



Source: Richard Baldwin, Daniel Gros and Luc Laeven, “Completing the Eurozone Rescue: What More Needs to Be Done?”, VoxEU.org Publication, Centre for Economic Policy Research, June 2010, p.10

In relative values, the effect of these measures for safeguarding the financial institutions upon the evolution of the public debts in the Euro Area was a strong one, generating it increase to 2,5% of GDP. The public debts of some Euro Area states increased considerably: Belgium (6,4%), Ireland (6,7%), Luxemburg (6,6%), Holland ( 11,3%) (Maria Grazia Attinasi, 2010).

We must take into account the fact that by the adoption of this monetary policy to support the financial sector in the Euro Area, the national governments of the Euro Area took high fiscal risks endangering their fiscal position in a medium and long term, especially regarding the public debt. Reinhart and Rogoff’s statement is confirmed, according to which when there is a credit expansion, the private debts becomes public debts, as we can see in Figure 3.

### 3. The Effect of the Adoption of Fiscal Measures on the Economic Growth in the Euro Area

If we analyze the fiscal behaviour of the Euro Area states in time, we can notice an evolution depending on the economic situation at a given time. As to the effect of European Union fiscal rules, the majority criticises them, considering them pro-cyclical and unable to generate economic growth, helpless to prevent the situation in which Greece accumulated and excessive government deficit and a huge public debt. In theory, the Stability and Growth Pact guarantees a stimulation of the European economy during recession periods and the consolidation of public finances in boom periods. In reality, few member states experiences structurally balanced budgets, which denotes that the fiscal policies are pro-cyclical during recession periods. If we analyze the fiscal policies of the Euro Area in evolution we can notice that from the creation of the economic and monetary union, their character was more or less pro-cyclical. Since 1999, the only states who have made efforts to reorient the pro-cyclical fiscal policy towards a countercyclical one are France and Finland. The progress of each state to consolidate the fiscal position, to reach the objective of „in-balance or excessive” fiscal position, on medium-term, was different. (Martin Larch, Paul van den Noord and Lars Jonung, 2010).

The evolution of fiscal balances is strongly dependant on the level of GDP per inhabitant; the decline of the fiscal positions is more obvious in the wealthier economies. Thus, we can discern two categories of states: the first category, including Germany, Italy, France, Greece and Portugal

and the second category including Spain, Ireland, Austria, Holland and Belgium. The fiscal behaviour of the two categories of states differed significantly in the period 1998-2003. Germany and France were the first states which outran the deficit level of 3% of GDP and also the first which applied the excessive deficit procedure. The reticence of the ECOFIN Council to sanction the states which violated the stipulations of the Pact came from the desire to avoid political conflicts, considering that indulgence might change the behaviour of those who violated the fiscal norms. Typical for the pre-crisis period, once they reached an improved fiscal position, the states of the first category neglected to reach the budgetary objectives on medium term. The member states of the second category continued the same fiscal behaviour, apparently favourable, but with the beginning of the financial crises, they experienced a deterioration of the construction market and massive increase of current account deficits. Thus, the contrast between the pre-crisis and post-crisis evolutions in the two categories of European Union states was different: while in the first category the contrast of performances was weaker one, in the second category, the differences were significant.

During the first decade after joining the Euro Area, Germany had to correct the effects of the „unifying shock” via wage moderation and some labour market reforms. The effect of the implementation of these measures was a weak growth, averaging 1% over 15 years. As Germany accounted for a large share of Euro Area GDP, this weak growth greatly conditioned the monetary policy of the ECB, producing a monetary stance that was too loose for some members, producing rapid growth in the Euro Area periphery. (Angel Ubide, 2010).

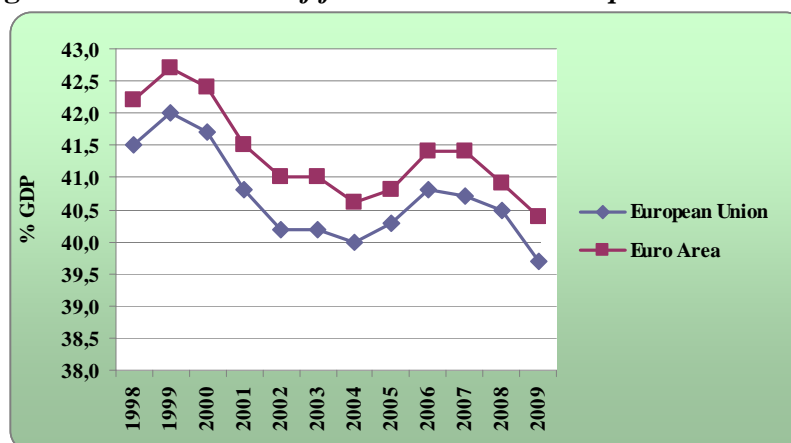
So, the pre-crisis period was marked by asymmetrical evolutions since whereas the strong, founding states which accounted for large shares to the European Union budget (Germany, France, Austria, Holland, Belgium, Luxembourg) experiences a slower economic growth and lower rates of inflation, the periphery states of the Euro Area (Greece, Ireland, Spain) experienced a strong development, a growth of economic performances, accompanied by exaggerated price increases and also high rates of inflation (Greece and Spain 8%, Ireland 10%). The contradictory, asymmetrical development of these states generated strong current account imbalances. So, even though generally speaking the situation in the Euro Area was in balance, it hid major imbalances-deficits for the following states: Greece, Ireland, Portugal, Spain, compensated by the surpluses of the big contributors.

The result of some research (Agustín S. Bénétrix, Philip R. Lane, 2010) on the effect of the monetary policy upon the economic performances of a state proved that the heterogeneity of the fiscal policies adopted by the member states in the period 2007-2009 is strongly influenced by the direction of the unemployment rates changes in different states and by the significant expansion of the credits provided to the private sector. The interdependency of the fiscal results and the evolutions of the credits in the private sector pre-crisis and during the crisis was different (Agustín S. Bénétrix, Philip R. Lane, 2010).

The downturn in economic activity in the current economic and financial crisis led to a decrease of the public revenues and to the maintenance of the expenditures within the planned level, which contributed to the deterioration of the public finances of the Euro Area. The deterioration of fiscal perspectives was felt by a budget deficit of 6,9% of the GDP in 2010, compared to 2007, when the budget of the Euro Area was almost balanced. This is the result of changes in the consumer trends and the decline of the revenues. In order to attenuate the effect of the economic and financial crisis, the member states adopted automatic stabilizers and implemented a discretionary monetary policy within the European Economic Recovery Plan adopted by the European Commission in December 2008.

According to European Commission estimations, the value of the fiscal stimulus package adopted by the Euro Area reaches 2% of GDP (1,1 % in 2009, 0, 8% in 2010). For 2009, the most consistent “fiscal package” was adopted by Spain (2,3% of GDP), Austria, Finland, Malta (over 1,5% of GDP). Greece and Italy did not adopt the discretionary policy in order to avoid the increase of the governmental deficits.

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**Figure 4** *The evolution of fiscal revenues in the period 1998-2009*

*Source: data processed by the authors upon the information published on Eurostat*

As we can notice from the figure above, the fiscal revenues of the Euro Area economies increased in the period 2005-2007. The causes of fiscal revenues increase are: the increase of tax elasticity, the enlargement of the tax basis, the profit increase and especially the decrease of the tax rate. If in Great Britain the fiscal revenues increase was a consequence of the profit increase in the financial services sector, in Ireland, the fiscal revenues increase in 2000-2007 was caused by an increase in the number of properties transactions. The tax revenues from the capital gains also showed an ascending tendency because of the increase in the price of properties.

After having analyzed the fiscal policies of the Euro Area states, we can notice that there are no major differences between the fiscal policies of the Euro Area states and those of other states, respectively, between the fiscal behaviour of the Euro Area states before and after joining the Eurozone.

#### **4. Proposals for new fiscal rules in the Euro Area**

Possible measures to avoid public debt unsustainability could be the increase of fiscal revenues by modifying the tax basis (economic growth) and the decrease of the financing cost (rate of interest). The condition of correlating the level of public debt with the revenues collected in the future is necessary, but not sufficient, because the liquidity risk may occur if the government in question does not have access to the financial markets at the initial maturity date of the debt. In order to reestablish the public debt trajectory, there is the serious need of fiscal adjustments of at least 1% of GDP and also the need to encourage the production in order to increase the fiscal revenues and to decrease the expenditures used to support the unemployed.

Some specialists consider that the future of the Euro Area depends on the capacity to create a political union within the Euro Area, which would remove the major imbalances by a coordination of the competitive positions. This would suppose the transfer of national sovereignty concerning the fundament of economic policies, other than the monetary ones, regardless of the budgetary position, and also the implementation of some measures of minimal solidarity among the member states, including those states which have financial problems. (Paul De Grauwe, 2010).

Effective proposals for new fiscal rules in the Euro Area have in view:

- the consolidation of the fiscal norms of the EU;
- More efficient mechanisms for macroeconomic surveillance;
- The connection of fiscal policies processes at the European Union level and at the national level;
- The consolidation of national fiscal frameworks.

If we analyze the member states practices regarding the observance of the EU fiscal norms, we can notice a massive tendency to violate them, as well as to deviate from the medium-term fiscal

objectives. The proposals of the European Commission to reform the fiscal rules have in view preventive measures, more exactly the manifestation of a stronger interest for reaching the medium-term fiscal objectives in terms of public debt, as well as corrective measures, more exactly an enhanced focus on the public debt, the sanction of those states which overrun the established limit of 60% of the GDP, by initiating the excessive deficit procedure.

The measure regarding the efficientisation of economic surveillance mechanisms refers to the creation of a preventing mechanism based on a table with several indices such as: current account deficit, real exchange rate, private debt and asset prices, as well as the creation of a mechanism meant to correct massive imbalances. This surveillance and assistance mechanisms should react much quicker to economic and financial crisis. The recent experiences of Ireland and Spain prove effectively that an unsustainable boom can lead to serious asymmetrical shocks, to damages, to macroeconomical deteriorations, which contradicts the idea that a monetary union removes the risk of asymmetric shocks. The new surveillance and assistance mechanism should also define clearly the financial assistance costs in monetary terms as well as in terms of losing the fiscal sovereignty.

If we analyze the relationship between national fiscal policies and the community ones, we can notice that they tend to be not associated. Regarding this issue, the European Commission's proposal is to create an annual special program, in cooperation with the member states: in the first stage of the program the European Commission and the Council of the European Union provide strategic direction; in the second stage those involved will reflect upon the assimilation and consideration of these directions by means of Stability Programs and the National Reform Programs; in the third stage, the Council of the European Union provides specific direction to each state according to the programs presented; in the last stage, the member states finalize the national budgets.

But as long as the elaboration and fundament of fiscal policies remains the privilege of the national governments, the revising of the Stability and Growth Pact should materialize in the adoption of some decentralized measures at the level of each national authority with a view to guaranteeing the fiscal discipline in the Euro Area. (Charles Wyplosz, 2010). In order to render the national fiscal policies more efficient and respecting the transparency principle, some measures must be taken: to define clearly multiannual fiscal objectives; to specify to which extent the fiscal policy has the role of economic cycle stabilizer; to guarantee a transparent financial reporting in order to prevent a hidden government deficit by creative accounting; the creation of councils which would survey the independent fiscal policies at member state level. The creation of independent fiscal councils at member state level would ease the cooperation between the member states regarding the fundament of optimal fiscal policies as well as the understanding the difficulties faced by the Euro Area states.

At the European Union level there are proposals to create a council for the maintenance of fiscal discipline, independent from the European Commission, having as main attribution the surveillance of national fiscal frameworks, the degree of compliance with the minimum standards and a rigorous surveillance of the private debts evolution.

For the fiscal consolidation in the Euro Area, the governments of the Euro Area peripheral states – Greece, Portugal, Spain want to reach an agreement regarding the elaboration of optimal fiscal measures. The states experiencing excessive governmental deficits should adopt more cautious fiscal policies, anti-cyclical by the efficientisation of public expenditures. If we take into account the failure of the budgetary discipline in the Euro Area, we must mention the example of Germany, which proved a good model concerning the monetary policy (imposed also to the Euro Area). The success of the fiscal policy could be ensured by the optimal coordination between the direction of institutional reform at national level and the market forces for a better surveillance of the government deficit and the public debt in the Euro Area (Jean Pisani-Ferry, 2010). Besides the fiscal coordination measures, the member states of the Euro Area must adopt measures of structural reform, of restructuring the pension system, the labour market, drastic measures upon a nation..

An important problem of the European Union Treaties architecture is the no bail-out clause and the setting up of the European Financial Stability Facility is a violation of this clause. According to these stipulations, each member state of the Euro Area is responsible for its budgetary position. Likewise, it is forbidden for any institution, organisation or any member state to grant financial assistance to another member state. Not even the European Central Bank is allowed to finance the excessive public debt of a state. The conviction on which this clause is based is that a state of the Euro Area which is threatened with bankruptcy is isolated. Until the beginning of the financial crisis this conviction was well-grounded, but in the conditions of stress contagion and the problem of sovereign public debts, this is no longer valid.

## 5. Conclusions

As long as the public debt crisis is possible in the Euro Area, it is essential to initiate a financial crisis response mechanism, with a view to restructure the public debt and to ensure the sustainability of public finances. The fines collected from those who violate the stipulations of the Stability and Growth Pact could have the role of financing the crises response mechanisms. For the efficientisation of the activity of the crisis response mechanisms, the task of collecting and managing the fines could be externalized to the European Fiscal Councils, independent bodies.

In our opinion, the optimal solutions could be the fundamental changes regarding the restructuration of the Economic and Monetary Union and the solution of the contradictions referring to imposing a single currency and a common monetary policy in countries having different fiscal policies.

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## AN ASSESSMENT OF THE EQUILIBRIUM EXCHANGE RATE FOR ROMANIA IN VIEW OF ATTENDING ERM II

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**Abstract:** *In order to analyze the long-run sustainability of the Romanian leu against the euro, is estimated the equilibrium exchange rate, using the BEER model and are determined the total misalignments of the real exchange rate. The variables used are: the degree of openness, the relative price of non-traded to traded goods and the net foreign assets. Is expected to find, that in the long-run the Romanian leu is undervalued and entering the ERM II in the near future may be a source of important disequilibrium for the national economy.*

**Key words:** equilibrium exchange rate, BEER, ERM II

**JEL classification:** F31; C22

### 1. Introduction

As we know, Romania intends to accede in 2015 to the Euro Zone, which implies As we know, Romania intends to accede in 2015 to the Euro Zone, which implies participation in ERM II (European Exchange Rate Mechanism) at least for two years and fulfillment of the euro convergence criteria imposed by the Maastricht Treaty.

Due to the fact that participation in the ERM II requires fluctuation of the exchange rate of the national currency against the euro within a fixed band, the policy makers should set a central parity of the rate as close, as possible to its equilibrium value, in order to avoid further disturbances and eventually failure of participation in ERM II.

Consequently there can arise many questions: is the national currency fairly priced and Romania can enter the ERM II with this rate, or it is substantially overvalued or undervalued and should be aligned to its equilibrium level.

In order to answer all these questions is of utmost importance to identify the fundamental factors which affect the real exchange in the medium and long run, to determine the equilibrium exchange rate and total misalignments of the real exchange rate.

The reasons for identifying the order of overvaluation or undervaluation of the national currency can be explained as follows. An undervaluation of the national currency may generate inflationary pressures, jeopardizing in this way the fulfillment of the convergence criteria and an overvaluation may slow down the national growth and the real convergence of the acceding state. Also, in case of overvaluation is affected the external competitiveness of the country: imports are rising, and due to higher prices, exports are declining, leading to a deficit of the current account balance, which in turn can put in danger the stability of the national currency.

The main goals of this paper is to identify the economic fundamentals, which determine the evolution of the exchange rate on the medium and long run, then applying the Behavioural Equilibrium exchange Rate Model to estimate an equilibrium exchange rate, and to determine the misalignments of the real exchange rate and main factors which determined these misalignments.

The paper is structured as follows. Section 2 provides an outline of the different approaches used to estimate the equilibrium exchange rates. In section 3 is shortly described the BEER model.

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Section 4 analyzes the evolution of the Romanian exchange rate against the euro. Section 5 presents the results of the empirical analysis. In section 6 are presented the main findings and are drawn the conclusions.

## 2. Literature review

The growing empirical literature on equilibrium exchange rate (EER) for Central and Eastern European countries (CEECs), has predominantly applied two approaches: behavioural equilibrium exchange rate (BEER) and fundamental equilibrium exchange rate (FEER).

The concept of Fundamental Equilibrium Exchange Rate (FEER) was introduced by Williamson in 1994 and was defined as a real effective exchange rate that is consistent with the internal and external economic balance. (Williamson, 1994)

In most studies the internal equilibrium is considered to be achieved, when the economy functions at full capacity, accompanied by low inflation, and external equilibrium, when the balance of payments is in a sustainable position over a medium-term horizon, ensuring external debt sustainability.

This approach was mainly extended by Wren-Lewis and Driver (1998), Clark and MacDonald (1997), Rosenberg (2002), Detken et al. (2002).

The more recent studies, which applied FEER model, were done by Hallet and Richter (2004) and Rubaszek and Rawdanowicz (2009).

Hallet and Richter (2004) used a complete model approach of FEER to determine the likely paths of the Dollar and other key currencies, and also, analyzed how the Dollar depreciation might be distributed among the world's principal currencies, particularly the euro and the yen.

They assumed that a currency adjustment and the correction of an external imbalance cannot be unilateral. There had to be a counterpart in the form of another currency appreciation/depreciation or a reduction/increase in trading surpluses elsewhere.

Unlike other studies, that used FEER model, Hallet and Richter model used a complete macro-model, which allowed to check, if their calculations did provide internal and external balance. Also, this model incorporated explicit intertemporal budget constraints in order to guarantee, that their FEER was, in fact the equilibrium exchange rate, in sense of guaranteeing the sustainable balance internally and externally. Another strength point is modeling the external account as a single equation, in which many of the right hand variables were in fact endogenous, and therefore needed to be determined jointly with that external account.

Rubaszek and Rawdanowicz (2009) applied a partial equilibrium FEER model for four Central and Eastern European Countries: the Czech Republic, Hungary, Poland and Slovakia.

They assume, that the FEER and BEER models can be considered, not just complementary, but substituting, too. In the FEER model the changes in productivity are not accounted, whereas the catching-up process is one of the central arguments of the equilibrium exchange rate appreciation for many countries, this considered to be one of the main drawbacks of this model. Because of this these authors went on the assumption that the BEER equation can be considered a reduced form of the FEER model, and introduced potential output into the specification of the foreign trade equations to capture the structural changes that occurred in analyzed countries.

A close relative of the FEER is the Desired Equilibrium Exchange Rate model (DEER). Like the FEER, DEER imposes condition of the macroeconomic balance, but the difference between these two concepts, is, that, DEER defines the external equilibrium in terms of optimal policy. (Bayoumi et al., 1994)

Another model that uses the notion of internal and external balances is the NATREX model (Natural Real Exchange Rate model). But, contrary, to other models, which imposes the macroeconomic balance, NATREX considers both the medium and long run, when capital stock and foreign debt are assumed to converge to their long-run steady state. (Frait et al., 2005)

For the Central and Eastern European Countries (CEE) the most used model was the Behavioural Exchange Rate (BEER).



This model was introduced by Clark and MacDonald in 1998. Unlike FEER, BEER model doesn't impose the condition of the macroeconomic balance and try to estimate the equilibrium exchange rate using a wide range of economic fundamentals. The actual exchange rate is considered to be in equilibrium in a behavioural sense when its movements reflect changes in these fundamentals.

As determinants of the exchange rate, for the medium and long run was considered a large number of fundamentals, the most common being: net foreign asset position, productivity differential, and the openness ratio of the country economy.

But, were, also, many studies, which tried to particularize the BEER model for the analyzed economy. For example Egert and Halpern (2006) considered as fundamentals, too, the public and external debt, Saayman (2007) – the government consumption and the gross reserves, Melecky and Komarek (2008) – interest rate differential and foreign direct investment.

A model derived from BEER can be considered the Permanent Equilibrium Exchange Rate (PEER), which differs from BEER in that it decomposes directly the estimated long-term cointegration relationship into transitory and permanent components, with the latter constituting the measure of the equilibrium exchange rate. (Egert and Halpern, 2006)

### 3. The Behavioural Equilibrium Exchange Rate approach

As was said earlier, the concept of Behavioral Equilibrium Exchange Rate was introduced by Clark and MacDonald in 1998.

Authors assumed that the real exchange rate can be decomposed into transitory, medium-run and long-run components. (Clark, MacDonald, 1998, p.10)

$$q_t = \beta'_1 Z_{1t} + \beta'_2 Z_{2t} + \tau' T_t + \varepsilon_t \quad (1)$$

where:

$q_t$  – the real exchange rate

$Z_{1t}, Z_{2t}$  - vectors of long-run and medium-run fundamentals

$T_t$  – a transitory component

$\varepsilon_t$  – random disturbance term

Setting transitory components to zero, the “current equilibrium rate” or medium-run BEER ( $\bar{q}_t$ ) can be defined by:

$$\bar{q}_t = \beta'_1 Z_{1t} + \beta'_2 Z_{2t} \quad (2)$$

The long-run BEER (also, known as Permanent Equilibrium Exchange Rate (PEER), is reached when fundamentals are at their long-run value, and can be written as:

$$\bar{q}_{Lt} = \beta'_1 \bar{Z}_{1t} + \beta'_2 \bar{Z}_{2t} \quad (3)$$

Consequently, the total misalignment, defined by Clark and MacDonald in 1999 can be computed as the difference between the actual and equilibrium exchange rate, given by the long-run values of the economic fundamentals: (MacDonald, Dias, 2007, p.6)

$$tm_t = q_t - \beta'_1 \bar{Z}_{1t} - \beta'_2 \bar{Z}_{2t} \quad (4)$$

### 4. Evolution of the real exchange rate in Romania

For the purpose of analyzing the evolution of the exchange rate can be used the following indicators: the nominal exchange rate (NER), the CPI-based real exchange rate and the PPI-based real exchange rate.

Unlike the nominal exchange rate that inform us about the nominal price of the national currency against the foreign currency at different moments of time, the real exchange rates are trying to assess the currency competitiveness, taking into consideration the relative price differential between the analyzing countries: an increase in the real exchange rate being considered as a rise in the country competitiveness. (Saayman, 2007, p.185)

$$E = e \frac{P^*}{P} \quad (5)$$

where:

e- nominal exchange rate

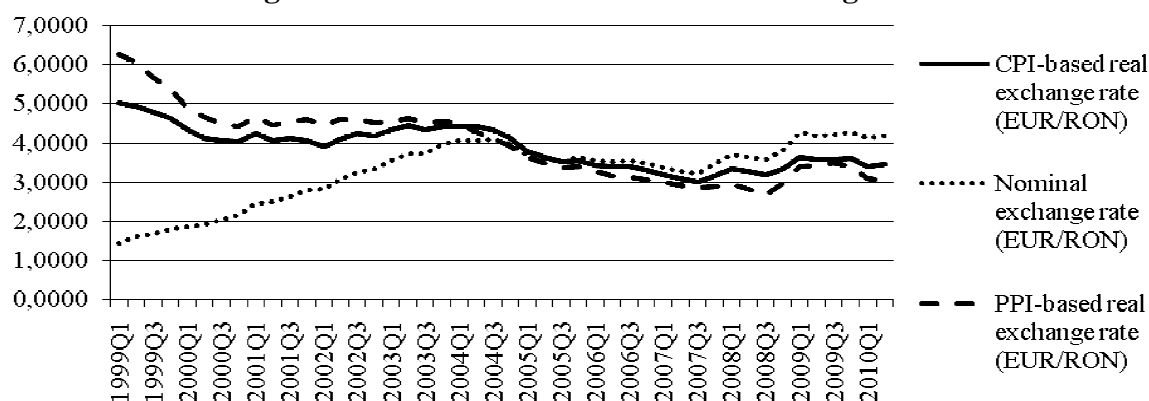
$P^*$ ,  $P$  – foreign and local price levels

What price index to use as a proxy for price levels remains still a question for many researchers, but mainly are used two indexes: the consumer price index (CPI) and producer price index (PPI). The CPI index is used to express the price of non-tradable goods and the PPI index – the price of tradable goods.

As we can see from the figure above, for the analyzed period, there were not any big discrepancies between the CPI and PPI-based real exchange rates, for both indicators dominating a descending trend, with some deviations in 2002-2004 and 2007-2010.

Comparing the nominal exchange rate with the discussed real exchange rates, we can see, that an alignment among the exchange rates taken place, only in 2005. Previously the nominal exchange rate had an ascending trend, with big deviation from the real exchange rate.

**Figure 1: Evolution of the Romanian exchange rate**



Source: Eurostat and IMF (IFS) database

## 5. Empirical results

### 5.1 Data

In the following study were used quarterly data covering the period from the first quarter of 1999 to the second quarter of 2010 (46 observations).

The data were obtained from the Eurostat and International Monetary Fund's International Financial Statistics (IMF).

Where appropriate the series were denominated in national currency using the average USD/RON exchange rate from the IFS database and were seasonally adjusted using the X-12 procedure.

*Dependent variable:*

*Real exchange rate:  $lrer$*

Was considered an average nominal exchange rate EUR/RON, deflated by the consumer price indexes (CPI) in both countries. A decrease of  $rer$  denotes a real appreciation, and an increase a real depreciation, of the home currency. The variable was expressed in natural logarithms.

*Explanatory variables:*

*Relative price of non-traded to traded goods:  $ltnt$*

The relative price of non-traded to traded goods was defined as the ratio of the domestic consumer price index (CPI) to the domestic producer price index (PPI) relative to the equivalent foreign ratio.

This variable can also be named as internal price ratio and is used as a proxy for the Balassa-Samuelson effect. If the internal price ratio of a country falls, the real exchange rate of the country is undervalued. On the other hand, if the internal price ratio of a country increases, the real effective exchange rate become overvalued. (Yajie, 2007, p.421)

Was used the natural logarithm of this variable.

#### *Net foreign assets: nfa*

To compute the variable of the net foreign asset position we used the ratio of the negative of the net foreign assets, calculated based on the methodology proposed by Lane and Milesi-Ferretti (2004) to nominal GDP, both denominated in RON.

Also, we considered, that the net foreign assets position influences positively the real exchange rate and was calculated it as follows:

$$NFA_t = NFA_0 + \Delta NFA_t \quad (6)$$

$$\Delta NFA_t \approx CA_t + \Delta KA_t \quad (7)$$

where:  $NFA_0$  – initial value of the net foreign assets, which was set to zero,  $CA$  – current account balance,  $\Delta KA$  – change in capital account balance

Authors (Milesi-Ferretti, Lane, 2004, p.13) included this variable in their model for portfolio-balance considerations. They assumed, that, in case of a current account deficit, this deficit should be financed from abroad by the foreign investors. For the associated adjustment of their portfolio structure, these investors will demand a higher yield, which can be offered through a depreciation of the national currency.

Also, they assumed that current account deficits would lead to an accumulation of the foreign debt of the country. To pay the interest payments for this foreign debt, a debtor country should improve the trade balance, raising the level of competitiveness of its exports, which can be accomplished through the depreciation of the national currency.

#### *Degree of openness: open*

To capture the impact of the level of liberalization of external trade we considered as a variable the degree of openness, and calculated it as the domestic ratio of the sum of exports and imports in GDP, relative to the foreign ratio. All series were denominated in national currency.

#### *Dummy variable: crisis*

We used a dummy variable for the present international financial crisis. This variable takes the value 1 in 2007Q3-2010Q2 and 0 for other periods of the sample.

### **5.2 Unit root test**

To find the order of integration of the variables we applied the Augmented Dickey-Fuller Test (ADF test). The lag length for the test was chosen using automatic selection, based on the Schwarz Info Criterion (SC), with maximum 4 lags, because we have the quarterly data.

With respect to the equation of the performed test, we decided to include a constant, a time trend and a constant or no time trend and constant using Akaike and Schwarz Information Criterion.

Therefore in the unit root of levels, were included in equation a constant and a time trend for all series.

**Table 1: Unit root test results**

Variable		Intercept	intercept and trend	none
<b>lrer</b>	t-statistic	-1,8947	-1,5403	-1,7282
	p-value	0,3318	0,8004	0,0795
<b>D(lrer)</b>	t-statistic	-5,1412	-5,2261	-5,0141
	p-value	0,0001	0,0005	0,0000
<b>ltnt</b>	t-statistic	-1,0836	-2,4456	-1,9817
	p-value	0,7143	0,3524	0,0465
<b>D(ltnt)</b>	t-statistic	-6,9399	-6,9238	-5,5511
	p-value	0,0000	0,0000	0,0000
<b>nfa_sa</b>	t-statistic	1,031896	-0.860834	2.910429
	p-value	0.9963	0.9516	0.9988
<b>D(nfa_sa)</b>	t-statistic	-6.226532	-6.676724	-5.485504
	p-value	0.0000	0.0000	0.0000
<b>open_sa</b>	t-statistic	-2.180361	-2.828304	0.181281
	p-value	0.2160	0.1952	0.7342
<b>D(open_sa)</b>	t-statistic	-8.415413	-8.427160	-8.520389
	p-value	0.0000	0.0000	0.0000

Source: Author's calculations

The results of running the ADF tests in level on the series mentioned above, suggested, that the null hypothesis, that a series has a unit root, cannot be rejected at the 5 percent level and that the time series variables are all nonstationary in level form.

The variables were therefore differenced and the ADF test run again. The number of lags used was still four, and for all series was used no time trend or constant.

The ADF test from the table below, indicate that the variables in their first difference are all stationary at the 5 percent significance level.

### 5.3 Johansen cointegration method

Given that all variables were integrated of order one, next was performed a cointegration test, to identify the long-run relationship between them.

To estimate the optimal number of lags used in the model, we used the following tests: LR, sequential modified LR test statistic, Final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC) and Hannan-Quinn information criterion (HQ). Based on the results of this tests, we have chosen one lag length in the VAR model.

**Table 2: Lag length test results**

Lag	LR	FPE	AIC	SC	HQ
<b>0</b>	NA	3.58e-09	-8.096273	-7.768608	-7.975440
<b>1</b>	308.2577*	1.83e-12*	-15.68338*	-14.70038*	-15.32088*
<b>2</b>	17.44411	2.33e-12	-15.46780	-13.82947	-14.86364
<b>3</b>	24.02696	2.28e-12	-15.55213	-13.25847	-14.70630

Source: Author's calculations

**Table 3: VAR model evaluation and diagnostics**

<b>VAR stability condition check</b>	No root lies outside the unit circle VAR satisfies the stability condition		
<b>Autocorrelation LM test</b>	LM1	LM2	LM3
- LM-statistics	22.13718	25.12044	23.05882
- p-value	(0.1388)	(0.0677)	(0.1122)
	no serial correlations		
<b>Heteroskedasticity test</b>	$\chi^2(90)=102.7769$ (0.1686) no heteroskedasticity		
<b>Jarque-Bera normality test</b>	$\chi^2(8)=5.835990$ (0.6656) normally distributed		

Source: Author's calculations

The next step, we performed a series residual tests on VAR and was evaluated the stability of the chosen model.

The results presented in the table 3, indicate that the VAR model satisfies all the tests conditions.

To test the presence of the cointegrating relationship between the variables were applied Trace and Maximum-Eigen Value statistics.

According to the trace and critical value statistics, presented in the table 4, was rejected the null hypothesis, of no cointegration, and accepted the alternative hypothesis, of existence of one cointegrating relationship among the variables, at the 5% significance level.

**Table 4: VAR cointegration test statistics**

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	Maximum-Eigen value
None	0.574156	63.52697 (54.07904)*	37.56200 (28.58808)*
At most 1	0.284543	25.96497 (35.19275)	14.73270 (14.73270)
At most 2	0.182394	11.23227 (20.26184)	8.860476 (15.89210)
At most 3	0.052477	2.371790 (9.164546)	2.371790 (9.164546)

\* denotes rejection of the hypothesis at the 0.05 level

Source: Author's calculations

**Table 5: Estimation of cointegrating coefficients**

	lrer	ltnt	nfa_sa	open_sa	c
<b>Normalized cointegrating coefficient</b>	1.000000	-1.458690	-0.088779	-1.381626	0.338686
<b>Standard error</b>		(0.25144)	(0.04237)	(0.17786)	
<b>t-statistic</b>		[-5.80139]*	[-2.09512]*	[-7.76788]*	

\* denotes rejection of the hypothesis at the 0.05 level

Source: Author's calculations

On the basis of the estimated cointegration vector, the long-run relationship between the variables could be written as follows:

$$lrer = 1.458690*ltnt + 0.088779*nfa\_sa + 1.381626*open\_sa - 0.338686 \quad (8)$$

All coefficients are statistically significant and their signs are conform to the economic theory.

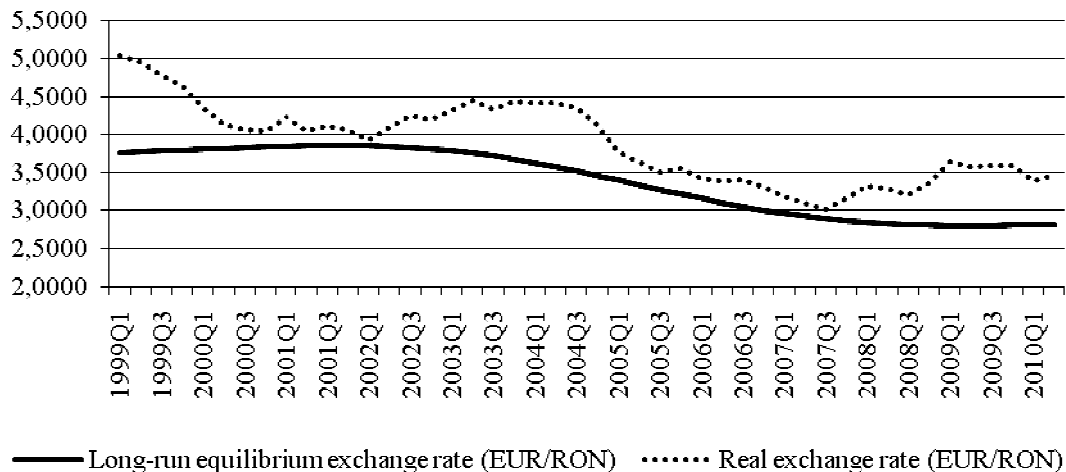
From the equation we can see that all the variables influence positively the real exchange rate.

Substituting the values of the fundamental factors in the equation above was obtained the Behavioural Equilibrium Exchange Rate (BEER).

#### 5.4 Exchange rate misalignments

To determine the total misalignments of the real exchange rate, we calculated the long-term equilibrium exchange rate, applying the Hodrick-Prescott filter to the variables which entered the model, in order to determine their long-run sustainable values.

Figure 2: Evolution of the real exchange rate and the long-run equilibrium exchange rate



Source: Author's calculations

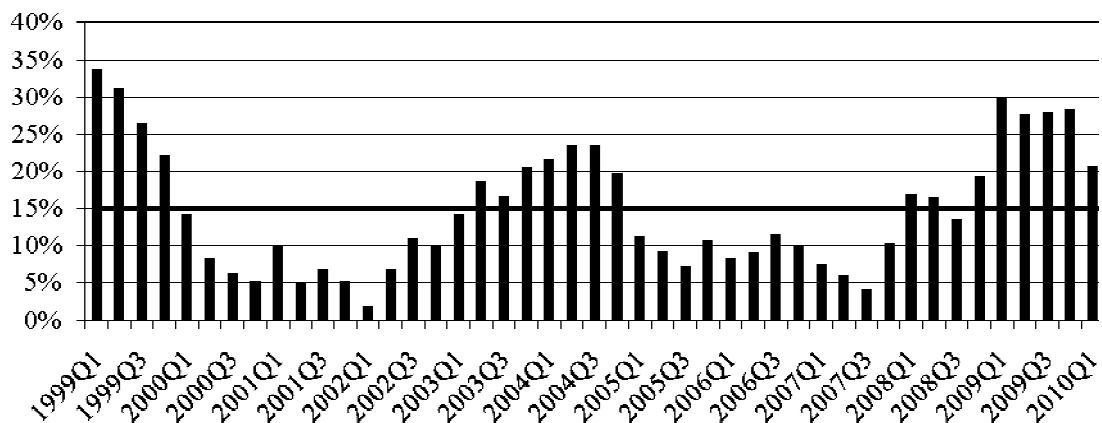
From the figure 2 we can see, that for all considered period of time, the real exchange rate was undervalued, but followed the trend of the long-run equilibrium exchange rate. Large deviations of the real exchange rate were in 1999, 2003-2004 and 2008-2010.

The misalignments in 1999 can be explained mainly by the price liberalization, which causes a substantial depreciation of the national currency, the next four years taking place an alignment of the real exchange rate to its equilibrium value.

In 2003-2004 the large deviations of the real exchange rate from the equilibrium exchange rate were due to an increase in the relative degree of openness and the presence of the Balassa-Samuels effect.

Referring to the period of 2008-2010, as a disruptive factor we can mention the financial crises. In this period of time Romania accumulated large deficit in the current and capital accounts, which led to a considerable depreciation of the national currency.

Figure 3: Evolution of the total misalignments of the real exchange rate



Source: Author's calculations

Analyzing the figure 3, we can observe, that on average, the misalignments of the real exchange rate were about 16%, exceeding the level of 15%, required by ERM II. These misalignments reached an admissible level only in 2000-2003Q1 and 2005-2007.

## 6. Conclusions

The aim of this paper was to assess the long-run sustainability of the Romanian exchange rate against the euro, in view of entering the ERM II. For this purpose was estimated the long-run equilibrium exchange rate, applying the BEER model and methodology specific to non-stationary time-series. The main conclusion drawn, after analyzing the total misalignments of the real exchange rate, was that in the near future, is not advisable for Romania to enter the ERM II. Even, if, there were some periods of time, when the misalignments of the real exchange rate from the estimated long-run equilibrium exchange rate were below the 15%, on average was exceeded the maximum permissible level.

The explanation for these misalignments could be a high growth rate of the productivity, beginning from the 2000 and the process of liberalization. As we could see from the cointegrating equation, the variables with profound impact on the real exchange rate in the long-run were the terms of trade and the degree of openness.

Besides, we observed, that the main misalignments were due to the external shocks or to the fast increase in the economic fundamentals. We noticed that the real exchange rate had the same trend as the equilibrium exchange rate in the long-run, but considering the fact, that the process of adjustment to the equilibrium value is slow, it should take more time for the real exchange rate to align to the sustainable level.

Entering the ERM II with an undervalued exchange rate may lead to inflationary pressures, jeopardizing in this way the fulfillment of the convergence criteria and generate the important disequilibrium in the national economy.

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**DIVERGENT PERSPECTIVES AND RELATIVE ASSESSMENTS ON THE FAIR VALUE**

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**Abstract:** *This study supports the increasingly developed specialized literature concerning the relevance of the value of accounting information provided through fair value, analyzing the validity of the assumption according to which fair value has an informative character superior to the historical cost, seen as a standard of financial reporting for financial tools. The objective of the research is extended in order to include the identification of divergence points of presently opposite valuation models. Therefore, we will compare the relative explanatory power of fair value and historical cost respectively. In research, fundamental research as well as applied have been used, by the presentation and critical analysis of evaluation theories and models developed over time. As a whole, the results of the analysis suggest that fair value is more (less) relevant when it is (not) possible to determine some objective market-based fair values.*

**Key words:** fair value, historical cost, measurement bases, FASB, IASB.

**JEL Classification:** M41

## 1. Introduction

As accounting technique was described about 700 years ago, problems of evaluation in accounting have also existed since ancient times. This is because one of the most complicated problems the accounting has faced was the one related to establishing the assessment base for the components of financial statements, in order to ensure credibility and relevance to the information provided. The determination of the measurement basis used for establishing various patrimonial elements in the financial statements has been one of the most difficult problems of accounting. In accounting practice and theory, several bases of measurement have been accredited: historical cost, replacement cost, net realizable value, economic value and, more recently, fair value. The question is which of these bases should be used by accountants?

Producers and users of financial statements have estimated that, in the measurement and presentation of accounting information the most useful would be the historical cost. This cost presents a great advantage over all other bases, given by its reliability (credibility). In order to illustrate the advantage of using historical cost we should consider the difficulties posed by any other basis.

The literature includes a series of tests reflecting different aspects of fair value, aspects developed in different contexts, showing both positive and negative aspects related to the concept. We must admit that fair value plays a crucial role in constantly providing relatively rational and advised information to market participants, and also in providing a common information framework to which all these participants can appeal in order to perform a recalibration of their own assessments and risk estimations when economic cycles alternate.

## 2. Fair value - an overview

No accounting concept is currently more debated than fair value, which is a consequence of the principle of true and fair view. But the term is translated differently in different languages: fair (juste) in the French system, real (reële) in Dutch, reasonable (razonable) in Spanish, current assignable value (beizulegender zeitwert) in German, fair value without any translation in Italian. From an accounting perspective, in recent years, the most important standardization bodies (FASB,

IASB) recognized for their orientation towards the capital market, promote heavily the concept of fair value.

The concept first appeared in the standards issued by the IASB in respect of financial instruments. Fair value is defined by IASB as *the sum at which an asset can be traded or a liability settled, willingly, between informed parties, in a transaction in which the price is objectively determined*. Therefore it is an estimation, and not a finding as in the case of the market value. The fair value includes the market value and tends to cover all values obtained from estimates based on economic calculations. However, fair value is present in the American literature before the advent of international standards.

The American origin of the concept of fair value is explained by the fact that term financial instruments have emerged within the U.S., where they have witnessed a spectacular development. References to this concept have existed since 1984, when SFAS 80 was issued, followed by SFAS 133 in 1998 and, in 2006 with effect starting with the financial year 2008, the U.S. legislator launched a standard SFAS 157 called "*Evaluations on fair value*". The standard defines *fair value as the price that could be received on the sale of an asset or paid on a transfer of a liability, in a transaction between market participants at the measurement date*. Issued just five months after SFAS 157, SFAS 159 „The Fair Value Option for Financial Assets and Financial Liabilities” encourages reporting entities to choose the fair value in evaluating eligible assets and liabilities, whereas, once elected, this option is irrevocable.

What was the reason for this radical change? FASB argued such change like this: "*...over time, historical cost becomes irrelevant in the presentation of an entity's current financial position ... financial statements should provide users with relevant information for investment, credit or other types of decisions*".

Also related to accounting regulations, European Directives do not provide any indication regarding the definition of fair value, respectively on means of obtaining it. They limit themselves to recalling, concerning the accounting evaluation in general, that along with the historical cost other bases may be used for evaluation. IVSC (International Valuation Standards Council), the professional association internationally governing the valuation activity of assets and businesses, has its own amendments regarding the concept of fair value. The International Valuation Standards - IVS draw attention to the concept difference between the fair value and the fair market value.

### **2.1. Pros and cons on fair value**

The use of fair values is a topic extensively debated during recent periods, major financial institutions admitting, in financial statements, losses of more than 150 billion dollars, mostly as a consequence of using market values (Beeler et al., 2009). In the same time, the SEC is currently investigating the possibility of using, by certain entities under examination, of different market values for the same securities. From this perspective, nobody can deny that the use of market values involves certain problems, particularly in periods of extreme market difficulties. However, defenders of fair value bring as an argument its ability to ensure a certain connection to reality, associated with another aspect of reality, namely the shortcomings of alternatives to the market values. We refer here to the fact that not even the reflection of value for some elements based solely on their cost, under the historical cost principle, would give investors a better picture of the problems that the financial institutions are currently facing.

Criticism brought to the fair value refer indeed to problematic situations, but the solution proposed, that is to restrict its use, remains unconvincing for at least three reasons:

- it is without any viable alternative;
  - it ignores the negative impact that would result from the loss of information that are currently provided in the financial statements;
  - it affects the distinction between accounting and prudential concerns, which have in fact different purposes and should be more carefully separated (Veron, 2008).
-

Opponents of fair value lose this argument from the beginning, because they fail to accompany their arguments with tangible solutions, or in other words with a “counter offer”. If it is easy to identify and highlight shortcomings of fair value accounting, it is not as easy to find an alternative method to better fulfill the characteristics of relevance, reliability, comparability and understandability, which a broad consensus and a set of principles assign to current standards in the field.

The literature occasionally mentions some alternatives, but the arguments are not convincing enough. The historical cost would provide a significantly lower degree of comparability and relevance of information, clearly being rejected by users of this information, particularly by financial investors. Other sources refer to the use of notional prices set by public authorities, which represents the fundamental accounting principle of collectivist economies, but they benefit from even a lower credibility, at least among most economists and participants in the capital market.

The support we give to the concept of fair value is by far not an assertion of its perfectiveness, we are aware that a series of amendments to current standards will be achieved in the future, as the chairman of IASB himself suggested (Tweedie, 2008). However, the purpose attributed to fair value accounting and to market-based assessments, does not seem exaggerated if we integrate it in the picture showing the characteristics of financial markets in an emergent world, a picture also reflecting the lessons learned from past crises. A restriction on fair value would not only not heal the wounds from the current financial crisis, but it would rather aggravate them, reducing the level of confidence that investors and other participants have in the financial statements of financial institutions (Veron, 2008). Other changes are however needed to meet the challenges of the crisis, changes that should solve the deficiencies revealed at various levels.

## 2.2. The qualities of fair value

Fair value is a future-oriented value, because it corresponds the most frequently to cash flows expected to be obtained by the entity through using or selling an asset.

In accounting theory, the fair value is assigned a number of qualities such as:

- *utility*: the primary utility of the valuation on fair value resides in the submitted information on the future cash flows;
- *simplicity*: the use of fair value assessment is simple when referring to short-term financial instruments, due to numerous market references, and to long-term financial instruments which are listed;
- *low rigidity*: assessment by historical cost is very rigid, while fair value benefits from a lower rigidity;
- *comparability, coherence*: it reflects the updated value of all instruments whatever their nature. Historical values do not allow comparison of actual business performance, while the fair value determined by financial markets, can facilitate the comparability of accounts;
- *neutrality*: it is independent of the intent and quality of the parties, of the origin date of operations, of the nature of the instruments (but only for financial instruments which have active markets);
- *predictability*: the fair value is the best basis for forecasting future financial flows, being based on their estimates;
- *integrality*: fair value allows full accounting of values. By applying historical costs, only items that had a cost were accounted (financial derivatives were not accounted for and users of financial statements could not take them into account in assessing future cash-flows).
- *relevance*: the fair value provides a more relevant assessment for future cash flows than any other valuation methods, enabling the users of financial information to make a better decision.

In Table 1, we have tried to reproduce some of the strengths but also some limitations of the fair value.

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**Table 1: Strengths and limits of fair value**

<b>Strengths of fair value</b>	<b>Limits of fair value</b>
It allows an estimation of future cash flows, an aspect highly appreciated by investors (predictability).	The estimates may affect the reliability of the information provided. In the case of their use, subjectivity interferes and the different interpretation of the factors taken into account may have the effect of masking errors and the deliberate manipulation of figures.
For some elements (such as listed financial instruments), its determination is very simple.	Most financial instruments do not have active markets. Under these conditions, their evaluation is done by means of quite complex techniques. They require the use of professional reasoning, which may result in an increased inaccuracy of the evaluation.
In the evaluation of similar items in the same manner, fair value ensures comparability of accounting information.	When using valuation techniques, assumptions and other factors used for the calculation of fair value may differ from one company to another, which adversely affects comparability.
Using data from external sources (market price), fair value is independent of management decisions or the date of the transaction (neutrality).	Only values based on market prices are neutral and objective.

Source: Huidan M. C. “*Instrumente financiare: tratamente și opțiuni contabile*”, Bucharest CECCAR Publishing House, 2008.

### 2.3. Criticism on fair value

Critics of fair value show that the concept was introduced in the accounting practice without a thorough theoretical reflection and without a consideration of the consequences of a general evaluation of assets, equity and debts by this principle (Casta.J.F., Colasse B., 2001). Those who criticize fair value rely on the following arguments:

#### a) *Volatility*

Introduced by the application of the fair value model, its volatility will not always reflect the real changes in the enterprise's side events and will not allow to faithfully reproduce the reality of the transactions and financial position. This critique is intended to support a contrary opinion, saying that it is unlikely for a better base to exist in order to bet against the market value than its fair value as determined by the play of the market.

b) *The absence of transactions*: considering that the organization does not always rely on actual transactions.

#### c) *The cost of determining fair value*

In the absence of external quotes for most of the used financial instruments, the fair values must be calculated within the enterprises, using models whose design, implementation and monitoring operations are very costly and possibly prohibitive for some companies and institutions at least in relation to the benefits conferred to those values.

### 3. Historical cost between past and present

*Historical cost is the original cost assessed, measured and recorded at the entry of assets and at debt creation.* The general framework of the international standardization body – International Accounting Standards Board (IASB) defines the historical cost as follows: “*In the case of assets, historical cost defines the amount of cash or cash equivalents paid at the time of their purchase or the fair value of the amount paid at time of purchase. In the case of debt, the historical cost is the amount of equivalents obtained in exchange of the bond or, in certain circumstances (for example, in the case of income tax), the amount that is expected to be paid in cash or cash equivalents to settle debts in the normal business process*”.

Historical cost accounting was developed in the nineteenth century as a result of the industrial revolution but it originated in the fifteenth century when it was first used in textile factories. Historical cost is the consequence of two **fundamental principles**: the precautionary principle and the principle of monetary nominalism (Feleaga L. & Feleagă N, 2007).

- *The principle of monetary nominalism* ignores value fluctuations of the monetary standard and calls for an assessment of goods purchased with onerous title at the cost of purchasing, of goods from own production to the production cost, of claims and debts at nominal value. Once established, the historical cost remains unchanged as long as the property remains in possession of the entity.
- *The precautionary principle* calls for the accounting of shortfalls of potential value and prohibits the accounting of strengths of latent value on assets. Thus, assets remain registered at historical cost if they record an increase of value, otherwise, at the recoverable value for most items, according to International Financial Reporting Standards (IFRS).

Gradually the precautionary principle begins to be introduced in accounting, so that nowadays, one can not speak of historical cost accounting without bringing in the discussion the precautionary principle. J. Savary is among the first authors to introduce in accounting issues related to the precautionary principle. Thus, in his book published in 1675, *Le Parfait négociant*, J. Savary recommends annual inventory for entities and suggests for stocks not to be valued at more than their real value. The author also recommends that entities take into consideration all costs incurred and all debts (Colasse B., 2005).

Historical cost is oriented toward the past, but unlike other valuation bases, it has a great advantage:

- It is clearly defined and verifiable; once established, it remains unchanged as long as the asset is owned by the entity.

Based on these advantages it seemed that nothing could happen to the historical cost. Then, what is the big disadvantage that makes the historical cost an obsolete value? The answer: **inflation**. If market prices increase, the information provided by the historical cost is no longer real. *Another disadvantage* of historical cost accounting is **the absence of the relevance of information provided in terms of inflation** (Solomons D., 1948; Barlev B & Haddad J.R., 2003; Khurana I.K. & Kim M.S., 2003; Herrman D et al, 2006).

#### **4. Fair value versus historical cost. Comparative analysis**

One of the most complicated problems of accounting is related to establishing the assessment base for the components of financial statements in order to ensure credibility and relevance to the information provided. In accounting theory and practice several valuation bases have been suggested including: historical cost, current cost, realizable value, updated value, fair value. The last four listed assessment bases represent current values. During a long period of time, the historical cost was the main measurement basis used in accounting, *due to the advantage given by its reliability, the clarity of its definition, its verifiable character*.

But, now, we observe a larger use of actual values in the valuation of the elements in financial statements. The study presents the advantages and disadvantages of historical cost accounting compared to the advantages and disadvantages in the use of fair value accounting. In a stable economy, the benefits of historical cost accounting are superior to fair value accounting.

Problems arise in an inflationary economy, when the historical cost accounting admits the growth in price as profit, leading to the submission of false results, with direct consequences on the de-capitalization of the entity.

The features and benefits of using fair value can be presented best by comparing them with those defining historical cost. Schematically, the qualities of fair value, as seen through the comparison with the limits of historical cost, are presented in Table 2.

**Table 2: Features of fair value and historical cost**

<b>Fair value</b>	<b>Historical cost</b>
It provides information about the expected benefits of the assets or about the “difficulties” encountered as a result of debts assumed, in the current economic conditions. This enhances its usefulness.	It provides information about the expected benefits of the assets or about the “difficulties” encountered as a result of debts assumed, in accordance with the economic situation existing at the date of their acquisition or contracting. Its utility is lower.
It reflects the effects of management decisions to keep the assets / liabilities or to take on others, on the entity’s performance and financial position.	It reflects the effects of decisions to purchase assets or to contract debts, but they ignore those related to decisions to keep or failure of settlement.
It report gains and losses arising from the price changes, when they occur.	It report gains and losses arising from the price changes, when accomplished by sale or settlement, even if those are not the events that caused them.

Source: Hague I., Willis D., „ Old price or new?” CAMagazine, February, 1999.

Internationally, the current value is used more and more frequently in assessing the financial position and performance of an entity.

In conclusion, the relationship between historical cost and fair value can lead to the definition and, in some cases, to the application, of one of the following accounting systems:

**Scenarios for the use of fair value in accounting systems**

Historical cost-based system for both the current record of transactions and for preparing financial statements.	Fair value-based system, which involves the use of the fair value for both the current record of transactions and for preparing financial statements.	Mixed system, based on historical cost and fair value, which involves the use of historical cost and in some cases, of the fair value for current record of transactions and for preparing financial statements. In the preparation of financial statements, the fair value can be used as follows:	
		In some unique financial statements, along with the historical cost which is still used for the assessments of some elements.	In separate financial statements, in which all elements are reflected at fair value, statements which accompany those stated at historical cost.

Source: Deaconu A., “Fair value: accounting concept” Bucharest, Economic Publishing House, 2009.

## 5. Conclusions

In our view, fair value is a generic term, a goal, as a faithful image is the general accounting objective. It is neither a basis for evaluation included in the conceptual accounting framework nor a certain type of value. It is a purely accounting concept that professional evaluators and

organizations that represent them have tried to analyze and master it, by finding clear correlations in practice.

It should be noted that the accounting theory and rules have not cut too sharply between the fair value and its interpretations or applications (for example, replacement value, waiver value, discarding value). For this reason, the fair value concept does not seem very well founded. On the other hand, fair value is easily determinable, and we could say usable if there is an active market. Otherwise, it is necessary either to use complex, professional evaluation methods, or to accept accounting values. It is therefore necessary to clarify the conceptual content of fair value and not giving up its use, which enriches the accounting information system. Also, in what concerns the application possibilities in practice, we believe that when the market does not provide sufficient information to estimate fair value as a market value, substitute models can be used. It is true that they involve a high degree of subjectivity of the professional accountant. The solution would be adequate training in the field of evaluation of the professional accountant which elaborates financial statements (otherwise, it is necessary to use the services of a professional assessor).

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## SEASONED EQUITY OFFERINGS VS. DIVIDEND POLICY – AN ANALYSIS OF THE LISTED COMPANIES ON BUCHAREST STOCK EXCHANGE

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**Abstract:** *The funding of a listed company by issuing new shares and the distribution of financial results through dividends are two controversial phenomena. The main objective of the research is to analyse the relation between them or to see if they behave as a single phenomena. We studied the behavior of Bucharest Stock Exchange firms, between 2006 and 2010, taking into consideration the international financial crisis. The method considered to meet the data and the objective was the principal components analysis. Although we did not obtain a significant correlation between dividends and subsequent equity offerings, results still proved to be interesting.*

**Key words:** Dividend Policy, Seasoned Equity Offerings, Bucharest Stock Exchange

**JEL classification:** D21, G32, G35.

### 1. Introduction

Through his "Philosophiae Naturalis Principia Mathematica (1687), Isaac Newton expounded his three principles of physics which later became the basis of classical mechanics. According to the last of them, called *the principle of action and reaction*, when a body acts on another body with a force (called *the action force*), the second body also acts on the first with an opposite force (called *the reaction force*) of same size and direction. This principle is a key point in understanding the paper structure, since it is found surprisingly in all human activity and relationships, in the economic sphere also.

Capital market, as a feature or a major section of the economic sphere, is itself governed by the principle of action and reaction. The company listed on a stock exchange and the potential investor are the two bodies that hit each other, as the principle specifies.

The paper captures two important activities: the firm financing and the distribution of its results. Normally, under the current practice, in order to get on a stock exchange, the company must conduct an initial offer for the public investors. Later, it may issue additional shares to obtain new financial resources. This last moment was considered to be *the action* - the money transfer from investors to the company. The reverse funds flow, from the company to investors, was considered *the reaction* - the distribution of financial results. A pertinent criticism that could be raised to this approach would be in two important aspects:

- the market reaction is also an important indicator of firm's appreciation by investors and could actually be considered as a form of reaction;
- investors obtain as a reward not only dividends but also capital gains, from subsequent sale of shares.

However, as the listed company is the center of the paper, both phenomena will be viewed from her perspective. This is why we considered the distribution of financial results as a reaction to what the company perceives investors want.

Therefore, the overall objective of this paper consisted in studying the relation between *subsequent equity issue* and *dividend policy*, for the companies listed on the Bucharest Stock

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Exchange, between 2006 and 2010. The statistical method, selected to achieve this goal, was the principal components analysis.

## 2. Relevant literature ideas and results

Financing through capital market is, for the issuer, a sale of the promise that he will protect and pursue investors interests. But most times, investors want more than a growing stock price. Practice and studies have shown a clear preference for dividends. Moreover, dividend policy itself has become a form of promoting the issuer, an important signal, a channel for transmitting information to the investors.

Correlating the two phenomena, seasoned equity issues and cash dividends, is not a simplistic approach. We believe that, by addressing this problem, we can provide important resources in understanding the decision-making process of listed companies, as both financing and dividends are currently controversial and complex topics.

Studies revealed a particular aspect of the company's financing process: the oscillating character. The controversy around this topic did not fail to occur. According to the results, the main explanation lies in managers trying to synchronize with the market, specifically to take advantage of issued shares overvaluation. For example, when the company sells shares to the public investor, for the first time or by subsequent capital increases, it changes an asset (often overvalued) to another, in this case, real money.

The dissemination of information, in an environment which can seriously influence the stock market prices, becomes a very important topic. In this context, another phenomenon must be considered: the information asymmetry. Thus, Rebello and Noah (1996) conclude that when shareholders establish the financial policy, they choose debt. If we deal with managerial opportunism and other forms of financing are required, shareholders prefer the issue of shares as a signaling mechanism only after restricting dividends. As a result, stock prices fall. When managers are those who choose the financing policy, the order is often reversed as they prefer issuing shares. Managers do not issue shares to the requirements of investment projects but to get a profit when shares are overestimated and the period of capital gains is getting to a final moment (Loughran and Ritter, 1995; Graham and Harvey, 2001).

As the model set out by Lucas and McDonald (1990) specifies, managers are one step ahead of investors, in what regards the company's asset value information. Although the market receives regular information, managers know something more with at least one period before they offer the information to the public. Thus, the model assumes that in a period will be at least one favorable business project. If the company is undervalued by the market, so the price is expected to increase, managers delay the issuance of shares to finance the project. In other words, the company implements the project when she expects a decline in asset values. So, if today the company is undervalued, managers delay the project because they do not want to issue shares. If the company is overvalued and the stock price will decrease after a while, information known by managers, they will choose to issue shares.

The company issues shares to finance its investments, but it shoulders also the consequences upon future stock price and dividend policy. Moreover, on the reverse pathway, practice and literature of many listed companies have reported an inclination to increase the dividend previously announcing a new share issue.

Individually, dividend policy is still a paradox. Various theories claim its usefulness or irrelevance in the context it itself was a permanent presence in the lives of most listed companies. Explaining dividend policy has been a challenge for economists. Even after decades of study, we can not say that they have identified and understood all the factors involved in this initiative. However, researchers have not ceased to study and obtain interesting results.

According to *the bird in the hand theory*, investors prefer issuers who offer dividends, a fact that rises the stock prices and makes feasible future share issues. Although, now investors prefer

money in the form of dividends than capital gains tomorrow, international practice has shown that most investors use dividends to buy other shares, so the ability to generate cash assets prevails.

Despite all the criticism, dividends have been a reality. Among the arguments found so far, we can mention: investors preference for dividends, their ability to signal a good financial situation and encouraging prospects for the business, the power of creating a market for future share issues, the capacity to prevent managers to invest cash in unprofitable projects. Among the promoters of these ideas we can include Graham and Dodd (1951), Gordon and Shapiro (1956), the latter supporting the need for practicing a policy of dividend growth from one year to another.

Dividends capacity to signal and transmit information has been a controversial topic in the economic literature. Benartzi, Michaely and Thaler (1997) showed that dividend changes do not anticipate future changes in company's earnings but they may provide important information about the company. According to researchers Nissim and Ziv (2001), dividend increases are correlated with increases in profit for about four years after a change in dividends, while dividend decreases do not predict the evolution of profitability.

An original vision is offered by Kock and Sun (2004), whereby a part of the market reaction to dividend changes is a delayed effect of financial results announcements. Specifically, if the dividend change is consistent with the obtained results (in the same direction), the market reaction is positive. If the dividend change is in the opposite direction with the results variation, as when we expect superior results but dividends go down in value, market reaction is negative. Thus, investors correlate dividends with the persistence of the company's financial results.

The *theory of free cash flow*, whose promoters have been Jensen (1986) and Easterbrook (1984), is also important at this level. Easterbrook (1984) saw in dividends a way to get cash from managers and to distribute it to shareholders. In this way, managers have to resort to capital markets for new financial resources, a fact that increases the responsibility, for the benefit of shareholders. In other words, the practice of dividend policy increases the probability for the company to issue new shares.

Jensen (1986), however, although does not explicitly talk about dividend policy, correlates the cash availability with the possibility of hostile takeovers. Taking into account the propensity of managers from large companies to invest in projects with low returns, Jensen (1986) argues that takeovers and acquisitions happen when the buyer or the bought one has huge amounts of money that have not been distributed to shareholders.

Dionne and Ouederni (2010) reconcile with the dividend signaling theory of risk management, both closely related to the information asymmetry phenomenon. The main result lies in the idea that protecting future earnings will reduce the sensitivity of dividends to future income. More specifically, as the coverage of cash flow is higher, the information content of dividend changes is lower. In other words, risk management decreases the dividends ability to anticipate future changes in company's financial results.

According to other opinions, dividends serve a dual purpose: on the one hand, they signal the market about the firm's current income and on the other hand they affect the company's ability to invest in new projects. Dividends may provide false or confusing signals to investors who can see in their growth a positive signal related to the current income (thereby actually reducing information asymmetry) or in connection with an attempt to decrease the available cash-flow and to reduce agent problems. At the same time, dividend growth can be perceived as negative, meaning that the company has no further opportunities for growth while their decline may send a message that there are good projects in which the issuer wants to invest.

### **3. Methodology**

The paper objective is to study the relation between listed company's decision to finance through equity issues and the decision to offer shareholders dividends. Using SPSS (Statistical Package for the Social Sciences), version 1.7., the statistical method selected for the analysis was

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*the principal component analysis*. We focused upon Romanian capital market for two reasons: first because of the data availability and second to meet the need in studying our immediate reality.

In an attempt to ensure relevance for results, our database did not consist of all listed companies on Bucharest Stock Exchange (Class I, II and III), excluding the following:

- Listed banks (Banca Comercială Carpatica, Banca Română pentru Dezvoltare, Banca Transilvania);
- Financial investment companies (S.I.F. Banat, S.I.F. Moldova, S.I.F. Transilvania, S.I.F. Muntenia, S.I.F. Oltenia);
- Financial investment services company Broker Cluj-Napoca;
- Companies listed on BSE during 2010, whether initially traded on Rasdaq or not, as Cemacon Zalău and Prefab București;
- The Bucharest Stock Exchange issuer itself which listed in 2010;
- Issuers like Artrom Slatina, AzoMureș Târgu Mureș, Mechel Târgoviște, Oltchim Râmnicu Vâlcea, Transgaz Mediaș, Rompetrol Rafinare Năvodari, Flamingo Internațional București, Alro Slatina, OMV Petrom București and Transelectrica București, considered outliers by their data.

Finally, after these exclusions, the database consisted of 50 non-financial companies listed on Bucharest Stock Exchange, at the latest during 2009. The main objective set was the study of two listed company's fundamental decisions: financing through seasoned equity offerings (SEOs) and the decision to offer cash dividends. By default, the selected variables to capture this relationship aimed at quantifying funding by equity issues, on the one hand, and the distribution of company results, on the other hand.

Under current practice, the issuer listed on a stock exchange can be funded through capital market from two major sources: the issue of new shares and the issue of bonds. Since the issuance of corporate bonds is a rare phenomenon at the Bucharest Stock Exchange, the listed company financing through capital market was captured by all the SEOs, during 2006 and 2010.

In order to capture financing, the first defined variable was the value of SEOs, expressed in absolute terms (RON) for the 2006 - 2010 period. The *SEO\_Year* notation was attributed. More specifically, *SEO\_07* represented the seasoned equity offering decided by the firm in 2007, according to the Extraordinary General Meeting of Shareholders. For companies that had no SEOs during the studied year, the default assigned value to the variable was 0.

In order to capture additional information about the external financing of listed firms, the second group of variables used in the analysis was the *debt ratios variables (DR\_Year)*, determined as the ratio between total debt and total assets of the company. As the last audited financial reports were those for the 3rd quarter of 2010, for all companies included in the analysis we used the debt ratios for the specified quarter in 2010.

The company's decision to distribute its financial earnings, according to the literature, may consist in cash dividends, bonus shares, splits and stock repurchases. Except for the provision of cash dividends, the rest of the phenomena, as well as the issuance of corporate bonds have a lower frequency and relevance on BSE. Separate analysis must be conducted in order to study these corporate events.

This is why, the firms decision to remunerate shareholders was described by cash dividend policy. The variables used to express cash dividends had also an absolute numeric characteristic (RON), with the notation: *Div\_Year*. For example, *Div\_07* represented the dividends decided in 2008 to be awarded from the 2007 net profit. By default, the lack of dividends meant a 0 value for the variables. In addition, a final group of used variables was the one referring to the net profits obtained by the companies, all expressed in absolute values (RON) with the *NP\_Year* notation.

An important aspect to understand was the synchronization of the two firms decisions. In other words, the analysis for one year aimed at correlating the financing and dividend decisions, taken in that studied year. The key point was offered by the Extraordinary General Shareholders Meeting, when the specified decisions were actually adopted.

The variable that refers to the cash dividends the company offered includes into the notation the previous year to the one that is taken into account. This is because we wanted to keep the information about the net profits dividends are offered from. For this reason, Div\_Year variables include into their notation the 2005 - 2009 period, but the decision - making process corresponds to the 2006 - 2010 period. In other words, Div\_05 represents dividends offered from the 2005 net profits but the effective decision of their distribution was adopted in 2006, so the variable will be studied in connection with SEOs for 2006.

Because we wanted to perform a separate analysis for each year considered in the study, the database became a table with 50 lines (listed companies) and 20 columns, corresponding to all variables introduced in the analysis (four group of variables considered separately for the five studied years).

The present research starts from the following hypothesis:

*Hypothesis 1: In the companies that pay dividends there is, by virtue, according to the signaling theory, a propensity to preserve this tradition of dividends distribution;*

*Hypothesis 2: SEOs do not fit as a traditional event within the listed companies on BSE;*

*Hypothesis 3: SEOs and cash dividends are not significantly correlated.*

The confirmation or rejection of the three set out assumptions is achieved by reading the obtained results, operation carried out in the next section.

#### 4. Results

One of the first results of principal component analysis is the matrix of correlations between variables. Due to the relatively large number of variables considered in the analysis, the large size of the matrix correlations imposed the extraction of significant results, as we can see in Table 1.

For the entire period covered in the analysis, we noticed significant direct correlations between the current year dividends and those for the year before. We can conclude that there is a tradition of paying dividends in the companies who practice this form of rewarding investors faith. Why, during the financial crisis and the lack of cash, companies have continued to practice their dividend policy, is a question to which we can easily respond by taking into account the signaling capacity of dividends. Therefore, we accept first hypothesis. There may also be observed other significant correlations between recorded net profits from a year to another year, but in a sporadic manner.

Since there is no evidence of a significant link between capital increases from year to year, by offering new shares, the second hypothesis is rejected. However, significant relationships are recorded among the debt ratios variables along with 2008 and to the end of the analysis period. A first conclusion is that once the financial crisis occurred, companies became reluctant in changing their financial structure, choosing the configuration at the end of 2007 as a reference level.

**Table 1: Correlation Matrix**

<i>Corr.</i>	<b>NP 2005</b>	<b>Div. 2005</b>	<b>NP 2006</b>	<b>Div. 2006</b>	<b>NP 2007</b>	<b>Div. 2007</b>	<b>NP 2008</b>	<b>Div. 2008</b>	<b>NP 2009</b>	<b>Div. 2009</b>
<b>NP 2005</b>	1.000	.082	.068	.065	.107	.015	-.007	-.022	-.028	-.071
<b>Div. 2005</b>	.082	1.000	.321	.671	.172	.260	-.106	.117	-.041	.044
<b>NP 2006</b>	.068	.321	1.000	.570	.679	.433	.545	.399	.371	.170
<b>Div. 2006</b>	.065	.671	.570	1.000	.474	.664	.126	.553	.252	.383
<b>NP 2007</b>	.107	.172	.679	.474	1.000	.654	.517	.585	.648	.256
<b>Div. 2007</b>	.015	.260	.433	.664	.654	1.000	.284	.722	.389	.426
<b>NP 2008</b>	-.007	-.106	.545	.126	.517	.284	1.000	.595	.431	.496
<b>Div. 2008</b>	-.022	.117	.399	.553	.585	.722	.595	1.000	.572	.798

<b>NP 2009</b>	-.028	-.041	.371	.252	.648	.389	.431	.572	1.000	.455
<b>Div. 2009</b>	-.071	.044	.170	.383	.256	.426	.496	.798	.455	1.000
<b>Corr.</b>										
	<b>DR 2006</b>	<b>DR 2007</b>	<b>DR 2008</b>	<b>DR 2009</b>	<b>DR 2010</b>					
<b>DR 2006</b>	1.000	.454	.451	.446	.467					
<b>DR 2007</b>	.454	1.000	.895	.789	.763					
<b>DR 2008</b>	.451	.895	1.000	.924	.871					
<b>DR 2009</b>	.446	.789	.924	1.000	.961					
<b>DR 2010</b>	.467	.763	.871	.961	1.000					
Determinant = 4.09E-008										

Because we did not obtain significant correlations between seasoned equity offerings and cash dividends, the last hypothesis is rejected. The reduced value of the determinant matrix supports the existence of significant correlations between the studied variables, as a prerequisite for the application of principal component analysis.

The value of Kaiser-Meyer-Olkin statistics (0.596), noted in Table 2, arranges the efficiency of selected analysis within acceptable limits, according to Kaiser (1974).

**Table 2: KMO and Bartlett's Test**

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.596
Bartlett's Test of Sphericity	Approx. Chi-Square	501.830
	Df	190
	Sig.	.000

Another important result of principal component analysis, as shown in Table 3, are the submitted eigenvalues of correlation matrix and the explained percent of factorial axes. The six selected factorial axes explain the correlations between variables, according to Kaiser's criterion (1960). Moreover, they provide a 73% explanation of the variability for the 20 variables included in the analysis.

**Table 3: Total Variance Explained**

Comp .	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
<b>1</b>	5.515	27.577	27.577	5.515	27.577	27.577
<b>2</b>	3.417	17.083	44.660	3.417	17.083	44.660
<b>3</b>	1.846	9.230	53.890	1.846	9.230	53.890
<b>4</b>	1.582	7.910	61.800	1.582	7.910	61.800
<b>5</b>	1.168	5.839	67.639	1.168	5.839	67.639
<b>6</b>	1.052	5.259	72.898	1.052	5.259	72.898
<b>7</b>	.999	4.993	77.891			
<b>8</b>	.871	4.355	82.246			

<b>9</b>	.689	3.445	85.691			
<b>10</b>	.677	3.385	89.076			
<b>11</b>	.542	2.711	91.787			
<b>12</b>	.509	2.547	94.335			
<b>13</b>	.339	1.695	96.029			
<b>14</b>	.259	1.296	97.325			
<b>15</b>	.236	1.182	98.507			
<b>16</b>	.108	.542	99.049			
<b>17</b>	.085	.424	99.473			
<b>18</b>	.053	.266	99.740			
<b>19</b>	.038	.191	99.930			
<b>20</b>	.014	.070	100.000			
Extraction Method: Principal Component Analysis.						

The importance of each variable in creating the six factorial axes is shown in Table 4. As we can observe, dividends, net income and ratio debts are those that contribute, with few exceptions, to the formation of the first two factorial axes. The seasoned equity issues have a minimum contribution in creating the first axis, and a relative small one in explaining axis 3, 5 and 6. This result confirms the idea that cash dividend distribution is not correlated with firm financing through capital market, by issuing new shares.

**Table 4: Component Matrix<sup>a</sup>**

Variable	Component					
	1	2	3	4	5	6
Net Profit 2005	-.195	.393	.215	-.068	-.350	.046
Dividends 2005	.103	.470	-.350	-.613	.098	.286
Net Profit 2006	.603	.385	.278	-.340	.092	-.028
Dividends 2006	.484	.615	-.282	-.386	.092	.146
Net Profit 2007	.673	.455	.376	-.087	.079	-.108
Dividends 2007	.584	.556	-.169	-.015	.093	-.085
Net Profit 2008	.684	.102	.131	.353	-.091	-.035
Dividends 2008	.684	.525	-.128	.362	-.016	-.119
Net Profit 2009	.680	.174	.208	.244	-.022	-.057
Dividends 2009	.521	.362	-.177	.540	-.098	.083
SEO 2006	-.243	.222	.744	-.085	.042	-.017
SEO 2007	-.056	-.012	.795	-.082	.200	.102
SEO 2008	-.226	.021	-.189	.208	.756	-.247
SEO 2009	-.089	-.100	-.113	-.064	-.359	-.494
SEO 2010	-.018	-.090	.010	.345	-.060	.760
Debt Ratio 2006	-.519	.273	.038	.291	.424	.049
Debt Ratio 2007	-.630	.598	.057	.218	-.219	-.031
Debt Ratio 2008	-.724	.623	-.013	.059	-.106	-.021

Debt Ratio 2009	-.748	.577	-.034	.031	-.003	-.066
Debt Ratio T3 2010	-.730	.575	-.048	.070	-.022	-.007
Extraction Method: Principal Component Analysis.						
a. 6 components extracted.						

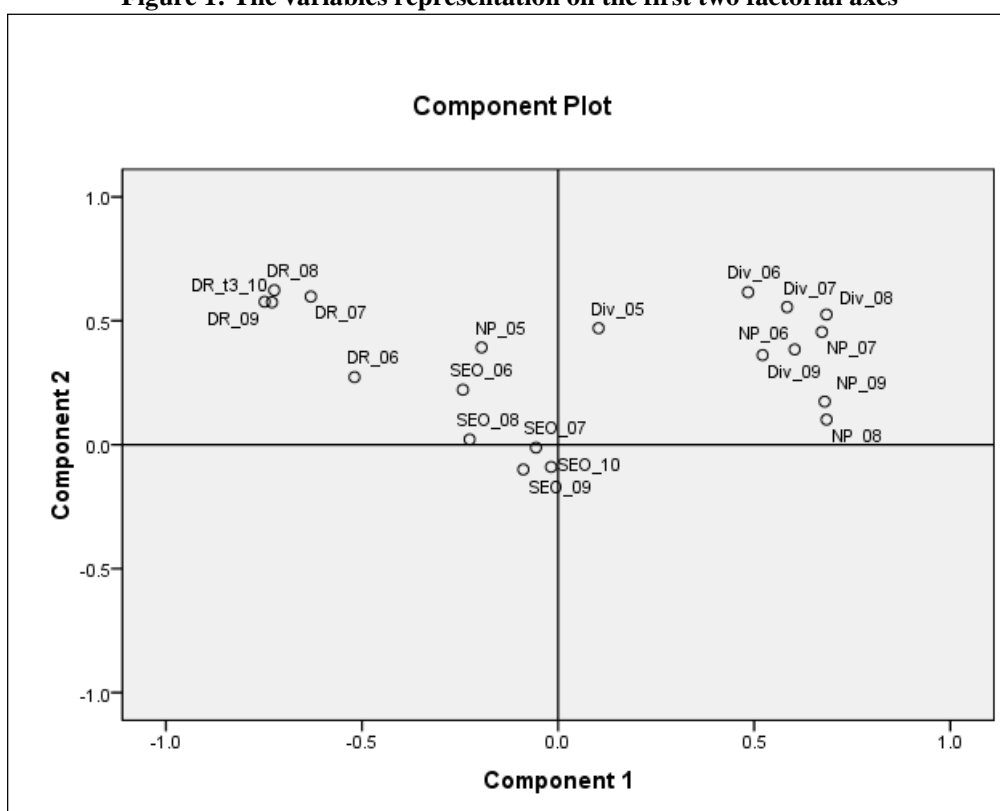
In order to realise a visual analysis of the results, we selected the graphical representation of variables in the first two factorial axes (see Figure 1).

Following the placement of variables within the first factorial axis, which explains most of the statistical differences between units, we observed that:

- there is a positive relationship between dividends, which confirms the hypothesis of a tradition in some firms to pay dividends;
- between debt ratios there is a direct positive relation, so it can be said that the company's decision to seek outside funding sources is also an element of tradition;
- between dividends and debt ratios there is a strong inverse relation.

The last result we believe to be a very important piece of information which can be formulated as follows: companies that pay dividends are much less indebted from third parties than those who do not offer cash dividends. A first reaction in explaining this fact is drawing the idea that by offering investors a form of remuneration as well as information about business prospects, the dividend paying company enjoys easier financial resources from shareholders, therefore less asks third parties for financing. But, according to the analysis results, between cash dividends and SEOs we found no statistically significant links, which calls into question the previous explanation.

**Figure 1: The variables representation on the first two factorial axes**



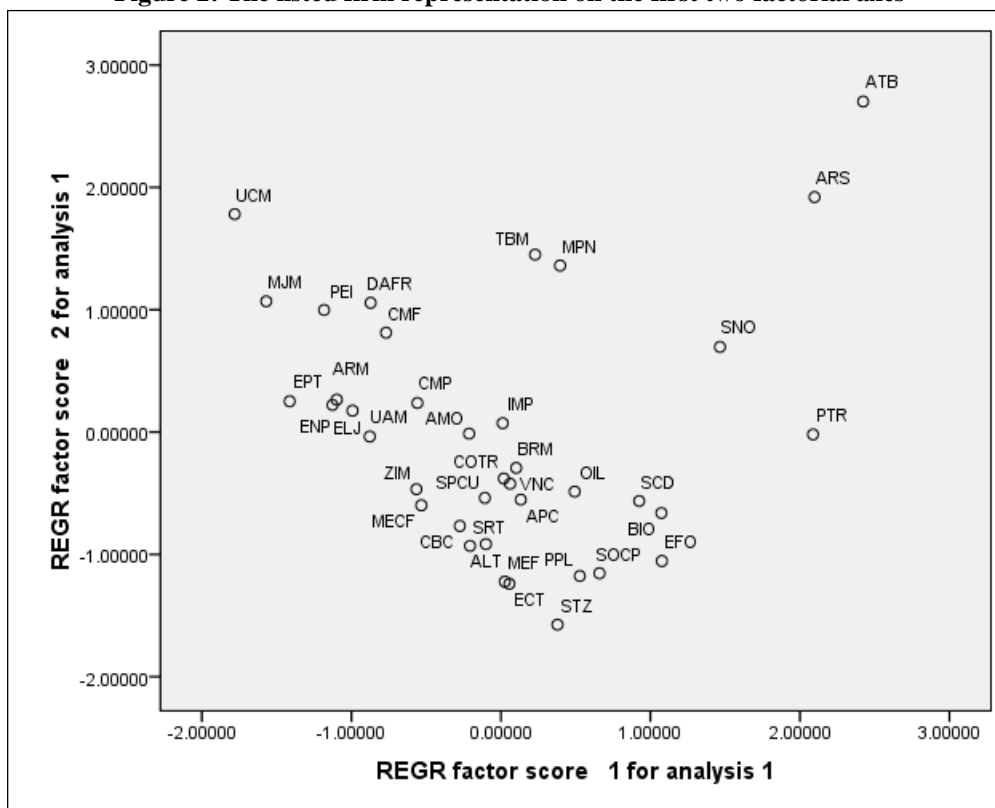
SEOs variables recorded a quiet behavior. In a first phase they are connected in a small degree with the first factorial axis, which shows that SEOs explain little differences among the statistical units. In a second phase, they do not correlate with the other variables included in the



analysis. However that negative coordinates registered on the first factorial axis, may suggest a relative inverse relationship between cash dividends and SEOs. More specifically, a firm paying dividends, with a low level of debt is financed in a small measure from the capital market, a paradoxical result. But, this inverse relationship between dividends and SEOs is not confirmed as statistically significant, so the last hypothesis remains rejected.

Of a special interest is the listed firms representation in the first two factorial axes, as captured in Figure 2. The first factorial axis highlights some companies that look different from the rest of the group. Thus, companies like Antibiotice Iași, Aerostar Bacău, Șantierul Naval Orșova and Rompetrol Well Services Ploiești detached from the rest of the analyzed companies by high values of cash dividends and low levels of indebtedness to third parties.

**Figure 2: The listed firm representation on the first two factorial axes**



On the other hand, companies such as UCM Reșița, MJ Maillis Electroputere Buftea are characterized by a high level of external indebtedness, reduced net profits and insignificant cash dividends. However, we can observe that most of the firms have a relatively high degree of indebtedness and few pay consistent dividends.

## 5. Conclusions

The main objective of the paper was to understand how the decision of a listed company to finance by issuing new shares affects the distribution of results through dividends and vice versa. The analysis focused upon the domestic capital market, more specific upon the listed companies on the Bucharest Stock Exchange, between 2006 and 2010.

In the study, we started from the premise that any action of the listed company always involves consequences. The main reason for a company to start the procedures for listing on a stock exchange is to obtain financial resources, without minimizing other pros for this initiative. The enterprise financing from investors has in practice a reverse flow: providing dividends as a confidence remuneration. In this context, a question arises: to what extent the two phenomena are independent or interrelated?

We chose to study the 2006 - 2010 period, considering also financial crisis within, along the end of 2007. We established the database and then the variables as follows: funding was quantified by seasoned equity offerings and debt ratios (as a measure of external financing) while results distribution was expressed by cash dividends. The principal components analysis, applied in the present paper, allowed us to obtain some interesting results.

The existence of significant correlations between dividends granted in a year with those distributed in the previous year allowed us to accept the first hypothesis made: for the studied companies, there is a significant consistency in paying dividends by those that have adopted this practice. The result is even more interesting as, in terms of financial crisis, dividends, although small, have been a constant presence on the domestic capital market. This behavior of Romanian firms confirms the study conducted by DeAngelo and DeAngelo (1990), according to which managers are reluctant to eliminate dividends, even in financial difficulties. This is because the signal transmitted to the market is a negative one and hence generates the fall of stock price. Therefore, in terms of smaller profits, managers prefer to reduce dividends instead of eliminating them. Dividends offered by the Romanian listed companies dropped by nearly half in their value, at a global level, but firms still followed the tradition of distributing them.

Regarding the SEOs, results have not shown any consistency over time in the studied companies. By default, we conclude that SEOs are an insufficient emerged phenomenon on the domestic capital market. But a significant correlation was obtained between levels of indebtedness for the analyzed companies, along with 2007. This fact allows us to conclude that under financial crisis, uncertain and turbulent external environment led companies to be reluctant in changing their financial structure. Thus, the financial structure at the end of 2007 was considered as a reference level, subsequent changes were of reduced amplitude, obtaining in the end significant correlations between debt ratios from one year to another.

An also important result of the study was the inverse relationship between dividends and debt ratios, variables strongly correlated with the first factorial axis and therefore with a decisive role in separating the companies. Thus, companies that pay dividends are characterized by a low level of debt, while the non-paying dividend ones have a greater proportion of funding from external sources. The result is in itself a logical one: as a listed company pays dividends to its shareholders, according to signaling theory, it transmits positive information to the market, has more chances in SEOs (Easterbrook, 1984) and less needs from third parties.

However, another result of the study consisted in identifying a very weak relation between dividends and SEOs, which contradicts the idea expressed earlier. In other words, the financing of listed companies through SEOs was based on other considerations than distributing financial results. Moreover, the investor is the one who offered companies financial resources without demanding a remuneration policy. One explanation for this fact could be that our database consisted in important companies enjoying investors confidence, with a special preference for capital gains and less for dividends. Another explanation could be that companies go to the capital market in order to supplement resources already obtained from the banking system, a fact that makes financing through capital market to be less sensitive to dividends.

However, without diminishing the importance of the obtained results, we believe that a reserve should be maintained because of two main reasons: the number of companies included in the database was relatively a small one and the Romanian capital market is not so rich in the studied phenomena, compared with other foreign stock markets. Additional companies in the analysis, preferably with a transparent reporting behavior, and a longer period of study will provide more relevant results. There is still no doubt though, that SEOs and dividends remain controversial topics, two key points in understanding the decision - making process of listed companies.

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## HARMONIZATION, NORMALIZATION, INTERNATIONALIZATION IN FINANCIAL ACCOUNTING

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**Abstract:** *This paper is based on highlighting the importance of accounting information in the current economic situation and performs an analysis of the evolution in the production of accounting information both internationally and nationally.*

**Key words:** accounting, standardization, harmonization, convergence, internationalization

**JEL classification:** M41, M48

### 1. INTRODUCTION

Information, in a general sense, represents a piece of news, a novelty, a message that comes from every field of knowledge, this concept representing a written formula, capable to bring some knowledge.

"Information is a set of data that determines a change in the probabilities that are expected by the beneficiary, after the occurrence of future events" (Arnold, 1990). Various structural components of the information, by overlapping and completing each other, lead to obtaining adequate information.

Information is an abstraction, a product of intelligent knowledge, but at the same time a pervasive reality (N. Camp, Horomnea E., Toma C., 'Financial-Accounting analysis', Moldova Publishing House, Iași, pg. 12.) She dominates and explains the universe, obviously to the extent reached by the knowledge process.

The last decades of the 20<sup>th</sup> century, have led to bringing together information with other economical resources such as labor and capital, highlighting the fact that possession, manipulation and the use of information can improve the cost-effectiveness ratio in many processes.

The economic information, specific for economic activities, can be defined as a communication, news story or message, which contains new knowledge elements regarding states, situations, manifesting conditions of certain economic phenomena or processes (Baciu, A., 'The bases of accounting', The Avram Iancu Academic Association, Cluj - Napoca, 1993, pg.2.)

In the economic field, information is present down from the cell or the most insignificant task, a simple transaction up to mega structures: corporation, holding transnational companies.

Accounting information represents the product of accounting and is being obtained through methods, procedures and custom tools designed for this science, of processing economical data. It's the most real, accurate, complete and operational information representing the support of the managerial process.

The appearance of this product called 'accounting information' was determined by the existence of a market *where* the demand and *the* supply of accounting information offers met.

*The* demand for accounting information emergence can be associated with the earliest form of systematic regulation of accounting that developed in continental Europe, originally being initiated in France in 1673 when it was mandatory to report accounting information in an annual balance sheet based on fair value, that served mainly as a way of moderating the relationships between the individual companies and the state. Later, as a consequence of the industrial revolution, first in the United Kingdom, the demand for accounting information has met new players - the shareholders - who needed accounting information focused on the relationship between *the* business and *the* investor.

The accounting information offer, in response to the existing demand was made through financial reports.

Accounting information in an enterprise can be classified into two broad categories: financial accounting information and management accounting information.

Financial accounting information is intended for external users such as investors, employees, creditors, the government or the general public and is designated through summary financial statements. The management accounting information is intended for the internal users, meaning the management of the enterprise concerned. This information is non-standardized, often non-monetary, and includes information regarding the unit cost of products, the costs behavior relative to the business volume or profitability of the product. Reports are submitted to the management at short periods - monthly, weekly or daily - and are circumscribed to some company subdivisions, called responsibility or profit centers [Caraiani, C., 'Fundamentals of Accounting', Infomega Publishing House, Bucharest, 2005, pg.3;].

Consequently, *accounting information represents the exchanged product* on the accounting information market. This product exists only *through* the rules and regulations that define it. The accounting information is a specific "legal" product because its production, presentation and dissemination have to be regulated.

An accounting information market must ensure its associates and others protection of their interests by promoting:

- a. the development of accounting information published in terms of quantity and quality;
- b. the publication and understandability of the accounting information (transparency);
- c. increasing the opportunities for comparison in time and space.

The value of information can be defined as the difference between the net benefit generated by a decision after obtaining the information and the net benefit obtained by taking the same decision, unaffected by the information.

The accounting information form the basis for investment decisions, accuracy and their relevance, decisively influencing reaching the optimal level of the expected results. The annual financial situations have become an important source of information, analyzed very carefully by all participants in capital markets. In recent decades, the synthesis and report accounting documents have undergone a number of key changes, in form and content, the jurisdiction and the norms that rule the international financial markets are increasingly putting their mark over the characteristics of accounting information.

The qualitative characteristics of financial statements are the basic attributes that give meaning to the usefulness of the accounting information and include:

- Comprehensibility is the quality of information to be easily understood by users, in order to easily achieve the purposes for which we use this information.
  - Relevance is highlighted when information influences the business decisions, contributing to the evaluation of the historical, current or prospected events by the users, confirming or correcting past evaluations. The relevance of information is influenced by its nature and meaning. An information is meaningful if its omission or erroneous declaration may influence the purpose of a decision.
  - Credibility of information ensures the users that they are not exposing themselves to risks by appealing to information that contain significant errors and that are biased, giving them safety in
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using them. In order to be credible, the information must faithfully represent the described transactions and operations.

- **The prevalence of the economic over the legal** requires presenting the transactions and operations in line with the economic reality and not exclusively with their legal form.

- Neutrality of information entails the elimination of all influential forms that would lead to a predetermined result or goal.

- Prudence requires taking into account a certain caution degree in exerting the necessary judgments when some events are estimated in conditions of uncertainty, so that the assets and liabilities are not overstated or understated, as appropriate.

- Completeness requires complete information, within the reasonable limits of materiality and the cost of obtaining it.

Limits concerning relevant and credible information are determined by:

- Opportunity – presenting information with major delays leads to losing relevance;

- The **cost-benefit ratio**, assumes that the benefits from providing new accounting information must be greater than the cost related to it.

- **The balance** between qualitative characteristics. The relative importance of the characteristics in different cases is related to the professional judgment field.

- Comparability implies the possibility of analysis based on information provided by financial statements in relation to the evolution in time of the activity (an important role being played by the principle of consistent methods) and also comparing it with the financial situations of various entities of the same type (in the activity sub-branch or branch) to properly assess the financial position, performances and their amendments.

The current market accounting information and financial reporting is marked by the following phenomena: standardization, harmonization, convergence, compliance and internationalization as a result of a more and more stronger globalization of the economies, the requirements of the financial statements users (in this respect the homogenization of the economical language will be taken into consideration and also the accounting, considered an instrument of communicating information), the European Union enlargement process and finally due to the capital markets globalization phenomena.

The accounting normalization is the process that harmonizes the presentation of the financial statements, accounting methods and terminology.

**The accounting harmonization** is the process by which the accounting rules or standards are improved to be made comparable.

**The accounting convergence** is the process by which the accounting standards are developed in a manner that is capable to lead towards the same act or purpose by showing the similarity between national - regional-international.

**The accounting compliance** is the process through which the concordance in action and the content of the presentation rules is appreciated, representing an harmonization between the national regulations and the rules set by regional and international accounting standardization bodies.

Internationalization of accounting has its origin in the international harmonization of rules and accounting practices concerns.

## 2. SECTION 1 – STANDARDIZATION AND HARMONIZATION OF THE ACCOUNTING SYSTEMS IN EU

Within the European Union and also internationally there is an ongoing preoccupation about standardization and harmonization of the accounting systems, in order to create an uniform procedure for registration which would ensure the free flow of the financial transactions between countries. Harmonization of the accounting systems and of the financial statements has been made and continues to develop over a phased process designed to better respond to the needs of different

stages of economic and social development at the level of the countries, groups of States and also internationally:

“The beginning of the 20<sup>th</sup> century stands for the development of large corporations and the set up of groups of companies. An important element for these evolutions is the fact that many companies turned from bankers towards investors and capital market in respect of financing.

The period 1973-1989 stands for the proper development of accounting harmonization process at regional and international level and therefore we could call it - searching for comparatives.

The period 1989–2000 stands for the proper normalization period, when accounting standards were issued and applied. We could call this period - searching for uniformity.

The standardization process is in progress starting from 2000 and up to now, when more than two continents have reached the same conclusion of enforcing high quality accounting standards like IAS/IFRS. At international level, on one hand it is thought to implement IASB's international standards (in Europe, Australia and New Zealand and many countries on other continents, among them Japan – the second greatest power on the capital market) and on the other hand, to converge American standards with IASB standards. Why not call this current period - towards reaching singleness.

2005 stands for the transition to the standardization process, meaning that legislators in almost all countries will enforce international accounting standards as unique accounting reference system for listed companies and not only for them”. (Bunget O., Caciuc L., Dumitrescu A., Farcane N., Popa A. - The impact of IAS/IFRS on the Romanian accounting rules).

Bodies involved in the harmonization and normalization of accounting are the result of different accounting cultures, two of which were particularly pronounced and had certain influences, such as: the accounting culture and *the* Western European accounting system, also called Continental, promoted by France and Germany and *the* Anglo-Saxon accounting system, developed by Britain and the U.S.. Under the influence of the two accounting power blocs, the national accounting systems presented major differences, which mainly generated, especially in the postwar period, the initiation of a harmonization process, of bonding the accounting systems, even the accounting culture of various countries or groups of countries.

At regional level there have been several international governmental and nongovernmental organizations whose purpose is to contribute actively to the harmonization of accounting:

1. OECD - Organization for Economic Cooperation and Development who published in 1976 a document with "appropriate guidelines for multinational enterprises with title of recommendations aiming in particular to better inform the public over the structure of the activities and over the policies of these enterprises;

2. **The UN (United Nations)**, established in 1982, whose main objective is to watch over the current developing countries that are part of the UN;

3. European Economic Community (**EEC**) has developed and disseminated to the member countries since 1968 a general accounting framework and has adopted several important directives, such as: *The Fourth Directive*, aimed at the structure, content and presentation of the annual financial statements (the balance sheet, the profit and loss account, explicative notes), *the Seventh Directive*, regarding the preparation, publication and control of the consolidated accounts and *the Eighth Directive*, relating to the rights and obligations of persons responsible for auditing and certifying the accounting documents.

### 3. SECTION 2 – WORLD WIDE STANDARDIZATION AND HARMONIZATION OF THE ACCOUNTING SYSTEMS

Worldwide harmonization in accounting, is particularly active through the following international professional organizations, namely:

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1. International Accounting Standards Committee (IASC) (which because of an organizational accounting reform changes its name into The IASB Council) created in 1973, comprises a total of 143 professional accounting organizations from 104 countries having as main objective the preparation and publication of international accounting standards regarding the presentation of the annual financial statements and also ensures their acceptance and implementation worldwide. Although these standards are not binding, they exercise a strong influence on the national accounting practices and regulations.

"International Accounting Standards Board" – IASB succeeded in 2001, the body "International Accounting Standards Committee" - IASC, plays a leading role in normalizing accounts worldwide. Standards issued by the IASB are called "international financial reporting standards (IFRS), issuing until 2005, five IFRS.

1. International Financial Reporting Standards (**IFRS**), as normalizing products of the international accounting standards board (IASB), are found in the following structures:

1. International Financial Reporting Standards (IFRS) developed by the IASB as such;
2. International Accounting Standards (IAS) who previously supported a review process by eliminating the alternatives, redundancies and conflicts within them.
3. New interpretations developed by the International Financial Reporting Interpretations Committee (IFRIC) or by its predecessor, the Standing Interpretations Committee (SIC), also subjected to revisions when reality requires it.

2. **International** Federation of Accountants (IFAC) created in 1977, which mainly has concerns related to the international auditing standards, professional ethics and training of the accounting profession.

3. FASB (**Financial** Accounting Standards Board) covering four main issues:

- The objectives of the annual financial statements (content, performance and evolution);
- The qualitative characteristics of the financial information (clarity, relevance, reliability, capacity for comparison);
- The components of financial statements (assets, liabilities, revenues and expenses);
- Methods for assessing the financial statement's components.

The current American accounting normalization body "Financial Accounting Standards Board" (FASB) replaced the "Accounting Principles Board" (APB) which, in turn replaced the "Committee of accounting procedures" (CAP). The American referential, is commonly known under the name of "United States Generally Accepted Accounting Principles" (U.S. - GAAP).

FASB is a non-governmental body composed of seven permanent members, the normalizing activities of this "Council" are being performed under the protection of the "Financial Accounting Foundation" (FAF). FAF is composed of seven members from various organizations: AAA - "American Accounting Association", AICPA "the liberal accounting profession of accountants; the financial analysts Federation." . FASB is the first normalized body that explicitly developed an accounting conceptual framework, this framework being structured today in seven statements (Statements of Financial Accounting Concept - SFAC) whose objective is to define the fundamentals underlying at the basis of the accounting standards. FASB publishes regularly, accounting standards entitled "Statements of Financial Accounting Standard" (SFAS or simply FAS), such accounting rules, in the United States of America, have the force of law because they are officially recognized by the "Securities and Exchange Commission" (SEC).

These organizations want to achieve through their actions objectives that are circumscribed in the area of obtaining and presenting accounting information understandable, relevant, reliable and comparable.

#### 4. SECTION 3 - ROMANIA IN THE PROCESS OF HARMONIZING ITS OWN ACCOUNTING REGULATIONS WITH THE DIRECTIVES OF THE EUROPEAN ECONOMIC COMMUNITY AND THE INTERNATIONAL ACCOUNTING STANDARDS



Financial reporting in post-communist Romania has started based on the Accounting Law 82/1991 and GD 704/1993. In the Annexes to this governmental ruling appear the components of the annual financial statements - a first form – including the balance sheet, income statement and seven appendices. The balance sheets prepared in accordance with this decision aimed at the equality between resources and their funding elements, and the profit and loss account was grouping the revenues and expenses by their exploitation, financial and exceptional nature, a not so fortunate grouping because in the case of the exceptional costs were added a series of related operating expenses. Annexes referred to the annual statement added information about the fixed assets situation, the stocks, receivables and payables, about other provisions, about the way of determining the income tax and the distribution of the net income as well as information on rules and methods used.

The harmonization of accounting and implicitly reforming the financial report started shy with OMPF 403/1999 "Accounting regulations harmonized with the 4th Directive of the European Economic Community and the International Accounting Standards. " This order was originally applied as an experiment on 13 large companies.

Years 2001 and 2002 brought the first real progress on harmonization. OMPF 403/1999 was replaced with OMFP 94/2001 regarding the approval of the Accounting Regulations harmonized with the Fourth European Economic Community Directive and with the International Accounting Standards. The stipulated regulations were applied starting with the financial statements from 2000 prepared by 72 companies listed on the Bucharest Stock Exchange, 19 autonomous companies, national companies and other enterprises of national interest, and also 105 companies that operate in the capital market. For the period 2001-2005 the implementing program of OMPF 94/2001 aimed different financial exercises in relation to criteria relating to the business size, total assets and the number of employees as follows:

The end of the financial exercise	The business turnover of the previous year (euro)	Total assets for the previous year (euro)	Average number of employees of the previous year
31 December 2001	over 9 millions	over 4,5 millions	250
31 December 2002	over 8 millions	over 4,0 millions	200
31 December 2003	over 7 millions	over 3,5 millions	150
31 December 2004	over 6 millions	over 3,0 millions	100
31 December 2005	over 5 millions	over 2,5 millions	50

Analysis of OMPF 94/2001, Directive IV and of the IASB general framework leads to highlighting that the Romanian accounting system does not fully adhere to standards or to the Fourth Directive - it realizes a combination between the two (we find both components of the Directive as well as parts of the IASB).

Since 2001, in accordance with this order in the composition of the annual financial statements (in addition to the balance sheet, profit and loss) there are two new documents for the financial reporting practice of our country the "Statement of changes in equity" and the "Statement of Cash Flows " and accounting policies and explanatory notes that set out to replace Annexes stated in the OMPF 403/1999.

The combination made by this order between the European standards and guidelines is underlined by the following elements:

- Balance sheet and the profit and loss account as a list stated by the OMFP 94 are taken from the Fourth Directive;
- "Statement of cash flows" required for evidencing the collection and payment flows for certain periods is presented in accordance with IAS 7 "Currency Flow Statements" for its making there are accepted one of the two methods under IAS 7: the direct method or the indirect method;
- "Statement of changes in equity "was taken as it was prescribed by IAS 1;

• Notes are distinguished from the *annexes*, they detail, add information and comments the information contained in the financial statements to increase the informational relevance of reporting. Thus, each element of the balance sheet, of the profit and loss account, of the cash flow statement and of the situation in changes in equity are accompanied by a reference to the explanatory notes. In the explanatory notes, are presented the accounting policies adopted by the organization to determine the value of the financial statements, for example, the use of the historical cost, of the revalued values of property. In this way it is created the possibility of comparison, at international level, at various companies.

For example, according to OMF 94/2001 the structure of the following explanatory notes is presented: Note 1: "Fixed Assets" (detailing the temporal variation of raw values and the corresponding depreciation) Note 2: "Provisions for risks and charges" (details variation over time, depending on the nature of provision) Note 3: "Profit Distribution" (presentation by destination) Note 4: "The result of the exploitation analysis" (approach after "destination", changes over time); Note 5: "Statement of claims and liabilities." (variation over time, classification depending on liquidity, respectively chargeability), note 6: "Principles, accounting policies and methods" (deviations and modifications, indicating the nature and motives, the alter accounting treatments - the affected elements, the evaluation basis, adjustments, influence over the outcome), note 7: "Shares and bonds" (details about the types of securities issued, assessment, change over time), note 8: "Information on employees, managers and directors" (details about contractual obligations, advances, loans, the average number, wages paid, social insurance, pension contributions), grade 9: "Calculation and analysis examples of the main economical-financial indicators" (presentation of liquidity indicators, risk indicators, indicators of activity / management, profitability indicators, indicators of capital markets), note 10: "Other Information" (presenting the enterprise, relations with the other companies in the group, expressing in the national currency of the elements in financial statements originally measured in foreign currency, the turnover). Therefore, the explanatory notes, in addition to being equally important to the balance sheet, the profit and loss account, the cash flow statement and the statement of changes in equity, they are much more voluminous, more detailed and relevant than the classical annexes to the balance sheet as they also incorporate a part of calculation and analysis of the key economic and financial indicators.

OMFP 94/2001 was completed a year later with the OMFP 306/2002 for the approval of the Accounting Regulations simplified, harmonized with the European Directives applicable to those reporting companies who did not meet the size criteria specified in the Official Gazette 94/2001 and whom this order allowed them to develop simplified financial statements.

The third step in the harmonization of the Romanian accounting regulations was represented by the emergence of OMFP 1752/2005. The main novelty brought by this order was to unify the accounting rules so that companies that have applied until the end of 2005, OMFP no. 94/2001 and OMFP no. 306/2002 will apply uniform accounting rules, respectively OMFP. 1752/2005. Secondly this order also has a section designated for the consolidated accounts.

OMFP no. 1752/2005 consists of two parts:

- accounting regulations in accordance with the Fourth Directive of the European Economic Community on the annual accounts of individual companies that replace the provisions OMFP no. 94/2001 and OMFP no. 306/2002;
- accounting regulations in accordance with the Seventh Directive of the European Economic Community on the consolidated accounts of groups of companies that replace OMFP no. 772/2000.

The next moment in the reform process evolution that must be mentioned is the one represented by the year 2009 marked by the appearance of the OMFP 3055/2009 for approving the Accounting Regulations in accordance with the European Directives that repeal OMFP 1752/2005. This order came into force on 1 January 2010 and has completed the previous accounting rules relating to the netting principle, the principle of the economic prevailing over the juridical and the annual financial statement users. However, it was regulated the evaluation at fair value and

regarding the assessment of monetary items in foreign currencies and also the assets and liabilities, denominated in lei, which settlement is made according to the rate of a currency, these are done monthly, with recognition in accounting of the recorded differences. Additional specifications were brought on the concept of commercial fund and how it is recognized in the financial statements and also the separate accounting of tangible assets and inventory purchased, for which risks and rewards were transferred, but that are currently being supplied, for all of these we can see an alignment with the international accounting standards.

The presented and applied regulations nationally over time lead to highlighting the following key coordinates followed by the national accounting system, meaning:

- primacy in applying into practice the accounting concepts, in terms of the objectives and generally accepted accounting principles in relation to accounting rules and regulations regarding the priority rules, the basic methods and the detailed accounting procedures;

- primacy of *the accounting dualism in relation to the accounting monism*, whose essence consists in the fact that under the market economy conditions, at least a part of the accounting information, particularly those relating to: the patrimonial situation, economic and financial results, the economic relations with third parties, must be made public through financial statements;

- a fundamental reconsideration of the importance of various characteristics of accounting information.

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  - OMFP 3055/2009 pentru aprobarea Reglementărilor contabile conforme cu directivele europene.
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## DIFFICULTIES IN ABSORBING THE EUROPEAN FUNDS INTENDED FOR AGRICULTURAL DEVELOPMENT - BARRIERS IN OVERCOMING THE CURRENT CRISIS IN ROMANIA

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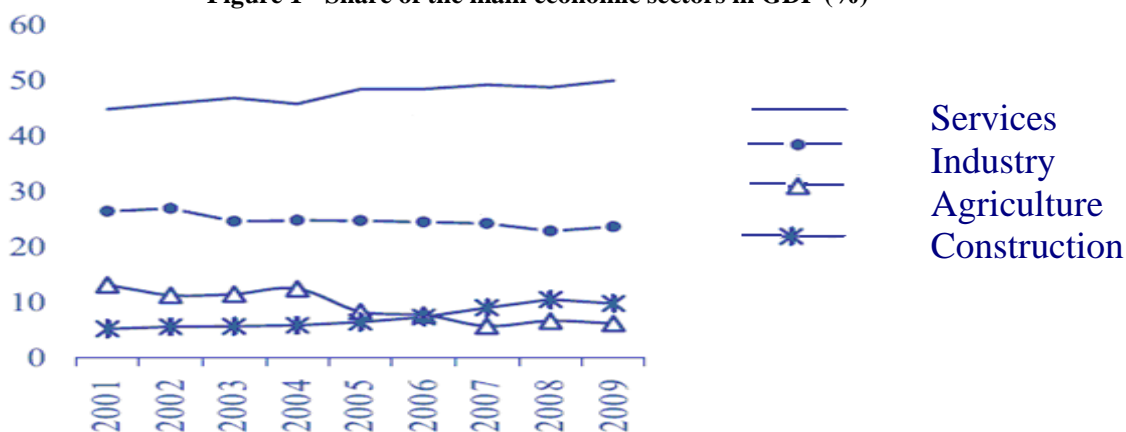
**Abstract:** *In the current crisis situation, caused by the spread of the international financial crisis, and considering that people speak more often about a food crisis, it is essential to analyze how one of the most potent sectors of the Romanian economy in terms of the existing resources, works. Thus, in this study we examined how Romania uses the European funds meant to finance agriculture, now more than four years after joining the EU. The performed analysis shows that Romania manifests difficulties in successfully attracting and using these funds, aspect which acts like a barrier in overcoming the current crisis.*

**Key words:** agriculture, the absorption of EU funds, crisis

JEL Classification: F15, F59, G01

Romania's agriculture always played a very important role in the economy's development, especially since the size of the agricultural land and the autochthonous climate favor this sector. Romania's agricultural profile has undergone some changes, but this did not really take the edge off the importance of this sector. Thus, if the agricultural area of Romania in 1899 was represented by only 5 million hectares, then it increased rapidly, reaching 29.5 million hectares in 1939 (83.5% of the total territory), after this it experienced a downward trend, so that, today the agricultural area is represented by approximately 14.7 million hectares (61.7% of the total territory). The rural population represented 80% of the total population of the country in the year 1899 and nowadays it represents 45.1%. These statistics outline the idea that agriculture has sufficient human and natural resources for developing. However, analyzing the contribution of the agriculture, forestry and fisheries to the gross domestic product, we notice a decrease from 12.57% in 2004 to 6.46% in late 2008 and approximately 6% in 2009 (Figure 1) (2009 Annual Report - NBR and The Financial Newspaper, August 6, 2009), regression that outlines the idea that agriculture is faced with some problems in its way to development. The Romanian agriculture did not always benefit from the necessary legislation and funding that could have ensured its profitability and competitiveness.

**Figure 1 - Share of the main economic sectors in GDP (%)**



Source: The 2009 annual report – NBR, pg. 149

A persistent problem in agriculture has been the lack of funding for the development of this sector. If, however, we place the financing of agriculture in the context of Romania in the last nine years, as a European Union candidate country, and since 2007, as a European Union member state, this seems to have a solution, given the significant sums received from the European Union for the agricultural development and its alignment to the standards of the other Member States. From the analysis we observe that although there are funding sources, their absorption degree is very low, because of multiple reasons. I also believe that solving this issue may represent a factor *in overcoming the crisis*, or at least *helping* restart the Romanian economy.

The Romanian agriculture is strongly supported by the European Union even after accession, with larger amounts and for varied destinations. Now, the goal is to fully integrate into the EU structures. Of all the programs developed after 2007, I will examine in particular the National Rural Development Program 2007-2013 (NRDP), the main purpose of this program being to increase the agricultural competitiveness.

European Grants awarded under the National Rural Development Program will be awarded for the following **types of private investments** (*The Council Regulation 1698/2005 of 20 September 2005 concerning the support for rural development granted by the European Agricultural Fund for Rural Development (EAFRD) and The Rural Community Strategic Guidelines for Rural Development*):

- Modernization of agricultural holdings (Axis I);
- Increasing the economical value of forests (Axis I);
- Increasing the added value for the agricultural and forestry products (Axis I);
- Improving and developing the infrastructure related to the development and adaptation of agriculture and forestry (Axis I);
- Diversifying the non-agricultural activities (Axis III);
- Support for creating and developing micro enterprises in order to promote entrepreneurship (Axis III);
- Encouraging tourism (Axis III)
- Basic services for the rural economy and population (Axis III).

Analysis of the current situation of the agricultural sector of Romania indicates the need to accelerate the restructuring and modernization process of the rural areas, given their economic and social importance in order to ensure an integrated and sustainable economic development of rural areas.

This can be achieved through promoting the development of the agricultural functions of the rural areas accompanied by equally promoting the non-agricultural functions of these areas, model that is compatible with the economic and social policy of the European Union, whose main objective is to reduce **the** development disparities between **the** European Union regions, and thus, **to decrease** the development gaps between **the** rural and urban areas.

The National Rural Development Program is focused on three key issues:

1. improving environmental quality in Romania's *rural* areas through promoting a sustainable management both on farmland and in forestry areas.
2. modernizing agriculture and forestry as well as the related processing industries, to make them more competitive and to contribute to the economical growth and to the income convergence from rural areas (where possible), while ensuring the living conditions and protecting the environment from these areas.
3. facilitating the transition of the agricultural labor to other sectors that would ensure an adequate living standard from a socially and economically point of view.

These priority issues require a comprehensive approach that would ensure complementarities between the National Rural Development Program and the national programs (e.g. pensions and social assistance programs, the national land registration program).

The National Rural Development Program, in order to achieve its first key objective, will focus on improving the balance between the rural economic development and the sustainable use of the natural resources by maintaining and enhancing the attractiveness of the rural areas - as key elements diversifying the holdings and identifying alternative economic activities. In order for this objective to be achieved, support is provided for *agriculture in the disadvantaged areas*, thus tackling the question of land abandonment. Also, *farmers will be encouraged to enter / continue to apply agricultural practices that do not affect the environment*. Regarding the *second key issue*, the National Rural Development Program focuses mainly on *how to address and mitigate the structural disadvantages from the agricultural and forestry sector, in order to modernize, strengthen and restructure, that would allow achieving a high level of competitiveness and sustainability in terms of the environmental protection issue*. This will provide a powerful life preservation mechanism for the rural areas, expanding the range of viable jobs both within and outside the farm and thus contributing to achieving the objective of convergence of the incomes alongside preserving the social fabric. Then, it is taken into account supporting the associative initiatives of farmers, so as to avoid excessive capital intensity and high fixed costs, which would also allow the efficient use of the scarce capital resources and funds provided by the European Union.

To address the third key issue it would be necessary that the National Rural Development Program to consider the needs of two broad categories from the rural areas: *the population past retirement age and the active population, but part-time hired or unemployed*. Regarding the first category, the National Rural Development Program, supplemented through national programs, will play an important role in facilitating the inter-generational transfer of lands, based on the market dynamics, from the elderly farmers, who currently hold 31% from the total areas to younger farmers.

The global social and economic context of developing the National Rural Development Program 2007-2013 is therefore more complex than the one from 2000. The new National Rural Development Program aims mainly to increase competitiveness and scale economy while taking into account the need to protect nature, environment, land and water resources from rural areas and also to improve the life quality of rural inhabitants.

In order for an investment made by the National Rural Development Program to be eligible, it must be located in Romania (both in the rural area and also in towns or cities) where there can be developed, in compliance with the law, the activities classified into the following economic sectors:

- a) crop production and / or livestock and forestry;
- b) industrial processing of agricultural and forestry products, for the first and second processing (second processing – less in the case of the forestry sector);
- c) tourism and recreational areas services.

The National Rural Development Program, like the SAPARD program *is based on the principle of co-financing the private investment projects*. Through this program grants between 50 and 70% can be granted from the total eligible value of the project, the provided funds representing the public co-financing, which must be complemented by the private co-financing, that financial contribution of the person requesting the EU funds.

The public co-financing represents the financial support granted to the beneficiaries of the European Agricultural Fund for Rural Development by the European Union and the Romanian Government.

So, another general condition of eligibility that must be fulfilled by a potential customer willing to carry out a project through the National Rural Development Program is to contribute financially and to prove this contribution.

Private co-financing may be provided from its own sources, valid in the case of potential beneficiaries who already have the necessary funds for the financial contribution, either from incomes from sponsorships, donations, etc. proven under the law. Another way is through a bank loan, valid if the potential beneficiaries do not have the necessary funds for its own financial contribution, but fulfill the conditions for contracting a bank loan.

In order to benefit from funding under the National Rural Development Program, it is required to fulfill some compliance criteria which refer to positioning the business and classifying it in eligible projects for each measure, according to which some scores are received and are marked in different percentages of public funding (for example, higher scores are given to the projects developed by associative forms, by young farmers for the projects developed in the less favored areas, etc.), the approaches are different depending on the axis where the project falls into.

Regarding the *status of absorbing the funds allocated by the European Union under the National Rural Development Program*, the situation value of the projects submitted, selected and contracted on different dates from release to date, was as follows in table no. 1.

Table. 1 - State of development **for the** projects contracted under the National Rural Development Program

(Euro)

The submission session	Submitted projects		Selected projects		Closed contracts /grant decisions		Performed payments
	No.	Public value	No.	Public value	No.	Public value	Public value
March 2008	923	577.422.190	359	176.877.485	338	158.779.101	90.420.585
April 2008	944	570.220.943	345	192.697.480	317	171.124.664	85.532.792
May 2008	901	600.411.276	346	229.735.048	302	195.262.701	95.412.610
June 2008	111	57.494.913	87	37.248.944	74	29.046.330	10.577.787
July 2008	93	54.485.166	80	39.919.521	59	31.244.864	12.121.732
August 2008	228	178.724.082	176	128.015.851	140	103.375.011	28.081.713
Sept/Oct 2008	189	33.893.254	151	28.650.852	120	21.122.222	6.083.623
Nov/Dec 2008	2.615	2.890.505.921	910	895.347.933	839	800.914.851	190.709.329
Nov/Dec 2008	228	37.906.823	185	32.935.163	162	27.308.593	7.827.048
<b>TOTAL 2008</b>	<b>6.232</b>	<b>5.001.064.568</b>	<b>2.639</b>	<b>1.761.428.277</b>	<b>2.351</b>	<b>1.538.178.337</b>	<b>526.767.219</b>
Dec / Feb 2009	7.103	62.093.466	6.774	58.389.550	6.643	56.179.035	24.867.472
Dec 2008 – Ongoing session	18	2.503.711	15	2.296.513	14	2.215.137	238.489
Iune/ July 2009	1.669	4.099.903.249	321	802.166.005	320	785.936.041	1.213.747
Aug/ Sept 2009	166	200.269.145	83	100.677.313	81	96.561.778	9.698.383
Sept/ Oct 2009	948	539.621.176	281	175.381.949	277	168.291.648	35.925.877
Sept / Oct 2009	112	4.920.162	111	4.827.533	102	4.242.345	3.205.795
Sept / Nov 2009	2.702	58.524.000	2.297	48.932.964	2.279	48.548.000	29.348.007
Oct / Nov 2009	1.248	206.169.877	760	127.185.873	724	119.381.904	26.658.011
Nov / Dec 2009	1.346	201.326.309	920	131.072.543	902	129.193.925	33.712.252
<b>TOTAL 2009</b>	<b>15.312</b>	<b>5.375.331.095</b>	<b>11.562</b>	<b>1.450.930.243</b>	<b>11.342</b>	<b>1.410.549.813</b>	<b>164.868.033</b>
Mar / Apr 2010	870	922.896.844	141	165.673.651	139	158.886.895	0
Apr / May 2010	13.571	101.782.500	12.146	91.095.000	11.866	88.995.000	16.606.500
May 2010	691	424.869.814	254	155.433.742	168	93.711.583	121.303
June 2010	2.205	388.055.716	1.909	210.675.123	1.761	125.695.526	14.050.079
June/ July 2010	1.780	207.366.083	814	96.079.793	16	1.842.234	0
July/ Aug 2010	756	221.991.260	130	86.633.418	1	14.785	0
September 2010	1.311	25.844.000	1.138	22.194.000	0	0	0
October 2010	331	173.532.968	0	0	0	0	0

Oct/ Nov 2010	16.403	123.022.500	0	0	0	0	0
<b>TOTAL 2010</b>	<b>37.918</b>	<b>2.589.361.685</b>	<b>16.532</b>	<b>827.784.727</b>	<b>13.951</b>	<b>469.146.023</b>	<b>30.777.882</b>
February 2011	7	390.480	0	0	0	0	0
March 2011	0	0	0	0	0	0	0
<b>TOTAL 2011</b>	<b>7</b>	<b>390.480</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>GRAND TOTAL</b>	<b>59.462</b>	<b>12.965.757.348</b>	<b>30.733</b>	<b>4.040.143.247</b>	<b>27.644</b>	<b>3.417.874.173</b>	<b>722.413.134</b>

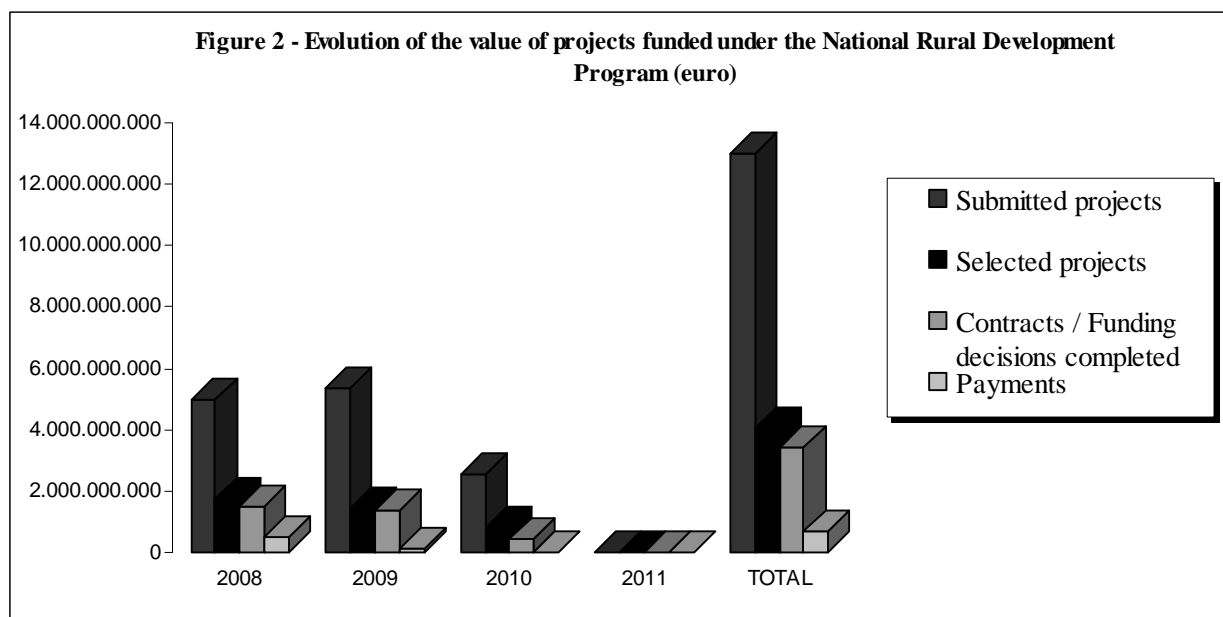
Source: my personal processing after studying the situation on sessions of the projects from the RDP recorded into the monitoring tables on 11.03.2011 - MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT. The General Department for Rural Development Management Authority for NRDP [www.madr.ro](http://www.madr.ro)

As it can be seen in the case of the contracted projects in the National Rural Development Program, the problem of *absorbing the EU funds is also noticeable* in the case of these funds, intended for rural development. Thus, the main problems identified from the scientific analysis made, **the** problems that indicate difficulties in absorbing the post-accession **European funds designed** to finance rural development, are mainly the following:

- ✓ Romania benefits from funds for the rural development from the EU in total value of EUR 8.022 billion for the period 2007-2013, respectively for a period of seven years, and during 2007 - March 2011, a period longer than 4 years contracts worth 3.4 billion Euros were concluded, but payments were made for investments in the amount of 722.4 million Euros (these are amounts provided solely to investment measures without taking into account the direct additional payments); in other words, *in over 60% of the time that Romania has available to attract funds contracts have been concluded* for 42.6% of the National Rural Development Program funds, but payments were made only for almost 10% of these funds;
- ✓ The National Rural Development Program has started late, so, although the program is designed for the post-accession period, namely the period 2007-2013, the first session for selecting projects took place only in March 2008;
- ✓ From the detailed analysis of the way the number of contracted projects has evolved, we can notice that from July 2010 no payments were made for the selected projects, and from October 2010 no project was selected;
- ✓ The analysis of the number and the value of the contracted projects on each selection session from March 2008 shows that, although in 2008 and 2009 a number of 21,544 were submitted (36.23% of all projects submitted), the value of the payments made for projects submitted in this period is 95.73% of the total amounts paid (Figure 2).
- ✓ the last contraction of projects under the National Rural Development Program were made in June 2010;
- ✓ the year 2010 shows a slow pace in project financing, so for only 18% of all projects submitted in 2010 contracts were concluded and from the value of the concluded contracts payments were made only for 6.56%;
- ✓ the project contracting rate, meaning the ratio between the number of contracted projects and the number of submitted projects is a reduced one of approximately 46.5%;
- ✓ in terms of the destination of the submitted projects (table no. 2) for funding under the National Rural Development Program, most requests were recorded for Measure 141 "Support for the semi-subsistence farms" - 36 416 projects submitted of an average low value, from which only 18 004 projects were completed, the amount of payments made for them being almost the lowest, also a large number of projects were submitted for the Measure 112 "Setting up young farmers" and measure 121 "Modernization of the agricultural holdings" , this aspect highlights the source of needs in the Romanian agriculture, namely the need to support the semi-



subsistence exploitations, representing over 90% of the agricultural holdings in Romania (Source: 2007 Yearbook of Romania, [www.insse.ro](http://www.insse.ro) )



Source: my personal processing after studying the situation on sessions of the projects from the RDP recorded into the monitoring tables on 11.03.2011 - MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT. The General Department for Rural Development Management Authority for NRDP [www.madr.ro](http://www.madr.ro)

Table 2 – **The situation of the contracted projects under the National Program of Rural Development according to the main financed destinations**

Measure	Submitted projects		Selected projects		Closed contracts /grant decisions		Performed payments
	No.	Public value	No.	Public value	No.	Public value	Public value
112	6.572	136.720.066	5.706	118.052.514	4.463	92.632.035	49.914.362
121	5.545	2.121.050.948	1.845	725.476.477	1.645	606.631.529	241.606.815
123	1.504	1.290.685.244	1064	841733853	741	578.055.327	132.568.737
125	870	922.896.844	141	165.673.651	139	158.886.895	-
141	36.416	273.120.000	18.408	138.060.000	18.004	135.030.000	34.957.696
142	18	2.503.711	15	2.296.513	14	2.215.137	238.489
312	3.980	543.860.936	2.196	300.406.686	1.347	197.222.442	65.430.706
313	1.400	238.967.726	634	115.517.538	577	101.626.436	8.850.228
322	3.039	7.429.244.322	613	1.628.098.480	612	1.541.332.027	185.640.305

Source: my personal processing after studying the situation on sessions of the projects from the RDP recorded into the monitoring tables on 11.03.2011 - MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT. The General Department for Rural Development Management Authority for NRDP [www.madr.ro](http://www.madr.ro)

✓ the situation is different in terms of the value of payments made on destinations, thus, on the first place there are the projects under Measure 121 "Modernization of agricultural holdings", followed by projects under Measure 322" Village renewal and development, improving the base

services for the rural economy and population and emphasizing the rural heritage" and by the projects under Measure 123" Food processing and industry". Thus, analyzing the eligible beneficiaries on each measure we see that *the* SMEs are the main beneficiaries under the Measure 123 and *the local authorities for the Measure 322*, and *the large food manufacturers under the Measure 123*.

Given these issues, I consider that the absorption of the EU funding under the National Rural Development Program is a problem with which Romania was faced, in the year 2005/2006 when there were recorded delays in the absorption of the SAPARD funds. In addition, this time, the allocated amount under the National Rural Development Program is much larger and the access conditions are more difficult, elements that make the absorption procedure even more difficult, to these problems the mandatory co-financing of the projects is added, an aspect that narrows the range of eligible beneficiaries to those who have their own sources, or qualify for contracting a bank loan.

Regarding the absorption of the EU funds, I believe that this will also be done when resolving the key issues of agriculture, respectively after restructuring and solving of the labor problems in agriculture. Once these issues are solved, the agricultural societies created or the associative forms of farmers, will be able to provide financing for investment projects, their financial power being greater than that of a peasant, from over 4 million who own one individual farm and that exploits, on average, 2-3 hectares of farmland. For the latter, constituted as separate legal entities, the European funds are not available, such as the access to bank loans, from banks' own sources, with high interest rates, is usually difficult. In addition, implementing the new regulations reflects the fact that, co-financing the European sources through subsidized loans is no longer a viable solution, after joining the European Union.

In the event that the inhabitants of Romania in 2008 managed to be dependent on food imports at a rate of 70-80%, any financial crisis or any kind of crisis may have serious repercussions over the national economy. In order to remove this situation concrete steps to rehabilitate the agricultural sector are necessary in the shortest time, either by using the resources provided by the European Union, either by using their own resources. The measures that can determine rehabilitation and development of the agricultural production in Romania relate to: initiating some organizational campaigns for some large farms, based on the principles of the market economy, encouraging the provision of loans by these associations by the commercial banks in the system in order to achieve the necessary investments for equipment and development, assisting them through state subsidies and introducing the mandatory agricultural insurance to avoid loss production caused by natural disasters (Dionysius Fota, Marius Băcescu – Criza economică din România anului 2009, Editura Universitară, București 2009, pg. 140-141).

Until the problems of the Romanian agriculture will be solved, the European funds will be consumed by the large agricultural companies, or by the big companies that process agricultural products, which have the necessary financial strength, but the investments made by them will not solve the problem of the noncompetitive primary agricultural production and of the lack of agricultural land economic efficiency found under the exploitation of millions of peasants.

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  - [www.bnro.ro](http://www.bnro.ro)
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## LOCAL FINANCIAL AUTONOMY IN MOLDOVA: CONSTRAINTS AND SOLUTIONS TO ENHANCE

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**Abstract:** *The analysis of local financial autonomy in the Republic of Moldova shows that local authorities are faced with its low level. In this context, the paper aims to formulate solutions to strengthen local financial autonomy in Moldova. To achieve this objective, the following goals were pursued: definition of local financial autonomy and identification of its components, analysis of local financial autonomy in the Republic of Moldova, studying best practices in local public finance, interbudgetary relationships and fiscal decentralization to design and implement effective measures to increase the financial autonomy of local governments in Moldova.*

**Key words:** budgetary process, financial local autonomy, fiscal decentralization, local public finance.

**JEL classification:** H71, H72, H77, G28.

### 1. Introduction

The local autonomy may be perceived only if the local authorities possess corresponding financial resources. If a competence is delegated from a top government level or if it is assumed voluntarily by the local authority, the last one generates obligatorily certain expenditures needs. To meet these needs at a given cost, the local public authorities (LPA) must project specific expenditures programs, needing for this purpose, financial resources.

At last, the LPA must have a sufficient capacity and flexibility in the budgetary process in order to provide a correspondence between the level of the resources and the level of the real expenditures. On the basis of these interrelations, we can define the local and financial autonomy as a combination between the following three elements:

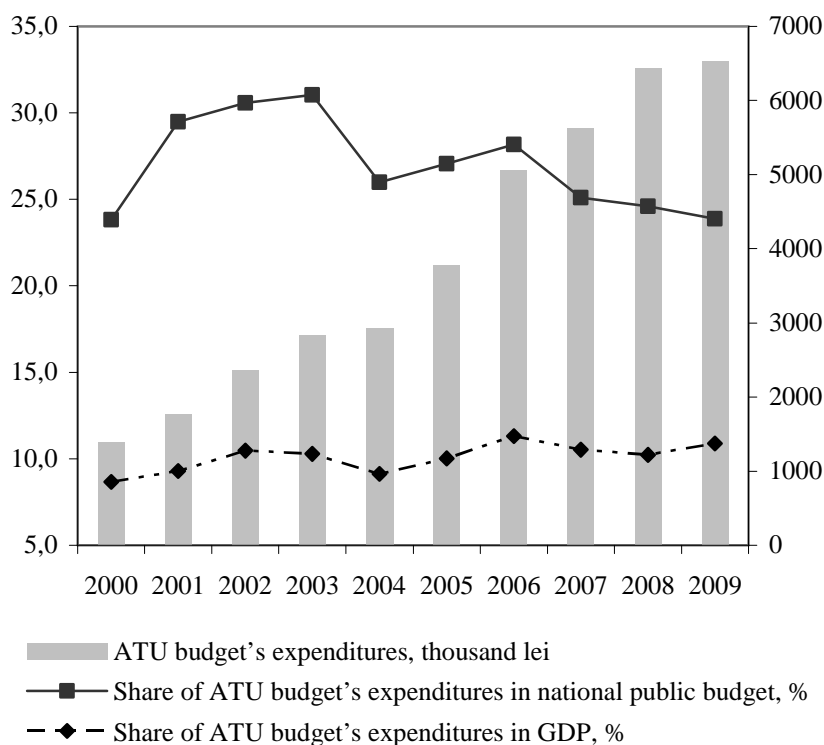
1. *Local autonomy in the field of expenditures:* the right and capacity to determine the essence and total size of the local and public expenditures and their defalcation on different goods and public services in conformity with the demand of the local communes, as well as the right and capacity to manage the local property;

2. *Local autonomy in the field of revenues:* the right and capacity to determine the origin and volume of the financial resources, the rate at which different groups of beneficiaries must contribute to the mutual fund, as well as the way in which this fund (or the types or specific unities of resources) is used;

3. *Local budgetary autonomy:* the right and capacity to adapt the level of revenues to the level of expenditures in different fields of public interventions, both in the framework of a generation of contributors and (through taxes, fees and payments), between successive generations (inter-temporary, through debts). Thus, the budgetary autonomy is the right and capacity to model the local and budgetary constraint, both statically and dynamically. Moreover, it requires the local authorities to assume (financially), the liability for their decisions before their communes.

## 2. Analysis of local financial autonomy in Moldova

Figure 1: ATU budget's expenditures evolution



Source: based on information of the Ministry of Finance

Expenditure responsibilities with which are endowed local public administrations (LPAs) are regulated by the Law on Local Public Finance. However, these responsibilities do not match those stipulated in the Law on administrative decentralization.

Expenditures of administrative territorial units' budgets (ATUB) in absolute value in the period 2000-2008 saw a positive development, their size in 2009 being 6532 million lei was practically at the level of previous year (Fig. 1.). This stagnation is partly explained by the impact of international crisis. Compared to the gross domestic product, ATU expenditures show a relatively stable evolution varying from 9 to 11%. As a share of national public budget, ATUB expenditures in 2007-2009 have recorded a reduction from years 2001-2006.

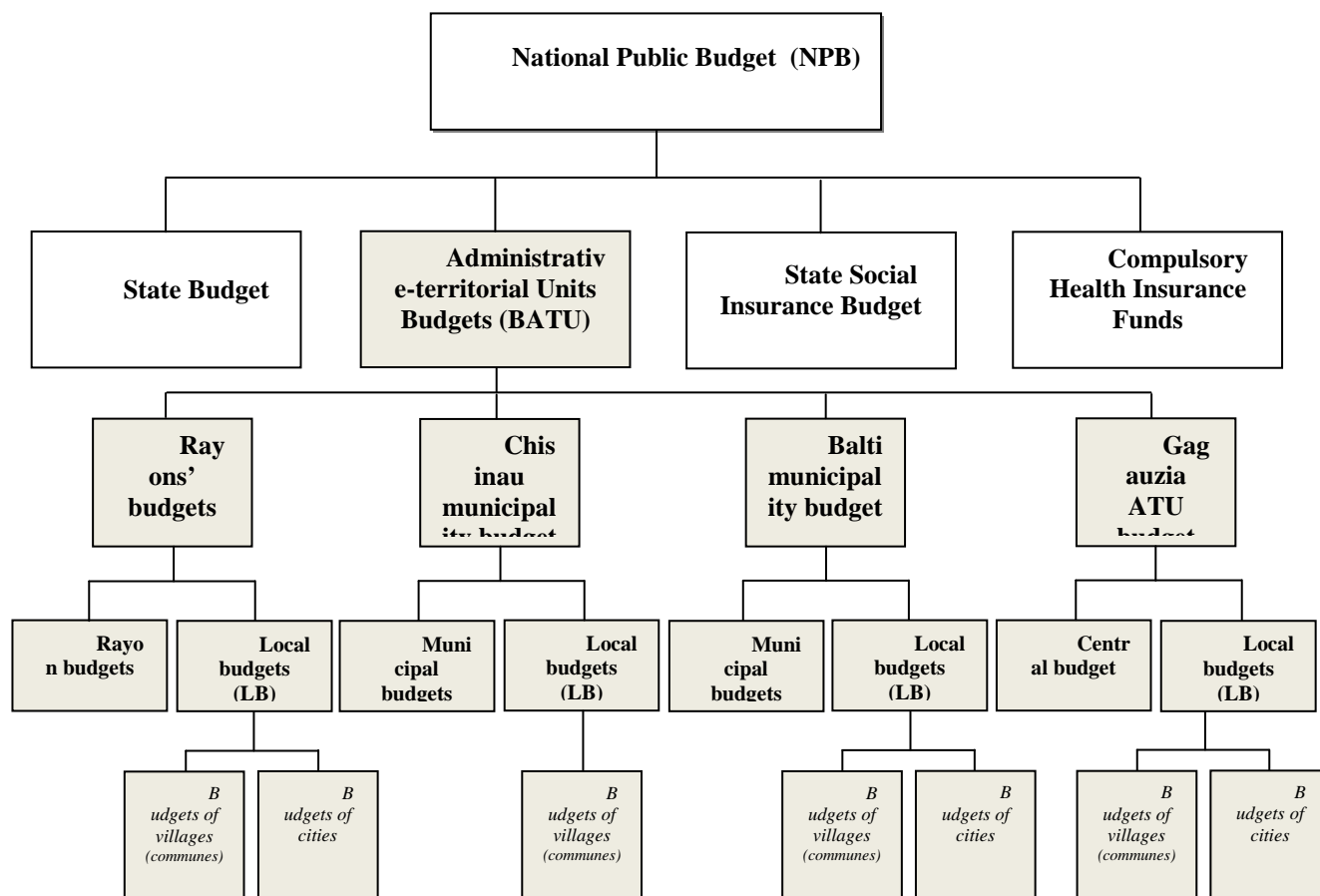
Analysis of ATUB expenditures by function demonstrates a significant increase in spending for education. If in 2000 share of education expenditures in total expenditures was 40% of ATU budget, then in 2009 it was represented by 60% of the total. At the same time, obvious is the reduction in significance of expenditures related to communal and household fund: from 18% in 2004 to 7% in 2009. Mostly, these trends are explained by the fact that ATU budget was financing delegated competencies of local governments (through transfers), the importance of the local governments' own competencies being rather limited.

Consequently LPA do not possess a sufficient flexibility to effectively manage local government expenditures. In addition, local autonomy in local public spending is constrained by:

- Lack of clear understanding of own and delegated competencies;
- Lack of clear understanding of the concept of the administrative capacity of ATU and of its assessment methodology;
- Lack of quality and quantity standards to govern the provision/delivery of public services;
- Delegation of competencies without provision of adequate financial means;
- Lack of financial coverage of capital expenditures;
- ATU excessive fragmentation in Moldova which leads to high administrative costs and do not allow economies of scale related to the provision of local public services;

- Standards set by Ministry of Finance and line ministries reduce local governments' flexibility to allocate resources in accordance with local needs and priorities. The limits of

**Figure 2: Links between the National and Local Public Budget**



**Source:** elaborated in accordance with the law regarding the local and public finances no. 397-XV

resources allocation based on per capita allocation, constrain a direct responsibility of service providers towards the needs and requirements of population.

The budgetary process at the level of the ATU and the management of local and public finances is regulated by:

***The law regarding the budgetary system and budgetary process, no. 847 of 24.05.96,***

***The law regarding the local and public administration, no. 436 of 28.12.2006,***

***The law regarding administrative decentralization, no. 435 of 28.12.2006,***

***The law regarding the local and public finances, no. 397-XV of 16.10.2003,***

***The budgetary law of the given year.***

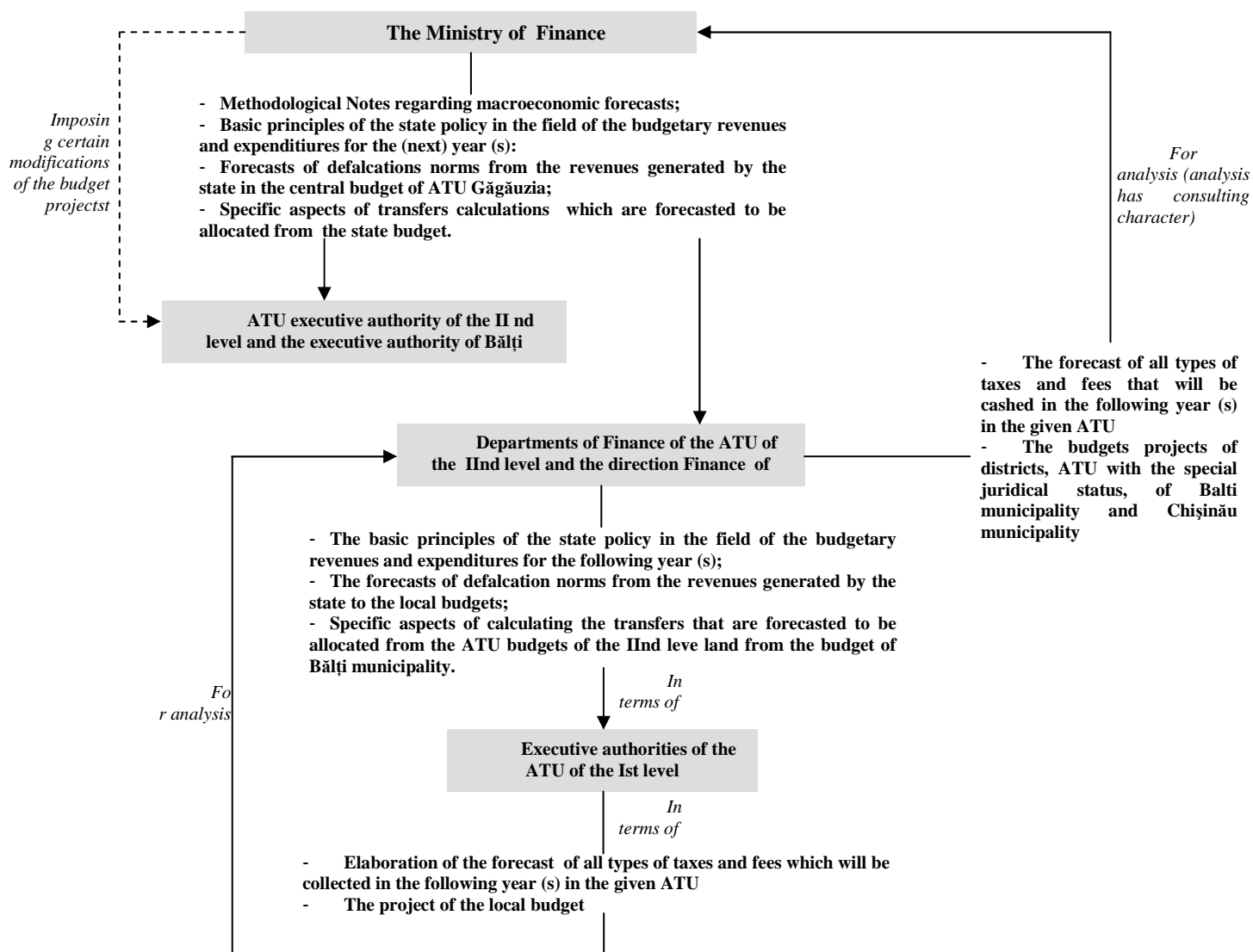
In the Republic of Moldova the territorial and administrative unities are a part of two levels:

- The first level: the villages (communes) and the towns (municipalities). Nowadays their number is 896.
- The second level: districts (total number is 32), municipality of Chişinău, the autonomous territorial unit with the special juridical status (ATU).

The structure of the ATU budgets is represented in fig.2.

The basic principles of the state policy in the domain of revenues and expenditures, the normative forecasts of deductions from the overall state revenues in the local budgets, the specific aspects of the calculation of the transfers, which are forecasted for the allocation from the state budget, the ATU budgets of the II<sup>nd</sup> level and from the budget of Balti municipality represent those data, which are annually communicated by the Ministry of Finance to the executive

**Figure 3: The procedure of ATU budgets elaboration**



**Source:** elaborated in accordance with the law regarding the local and public finances no. 397-XV of 16.10.2003

authorities of ATU of the II nd level, later at their turn communicating them to the ATU of the Ist level (fig. 3). As a consequence the budgetary process at the local level does not assure predictability and stability, creating premises for subjective behavior on behalf of the higher budgetary authorities towards those at the lower level. On top of that, the Ministry of Finance can intervene with imposing of modifications in the LPA budget drafts, which can exceed the framework of the requirements associated with the legality of the local budgetary process.

The local budgetary process is affected also by the delays in the communication of the budgetary information on behalf of the Ministry of Finance or on behalf of the general finance division (as it was the case in 2009) but also by delays in transfers' allocation.

The budgetary autonomy of local public authorities, especially of those of the Ist level, is limited. This situation is expressed through the dependence of the local public authorities of the Ist level (villages, communities, towns) upon the public authorities of the second level (rayons, municipalities) what concerns their own budgetary process. Moreover, the lack of the investment component in the local budgets consolidates the dependency of LPA of the Ist level on the central and rayonal authorities.

The classification system utilized for formulating, execution and reporting on the local budget has to be "enriched" with the classification by programs in view of the perspective of

introduction and expansion of the performance-based budgeting. The typical budgetary classification is elaborated by the Ministry of Finance on the basis of the *Governmental financial statistics* (GFS) prepared by IMF. On the basis of the budgetary classification scheme it is organized the process of budgetary control, including at the local level, assuring registering, processing and presentation of the complete information for all the budgetary revenues and expenditures, which are grouped according to certain criteria. One of the main components of the budgetary reform promoted currently in Moldova is related to the improvement of the budgetary planning and execution system inclusively through *updating the budgetary classification*. In this way in 2008 it was launched a transition from the classification based on GFS 1986 to a new system based on GFS 2001.

The dependence on the top governing levels increases if we consider the trend which we observe insistently of continuous reduction of own revenues balance in the structure of ATUB revenues, indicating in this way the extension of the budgetary centralization in the Republic of Moldova. Thus, in 2005 - 2009 the balance of the ATUB revenues has decreased from 18.35% in 2005 to 9.93% in 2009. Meanwhile, in the same period the balance of transfers in the structure of the budgets of the ATU revenues increases

Currently, the program-based classification is fragmented. The elaboration of a complete program classification remains to be an objective for the medium-term and has to be coordinated with the National Development Strategy (NDS) and MTEF, that will contribute to the identification and clarification of the ministerial policy objectives. Also it has to be mentioned that the Ministry of Finance is preparing a Regulation on the mode of elaboration, monitoring and reporting under the program-based budgeting. Although at the central level the practice of the program-based budget elaboration exists already for several years, at the local level program-based budgets remains to be a concept for some future perspective even though the performance-based budgeting was initiated in certain ATUs.

The multi-annual perspective in the fiscal planning, in the policy of the local public expenditures and in the budgeting at the ATU level in Moldova is limited. The MTEF and the local annual budget are two basic documents produced in the framework of the local budgetary planning calendar. In 2008 the strategic planning at the local level was practiced by 8 rayons and 2 municipalities, which participated in the preparation of MTEF 2008-2010. The motive invoked by the Ministry of Finance for which the MTEF was not extended to other ATUs levels are the initiatives of the reforms of intergovernmental relations between the state budget and the ATU budgets (both of level I and of level II). The Ministry of Finance considers possible to expand the strategic planning to the level of ATU after the elaboration and implementation of the new mechanism for establishing inter-budgetary relations.

The decisions on public expenditures' policies including the local ones have implications for many years and therefore have to be approved bearing in mind the availability of resources in the medium-term perspective. As a consequence, it is important to adjust the policy evolutions to the medium-term forecasts of the total local public revenues and expenditures.

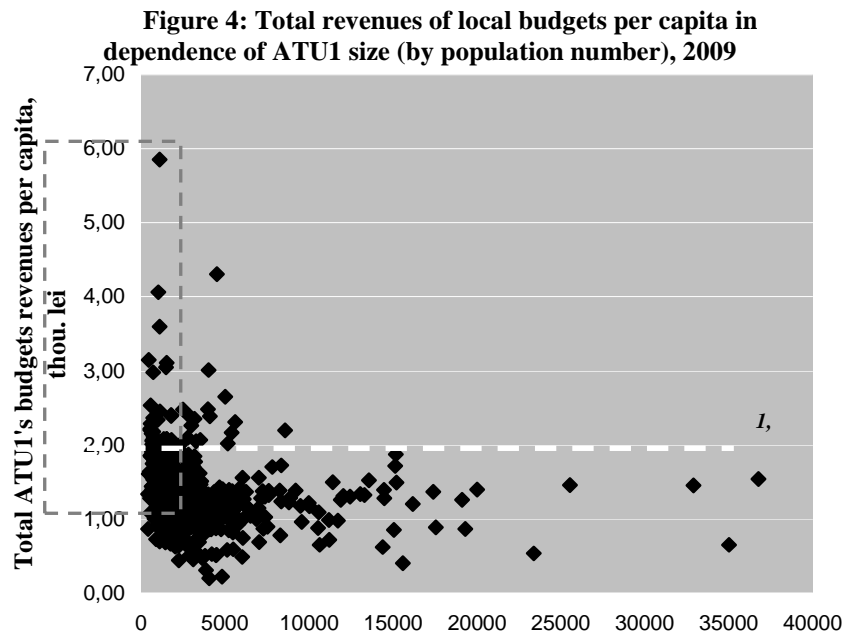
The elaboration of the multiannual fiscal forecast at least at the level of LPA II is difficult to carry out under the conditions, when the fiscal legislation in Moldova is often being modified during the budgetary year.

At the same time, for the preparation of the local budget simplistic technics for forecasting the revenues and expenditures are applied. The norms established by the sectorial ministries and by the Ministry of Finance reduce LPAs flexibility in the reallocation of resources in conformity with the local priorities and necessities.

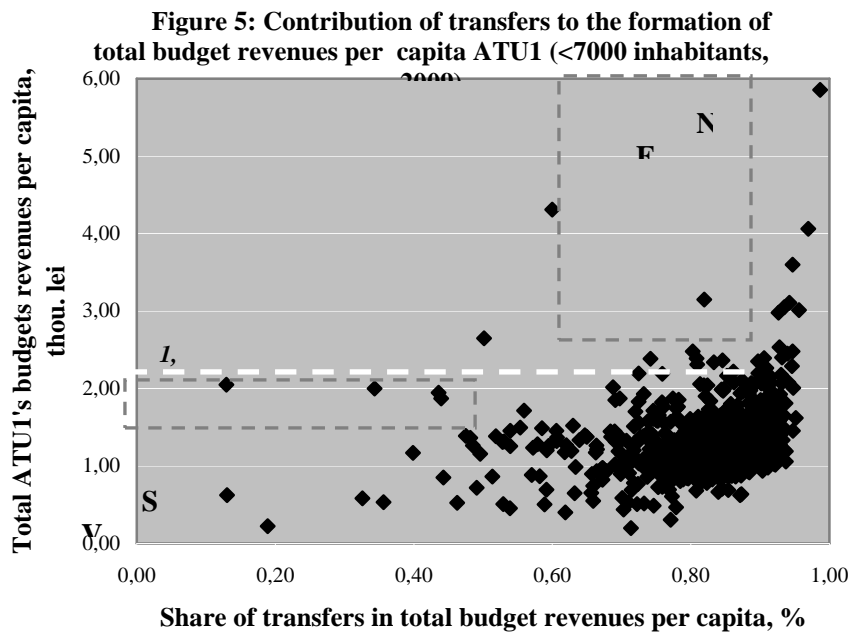
For a better quality of the budgetary process, especially under the perspective of the elaboration of the performance-based budgets it is important that the viable local development strategies exist at the ATU level. Numerous ATU in Moldova have elaborated such strategies at the beginning of 2000, the majority of those haven't been updated and as a consequence this leads to the reduced use of these strategies.

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**Source:** based on information of the Ministry of Finance and of National Statistical Bureau



**Source:** based on information of the Ministry of Finance and of National Statistical Bureau

The system of local public finance in Moldova generates profound horizontal disequilibrium de-motivating the own financial effort of LPAs. In fig. 4 it is presented the distribution of the total revenues of level I (TR) per capita depending on ATU I size (based on the number of population). With the average of 1.26 thousand lei for ATU I budget, the most significant deviations were registered in ATU with a population of up to 7000 people (from about 6000 per capita down to 200 lei per capita). In ATU with the population of more than 7000 inhabitants, figures of TR/capita deviate on average more modestly.

Fig. 5 identifies the causes which provoke these disequilibria in financing of ATU I, being considered only ATU I which have a population under 7000 inhabitants. On the vertical axis it is presented the report TR/capita, on the horizontal axis – the share of transfers in the total budget

revenues (dependent variable). We can observe that in Moldova it exists ATU I, whose budget revenues per capita are below the average of 1.26 thous. lei, the contribution of transfers being in certain cases very modest – up to 50%, while in others – up to 20%. At the same time in case of numerous ATU I located in the upper right corner of the diagram, the transfers contribute with more than 70% to the formation of the total per capita budget revenues in order to raise them to the level of more than 2000 lei, exceeding the medium level with 2-5 times. As a consequence, the system of intergovernmental financial relations in Moldova is profoundly non-transparent, inequitable, generating significant horizontal equilibrium, which instead of stimulating LPA effort to expand its financial potential demotivates APL authorities, annihilating the spirit of initiative and capacities development for the efficient administration of ATUs limited resources, but also the responsibility of LPAs towards the local communities.

These evolutions indicate an extension of the fiscal centralization in the intergovernmental relations in Moldova, thus diminishing the role and importance of own revenues for LPAs and are in contradiction with article 9 point 3 of the European chart of the local autonomy which envisages that “The financial systems on which resources available to local authorities are based shall be of a sufficiently diversified and buoyant nature to enable them to keep pace as far as practically possible with the real evolution of the cost of carrying out their tasks”.

### **3. Financial decentralization - a solution for strengthening local financial autonomy in Moldova**

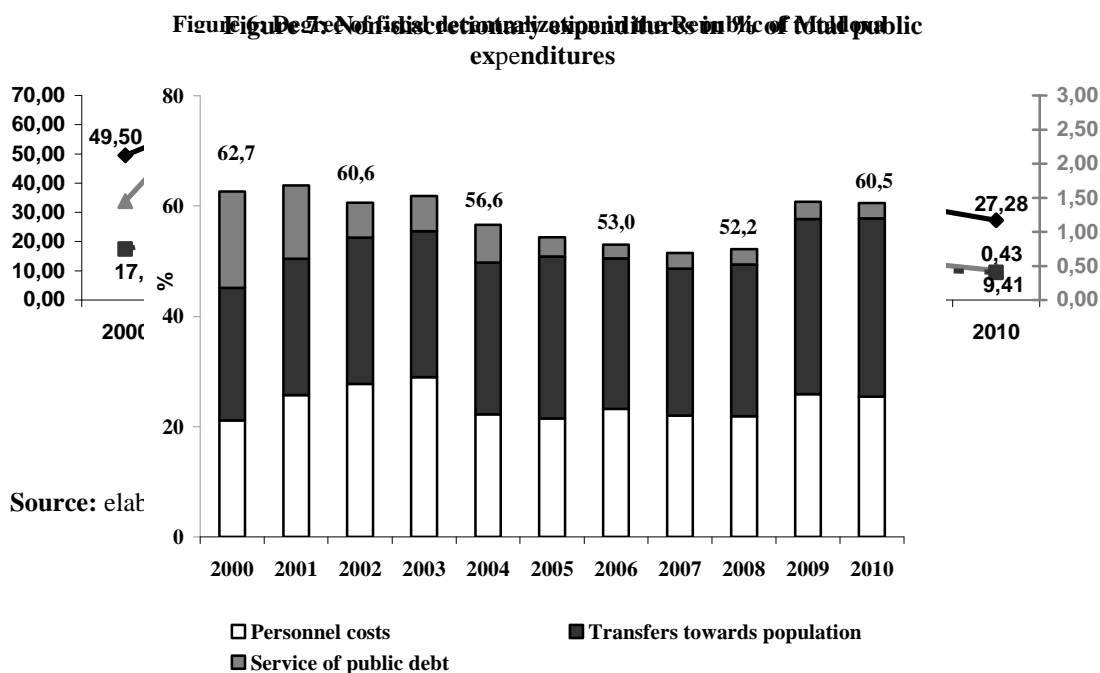
The end of the last decade of the XX century was a witness of some attempts, differing by degree of success, in implementation of fiscal decentralization programs and devolution of fiscal power toward lower levels of public management in both OECD countries and other states. In different countries, fiscal decentralization is motivated by different reasons and consequences derived from the point of view of macro-economic stability and economic growth.

The approach of financial decentralization in the Republic of Moldova is supported by the following arguments, at least:

i. When the degree of fiscal decentralization is considered to be low, central authorities should consider, in collaboration with local authorities, means for increasing the proportion of own fiscal incomes of ATU's (administrative and territorial units) and local incomes transferred under permanent law without unnecessary growth of the total fiscal pressure (Rec2005). For determination of this degree, the following parameters can be used:

- relationship between fiscal incomes (FI) of ATU's and total governmental fiscal incomes;
  - relationship between local fiscal incomes and total local resources;
  - relationship between fiscal incomes and transfers from the State and other public authorities;
  - relationship between own local incomes and GDP (gross domestic product);
  - relationship between maximal and minimal resources that can be generated by authorities through modification of tax rates within arrangements permitted by law.
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Analysis of evolution of these indicators for the case of the Republic of Moldova (Fig. 6) demonstrates continuing growth of the degree of fiscal centralization. This trend requires conclusion to be made that *in conditions when pronounced decrease of the fiscal decentralization is observed, central public authorities in collaboration with ATU's authorities shall devise corrective*



Source: elaborated under data of the Ministry of Finance

measures in order to increase expand fiscal decentralization.

ii. Well designed fiscal decentralization, including distribution of spending responsibilities, allocation of income sources to sub-national authorities, fiscal intergovernmental transfers and local debt policies can assist reduction of poverty. At the same time, an ill-conceived decentralization program can be harmful for the purpose of fighting against poverty (UNDP, 2005; Martinez-Vazquez, 2001). Special literature concerning problems of federalism confirms that many, but majority of public services closely associated with reduction of poverty are considered to be supplied in best manner by local authorities.

Incidence studies (examining those ones who are benefiting from public services) demonstrate that certain sectors such as education and some public services of health protection are among domains being most suitable for fighting against poverty. However, two things tend to vary very much on policies of fiscal decentralization in different countries.

First one is represented by the degree of local responsibility for social sectors (education, health protection, social assistance). If supplies of social sector are not devolved in large proportion to the local level, it is very improbable for fiscal decentralization to have significant impact on reduction of poverty.

Second one consists in that the relationship between availability of local resources and effects of the supply of services is not necessarily uniform in function of regions and local authorities. This is explained by the fact that some local authorities utilize resources being in their disposition more efficiently than others, thus underlining the importance of local participation and local responsibility in provision of goods and public services for poor people.

In context of some economies with limited resources like the Republic of Moldova, eradication of poverty requires programs of public expenditures in order to supply public and quasi-public services, on the one hand, and provide direct transfers oriented toward poor people, on the other

hand. In execution of cost programs consolidating the growth, both efficiency of allocation and technical efficiency of public expenditures is of importance.

Thus, efficient allocation of public expenditures in the sense of both cost-efficient rendering of public services and supply of these services adapted to diverse preferences of different sections of population is an important component of efficient strategy for reduction of poverty.

Therefore, for policies applied in order to ensure consumer rights of poor people to be cost efficient, they must be targeted ones.

iii. In conditions when central government is not able, by objective and subjective reasons, to increase amount of public expenditures in order to provide diversified, qualitative public services at reasonable prices in accordance with market requirements, it becomes necessary and expedient to extend in the Republic of Moldova localization processes, including through fiscal decentralization and attraction of private sector to provision of public services (including PPP - *public*-private partnership). One of the important aspects of allocation of public expenditures is *flexibility*. For protection against shocks, governments should have at their disposal sufficient flexibility in their annual decisions on allocations. If some cost positions are protected ones (non-discretionary - Non-discretionary expenditures contain personnel costs and interest payments) and if the share of non-discretionary expenditures in total expenditures is an increased one, adjustment in adverse periods may become difficult or may reduce disproportionately non-protected expenditures, which are important for the long-term growth. In the Republic of Moldova, share of non-discretionary expenditures in total public expenditures amounts approximately to 60% (Fig. 7).

iv. Financial decentralization through asymmetric agreements provided it is designed and implemented successfully may represent a suitable tool in the provision of territorial autonomy for the groups of ethnic minorities (Tranchant, 2010). At the same time, studies addressing this problem not always identify positive consequences of financial decentralization in solution of interethnic conflicts.

Elaboration of intergovernmental fiscal agreements is one of the most complex domains of public finances since it contains the series of political problems and provides institutional consolidation requiring coordination and attentive sequencing and being affected strongly at the same time by historical, political, social and economic factors.

Interrelations between fiscal decentralization and macro-economical development are a very complex problem, being worthy of special attention in the context of developing countries. From the side of experts in elaboration of public policies, there is a growing recognition of the fact that fiscal decentralization without fiscal discipline complied with by local public administrations (LPA), while proposal of decentralization contains no precaution incentives with regard to undertaking and management of expenditures, may aggravate fiscal imbalances and, thus, affect macro-economical stability in general. Imposition of strict constraints on sub-national obligations and efficient monitoring of local fiscal positions represents additional important elements in fiscal decentralization. At the same time, fiscal decentralization depends on the degree of availability of experience at the local level and ability of local administrations to control increased volume of resources and ensure the efficient management of expenditures. In addition, reorientation of income sources should be in conformity with proportional redistribution of cost-related functions to local public authorities and efforts in support of the income mobilization at lower managerial levels.

The rate of financial decentralization should be related as much as possible with LPA's capacity to execute efficiently functions assigned to them. This implies that growing devolution of cost functions:

- shall be conditioned by the compliance with minimal set of requirements to public financial management from the part of LPA's;
- shall be implemented with different rate due to different capacity among LPA's (asymmetric agreements).

Impact of sub-national fiscal operations on financial discipline depends not only on the specific weight of these operations in total expenditures and incomes, but on the mode of their

funding, as well (IMF, 2009). In this context, the role played by transfers from central government for contouring of incentives at sub-national level is revealed.

This problem is very relevant, since, practically in all countries, specific the weight of sub-national expenditures in the central government budget are larger than one of incomes and, therefore, transfers from central government are required in order to cover vertical fiscal imbalances.

**Figure 8: Share of ATU budget's incomes and expenditures in national public budget, %, 2000 – 2010**

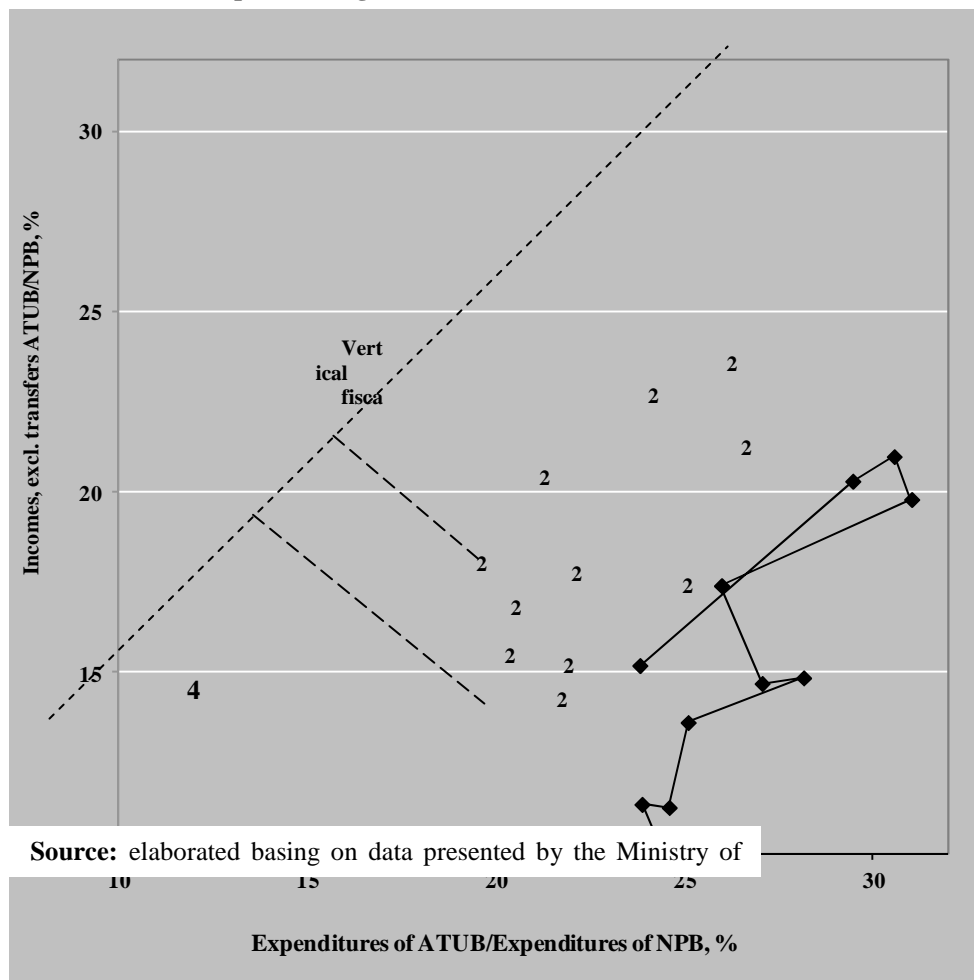


Fig. 8 demonstrates some pronounced vertical fiscal imbalances existed in the Republic of Moldova. In addition, in 2010, increasing of vertical fiscal imbalance for the years included in analysis (2000 - 2010) is observed.

Impact on fiscal discipline and quality of fiscal policy are the main problems that face countries considering reforms of fiscal decentralization. For fiscal discipline, assumed correspondence of responsibilities for expenditures with global resources at every managerial level is a necessary, but not a sufficient condition. Therefore, adequate sequencing of decentralization requires that devolution of responsibilities for expenditures to words sub-national authorities to be strictly coordinated with respective allocation of sources of own incomes and transfers from the center. This affirmation is explained by a number of reasons. Firstly, necessary level of sub-national resources shall be defined in connection with global estimation of needs in sub-national expenditures. Secondly, adequate mix of taxes, duties and transfers can be designed in a most successful way once responsibilities for expenditures are defined. Ultimately, without allocation of

incomes and transfers being adequately clarified, it is difficult to efficiently impose tough budgetary constraints on sub-national authorities.

However, political pressures and sometimes economical ones, prevent frequently such a process, which through definition must be brought into order.

#### **4. Conclusions**

By the results of performed analyses, let's state following recommendations, which, in our opinion, could form the background for a successful process of financial decentralization in the Republic of Moldova:

- The reconsideration of the concept of the local budgeting transforming the local budgets in independent budgets of the local authorities at both levels, so that the latter have proper revenues adequate to their competences, being authorized to modify their budgets within the framework of the law. The abolition of the present procedures of establishing the norms from the top to the low level, as well of the procedures to negotiate the basic parameters of the local budgets between mayories and rayons, rayons and state, are totally nontransparent at present.
  - The gradual transition to the direct and stable inter-budgetary relations between the state budget and LPA budgets at level I
  - The reconsideration of the financial decision-making between LPA I and II aiming at the consolidation of the local autonomy: the contract-based financial relations between LPA I and II, as an alternative it could be examined the possibility to offer LPAs II the right to participate with their own sources at supplementary equalization of LPA I
  - The promotion in the GFPL practice of the methods and techniques of modern budgeting inclusively program-based budgeting and performance-based budgeting
  - The extension of the MTEF elaboration practice at least to the level of ATU at rayonal centers. Introduction of multi-annual budgeting.
  - The reduction of the vertical fiscal disequilibrium through attributing on permanent basis to each level of the budgetary system of the corresponding sources of fiscal revenues. Assurance of strict differentiation between execution (and financing) of own and delegated competencies, prohibition of LPAs obligations without financial coverage.
  - The reduction of the horizontal fiscal disequilibrium through the creation of the local public finance system, which is both equitable and stimulating for LPAs own financial efforts.
  - Different economic and financial potential of ATU's in the Republic of Moldova substantiates the necessity for elaboration and promotion of asymmetric agreements in the process of financial decentralization. Expansion of devolution of spending functions and sources of income should be conditioned by the minimal set of requirements to public financial management (LB creditability; LB comprehensiveness and transparency; budgeting in accordance with policies/strategies of local/regional development; predictability and control over LB execution; accountancy, recording of data and financial reporting within the frames of budgetary process at the ATU level; external control and audit) to be complied with by LPA's.
  - Provision of conditions for observing of financial discipline by LPA's of the Republic of Moldova through elaboration and imposition of a set of fiscal rules derived from international experience (for example, OECD, IMF, etc.): requirements to budgetary balance; constraints for accumulation of debts; limitation of ability to build up expenditures or fiscal pressure; requirements to responsibility, transparency, reporting and monitoring, possible sanctions, etc.
  - For financial decentralization to be better elaborated and promoted, it requires existence of broad database at least on the economic and social development of ATU's. In this sense, development of national statistics becomes imperative, since it can provide expedient and trustworthy indicators and information related with ATU's.
  - Development of the internal audit service within LPA's.
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## RECOGNITION OF FINANCIAL INSTRUMENTS IN ACCOUNTING PRACTICE FINANCIAL CRISIS CONTEXT

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**Abstract:** *The development of the capital markets and their efficiency depends on the trust the public has in the transparent accounting information that must be accompanied. There is the danger that the financial statements drawn out according to national rules are misinterpreted by a foreign investor or that these ones lead to damages for a potential investor. In this context, we are demonstrate the reason why the drawing out of the financial statements according to internationally recognized rules is desirable both from the perspective of the ones that want capital and from the perspective of the ones that offer financing.*

**Key words:** financial instruments, stock exchange, accounting procedures, world crisis, IASB - US GAAP

**JEL classification:** M41, M48

### 1. Introduction

Using a single accounting reference point can be beneficial for all the actors interested in financial reporting, because only in this manner, the accounting becomes reliable, the entities have an easier and cheaper access to capital markets and auditing the financial statements incurs lower costs.

The beginning of the nineties signified the consolidation and the amplification of a trend in which big companies working at multinational level expanded their action area outside the national borders, making use of international capital markets in order to cover their financing needs, but also in order to invest their own surplus.

Financial instruments include: Cash, accounts, notes, and loans receivable and payable, investments in stocks, bonds, and other securities, and derivatives such as options, rights, warrants, futures contracts, forward contracts, swaps, CFDs and mortgage credit related derivatives: Mortgage Based Securities, Collateral Debt Options and Credit Default Swaps-that are the latest financial instruments and the means the credit bubble expanded through the financial system.

■ **HEDGE ACCOUNTING:** Hedging, for accounting purposes, means designating a derivative financial instrument as an offset in net profit or loss, in whole or in part, to the change in fair value or cash flows of a hedged item. A non-derivative financial instrument may also be a designated hedging instrument, but only with respect to hedges of foreign currency risks. The designation must be in writing, up front (no retrospective designations), and be consistent with an established risk management strategy. In essence, under IAS 39 hedge accounting is not mandatory. If an entity does not want to use hedge accounting, it simply does not designate a hedging relationship. Hedge accounting is permitted under IAS 39 in certain circumstances, provided that the hedging relationship is: **C L E A R L Y D E F I N E D** : What risk is being hedged and what is the expected relationship between that risk and the hedging instrument. **M E A S U R A B L E** : What technique will be used to assess hedge effectiveness? And **A C T U A L L Y**



**E F F E C T I V E** : if, despite strategies and expectations, the hedge was not effective, or was only partially effective, the ineffective portion is not eligible for hedge accounting. IAS 39 recognizes three type of hedges: Fair Value Hedge, Cash Value Hedge and Hedge of a Net Investment.

The International Accounting Standards Board and the US Financial Accounting Standards Board have announced further steps in response to the global financial crisis following their joint board meeting held in London on 23 and 24 March 2009. Building on work underway, the two boards have agreed to work jointly and expeditiously towards common standards that deal with off-balance sheet activity and the accounting for financial instruments. They will also work towards analysing loan loss accounting within the financial instruments project.

While the crisis has revealed flaws in Europe's own regulatory system, the EU is still well placed to play an active role in designing new global structures and ensuring their transparency and accountability. Developing countries as well as others should be represented, guaranteeing the legitimacy of the decision-making process.

The pace of development and the degree of sophistication in different capital market segments in emerging Europe has varied widely across countries. Privatization methods and listing requirements determined the early pace of growth in stock markets, while in some countries; public financing needs and governments' commitment to establishing pricing benchmarks have provided the impetus for the growth of local bond markets. The adoption of securities laws and regulations, efforts to improve corporate governance and transparency, and the implementation of adequate trading infrastructure and payment and settlements systems have also been important determinants of local market development.

These steps reaffirm a commitment to a joint approach to the financial crisis and to the overall goal of seeking convergence between International Financial Reporting Standards (IFRSs) and US generally accepted accounting principles (GAAP) described by a Memorandum of Understanding (MoU) first published in 2006 and updated in 2008.

The boards will work together towards common standards by developing the IASB projects on consolidation and derecognition as joint projects once the FASB has completed its short-term amendments to its existing standards. Furthermore, the boards have agreed to issue proposals to replace their respective financial instruments standards with a common standard in a matter of months, not years. As part of this project the boards will examine loan loss accounting, including the incurred and expected loss models.

Starting in the summer of 2007, accumulating losses on US subprime mortgages triggered widespread disruption to the global financial system. Large losses were sustained on complex structured securities. Institutions reduced leverage and increased demand for liquid assets. Many credit markets became illiquid, hindering credit extension.

In less than a year, the balance sheets of financial institutions became burdened by assets that have suffered major declines in value and vanishing market liquidity. Participants are reluctant to transact in these instruments, adding to increased financial and macroeconomic uncertainty.

To re-establish confidence in the soundness of markets and financial institutions, national authorities have taken exceptional steps with a view to facilitating adjustment and dampening the impact on the real economy. These have included monetary and fiscal stimulus, central bank liquidity operations, policies to promote asset market liquidity and actions to resolve problems at specific institutions. Financial institutions have taken steps to rebuild capital and liquidity cushions. And both national and international organizations have developed recommendations and resources aimed at reducing the likelihood that this situation would recur.

The current situation reveals the following aspects:

- ✓ Pressures are likely to grow for more transparent, simplified and standardized markets with fewer intermediaries;
  - ✓ The burden of regulation is likely to increase as the price for government bail out increases;
  - ✓ Government responses to Issues unfolding around the world are similar:
-

US government is currently working on another stimulus package of around \$ 800 billion stimulus package, in addition to earlier packages;

European financial and political leaders agreed to a plan that would inject billions of Euros into their banks;

Governments of many other countries have taken variety of measures.

The 'High-level Group on Financial Supervision in the EU' has published its Report that makes 18 detailed recommendations to strengthen supervision of the EU's financial institutions and markets. The report addresses:

- ✓ how to organise the supervision of financial institutions and markets in the EU;
- ✓ how to strengthen European cooperation on financial stability oversight, early warning, and crisis mechanisms; and
- ✓ how EU supervisors should cooperate globally.

Throughout the Report, accounting is cited as one of the causes of the current global financial crisis. The Report urges that the IASB or supervisors set limits on mark-to-market accounting:

To ensure convergence of accounting practices and a level playing-field at the global level, it should be the role of the International Accounting Standard Board (IASB) to foster the emergence of a consensus as to where and how the mark-to-market principle should apply – and where it should not. The IASB must, to this end, open itself up more to the views of the regulatory, supervisory and business communities. This should be coupled with developing a far more responsive, open, accountable and balanced governance structure. If such a consensus does not emerge, it should be the role of the international community to set limits to the application of the mark-to-market principle.

The following is Recommendation #4 of the Report:

Recommendation 4: With respect to accounting rules the Group considers that a wider reflection on the mark-to-market principle is needed and in particular recommends that:

- ✓ expeditious solutions should be found to the remaining accounting issues concerning complex products;
- ✓ accounting standards should not bias business models, promote pro-cyclical behaviour or discourage long-term investment;
- ✓ the IASB and other accounting standard setters should clarify and agree on a common, transparent methodology for the valuation of assets in illiquid markets where mark-to-market cannot be applied;
- ✓ the IASB further opens its standard-setting process to the regulatory, supervisory and business communities;
- ✓ the oversight and governance structure of the IASB be strengthened.

## 2. Dealing with the crisis

What can we expect?

✓ **DELEVERAGING** - Credit and asset price booms are typically followed by declines in asset prices and a process of deleveraging. This is happening already in the financial sector but corporatism and households may join in.

✓ **CASH** - Corporatism will find it harder to access external sources of capital – from banks, public debt markets and the equity market. Meanwhile economic activity and top line growth are slowing. In a tight-money, slow-growth environment - “Cash is King”.

✓ **RISK AVERSION** - Cheap credits and strong growth of risk-taking. The credit crunch will lead to a sharp rise in risk aversion, and the sell off in riskier assets (e.g. high yielding bonds). “Caution is back in”.

✓ **MORE BUSINESS FAILURES** - Unlikely to be restricted to financial services and banking as wholesale debt markets continue to tighten and differentiate between credit risks;

✓ **CAPITAL PROTECTION** - Investors are focussing more on capital protection rather than return on capital. The “flight to quality” and government backed securities.

✓ **BALANCE SHEET ADJUSTMENTS** - Balance sheet structures designed in the upswing may not work so well in downswing. Declining asset prices, rising interest rates and reduced credit availability have given corporatism plenty of reasons to restructure their balance sheets.

✓ **ASSET SALES** - Many assets will change hand as corporatism and consumers adjust to lower asset prices. Huge ownership changes are likely as cash flows from institutional investors, sovereign wealth funds and private equity to the sellers of assets. Since asset prices tend to undershoot in a downswing just as they overshoot assets, downswing, in an upswing, there will be bargains to be had.

### 3. IAS and FASB provisions and regulations-comparison

*IAS 39 and IFRS7 on one side and FASB on the other side are the only accounting standards adopted in the purpose of a comprehensive recognizing and measuring financial instruments. Both IAS39 and FASB standards (114, 115, 125, and 133) have the scope of covering the recognition, measurement, derecognition, and hedge accounting.*

According to both IASC and FASB, a financial instrument is any contract that gives rise to both a financial asset of one entity and financial liability or equity instrument of another entity. Also, a financial asset is cash, a contractual to receive cash or another financial asset from another enterprise, a contractual right to exchange financial instruments with another enterprise under conditions that are potentially unfavorable or an equity instrument of another enterprise. A financial liability is any liability that is a contractual obligation to deliver cash or another financial asset to another entity or to exchange financial instruments with another entity under conditions that are potentially unfavorable.

If an entity has a contractual obligation that it can settle either by paying out financial assets or its own equity securities, and if the member of equity securities required to settle the obligation varies with changes in their fair value so that the total fair value of the equity securities paid always equals the amount of the contractual obligation, the obligation should be accounted for as a financial liability, not as equity.

FASB does not require that such an obligation be classified as a liability.

A derivative is a financial instrument whose value changes in response to the changes in a specified rate, security price, commodity price, foreign exchange rate, index of prices or rates or credit rating or credit index or similar variable (sometimes called underlying). FASB definition requires that the terms of the derivative contract require or permit net settlement. Also, a derivative requires no initial net investment relative to other types of contracts that have a similar response to changes in market conditions and that is settled at a future date. IASB and FASB initially recognize all financial assets and financial liabilities on the balance sheet, including all derivatives. They initially measured at the same fair value of whatever was paid or received to acquire the financial asset or liability. Transaction costs are included in the initial measurement of all financial instruments, according to IASB, while FASB does not address transaction cost. Such costs can be included on or excluded from the initial measurement of financial instruments.

Also, IASB provides that an enterprise will recognize normal purchase of securities on the market place either at trade date or settlement date. If settlement date accounting is used, IAS 39 requires recognition of certain value changes between trade and settlement dates so that the income statement effects are the same for all enterprises.

On the other side, FASB does not address trade date vs. settlement date. Value change between trade and settlement date may be included in or excluded from measurement of net income.

To IASB subsequent measurement of financial assets, as for FASB is made at fair value, all financial assets held for trading, and at cost: originated loans and receivables.

For IASB at fair value are measured all debt securities, and other financial assets that are not held for trading but nonetheless are available for sale – except those unquoted equity securities whose fair value cannot be measured at cost subject to an impairment test.

According to FASB all debt securities, equity securities, and other financial assets that are not held for trade but nonetheless are available for sale – except all unquoted equity securities are measured at cost subject to an to an impairment test. In IAS 39 all derivative assets and derivative liabilities are measured at fair value, unless they are linked to and must be settled by an unquoted equity whose fair value cannot be measured reliably. FASB does not require fair value for any unquoted equity security but their standard does not make an exception from fair value for a derivative that is indexed to an unquoted equity whose fair value cannot be measured reliably. Subject to measurement at fair value according to both referential are also certain derivatives that are embedded in non-derivative instruments and purchased loans that the entity does not designate as held to maturity.

Measured at cost, according to both IASB and FASB originated loans and receivables for the entity does not have to demonstrate intent and ability to hold to maturity for originated loans and receivables certain fixed maturity investments that the intends and has the ability to held to maturity, strict tests for held-to maturity security due to a non-recurring and not reasonably anticipated circumstance beyond the entity's control does not call into question , the enterprise's ability to held its remaining portfolio to maturity.

On intended or actual sale of a held-to-maturity security due to a non-recurring and not reasonably anticipated circumstance beyond the entity's control does not call into question, the enterprise's ability to hold its remaining portfolio to maturity. Tainting of held-to- maturity category by early sale causes all remaining held-to-maturity assets to be measured at fair value. If an enterprise is prohibited from classifying financial assets as held-to-maturity because it has actually sold some such assets before maturity, that prohibition expire at the end of the second financial year following the premature sales. FASB standard is silent as regard to whether or when such "tainting" is even used.

Unquoted equity instruments (such as ordinary shares) whose fair value cannot be reliably measured along with derivatives that are linked to and must be settled by delivery of such unquoted equities? FASB reports all unquoted equity instruments at cost even of fair value can be measured reliably by means other than a quotation in an active market. All FASB requires fair value measurement for all derivatives, including those linked to unquoted equity instruments of they are to be settled in cash but not these to be settled by delivery, which are outside the scope of 133. Both IASB and FASB provide that the write-down against net-profit or loss for impairment or non-collectability, if recoverable amount of a financial asset carried at cost exceeds carrying amount.

Regarding the subsequent measurement of financial liabilities both IASB and FASB provide that all financial liabilities are measured at original recorded amounts less principal repayments and amortization except for changing value derivative liabilities and liabilities held for trading (such as securities borrowed by a short seller), which are measured to fair value. Reporting fair value changes according to IAS 39 is done for those financial assets and liabilities that are measured to fair value or entity has a single enterprise-wide option to either:

- a) Recognize the entire adjustment in net profit or loss for the period; or
- b) Recognize in net profit or loss for the period only those changes in fair value relating to financial assets and liabilities held for trading, with value changes in non-trading items reported in equity with the financial asset is sold at which time the realized gain or loss is reported in net profit or loss.

FASB requires option b) for all entities.

Derecognition according to IASB and FASB has also common parts. A financial asset is derecognized if the transferee has the right to sell or pledge the asset; and the transferor does not have the right to reacquire the transferred asset (however, such a right does not prevent

derecognition if either the asset is readily obtainable in the market or the reacquisition price is fair value at the time of reacquisition)

In addition to those criteria FASB requires that the transferred assets be legally isolated from the transferred event in the event of the transferor's bankruptcy.

To IASB as to FASB, a financial liability is derecognized if the debtor is legally released from primary responsibility for the liability (or part thereof) either judicially or by the creditor. Guidance in IAS 39 includes the following example. A bank transfers a loan to another bank, but to preserve the relationship of the transferor bank with its customers, the acquiring bank is not allowed to sell or pledge the loan. Although the instability to sell or pledge would suggest that the transferee has not obtained control, in this instance the transfer is a sale provided that the transferor does not leave the right or ability to reacquire the transferred asset. While a similar example is not included in FASB standards, FASB might be interpreting as prohibiting derecognition by the transferor bank.

It is also common that if a debtor delivers collateral to the creditor and the creditor is permitted to sell or to pledge the collateral without constraints, then the debtor recognizes the collateral given as a receivable and the creditor recognizes the collateral received as an asset and the obligation to repay the collateral as a liability. Regarding to the Hedge Accounting IASB and FASB provide that it is permitted in certain circumstances provided that the hedging relationship is clearly defined, measurable, and actually effective. For IASB the use of no cash hedging instruments is restricted to exposure to hedges at any risk of gain or loss from changes in foreign currency exchange rates arising in fair value hedges, cash flow hedges, or hedges of a net investment in a foreign operation. On the other hand, for FASB the use of no cash hedging instruments is restricted to exposure to hedges of risk of gain or loss from changes in foreign currency exchange rates arising in firm commitments or hedges of a net investment on foreign operations.

SIMILAR TO THE FASB, IAS 39 DEFINES THREE TYPES OF HEDGES:

- ✓ Fair value hedge;
- ✓ Cash flow hedge;
- ✓ Hedge of a net investment in a foreign entity.

The IAS 39 presents the following fair value definition: a hedge of the exposure to changes in the fair value of a recognized asset or liability (such as hedge of exposure to changes in the fair value of fixed rate debt as a result of changes in interest rates). However, a hedge of an unrecognized price firm commitment to buy or sell an asset at a fixed price in the enterprise's reporting currency is accounted for as a cash flow hedge.

FASB promises the same, except that a hedge of an unrecognized firm commitment to buy or sell an asset at a fixed price in the enterprise's reporting currency is accounted for as a fair value hedge or a cash flow hedge. Also both IASB and FASB present the fair value hedge accounting to the extent that the hedge is effective, the gain or loss from re-measuring the hedging instrument at fair value is recognized immediately in net the profit or loss account. At the same time, the corresponding gain or loss on the hedged items adjusts the carrying amount of the hedged items and is recognized immediately in net profit or loss.

For the cash flow hedge accounting this provide that to the extent that the hedge is effective, effective, the portion of the gain or loss on the hedging instrument is recognized initially directly in equity subsequently, that amount is included in net profit or loss in the same period or periods during which the hedged item affects net profit or loss (for example, through cost of sales, depreciation, or amortization).

Further, the cash flow accounting provisions of IASB differ from those of FASB. Thus, IAS 39 states that cash flow hedge accounting for a hedge of forecasted sales, the gain or loss on the hedging instrument will be included in net profit or loss in the same period as the sales revenue is recognized. Also for a hedge of a forecasted asset and liability acquisition, the gain or loss or the hedging instrument will adjust the basis (carrying amount) of the acquired asset or liability. The gain

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or loss on the hedging instrument that is included in the initial measurement of the asset or liability is subsequently included in liability affects net profit or loss (such as in the periods that depreciation expense, interest income or expense, or cost of sales is recognized).

FASB, regarding the cash flow hedge accounting, provides that for a hedge of forecasted assets and liability acquisition, the gain or loss on the hedging instrument will remain in equity when the asset or liability is acquired. That gain or loss will subsequently be included in the net profit or loss account in the same period as the asset or liability affects net profit or loss (such as in the periods that depreciation expense interest income or expense or lost of sales is recognized). Thus, net profit or loss will be the same under IAS and FASB standards. But the balance sheet presentation will be net under IAS and gross under FASB.

Regarding the hedge of a net investment in a foreign entity, the IASB and the FASB agree to be accounted for same as a cash flow hedge.

The two also concluded, regarding the specific designation that the entity must designate a specific hedging instrument as a hedge of a change in value or cash flow of a specific hedged item, rather than as a hedge of an overall net balance sheet position. However, the approximate income statement effect of hedge accounting for an overall net position can be achieved, on some cases, by designating part of one of the underlying items as the hedged position.

#### **4. Legislation**

Financial sector diversification, the development of market infrastructure and institutional investors, and strong corporate governance and transparency are commonly accepted as key to promoting capital market development. This section covers some of the more “gray” areas where there is less consensus on the appropriate degree of official intervention as opposed to allowing market forces to work.

##### **EUROPEAN REGULATIONS**

Many emerging European markets still suffer from inadequate reporting standards, reporting histories, lack of credible corporate ratings and ownership disclosure structures. Even where transformation of the laws on the books ahead of EU membership has been very successful, enforcement at the firm level is still lagging (IOSCO assessments in many of these countries have pointed to various degrees of weaknesses in enforcement programs. Carvajal and Elliott (2007) observe that a combination of factors, such as insufficient legal authority, a lack of resources, political will and skills tend to undermine regulators’ capacity to effectively execute regulation. Zoli (2007) discusses areas where there are still scopes for strengthening institutional reform in emerging European countries.). In some cases, judicial bottlenecks and the lack of capacity prevent effective enforcement. For example, Berglof and Pajuste (2005) note that while the Baltic countries and Romania implemented strict securities market regulations early on, enforcement has been limited due to the lack of well-defined legal responsibilities, resources and expertise.

In other instances, rules relating to mandatory disclosure in annual reports are still not sufficiently enforced. According to Berglof and Pajuste (2005), corporatism in Poland discloses less in their annual reports than are legally required, notwithstanding the fact that Poland’s supervisory structure and management of the Warsaw Stock Exchange are largely regarded as exemplary, and that Poland had implemented strict regulatory mechanisms aimed at investor protection and large shareholder fraud (However, the IMF’s Financial Sector Assessment Program Update for Poland in 2006 had warned that the unification of financial sector supervision in a new agency, whose independence is not guaranteed in the law, risked weakening the governance structure of supervision (IMF, 2006). This is in sharp contrast to the Czech Republic, where corporatism are now said to disclose more in their annual reports than are legally required. In Turkey, poor information has contributed to the low reliability of companies’ financial reports, discouraging investors and contributing to stock market volatility. The authorities are currently in the process of implementing regulations aimed at bringing company accounts into full compliance with IFRS. The

enforcement of regulation per SE may not be sufficient for encouraging capital market development. The regulatory process must also be efficient: market timing is of utmost importance to both issuers and investors, since any regulatory delay would be tantamount to prohibitive regulation (Luengnaruemitchai and Ong, 2005; Schinasi and Smith, 1998). The development of corporate bond markets in emerging Europe is a case in point. While the lack of sufficient corporate procedures and regulations has been a drawback for development in some instances, the existence of restrictive regulations and procedures has held back progress in others. In some countries, potential issuers have been deterred by high entry costs, statutory restrictions, repressive regulatory processes and a lack of government incentives (Szilagyi, Fetherston and Batten, 2004).

Local market development in the region is increasingly linked to EU markets and legislation. EU membership is expected to improve capital market integration, both among emerging European countries and, more generally, within the EU through the convergence of regulations, infrastructure and instruments. The establishment of regional exchanges is raising questions about the long-term sustainability of some local exchanges and the necessity of developing free-standing local markets, given the increasing competition faced by the latter. In this context, however, it has been argued that local capital markets remain an important source of financing for small- and medium-sized companies which are less likely to be able to list on the major exchanges.

Corporate governance, financial transparency and enforcement of laws and regulations need to be continually improved to attract and sustain investor interest. Although there has been significant progress in developing sound financial regulatory frameworks across the region, the success in transforming the laws on the books has not necessarily translated into actual implementation and enforcement in some instances. As a result, the quality of governance and the degree of financial disclosure varies significantly across countries. Some markets in the region still lack the necessary credibility with institutional investors, which have traditionally played a key role in the development of emerging local markets. These shortcomings are especially pertinent for local companies seeking listings on major regional exchanges, as they may fall short on meeting international best practice standards.

### **FINANCIAL INSTRUMENTS IN ROMANIA – Derivatives: urgently requested by the market**

Starting 2007, Romania implemented the liberalization of regular capital accounts and national companies were forced to introduce new information systems and strategies for risk management, as to maintain competitiveness on European markets. The National Bank of Romania recommended the usage of derivatives, but unfortunately the existing law gaps, an under-developed financial market and lack of top-management skills have limited all these attempts.

In order to be member of the European Union, Romania had to liberalize capital accounts and local companies were forced to introduce structures and strategies for risk management. Therefore, the international financial market recommended as a solution to this issue, the implementation of derivatives – financial instruments evolving directly proportionate and simultaneously with an asset-of-origin (e.g. interest rate; exchange rate, s.o.). Such instruments may be used as to partially or totally eliminate the random evolution of an identifiable risk-bearing item, mainly by reversing the decision-taking process throughout a derivative. The users of such a financial instrument may be split in two distinctive categories: HEDGERS – the ones trying to cover their exchange-rate or interest-rate risks, and maintain a certain future quota for these items; and SPECULATORS – they take advantage by speculating the anticipated trends for the asset-of-origin (the basis of the derivative).

The National Bank of Romania (BNR) created premises for the usage of derivatives, but existing law gaps and an underdeveloped financial market, limited their implementation by local companies. The main issue for introducing derivatives at large scale, has been the lack of a coherent legal framework – especially for the cases when one of the involved parties went bankrupt or/and

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did not pay its financial debts. Therefore, a netting procedure (or net compensation) would pay off for outstanding debts resulted by usage of derivatives. Within the Romanian laws for common bankruptcy and bank insolvency, there are dedicated provisions for payments in the account of the affected party, while the other party is considered "creditor without priority". In order to introduce derivatives, netting procedures should be fully implemented in national bank practice, as well as negotiating an ISDA agreement for transactions with such instruments (this type of agreement represents both an actual necessity and a pre-contractual criteria). The ACI together with BNR sustained the legal framework project, and presented it to the Romanian Parliament. Also, the development of derivatives market is slowed down by the lack of fiscal and accounting regulations, by the low liquidity rates and underdevelopment of financial markets in Romania. We hope though that big corporations on Romanian markets, together with a higher degree of involvement of local banks will determine the increase of markets' average liquidity rates and the implementation of derivatives. Such an involvement must be synchronized with the development of specific laws for validating netting procedures and stipulating the effects of one party's bankruptcy over the other, the effects of bankruptcy over the computation of credit risks (according to BNR provisions) – all these will lead to coherence with the ISDA international standards. Unfortunately, the shift from domestic market to the international market is heavily pursued in Romania, because Romanians still lack in a mass-tradition investment.

## 5. Conclusions

The years of "irrational exuberance" that have characterized the current economic cycle have culminated in a profound crisis in both the banking system and financial markets, a crisis that threatens to trigger an acute, global economic recession. A central feature of the recent period of artificial expansion was a gradual corruption, on the American continent as well as in Europe, of the traditional principles of accounting as practiced globally for centuries.

Acceptance of the International Accounting Standards (IAS) and their incorporation into law in different countries have meant the abandonment of the traditional principle of prudence and its replacement by the principle of fair value in the assessment of the value of balance-sheet assets, particularly financial instruments. In fact, during the years of the "speculative bubble," this process was characterized by a feedback loop: rising stock-market values were immediately entered into the books, and then such accounting entries were sought as justification for further artificial increases in the prices of assets listed on the stock market.

In this wild race to abandon traditional accounting principles and replace them with others more "in line with the times," it became common to evaluate companies based on unorthodox suppositions and purely subjective criteria that in the new standards replace the only truly objective criterion (that of historical cost). Now, the collapse of financial markets and economic agents' widespread loss of faith in banks and their accounting practices have revealed the serious error involved in yielding to the IAS and their abandonment of traditional accounting principles based on prudence, the error of indulging in the vices of "creative," fair-value accounting. It is in this context that we must view the recent measures taken in the United States and the European Union to "soften" the impact of fair-value accounting for financial institutions. Hence, we see that the new standards act in a procyclic manner by heightening volatility and erroneously biasing business management: in times of prosperity, they create a false "wealth effect" that prompts people to take disproportionate risks; when, from one day to the next, the errors committed come to light, the loss in the value of assets immediately decapitalizes companies, which are obliged to sell assets and attempt to recapitalize at the worst moment, i.e., when assets are worth the least and financial markets dry up. In the Western Europe and the USA the capital markets are the main source of financing, as most of the companies are listed on the stock exchanges. Bank loans are also an important source of financing, but it is more expensive than financing through capital markets. Still, loans are more appealing individual consumers and that makes them highly important for the economy, as private consumption generally weights a lot in the GDP. Stronger harmonized



regulations for the capital market and for the banks will be very effective, but in the long term. Their contribution in fighting the actual financial crisis is limited. It is very important for the major companies to understand how the capital markets and their instruments work and which are the risks, as the current financial crisis deepened because many CEOs did not know how to manage the risk of the portfolio of their companies. The benefits of the capital market will further attract investors after the economy will return on the growth trend, and accounting for the recognition and measurement of the financial and stock exchange instruments will draw more of the CEOs' attention and will be well supervised. As the recent events and the financial crisis unfolded, accounting for the financial and stock exchange instruments became very important for the survival of major companies and for the growth of the world economy. At the entity level, what a company should now do the following:

- Revise risks assessment for all of its engagements;
- Talk to its clients often and at the highest level possible;
- Anticipate resolution of issues before the end of year;
- Consult with experts whenever needed;
- Look for opportunities to help clients, in full compliance with applicable independence rules.

At the international level, the G20 conclusions at the Washington meeting highlighted the relevance of enhanced governance arrangements of the IASC Foundation in establishing a standard-setter ready and able to serve the increasingly integrated global economy. At the Trustees' meeting in New Delhi in January 2009, the Trustees completed the first part of the IASC Foundation's Constitution Review, which addressed the issue of public accountability (the link to the Monitoring Board) and the composition, geographical diversity, and the size of the International Accounting Standards Board (IASB).

The establishment of the Monitoring Board is a significant enhancement of the organization's governance arrangements and directly addresses the G20 recommendation. The IASB reaches conclusions following a transparent and open due process that considers the views of all stakeholders. An independent and geographically diverse body of Trustees oversees the IASB. Under the Constitutional changes, the Trustees themselves are publicly accountable to a Monitoring Board of public authorities. This relationship between the Trustees and the Monitoring Board replicates, on an international basis, the link between accounting standard-setters and those public authorities that have generally overseen accounting standard-setters.

Romania did not even implemented the classical formula of modifying a directive (the so-called *legal goldplating*), by which a member-state should add multiple supplementary provisions to already existing legal framework, according to national interests and with the purpose of markets' fragmentation (this attempt should have started in 2007). The corresponding consequences for Romanian market -layers are the following: The Markets in Financial Instruments Directive (MiFID) focuses on two paths – first it refers to financial markets, and second to investor protection from market risks. Regarding the latter aspect, Romanian investors are not protected from risks and that is why MiFID imposes to national institutions to adapt existing governmental structures and practices. Romanian financial operators shall be provided with full access to EU inter-community activities. This in turn, implies that a Romanian bank is free to sell goods and services within any member-state without any difficulties. Also, investors seemed to shift focus recently from Bucharest Stock Exchange to different stock-based financial instruments, both in terms of approach and risk aversion. Investors have a variety of financial instruments, commodity or stock exchanges or foreign currencies to choose from, which from the standpoint of fundamental premises, is becoming more and more interesting – that of governmental treasury notes.

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**BUILDING A PORTFOLIO THAT CHARACTERIZE BUCHAREST STOCK EXCHANGE**

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**Abstract:** *This article presents the construction of a portfolio of stocks listed on BSE, which characterizes the market stocks, with similar performance to that of BET index. Advantage of new constructed portfolio would be that it requires a smaller financial effort towards that which it requires the purchase of stocks and percentage indicated by BET index . We present in the first part of the article features BET index, in the next section we build a portfolio with characteristics similar to this but "cheaper", then, we follow our portfolio performance compared to the performance of representative indices for capital market.*

**Key words:** BET, principal components analysis, portfolio optimization, performance

**JEL classification:** G11, C63, C81.

## 1. Introduction

BET is a capitalization-weighted price index of free-float of the most liquid companies listed on Buchares Stock Exchange. Number of companies included in the index is 10 companies, it is possible that their numbers increase in future due to new companies listing on the BSE representative sectors of national economy. Similar to other indices methodology developed by BSE, BET methodology reflects the evolution of stock prices traded on the main square section ("Regular"). BET's main drawback is that we must make a considerable financial effort to acquire stocks in the percentage indicated by this index because standard trading unit is 500 and implicit has procured multiple of 500 of each stock. Therefore, it requires finding alternative ways to build a portfolio that characterize the domestic capital market. Further, deployment of the paper is as follows. In Section 2 we present some of the basic characteristics of the BET index, as well as its formula. Section 3 presents an analysis of stocks listed on the Bucharest Stock Exchange and is trying a grouping them based on existing similarities between analysis and stock to build a portfolio that characterize BSE. In Section 4 we track the performance of portfolio built in comparison with representative indices for the capital market in Romania.

## 2. BET index

### 2.1 General Principles

BET was launched on September 19, 1997 with a starting value of 1,000 points, the first index developed by BSE. BET is the benchmark BSE index, whose methodology allows it to constitute as an underlying for derivatives (futures, options, etc.) and structured products (warrants, certificates, etc.). For corporate events that have a significant impact on the market price of the stocks included in the index BET (such as splits, consolidations, capital increases, etc.), it works

and operational periodic adjustment of the index, so as to ensure continuity index values to avoid the artificial influence of the index as a result of these events. No adjustments are operating on this index by the granting of dividends by companies included in the structure. BET basket comprises 10 most liquid stocks of companies listed on BSE regulated market, the Class I and II, except for financial companies traded on the regulated market of BSE, investment funds and other entities treated as such.

As a general rule, the criteria for selecting companies for inclusion in the index are:

**a) Liquidity: The liquidity coefficient for each symbol is obtained as follows:**

$$\text{Coefficient}_{\text{liquidity}} = \frac{\sum_{\substack{i=1,N \\ j=\{1,3,6,9,12\}}} Av_{i,j} \times j}{31}, \text{ where:}$$

$Av_{i,j}$ : The weight holds the value transactions of symbol  $i$  in the total value of the regulated market in the time interval  $j$  (1 month, 3 months, 6 months, 9 months, 12 months). Are taken into account only the transactions made on the segment "Regular" market.

$j$ : The time which is calculated  $Av_{i,j}$

b) other relevant matters considered by the BSE Index Committee, as appropriate, such as the company's financial situation, elements of legal, transparent society and the market participants' interest, etc..

## 2.2 Weighting factors

The weight of individual stocks in the index is determined by the market capitalization of each company, adjusted by free float factor and representation factor.

### 2.2.1 Free float factor

a. a free float stocks in the index represents the number of stocks issued BET and in circulation that are available for trading by the public.

b. free float in absolute value is estimated as the total number of stocks issued by a society, of which the company itself as stocks (treasury stock), stocks held by State and other government agencies, strategic investors, major shareholders, as well as holdings of at least 5% of other investors, except for insurance companies, pension funds, mutual funds and investment.

c. Free float is determined as the percentage ratio between the number of stocks included in the free float in absolute value and total number of stocks issued and shareholders registered in the Register.

d. The weight of each company in the index is adjusted accordingly by application of free float so as not to become possible for companies with market capitalization of significant market, but with low free float, to exert too much influence in the index, and to reflect actual opportunities for investment in stocks issued by each company.

e. In the index, free float of a company can take four values: 0.25, 0.50, 0.75 and 1.00 by approximation in addition to a percentage value of that company's free float.

f. the free float factor to be applied to the appropriate market capitalization each company in the index is revised, if necessary, the Committee Quarterly Index BSE, with consideration of public information on the ownership structure, provided by the depository that manages the register of shareholders.

### 2.2.2 Representation factor

a. The purpose of the representation factors is to limit the weight of a stock to BET index

b. Application of representation factor is used to ensure that weight market capitalization of each company's individual adjustment does not exceed at the time of representation factor calculation a maximum of 20% of the total capitalization of the BET index.

c. representation factors can take values between 0.01 and 1.00 .

d. representation factors are analyzed and recalculated quarterly of the BSE Index Committee.

e. in the case of an important operational index adjustments as a result of a new listing companies on the BSE and / or exclude a stock from the BET index, effective significant change in the index weights will immediately proceed to review representation factors.

### 2.3. Formula for calculating

BET index formula is:

$$BET_T = BET_{T-1} \cdot \frac{\sum_{i=1,N} p_{i,T} \times q_{i,T} \times Ff_i \times R_i \times c_{i,T}}{\sum_{i=1,N} p_{i,T-1} \times q_{i,T} \times Ff_i \times R_i \times c_{i,T-1}}$$

They used the following notation:

$BET_T$  : BET value of the time T

$BET_{T-1}$  :BET value of the time T-1

$p_{i,T}$  : price for the shares of a company i at the current time T

$p_{i,T-1}$  : price for the shares of a company i at the current time T-1

$q_{i,T}$  : the number of shares at the timeT

$Ff_i$  : company's free float factor and the corresponding index, is calculated to two decimal places and can take four values: 0.25, 0.5, 0.75, 1

$R_i$  : factor representing of share i of the index components,, is calculated to two decimal places and belongs (0, 1]

$c_{i,T}$  : price correction factor corresponding to shares of a company and at time T, in days to review operational; is calculated to six decimal

$c_{i,T-1}$  price correction factor corresponding to shares of a company and at time T - 1, in days to review operational; is calculated to six decimal

$N$  : number of companies included in the index

Formulas for calculating the BET and BET EUR USD are as follows:

-BET USD<sub>T</sub> = (BNR Exchange for USD established in day T - 1 / BNR Exchange for USD established in day T) x (BET RON<sub>T</sub> / BET RON<sub>T-1</sub>) x BET USD<sub>T-1</sub>

-BET EUR<sub>T</sub> = (BNR Exchange for EUR established in day T - 1 / BNR Exchange for EUR established in day T) x (BET RON<sub>T</sub> / BET RON<sub>T-1</sub>) x BET EUR<sub>T-1</sub>

### 2.4 BET index composition

Compozition BET index at 11.03.2011 is :

Symbol	Company name	No. stocks	(%)
TLV	BANCA TRANSILVANIA S.A.	1.357.922.353	21,54
SNP	OMV PETROM S.A.	56.644.108.335	20,60
BRD	BRD - GROUPE SOCIETE GENERALE S.A.	696.901.518	20,23
TGN	S.N.T.G.N. TRANSGAZ S.A.	11.773.844	16,98
TEL	C.N.T.E.E. TRANSELECTRICA	73.303.142	8,34
BIO	BIOFARM S.A.	1.094.861.499	5,02
COMI	CONDMAG S.A.	229.725.317	2,42
BRK	S.S.I.F. BROKER S.A.	289.471.681	1,80
AZO	AZOMURES S.A.	526.032.633	1,71
DAFR	DAFORA SA	973.577.335	1,37

### 3. Analysis of stocks listed on BSE.

#### 3.1. Financial ratios used in the actions evaluation

Evaluation of the stocks will be performed, as usual, using two specific methods of financial analysis: fundamental analysis and technical analysis.

*Fundamental analysis* attempts to determine a value closer to the reality of stocks based on information on the company's financial situation, the area in which they operate, investments, property etc.

The purpose of this analysis is to select those stocks which, at the time, the market price is lower than the value of the outcome of the analysis, thus creating the premises for future market to recognize the value and price to rise. This means that fundamental analysis attempts to predict the direction of stock price development of medium and long term from past and present achievements of the company and to estimate its future. So fundamental analysis relies on a direct cause-effect relationship between the economic value of a stock and its market price developments.

*Technical analysis* studies the evolution of the trading price, it assumes that all relevant information to the market is already included in price, except for natural disasters

Depending on access to information, the time for analysis and investment strategy chosen, each investor chooses the type of analysis that fits better. Thus speculators go long on technical analysis, long-term investors go on fundamental analysis. Ideally the two should be used together to confirm the purchase or sale signals that they offer.

We will present some of the most important financial indicators that we will use in our study:

- *PER indicator (net income per stock)* is calculated by dividing the current market price to the value of net profit per stock for the past four consecutive quarters; net income per stock is calculated by dividing the total net profit earned by the company during the reporting period (it is relevant to relate to the last 12 months) at the number of stocks issued and outstanding.

- *The P / BV (book value of stocks)* is calculated by dividing the current trading price to book value per stock determined according to the latest financial reporting; accounting value of a stock is calculated by dividing the total equity value of the company to the total of it stocks issued and outstanding; equity value is determined by deducting total liabilities from total assets owned company and is "shareholder wealth", which is what remains to be recovered if the assets and liabilities would be paid.

- *The ratio of value traded in last 52 weeks and market capitalization*; shows the liquidity of the stock

- *Evolution of price*: to observe the price level at a given time we take into account the maximum price and minimum price achieved in the last 6 months

- *Divy index* measures the performance of dividend and is calculated as the ratio between the amount of the dividend and book value or market value of the stock. Divy index assesses the efficiency of investment in a stock

We used information on a total of 60 stocks representing stocks of Class I and II, traded on the Bucharest Stock Exchange on 11.02.2011. Then we considered only the stocks for which it is possible to calculate most the indicators mentioned resulting in 40 stocks. The aim of our study is to find similarities and differences between the current analysis and build portfolio that is representative for BSE.

Since the Bucharest Stock Exchange is not mature enough, we can not afford to use a single financial index, such as, for example, the closing price. So we take into account several characteristics for each asset, we use data analysis techniques in order to process this vast amount of information.

We consider the values of the five financial indices for each asset.

Table 1 lists, for each of the 40 stocks analyzed, the values of the five features; we used the data available on the Bucharest Stock Exchange on 11.02.2011.

**Table 1: The value of the 5 features**

No	Simbol	PER	P/BV	DIVY	Min/ P	Max/P
1	FP	10.91	0.69	13.33	1	1.05
2	SIF5	12.78	1.23	11.64	0.76	1.31
3	SIF2	7.1	1.38	4.95	0.69	1.13
4	BRD	16.06	1.77	2.05	0.8	1.07
5	TLV	22.87	0.87	2.62	0.84	1.14
6	BVB	31.64	3.54	2.46	0.76	1.04
7	BCM	18.64	0.37	7.78	0.85	1.53
8	SIF1	12.69	1.11	4.95	0.89	1.48
9	SIF3	23.38	0.87	5.71	0.87	1.47
10	SIF4	18.44	0.38	6.32	0.99	1.32
11	DAFR	18.26	0.77	0.00	0.77	1.06
12	TEL	-	0.63	2.48	0.71	1.06
13	COMI	12.65	0.66	0.00	1	1.05
14	TGN	8.24	1.36	4.73	0.73	1.03
15	BRK	14.96	0.91	0.00	0.89	1.23
16	SNP	9.96	0.47	0.00	0.83	1.02
17	ATB	15.29	1.09	2.87	0.8	1.05
18	AZO	2.77	0.65	0.00	0.83	1.15
19	BIO	12.11	1.77	0.00	0.71	1
20	PREH	51.8	0.49	4.37	0.85	1.23
21	ALR	19.22	1.61	5.79	0.8	1.06
22	SNO	27.76	0.52	9.41	0.98	1.44
23	SCD	8.15	1.48	0.00	0.68	1.05
24	VESY	-	0.39	4.5	0.83	1.4
25	OIL	37.83	0.79	0.29	0.86	1.26
26	AMO	6.3	0.19	0.00	1	1.7
27	COTR	49.9	0.21	0.00	0.81	1.4
28	RMAH	7.63	0.91	1.36	0.82	1.06
29	SPCU	1395	0.65	2.93	0.93	1.25
30	CEON	22.71	0.37	0.00	1	1.44
31	SIF2	7.1	1.38	4.95	0.7	1.06
32	PTR	6.96	0.81	4.71	0.97	1.42
33	RPH	22.44	5.39	0.00	0.9	1.22
34	ALT	13.66	0.32	0.00	0.87	1.13
35	MPN	-	0.85	4.31	0.86	1.27
36	ELJ	2.37	0.33	0.00	0.58	1.12
37	CMP	15.82	0.38	0.00	0.77	1.02
38	ROCE	-	0.45	0.65	0.91	1.54
39	ALU	25.6	0.68	5.71	1	1.78
40	CGC	102.1	0.19	0.00	1	1.66

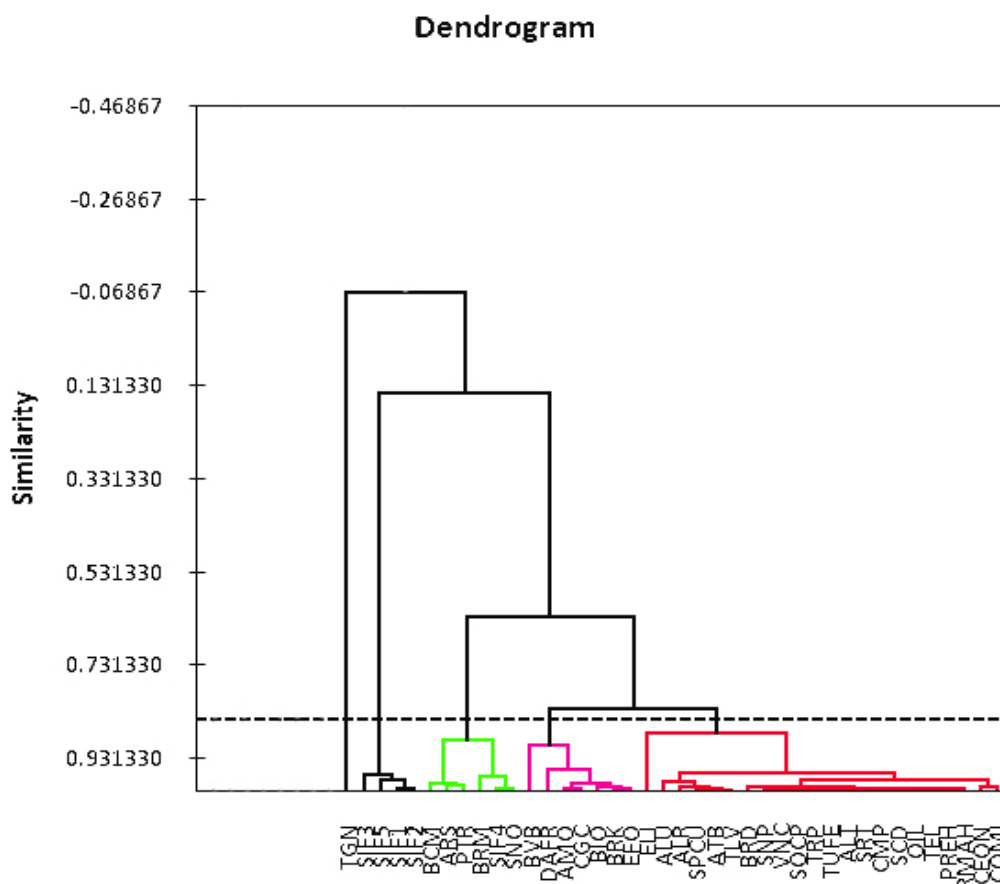
Source: www.bvb.ro

### 3.2 Group of stocks

We apply data analysis techniques to discover the similarities and differences between the stocks of the Bucharest Stock Exchange, using the package StatistiXL 1.8.

Figure 1 contains the five class resulted from PCA (dendrogram). Dendrogram usually begins with all assets as separate groups and shows a combination of mergers to a single root. Stocks belonging to the same cluster are similar in terms of features taken into account. In

order to build a diversified portfolio, we first choose the number of clusters, which will be taken into



account. We will then choose a stock from each group and we get the initial portfolio.

**Figure 1 :Group of stocks**

Source: package programme STATISTI XL 1.8

### 3.3. Building a representative portfolio for BSE

Consider stocks that are in the midst of these classes (TLV, TGN, BIO, SNO, SIF5) and their number of links, we get the following portfolio

TLV:  $22 / 40 = 55 \%$

BIO:  $7 / 40 = 17.5 \%$

TGN:  $1 / 40 = 2.5 \%$

SNO:  $6 / 40 = 15 \%$

SIF 5:  $4 / 40 = 10 \%$

Suppose now that at in november 2010 we want to invest 20.000 ron in stocks. Knowing that at that moment the standard block of trading for most of the stocks was 500 stocks and therefore was more convenient to purchase multiples of 500 stocks (exception TGN) we get the STAT portfolio:

1. TGN = 5 stocks;
2. SIF5 = 1500 stocks;
3. SNO = 500 stocks;
4. BIO = 18500 stocks;
5. TLV = 9000 stocks;

### 3.4. Portfolio performance

- Portfolio Stat

Portfolio value on 30.11. 2010: 19912 ron;

Portfolio value on 4.03. 2011: 22928 ron.



Benefit: 15.146 %

- Representative indices for bvb

BET	BET C
BET index value on 30.11 2010 : 5094 ron	BET C index value on 30.11. 2010 : 2995 ron
BET index value on 4.03. 2011 : 5845 ron	BET C index value on 4.03. 2011 : 3403 ron
BET index performance : 14.742 % ;	BET C index performance : 13.622 %;

**5. Conclusions:** Portfolio performance built by us is similar to those of representative indices BSE, but its composition involves buying stocks of a financial effort is much lower, so the obvious effectiveness of the method being used.

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## MONEY MARKET AND THE ELECTRONIC ENVIRONMENT

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**Abstract:** *The attention given to the on line, mostly from the part of the banks and of the other companies is being determined by the innovative effects that are being felt due to the use of the internet and of the electronic networks on the increase of receipts for those who enlarge the economic activities on the internet. This paper present an interpretations of the answers following the questionnaire worked out last year and its results will be useful for both the research and the actors of the economy of on line market.*

**Key words:** banking card, electronic environment, online market, online transaction,

**JEL classification:** (E42,L81)

### 1. Introduction

The success of money market expansion in the electronic environment is, we can say, guaranteed for the future, the more so as we have the example of Western money markets and even those overseas. Our study shows that things will only move in one direction. The models banks have taken over are those which have demonstrated their effectiveness outside, and we do not believe we have to invent another model as long as they are running successfully, but of course only adapted to the specific economies with the purpose of improving them. It is clearly understood that the scope of internet acquisitions will extend over all goods and services. This is already happening in the United States, Canada, England and we see no reason why our online market should not exceed 30% of total sales in the period following the economic recovery. But this expansion is at the same time cause and effect of improving the e-banking system.

The Internet is also developing within money markets, and customers can work at any time from any location with an Internet connection. The Internet and W.W.W. have inspired the banker's world, have entailed a wave of creativity and the technology of information and has allowed a series of new business models.

### 2. Features for resourceful online banking card and e-commerce

The world E-commerce is now in the adult period, of internal stability. It has overcome a few major crises (the unjustifiable collapse of the dotcom unwarranted multi-sites and the multiannual crises arising from losses/thefts of millions of complete data cards, now a global economic crisis), it is trying to change its appearance by adopting some new universal standards (from 3D Secure, Verified by Visa MasterCard Secure Code up to SmartCards and others) and tends towards efficiency and normality.

Eighteen years ago, Romania entered the Internet age and the ".ro" domain was first assigned to a computer from within the ICI - Institute for Research in Computer Science.

It took another seven years to launch an auction site and ads, the first online stores with IT & C specific, and magazines which then tried to have customers paying for Internet content. Yet,

The year two thousand and four has been the true birth point of the Romanian electronic commerce. It is the date on which international card issuing organizations - Visa and MasterCard -

have launched the 3D Secure security software in Romania, respectively Verified by Visa and MasterCard Secure Code. The Romanian RomCard processor has then simultaneously enrolled three banks into the new system: BCR (Romanian Commerce Bank), Ion Tiriac Bank and Raiffeisen Bank. The implementation of 3D Secure was not only new at a national scale, but also throughout the entire CEMEA region (Central and Eastern Europe, Middle East and Africa), Romania being the only country in the area where the new security standard was promoted. Moreover, at worldwide level, there were only three countries to experiment this standard: Spain, Britain and Germany.

We have therefore had a determined start. Virtual shops in neighboring countries had begun to process payments online through Romanian banks. The advantage of 3D Secure, as well as the relatively low fees, has attracted an increasing number of traders.

Also on the 13th of November 2006, the National Association for E-commerce (ANEC) was founded, whose purpose is to promote and develop e-commerce industry in Romania. Following the dialogue with the representatives of this new industry, ANEC already comes to their support with 5 main projects aimed at:

- helping newly established virtual stores to overcome the initial problems, by obtaining special conditions from the collaborators,
- to make the benefits of online shopping known to the general public and to present the recommended steps in Internet shopping under safe and comfortable conditions,
- to rate e-commerce sites, depending on meeting certain standards, in order to increase the confidence of the purchasers in online businesses,
- to provide both online stores and end users a tool for real time monitoring and reporting of online fraud/complaints and to start a program
- to educate the market, to inform the end consumers in order to increase the usage of online electronic payment.

The special dynamics of online business amplifies the need for outside intervention, in order to keep pace with progress.

Romania has a great growth potential, if we consider that half of the population has not yet joined the banking system. This creates great opportunities for companies offering services in this direction.

According to Odobescu in *Modern banking marketing*, the advantages offered to banks and customers are:

- Low cost of implementation and maintenance (Odobescu, 2003):
- Operational costs dedicated to processing transactions are reduced and workers are credited reduced operations for the benefit of customers calling to them.
- Licensing policy and gradual implementation, Internet Banking Licenses can be used in an outsourcing regime, without initial costs, based on a service contract.
- The solution is scalable. To increase processing capacity is sufficient to add additional servers.

Advantages offered to customers:

- Reducing costs through the benefit of lower commissions and use the time gained in carrying out financial operations.
  - Access customers may be from any location with Internet access both in the country and abroad.
  - The product has a friendly interface with the customer that makes it very easy to use.
  - Offers the possibility of task deployments in an accountant department depending on components of the company.
  - There is the possibility of consignment documents of more authorized people before making itself a transaction.
  - Large companies can manage multiple branches or subsidiaries.
-

- Documents obtained after the transactions are available in PDF or HTML format can be sent to clients via e-mail.
- Internet banking information can be exported in several types of files: PDF, XLS, and HTML.
- Ability to import payment orders simple and direct from Treasury files: XLS or predefined DBF.
- Avoid stress, crowding and bureaucracy.
- Increase business customers by making online payments to suppliers on time and with a good organization funds.
- Information access even in the moment where is needed, by consulting the transactions in a real time.
- Decrease the time of disconnection between clients and beneficiaries of payments as a result of trust between the partners and managers can focus on business without take care payments and incomes (Rădulescu, 2011).

Therefore, we may conclude that the challenge for bank managers is clear: they must create an e-business model, develop a strategy, and provide management skills to implement both the model and the strategy. The study presented here aims to ease the mission of task managers who want to create or expand their online business.

Among the things influenced by the current crisis within online commerce, it must be noted that in the first place, it has confronted managers with the problem of sales team efficiency and effectiveness of marketing campaigns.

This study aims to interpret the answers to the questionnaire presented to a representative sample of people, whose interpretation will provide valuable information to the main money market players looking to expand their online market, to traders and also to the consumers of this kind of trade.

Most of the persons surveyed in Sibiu, who have shopped and paid online have also been making this from Romanian online stores, and only 2% of them have exclusively bought from online stores abroad. This fact means that the Romanian Internet users buying online do not have a problem of trust concerning the inland e-commerce sites. Confidence remains one of the most important factors for a successful site. It is also one of the hardest advantages to win and maintain. Trust is also important for companies on the traditional market, especially concerning e-commerce matters. A few years ago, there have been cases where some buyers preferred abroad sites. In this sense, we can offer an example of an e-commerce company, Gsmhosting LTD, Hong Kong, which are mainly focusing on the marketing of devices and software for phone unlocking. After the company has moved its headquarters from Cluj to Hong Kong, sales have increased by almost 300% and all of this only because on the received packages the address from China appeared. There is the proof that the carried out survey provides us with important information, pointing out the equal confidence in online stores, regardless of the fact if they have the extension .ro or.com or others.

Respondents who stated that they have never shopped online motivate their answer by "lack of confidence in buying online", either because they do not trust that the online store products correspond to reality, or because they are afraid of being fraud. These would be the most important reasons for which vendors, but also state institutions should prepare an antidote, whether through legislation or through the return of goods policy, a policy which in our country is ignored or at least shyly treated.

A positive sign is the overwhelming majority of those who say they haven't bought online, but visit e-commerce sites relatively frequent.

Another question aims at finding out the segment with the most online purchases by Sibiu citizens. The majority of the respondents purchase IT & C products, a significant number of respondents stating they have spent over 2,000 Lei in Romanian IT & C online stores throughout the last year.

Another important aspect resulting from our study is building up the profile of the person who makes online purchases. This person has a higher income and higher education. The average income of non-buyers is 925 RON / month, whereas that of the buyers is 1.892 RON / month.

The lack of an educated and well defined middle class leads to a clearly lower number of Romanian online buyers than that of the foreign countries, yet the current phase of economic recession combined with a more affordable Internet access and better prices in electronic trade have led to an increased interest in online acquisitions.

An important fact observed due to the study is the high percentage of customer loyalty. 77.25% of those who have shopped online a year before they went to buy new products from the same shop on the Internet, becoming loyal customers.

The loyal online clients are very important for banks too. A growing percent of those shopping are paid online by cards. If we are looking to 2010 we notice that BRD is market leader in those transactions, the next two places that are holding by BCR and Raiffeisen Bank cover 74366 transaction meaning just half from BRD transaction number. This achievement is due to the first partnership with Gecad ePayment and by issuing a banking card meant for online transaction. We can highlight here the correlation between banking and e-commerce.

A very sensitive issue, which has not been treated properly within the Romanian literature in the field, but captured by this study, is represented by figures resulting from the questionnaire, pointing to the fact that a significant number of those who have made online purchases (26.2%) have encountered problems with online stores.

We have noticed that very few of the respondents know their rights when they make online purchases. The right of returning products, more exactly the right to unilaterally terminate the distance contract is not known. The potential of the online market is great, yet problems are encountered within the systematic treatment of the online customers' fears.

A percentage of 82% of the respondents are not familiar with the number of days they can unilaterally terminate the distance contract. This can also lead to reluctance in making online purchases. From the very start, we want to recall the relevant statutory provision, more precisely Article 7, GO 130/2000, stating that the consumer has the right to unilaterally terminate the distance contract within 10 working days, without any penalty and without invoking any reason. The only costs that may arise for the consumer are the direct cost of returning the goods.

It should be noted that in our country an example worth of being followed by all the shops which are now online, concerning the returning of the products is met in the case of the e-mag.ro online shop by the Extra Return Warranty, a warranty extended from the 10 days prescribed by the legal regulations to 30 days.

The Extra Return Warranty is valid for both natural and legal persons who have purchased products from eMAG.ro (Dante International Corporation). To benefit from the products' return within 30 days, the online return form must be completed, at the latest on the 30th calendar day after the date of product pick-up / receipt.

For the case in which more products of the same kind have been purchased, only one unsealed product can be returned, the remaining quantity is accepted only if the products are sealed.

If several online stores would develop extra an extra return warranty, the number of online customers would increase, and the online purchases would experience a well-deserved re-launching, awaited by the economic agents within this environment.

Unfortunately, the existing online stores show no or little interest in regulatory issues. The existing studies on the Romanian electronic commerce market show that there exists trust in online trade, and that important investment is carried out for this business type.

The intricate authorities' network, which seems to possess attributions within the field of electronic trade, is one of the questions which are not easy to be solved in Romania's case. They appear as bodies governing the domain of the Ministry of Communications and Information Technology with 41%, the National Association for E-Commerce with 31.37% and the Consumer Protection Association with 19%.

Factors contributing to the rapid development of the e-business environment in Romania are: Telecommunications' Infrastructure, services / electronic payment instruments infrastructure, respective legislation, increasing number of companies implementing basic ERP solutions:

- Continuous growth in number of Internet users and electronic payment instruments, yet still a low penetration
- Market with a potential to absorb electronic transactions and electronic trade
- Data transfer services and Internet access via mobile phone, most mobile operators providing 3G services.

In terms of electronic commerce, a little more promotion at the level of the entire industry would be necessary. Services provided by online stores must improve, so that larger margins will become necessary for traders to afford quality services. Customers are chasing after the lowest price, but the rush does not bring anything good, neither for themselves, nor for the traders. If things are going to settle down in this direction, and investments in good services, such as same day delivery to the customer will increase, then we will all benefit from this. Yet, more resources are needed for good services, because the margins cannot rapidly increase overnight. And something more is necessary so that the online commerce market would function well in 2011. We must provide efficient courier services at competitive prices. We do very badly in this extent, and frankly there is a lot of work to do here. But then again, it depends on the resources invested into the infrastructure.

### **3. Conclusion**

Despite the fact that Internet acquisitions in Romania have experienced a considerable dynamic, Romanian consumers still have not got used to making online purchases. However, a relative education is noticeable, and at least now, people on the street are familiar with what an online shop is and what e-commerce means. It is an important step forward in this area. Yet, from online surfing or knowing what an online store is to actually buying, even with cash on delivery - unfortunately the most common form of payment in Romanian e-commerce - there is an enormous distance. The turnover of online trade is approximately 30 times lower than that of traditional commerce. However, people got more used to finding electronics online, so that the progress may follow also for other types of goods. The traditional small shops, even those selling electronics, will disappear within the next 3.4 years if they will not be expand by creating online shopping opportunities. This is reinforced by the examples of resounding bankruptcies within the field of classic retail of IT & C electronics. We are sure that all stores will ultimately to expand towards the online environment, as they say it is not a matter of "if", but a matter of "when".

The current crisis has led both to the relaxation of the e-commerce market and of the traditional one, yet not to such a large extent. If traditional retail declines have been significant, sometimes amounting to 55%, within the electronic environment, the declines have been moderate, hovering around the value of 10-15%. It should be mentioned that there exists a large potential, and there are also online stores, some of them even growing during the crisis, or even because of the crisis, and the more educated entrepreneurs we will have, the faster national, regional and global economy can be relaunched.

### **4. Acknowledgements:**

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**FINANCIAL DEVELOPMENT AND SMALL FIRMS IN EUROPE**

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**Abstract:** *The purpose of this paper is to analyze the extent to which European Union's financial system favors the growth of small firms more than large ones. Using the panel fixed effects with vector decomposition estimator the results show that from 2002 to 2008, in 16 European Union's countries, the level of financial development has favored the growth of industries that for technological reasons were more dependent on small firms (firms with less than 20 employees).*

**Key words:** financial development, firm size, panel data analysis

**JEL classification:** G2, L11, L25

## 1. Introduction

Small and medium sized enterprises (henceforth SMEs) represent one of European Union's most valuable assets in terms of job creation and innovation. Supporting their growth is vital and Member States are committed to taking all necessary measures in ensuring a proper economic environment for their development. In this context a country's financial system plays an important role in determining SMEs presence on the market as financial intermediaries can either detract or enhance the financial resources put at their disposal.

The purpose of this paper is to analyze the extent to which European Union's financial system favors the growth of small firms more than large ones.

Using European Commission's, DG Enterprise and Industry dataset, the results show that between 2002 and 2008, in 16 European countries, the financial system had sectoral growth ramification favoring industries that for technological reasons were composed of small firms.

In constructing the dataset the European Commission's data collection on European SMEs was used and Beck, Demirgüç-Kunt, Laeven, and Levine's (2008) methodology was followed. In this context United States was chosen as benchmark economy. Unfortunately, the U.S Census Bureau (the source of data for US enterprises) doesn't report firms by size class in accordance with European Union's definition. Therefore the dataset has been divided in two parts: small firms (units with fewer than 20 employees) and large firms (units with more than 20 employees). Henceforth large firms refer to all firms with more than 20 employees.

The remainder of the paper is organized as follows. Section 2 presents a short literature overview on the aspects related to finance-growth nexus at sector level, pointing out some relevant studies that analyze the cross-firm, cross-industry distributional effects of financial development. Section 3 explains the methodology and data used to examine whether financial development contributes to the growth of industries that for technological reasons are composed of small firms. Section 4 describes the main results and tests performed and section 5 concludes.



## 2. Literature overview

The importance of finance-growth linkage at industry and firms level has been considered an interesting research topic for quite some time now and the evidence to sustain this is the growing body of literature dealing with this subject. Seeking to document in greater detail the mechanisms, through which finance influences economic growth, Rajan and Zingales (1998) demonstrated that firms dependent on external finance tend to grow faster in economies with better developed financial systems. They constructed their argument by analyzing data on 36 industries in 41 countries over the period 1980-1990 and identifying each industry's need for external finance. In doing so they used U.S firm level data as benchmark, under the assumption that United States benefits from a high level of financial development (Guiso, Sapienza, and Zingales, 2004a, p.14). The interaction between the industry-level "external dependence" and the country-level proxy for the degree of financial development (Thiel, 2001, p.35) allowed them to measure the extent to which financial development constrains the growth of each industry in each country.

Demirgüç-Kunt and Maksimovic (1998) showed that the size of the banking system and the stock market activity determine firms' growth more than internally generated finance. Moreover they found that the efficiency of the legal system is positively correlated with firms' capability to raise external finance.

Carlin and Mayer (1999) found that higher accounting standards and ownership concentration have a significant impact on the growth of firms that depend on external financing for their R&D investments.

Using Rajan and Zingales methodology, Cetorelli and Gambera (1999) examined the role played by banking sector concentration on firm access to capital, showing that bank concentration promotes the growth of industries that are naturally heavy users of external finance by facilitating credit access to younger firms. Beck and Levine (2000) showed that industry and firm creation do not depend on the type of financial system that govern an economy (wheatear is banked based or market based). Their assertion is that financial development can explain only the number of firms but not their size.

Beck, Demirgüç-Kunt, and Maksimovic (2004) found that small firms use less external finance than large firms (especially in terms of banks and equity finance) but benefit the most from better protection of property rights and financial intermediary development.

Guiso, et al. (2004b) studied the effects of differences in local financial development for Italian firms. They found that financial development enhances the probability of an individual to start his own business, favoring new firms entry, increasing competition, and promoting growth. Their results suggest that local financial development is an important determinant of the economic success of an area even in an environment where there are no frictions to capital movements.

Thorsten Beck, Asli Demirgüç-Kunt, Luc Laeven, and Ross Levine (2005, 2008) compiled data on the relative size and growth rates of 36 industries in the manufacturing sector across 44 countries to assess whether (1) financial development boosts the growth of small-firm industries more than large-firm industries and whether (2) financial development boosts the level of output accounted for by small-firm industries. Their results show that financial development boosts the growth of small-firm industries more than large-firm industries supporting the view that firms with less than 100 employees are affected by under-developed financial systems. The present study uses Beck, et al methodology to construct a panel data regression which examines the extent to which the financial development of 16 European countries has cross industry distributional consequences favoring the growth of industries naturally composed of small firms for technological reasons.

### 3. Methodology and data

The specification used in this paper to study the extent to which the level of financial development in 16 European countries favors the growth of small firm industries follows Beck, et al. (2008) equation and methodology with some exceptions. First in constructing the regression equation panel data set and estimation techniques suitable for such data have been used. The advantage of running a panel regression instead of averaging data over the studied period is that it allows controlling for the effect of omitted variables rendering the results more accurately. In this context the study gathers data on 16 European countries (Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, Italy, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden and United Kingdom) and 19 manufacturing industries over the period 2002-2008. Second to proxy for the “level of financial development” two measures have been used (Levin, 2002 and Luintel, Khan, Arestis and Theodoridis, 2008 p. 17): Finance Size and Finance Activity. Financial development ( $FD_{i,t}$ ) is the weighted sum of all the principal components of FZ and FA for each country over the studied period. The weighted sum of the principal components captures the total variation in the underlying measures of financial development (Luintel et al, 2008, p.40).

Third in analyzing the panel data a relatively new method has been used: the panel fixed effects with vector decomposition estimator developed by Plümper and Troeger (2005). This was necessary as in order to control for initial conditions time invariant variables had to be introduced into the model (*IndSh* which controls for industries’ output share in the analyzed countries and country and industry dummies to account for specific effects).

Traditional panel analysis techniques tend to give biased results especially when some of the explanatory variables have little or no variation across time within a group rendering the regression results invalid. Plümper and Troeger (2005, p.8) resolved this problem by developing the fixed effect vector decomposition technique which basically follows three steps (Davies, Ionascu, Kristjánssdóttir, 2007 p.15). The first step estimates a fixed effects regression with only the time-varying variables in order to obtain estimated country pair fixed effects (referred to as the unit effects). The second step decomposes these estimated unit effects into an explainable part (attributed to the time invariant observables) and an unexplainable part (residuals $_{i,j,t}$ ) using OLS. In the third stage a pooled OLS that includes the time-varying variables, the time-invariant observables, and the time-invariant unexplainable (residuals $_{i,j,t}$ ) is used. This yields the equivalent of a fixed effects estimator, with the exception that the time-invariant effects are decomposed into its explainable and unexplainable components.

In constructing the data set cleaning procedures have been applied. First 7 European countries have been eliminated from the beginning due to missing observations for more than 40% of the considered indicators. Second outliers have been eliminated (that is observations that presented disproportionate growth rates values lower than -200% or larger than 200% in any of the analyzed years).

With this in mind the results of the present paper were obtained based on the analysis of the following regression equation:

$$GRVA_{i,k,t} = \sum_i \alpha_i C_i + \sum_k \beta_k I_k + \sum_t \sigma_t T_t + \gamma IndSh_{i,k2002} + \delta (SmFSh_k \times FD_{i,t}) + \varphi_{i,k,t} \quad (1)$$

where:

$GRVA_{i,k,t}$  = is the year on year growth rate of value added in industry “k”, country “i” and year “t” for the period 2002-2008 in “ln” form

$C_i, I_k, T_t$  = are country, industry and time dummies

$IndSh_{i,k}$  = is the ratio of real value added in industry  $k$  in country  $j$  in 2002 to total real value added in the manufacturing sector in country  $i$  in 2002 in ln form. This variable was introduced to control for convergence effect: industries with a large share might grow slowly (indicating a negative  $\gamma$  sign)

**Table 1: Summary Statistics  $IndSh_{i,k}$**

NACE	Industry Name	Mean	Std. Dev.
da15	manufacture of food products and beverages	-3.1729	0.2689
db17	manufacture of textiles	-4.7987	0.6499
db18	manufacture of wearing apparel; dressing; dyeing of fur	-5.3015	1.1151
dd20	manufacture of wood and of products of wood and cork, except furniture	-4.7649	0.4746
de21	manufacture of pulp, paper and paper products	-4.6608	0.4211
de22	publishing, printing, reproduction of recorded media	-4.0731	0.1858
dg24	manufacture of chemicals and chemical products	-3.4359	0.3685
dh25	manufacture of rubber and plastic products	-4.1908	0.3045
di26	manufacture of other non-metallic mineral products	-4.0922	0.4276
dj27	manufacture of basic metals	-4.4357	0.6189
dj28	manufacture of fabricated metal products, except machinery and equipment	-3.5797	0.2949
dk29	manufacture of machinery and equipment n.e.c.	-3.4862	0.3897
dl31	manufacture of electrical machinery and apparatus n.e.c.	-4.2361	0.5175
dl32	manufacture of radio, television and communication equipment and apparatus	-4.8111	0.5432
dl33	manufacture of medical, precision and optical instruments, watches and clocks	-4.9632	0.5668
dm34	manufacture of motor vehicles, trailers and semi-trailers	-3.9924	0.6702
dm35	manufacture of other transport equipment	-5.0001	0.5282
dn36	manufacture of furniture; manufacturing n.e.c.	-4.4285	0.3535
dn37	recycling	-6.9893	0.7839

$SmFSh_k$  = equals industry  $k$ 's share of employment in firms with less than 20 employees in the United States, and is obtained from the 1992 Census. Following Rajan and Zingales (1998) United States is used as benchmark country to derive each industry's technological small firm share assuming that financial markets are relatively frictionless in the US. This was needed in order to capture the impact of cross-industry differences in production processes and ensure the ranking of industries in terms of technological share. United States is a reasonable benchmark used in different financial-growth studies due to the fact that this economy not only has one of the most developed financial systems in the world by many measures (Demirgüç-Kunt and Levine, 2002) but has a superior contracting environment and well-developed institutions (Barth, Caprio, and Levine, 2006). In constructing the dataset for the  $SmFSh_k$  variable, US Census Bureau information was used. Due to the fact that in 1992 the industry classification in US was based on Standard Industrial Classification (SIC) codes a conversion to NACE division (2 digit) level was made (to match the activity classification used by the European Commission, DG Enterprise and Industry in their dataset). The table below summarizes this indicator (the cutoff threshold at 20 employees is in "ln" form):  $FD_{i,t}$  = represents the level of financial development of country  $i$  for the time period  $t$ .  $FD_{i,t}$  was constructed taking into account Levine (2002) and Luintel, et al. (2008) methodology. Two measures of financial development were used: Finance-Size (FZ), computed as the ln of the product of Private Credit by Deposits Money Banks and Other Financial Institutions to GDP and Stock Market Capitalization Ratio; and Finance-Activity (FA), which is the ln of the product of Private Credit by Deposits Money Banks and Other Financial Institutions to GDP and Stock Market Value Traded Ratio. The data for these indicators were collected from the World Bank Financial Structure dataset, (Beck, Demirgüç-Kunt Asli, 2009). The weighted sum of all principal components of FZ and FA represents  $FD_{i,t}$ . By using the weighted sum of all principal components total variation in the measure of each country's level of financial development has been captured.

**Table 2: United States Small Firm Share (1992)**

NACE	Industry Name	<i>SmFSh</i> (cut-off threshold at 20 employees)
da15	manufacture of food products and beverages	-3.26028
db17	manufacture of textiles	-0.21909
db18	manufacture of wearing apparel; dressing; dyeing of fur	-2.50298
dd20	manufacture of wood and of products of wood and cork, except furniture	-1.54327
de21	manufacture of pulp, paper and paper products	-3.82258
de22	publishing, printing, reproduction of recorded media	-1.81259
dg24	manufacture of chemicals and chemical products	-0.29303
dh25	manufacture of rubber and plastic products	-0.24247
di26	manufacture of other non-metallic mineral products	-0.18766
dj27	manufacture of basic metals	-3.52754
dj28	manufacture of fabricated metal products, except machinery and equipment	-2.30483
dk29	manufacture of machinery and equipment n.e.c.	-2.10042
dl31	manufacture of electrical machinery and apparatus n.e.c.	-3.38697
dl32	manufacture of radio, television and communication equipment and apparatus	-3.7298
dl33	manufacture of medical, precision and optical instruments, watches and clocks	-3.21685
dm34	manufacture of motor vehicles, trailers and semi-trailers	-3.78285
dm35	manufacture of other transport equipment	-3.89609
dn36	manufacture of furniture; manufacturing n.e.c.	-2.06692
dn37	recycling	-1.49828

$\varphi_{i,k,t}$  = is the error term

The focus of the analysis is on the interaction between  $SmFSh_k$  and  $FD_{i,t}$ . To be more specific the sign and significance of  $\delta$  is of importance as it reveals the extent to which financial development favors or not the growth of industries dominated by small firms. A positive and significant  $\delta$  is associated with a disproportionately positive effect exerted by financial development on small firm industries relative to large ones. A negative and significant  $\delta$  sign reveals the opposite – large firm industries benefit more from services provided by financial intermediaries. An insignificant  $\delta$  suggests that the level of financial development has the same effect on both small and large firm industries.

The dummy variables for industries and countries correct for country and industry specific characteristics that might determine industry growth patterns. In this way the effect that the interaction of small firm share and  $FD_{i,t}$  might have on industry growth relative to country and industry means was isolated (Beck et al, 2005, p. 13).

#### 4. Main results and tests

The analysis begins by testing the series' order of integration. For that, panel unit root tests are applied: Im, Pesaran and Shin [2003], Maddala and Wu [1999] and Levin, Lin and Chu [2002]. The results are presented below.

**Table 3: Unit root tests**

Tests	Null Hypothesis	Results
<b>Im, Pesaran and Shin for GRVA, lag (0)</b>	Ho: All panels contain unit roots	-53.927 (P-value= 0.000)
<b>Im, Pesaran and Shin for <math>SmFSh*FD</math>, lag (0)</b>	Ho: All panels contain unit roots	-50.373 (P-value = 0.000)
<b>Maddala and Wu for GVRA, lag(0)</b>	Ho: All panels contain unit roots	-46.923 (P-value = 0.000)
<b>Maddala and Wu for <math>SmFSh*FD</math>, lag (0)</b>	Ho: All panels contain unit roots	-46.556 (P-value = 0.000)
<b>Levin and Lin for <math>SmFSh*FD</math>, lags(0)</b>	Ho: All panels contain unit roots	-22.394 (P-value = 0.0000)

As can be seen all series are stationary. For GRVA, the Levin, Lin, Chu test could not be performed due to the fact that the series is unbalanced.

The next step is running the regression using the FEVD (fixed effect vector decomposition) estimator. The main results are presented in Figure 1

**Figure 1: Panel fixed effects regression with vector decomposition**

Panel fixed effects regression with vector decomposition			
Degrees of freedom fevd =	1210	Number of obs =	1823
Mean squared error =	.0005157	F( 311, 1210) =	3.165614
Root mean squared error =	.0227094	Prob > F =	0
Residual Sum of Squares =	.9401531	R-squared =	.392656
Total Sum of Squares =	1.547975	adj. R-squared =	.0854705
Estimation Sum of Squares =	.6078216		

	fevd					
GRVA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
IndSh	-.0421329	.0023022	-18.30	0.000	-.0466496	-.0376162
SmFSh*FD	.0003075	.0001166	2.64	0.008	.0000788	.0005362
_cons	-.1078311	.0149095	-7.23	0.000	-.1370824	-.0785797

\*\*\* Regression includes country, industry and year dummies, but these are not reported

As Figure 1 indicates small-firm industries (industries with technologically larger shares of small firms) grow faster in economies with better-developed financial intermediaries. These results confirm previous research findings.  $\delta$  enters positive and significant at 5% level of confidence whereas  $\gamma$  enters negative and significant at the same level of confidence. The results show that, between 2002 and 2008, the level of financial development of the 16 European countries studied has eased the growth constraints on small firms (with fewer than 20 employees) more than on large firms.

To check for the robustness of these results two other estimators have been used: Hausman –Taylor estimation and Cross-sectional time-series FGLS regression.

**Table 4: Robustness check**

Estimator	Hausman-Taylor	FGLS
Wald chi2	240.19	367.41
Prob > chi2	0.0000	0.0000
<b>Variables</b>		
IndSh	-0.0089* (0.00166)	-.00861* (0.00128)
SmFSh*FD	0.00020** (0.00009)	0.00015*** (0.00009)
<b>Observations</b>	1823	1823
<b>Groups</b>	304	304
<b>Final rho</b>	0.12560	

Standard error is reported in parenthesis. \* significant at 1%;

\*\* significant at 5%; \*\*\* significant at 10%.

Regressions include country, industry and year dummies, but these are not reported

As can be seen, Hausman Taylor results are more close to what has been obtained when FEVD estimator has been used. This is due to the fact that Hausman-Taylor (1981) method allows for the inclusion of time-invariant variables in the projections. Nevertheless research shows (Plümper and Troeger 2005, pg.12) that FEVD estimator is approximately 50 percent less biased than Hausman Taylor and FGSL and it is more adequate in calculating the effect of time-variant variables that are correlated with the unit effects.

### 5. Conclusions

Research suggests that that one way in which financial development boosts growth is by relieving constraints on the growth of small firms. The present paper shows that for 16 European countries financial intermediary development has disproportionately favored the growth of small firms (units with fewer than 20 employees) relative to large firms over the period 2002-2008. These findings are in line with

previous studies results (Beck et al, 2008) regarding industry level finance-growth nexus, indicating that European Union's financial system has cross-firm distributional effects, removing growth constraints on small firms. Moreover the results are robust to alternative estimation samples, though as studies show (Plümer and Troeger 2005) these tend to be biased compared to the main method used (the panel fixed effects regression with vector decomposition estimator). Nevertheless, careful empirical analysis is further needed to address specific policies and procedures that govern each EU country and that can influence the industry level growth of small firms. This will constitute the subject of future research.

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## THE IMPLICATIONS OF THE WORK CAPITAL MANAGEMENT ON THE PROFITABILITY OF THE COMPANY

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**Abstract:** *This article focuses on the issues related to the flows of funds within the company, meaning on the finance needs of the daily operations. The efficient work capital management has an essential role on the profitability of the company, the purpose of the management being the one of finding the balance between the cash inputs and outputs and of foreseeing the impact of each operative decision affecting these flows. In this article we have proposed analyzing the effects of working capital management on short-term profitability of a firm, appealing to multiple regression analysis model.*

**Key words:** profitability, working capital, liquidity, cash conversion cycle, turnover

**JEL classification:** G31, C35

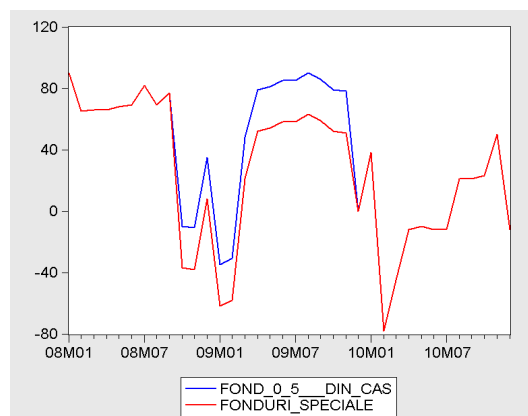
### 1. Introduction

Any activity of a company represents a system of financial connections and of cash flows, which is managed by means of managerial decisions. The success of the operative activity, the performance and the long-term viability of the company depends to the same extent on a series of fundamental decisions of the managers.

There are three main directions of the financial management described by the modern financial theory, such as the allotment of capital, the structure of the capital and the work capital management.

This article focuses on the issues related to the flows of funds within the company, meaning on the finance needs of the daily operations. The efficient work capital management has an essential role on the profitability of the company, the purpose of the management being the one of finding the balance between the cash inputs and outputs and of foreseeing the impact of each operative decision affecting these flows.

**Figure 1: The work capital balance**



Source: Simion D., (2010)

The liquidity flow represents the sap of a prosperous business. The efficient work capital management is essential for the preservation of a cash flow control of the business.

For the production companies, the efficiency workflow management is very important because the assets of these companies are composed mainly of the current assets, which are directly affected by the liquidity or the profitability.

There are no valid networks to set the optimum level of the work capital. However, the decrease of the work capital must be avoided through the emphasis of the profit maximisation purpose, but an increased quantity of the work capital would allow a company to fulfil its short-term obligations and increase its ability to borrow decreasing the implicit risk. Therefore, the cost of the capital drops and the value of the company grows. In addition, the company does not need to have a surplus of liquidity to the detriment of some investment projects that may bring a high profitability.

The efficient work capital management affects the short-term financial performance (the profitability, the return), but also the long-term financial performance (the company value maximisation).

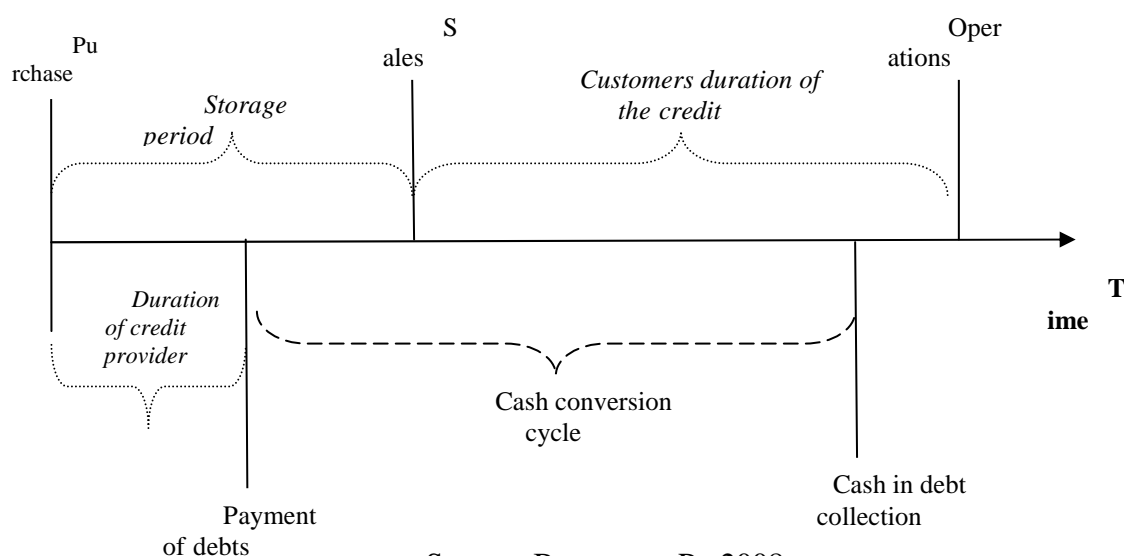
## 2. The operation cycle

The operating cycle of the cash represents a critical measure of the liquidity necessities and the degree of availability of the cash for the work capital. The liquidity needed for the financing of an operating cycle shall grow if the cycle becomes longer or if the activity level grows. The length of the operating cycle depends on the stock turnover, on the production process duration, on the duration of the loan granted to clients.

The operations of the operating cycle (purchases, production, and sales) give birth to flows of commodities of finite products, which have the currency flow as a correspondent.

The cash conversion cycle is a part of the operating cycle and allows the liquidity measurement that is needed during its unfolding. The cash conversion cycle is easily calculated by adding up the stock turnover and the receivables duration and by subtracting the debt period. It focuses on the time duration between the raw material purchase and other cash inputs and outputs by selling the products. The shorter the cash conversion cycle is, the more reduced are the necessary resources for its financing.

**Figure 2: The time line of the operating cycle**



Source: Brezneanu P., 2008



According to the traditional approach of the interdependence between the cash conversion cycle and profitability, the increase of the cash conversion period tends to decrease the profitability (fact proven by the model presented in the following section).

The key components of the current capital (receivables, stocks and commercial debts) many times need significant quantities of funds. The basic level of the current capital – as a difference between current assets and current liabilities – with which a company operates, in fact, represents a long-term investment. The coverage sources for the fund necessities aim to create value for the shareholders. Hence, the sources must be viewed from the short-term point of view, as well as from the long-term point of view.

The liquidity, as a function for current assets and current debts, is a key factor in the policies for the establishment of the work capital and indicates the company's capacity to generate the cash in case it needs it. The most often used indicator for the evaluation of the credit exposure included in the balance sheet is the current liquidity ratio, calculated as the ratio between current assets and current liabilities. This is an attempt to indicate the safety of the creditors' short-term claims of the company in case of failure.

The turnover is a factor influencing the liquidity. A large turnover allows managers to minimize the short-term investments whose return ratios are relatively low in comparison with the long-term investments and, consequently, the profitability increase.

### 3. Data analysis

A series of studies referring to the work capital management mainly focuses on the models of establishment of the optimum cash and of the cash balance, to the detriment of the analysis of the causes that represent the basis of the relation between the liquidity, the practice of the work capital management and profitability.

This article proposes to analyse the effects of the work capital management on the profitability of the company, as a short-term performance indicator.

For this purpose, we have considered the financial data of a Romanian company listed at the Bucharest Stock Exchange, on a period of 6 years (2004-2009). The data have been taken over from the company's financial reporting, presented on the [www.bvb.ro](http://www.bvb.ro) site.

With the help of the multiple regression analysis, we have analysed the relations between the profitability of the company and the work capital management. The dependent variable of the regression model is the economic return of the company. The independent variables, whose effects on the economic return shall be established, are the cash conversion cycle (CCN), the index of the turnover ( $I_{CA}$ ), the general solvency (Solv), the current liquidity (Lichid).

Notations and formulas for calculating the dependent variable and independent variables are presented in the table below:

**Table 1: Variables**

Variable	Notations	Formulas
Return of company	ROA	$\frac{\text{Operating profit}}{\text{Capital invested}} \times 100$
Cash conversion cycle	CCN	$\frac{\text{inventory}}{\text{turover}} \times 100 + \frac{\text{client receivable s}}{\text{turover}} \times 100 - \frac{\text{sup pliers}}{\text{turnover}} \times 100$
Index of the turnover	$I_{CA}$	$\frac{\text{turnover}_1}{\text{turnover}_0} \times 100$
Solvency	Solv	$\frac{\text{total asset}}{\text{long - term} + \text{short - term debt}} \times 100$
Liquidity	Lichid	$\frac{\text{current asset}}{\text{short - term debt}} \times 100$

The estimated linear model is:

$$ROA = \alpha_0 + \alpha_1 * CCN + \alpha_2 * I_{CA} + \alpha_3 * Solv + \alpha_4 * Lichid + \varepsilon$$

This equation expresses the fact that the ROA dependent variable is obtained as a linear combination of the independent variables CCN, Ica, Solv, Lichid, to which we add an error  $\varepsilon$ .

For the model parameters estimation, we have taken into account a series of observations on all the independent and dependent variables of the model, analysing the data of the company, during the period 2004-2009. By applying the linear regression model, we have obtained the first table of results, containing the general statistics of the regression equation.

**Table 2: General statistics of the regression equation**

<i>Regression Statistics</i>	
Multiple R	0.895071127
R Square	0.801152322
Adjusted R Square	0.005761608
Standard Error	8.581732001
Observations	6

Source: Author's calculations in excel

The multiple correlation coefficient is 0.8950, and the determination coefficient, which is equal to the squared multiple correlation coefficient, is 0.80111. This means the proportion of the dependent variables variation explained by the independent variables. In other words, 80.11% from the economic return variation is explained by the variation of the four dependent variables comprised in the model.

**Table 3: The Table analysis of the variation associated to the regression estimated ANOVA**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	296.7183919	74.1796	1.00724375	0.624549683
Residual	1	73.64612414	73.64612		
Total	5	370.3645161			

Source: Author's calculations in excel

If in this table represents the number of liberty degrees:  $4=p-1$ ,  $1=n-p$ ,  $5=n-1$ ,  $p$  being the model parameters number, and  $n=6$  is the observation number. The variation source indicates the decomposition of the total variation in the variation explained by regression and residual (unexplained);  $SS$ -the sum of squares according to the decomposition.

The third table of results contains the values estimated for the model coefficients, as well as the necessary statistics for the evaluation of the usual hypothesis on the coefficients.

**Table 4: The values estimated for the model coefficients**

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-21.2	58.6131	-0.4	0.7791	-765.9	723.6	-765.95	723.55
CCN	-0.14	0.41417	-0.3	0.7936	-5.402	5.123	-5.4017	5.1233
CA	0.333	0.20886	1.59	0.3567	-2.321	2.987	-2.3209	2.9868
Solvb	-0.4	0.42591	-0.9	0.5209	-5.81	5.013	-5.8104	5.0129
Lichid	0.713	0.57068	1.25	0.4295	-6.538	7.965	-6.5377	7.9647

Source: Author's calculations in excel

Lines tabe to refer at variables in the model, including residual value and in the first column shows the estimated values of the coefficients.

The values displayed present the estimated model as follows:

$$ROA = -21,19 - 0,139 * CCN + 0,332 * I_{CA} - 0,398 * Solv + 0,713 * Lichid$$

These results indicate the fact that the cash conversion cycle that represents a variable connected directly to the work capital management has a negative effect on the return of the company. This means that the more the conversion cycle increases, the profitability of the company decreases.

In addition, solvency has a significantly negative effect on profitability, meaning that any increase of debts causes the decrease of profitability.

The other two independent variables, the turnover index and the liquidity, have significantly positive effects on profitability, meaning that any increase of the sales, respectively of the current liquidity, leads to the return increase.

#### 4. Conclusions

**Financial management of an enterprise is responsible for acquiring financial resources and effective implementation of both short and long term, to ensure that business objectives are tined. Key areas of focus are the financial manager's decision:**

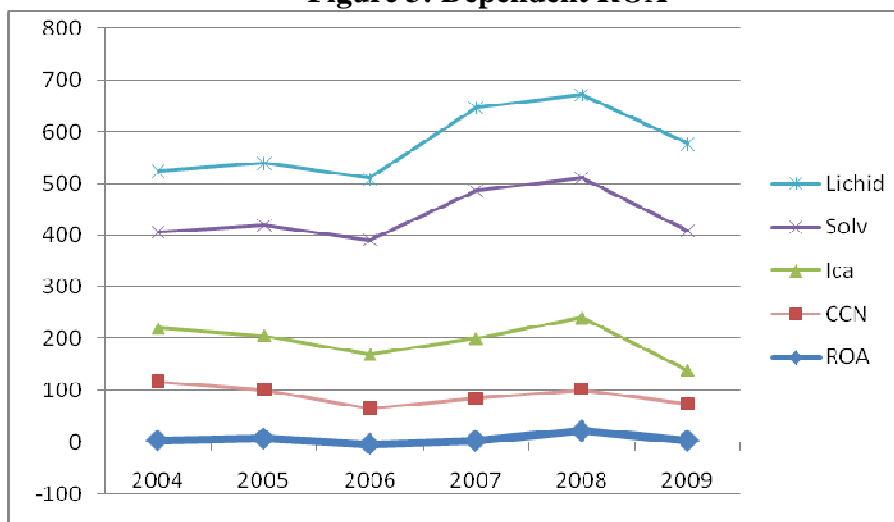
- **Policy-allocation of capital investment**
- **Policy-leveraged capital structure**
- **Policy-dividend distributable profits**
- **Policy management of working capital.**

**In this article, we focused on working capital management, seeking a relationship of dependency between economic profitability and indicators related to the management of working capital.**

**In this respect, we analyzed a company listed on the Bucharest Stock Exchange, taking its financial data for a period of six years (2004-2009). Following the study, we estimated a linear regression model, with the economic profitability of the company's independent variable and as independent variables: the cash conversion cycle, the index of turnover, solvency and liquidity.**

**The dependence of these indicators is shown graphically in the figure below:**

**Figure 3: Dependent ROA**



Source: Author's calculations

Regression model results suggest that the profitability of the firms can be improved by reducing the time receivables and inventory. Negative relationship between the cash conversion cycle and the economic returns can be interpreted by the fact that customers require a longer period for payment of products purchased from the firm. Also, there is a negative relationship between overall solvency and economic profitability, which means that any increase in debt reduction can influence profitability.

A positive relationship is found between firm sales growth and profitability, liquidity and between the firm and its economic profitability.

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## IMPROVING THE ACCOUNTING - FINANCIAL INFORMATIONAL SYSTEM WITH A VIEW TO MANAGERIAL DECISION MAKING IN THE CONTEXT OF ECONOMIC CRISIS

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**Abstract:** *The improvement of managerial decision making coincides with assuming risks associated to activities coordinated by managers within any organization. Taking in to account the actual economic context, reducing resistance to change of both the organization itself and its management is necessary. Therefore the present paper suggests ways of improving the accounting - financial informational system so as to support the management of the organization to carry out survival management, its consolidation and development.*

**Key words:** decision, informational system, accounting information, indicators.

**Jel classification:** G32, H12, M41.

### 1. Introduction

In the context of market economy management the practice in economic organization emphasizes the importance of complementarity between management decision and informational system the latter depending on the accuracy and reliability of information supplied by the accounting - financial system, fundamental components of informational flux.

Any organization aims at increasing rentability levels, implicitly rising incomes, minimizing expenses, and, in order to achieve this we need to quantify the benefits of the adopted decisions through benefits volume it can bring in order by limiting losses.

Managers' informational needs are met mainly by reports made on both information from management accounting and information from financial accounting. Reports are drawn up according to objectives followed by managers these objectives being linked to managerial functions among which we mention the administrative function, planning, control and decision.

Increasing and development of the organization and implicitly of complex management process call for a steady interest in achieving managerial decision opeartivity and adopting it in risk conditions which makes improvement rationalising and perfecting informational systems obligatory. Moreover, in order to cope with technological advance and actual tendencies ever more strict of the market, we need to permanently improve management methods and techniques.

### 2. Materials and methods

This paper is developed by approach the two research plans as follows: theoretical documentation on the basis of the bibliographic sources studied and observation of activity within an organization.

Accounting - financial informational system ensure the information necessary to support decisions, providing all the data that reflect level of fulfilment of objectives at certain periods. Also, ensure knowledge of the business processes within the organization.

Accounting - financial informational system managers provide accounting - financial information which is based policy formulation, creating business plans and control activities within the organization and aims to respond to external legal and accounting standards.

### **2.1. Accounting - financial informational system - point of reference in the organization**

Starting from the fact that the accounting system of a country is influenced by several factors such as legal system, the dominant mode of funding organizations, tax system, the level of inflation, the economic system, political etc., generates differences in national accounting system to another and going to the particular case in Romania and thus large organizations may have agreed to harmonize its national accounting system with European Directives.

The accounting information is influenced by the nature of its business and operations, its size, the volume of processed data and information needs of management and external users.

Depend on the nature and quantity of information published by manufacturers offer accounting information and user demand. The free market requires normalization accounting information so that market to be efficient and available to potential users.

Dual representation of reality in the accounting information system accounting information (internal and external), plays the image of the organization or outside the general accounts of the financial and other internal processes played by management accounting. Management accounting system is designed to meet the internal needs of the organization but the two systems should be combined in such a way as to ensure the integrity and accuracy of the information produced.

Finance and accounting are specialized management function, responsible for collecting, recording and analyzing financial data and to present statements and financial information of all types of managers and other people in your organization and / or persons beyond.

Given the role and functions of financial accounting and management accounting, we can state that these two components are complementary and facilitate information management of an organization efficiently, effectively and economically through the information they provide, they compete in the managerial decision.

The basic characteristic of financial information system - the accounting organization is manifested by its reliability, satisfying the following conditions:

- Ensuring fair processing information in certain areas of the organization's internal processes such as storage, transport, marketing etc..
- Provide more accurate estimates as to the phenomena that are subject to risks such as market dynamics, phenomena, inflationary times of economic crisis etc..

Also, the reliability of financial information systems - accounting is conditioned by two types of restrictions as follows:

- Imposition of requirements to ensure the correctness and viability of information: information reality, versatility, and ability synthesis brevity, accuracy and safety, timeliness, promptness of treatment, dynamic, adapting information to specific staff involved. Information Efficiency transposition involves an evaluation of information in decision reliability information, refer to the availability of information in relation to the coordinates of interest for the governor, the adequacy of information to the needs imposed by hierarchical decision making at that level.
- Elimination of the major deficiencies in the existing financial information system - accounting in operation: distortion, screening, redundant information with information overload circuits etc..

Issues in developing means to support the financial system - a special place accounting treatment of items which run processes and relationship to exercise and compete with an efficient and effective management process to ensure functional organization focused on operational procedures manuals procedures.

To achieve the objectives of the organization must ensure a balance between tasks, the power (conferred by the delegation of decision authority) and responsibility (the obligation to

achieve objectives) and to define operational procedures. Procedures are the algorithm in achieving the tasks, responsibilities and engaging exercise.

Financial resources, plays an equally important, both material and human and organizational activity and ensuring the efficiency and effectiveness in achieving its objectives.

Among the technical and material support so that underpin the financial system - and of all accounting activities within the organization include: Rules of Organization and Functioning, information systems are considered the essence of financial information systems - accounting etc..

Behaviour of economic organizations is a collection of rights, privileges, duties and responsibilities well balanced over a period of time, however, technological changes, including progress in information and communications technologies influence the environment in which inputs are converted into outputs.

### **2.2. Lead Indicators - basis of preparation Scoreboard**

Indicators are a set of items or information elements representative of a larger objective, tangible results from measuring or observing a state of a phenomenon or achievements. To ensure the quality of a measuring instrument, indicators must meet certain characteristics that are true and objective, to vary the phenomenon under measurement have the same meaning in time and space, can be obtained quickly and be combined the transition to a higher level.

Lead indicators are identified to measure achievement of objectives in order to facilitate managerial decision-making leading to increased performance and achievements are reports that allow comparison with the objectives of the strategy or other references (norms, standards, reports).

Choosing indicators to develop dashboard features that synthesis tool must allow the action and to achieve efficiency indicators should contain a limited number of features. To limit the number of indicators, the dashboard should contain only those items that are likely to generate short-term management decisions corresponding to the key points in management organization.

### **2.3. The role and place of lead indicators in development strategy of the organization**

The performance of each activity carried out within the organization are measured by specific indicators identified indicators whose trends are compared with the objectives set by strategy, rules, standard or previous results.

In paper "Budgeting system of economic entities organized by responsibility centers" - Revista economică no. 6(63)/2010 vol. II, assistant professor, Phd. Rachisan P., says: "To be as useful as possible, an indicator (or a rate) has to contain also a study of the data that are the source of its determination. The indicators represent instruments or techniques used to appraise the financial situation and company's operations and the comparison of this indicators with the results recorded in the previous years or with those of other companies. The main aim of the indicators is to emphasize the fields that need a deeper analysis. They should be used in connection with understanding the whole economic situation of the company and the environment where the company is activating."

To design and implement an organization's development strategy combine the following types of processes: the process of diagnosis, process design and management process. Strategy - "mix and optimize resources to achieve a goal in progress", but in the meantime is manifested by the fact that it is a source of organizational value.

Develop a dashboard refers to elements that define it, its terms are absolutely necessary to take into account editing and receive relevant information through analysis based on three important aspects: key points of the decision; indicators variety of features; manner of presentation and standards used. Putting the dashboard begins by taking into account the strategic objectives guide the direction of responsibility centers.

Strategic activity is the grouping of products or services that involve the same components and are characterized by the same combination of key success factors - will determine the conditions for achieving the objectives assigned to an organization and have competition. Among the key success factors I stated here the most relevant: speed up implementation of operational applications, provided the relative cost, the perceived quality of each product, quality of



relationships with suppliers, etc.. Key success factors must be consistent with the organization assigned selectively, so that managers can track components.

#### **2.4.Sources of information collection for the lead indicators**

An informational resource is found in internal databases that are managed organization and has the benefit of both its staff and the organization itself. These resources are characterized by "the suitability of applicants expected, the strength of incitement to action, enabling the exploitation of content, the importance of the volume, richness of content (information called" white, gray and black), availability, accessibility, privacy, the degree of aging; the possibility to update, etc.."

#### **Financial Accounting - a source of information for determining the position and organization performance**

Financial accounts must provide chronological and systematic recording, processing, publication and preservation of information on financial position, financial performance and cash flows, both for their domestic needs and in dealing with present and potential investors, financial and commercial creditors Customers, public institutions and other users.

According to international conceptual framework, the objectives of financial statements consist of providing information to assist in making decisions. For the most representative activity management information can be found in the balance sheet, income statement and cash flow.

#### **Management Accounting - detailed overview of each activity**

Accounting management is one of the most important sources of information on economic activity at both organizations and to the national economy. Given the importance of management accounting information provided there is a need to implement at this level of advanced options, allowing the production of accounting information with increased accuracy, resulting in the emergence of new information systems adapted to new requirements of internal users.

Accounting shall be directed primarily to provide information managers fulfilling the three key functions of management as planning, organization and control.

To achieve the organization's management process manager must have the tools as easy to and decisions on short, medium or long term. An important part of this tool is costing the nature and quality directly affects the amount of decisions.

Management accounting provides a detailed picture of each activity and has the following main objectives: the collection and distribution operations registration costs by purpose, namely, the activities, departments, stages of manufacture, cost centers, profit centers, as appropriate, and calculation of cost of acquisition, production, processing of incoming goods, produced, executed works, services, production in progress, current assets, etc., from commercial establishments, service, financial and other fields. Provides data management accounting complement of financial accounting information and they are addressed solely to domestic customers, data managers that aim for providing the necessary decisions by fund managers in reaching two goals, namely: calculating costs and influence the behaviour of those who can affect costs.

#### **2.3. Scoreboard - coherent and comprehensive tool for measuring and managing the organization's performance**

The Scoreboard is composed of a set of indicators presented in a summary manner at a frequency correlated, which should enable those responsible to react quickly, and the indicators included in the Scoreboard may take the form of tables of values, graphs, handouts combined (tables of values + graphics), list of deviations, the index lists. Presenting the instrument panel in various ways cannot be separated from the use, without which it would have no meaning. The indicators used for the construction Scoreboard can be classified as follows:

- Indicators used to measure financial performance to meet the objective of financial diagnosis: indicators of activity (turnover / year production / value added and value-added rates) and profitability indicators (result of operation and rates of return "potential" / rates yield "potential" / rate of return "effective").
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- Indicators for assessing the financial balance and risk of bankruptcy (Net Working Capital Fund / global coverage rate of the NFR FRGN / net working capital and financial balance rates, rates of bankruptcy risk, liquidity rates) to perform organization's financial diagnosis.
- Assessment of financing policy is based on the structure of stable resources, the utilization of their resources and temporary structure.
- Findings also participate in the development strategy for the diagnosis of the organization's financial and growth rates achieved by internal and external cash flows.
- Specific indicators, including those indicators that reflect the points of success in a particular sector or items that need to be developed and learned to become efficient.

**Scoreboard as a tool for lead the organization**, allowing managers to have real-time, a synthetic view on the main indicators of business entity and to take decisions in matters within their competence. As a tool for lead the actions of managers, Dashboard is characterized as follows: for each charge is operational, it contains a relatively small number of indicators, financial information is so kind and quality.

Pilotage is "... a way to respond before a phenomenon becomes irreversible, with the help of relevant warning indicators, generally held in the plan of action that allows removal of the system." Pilotage related to indicators derived from the facts on which can intervene to change their trajectory.

**The Scoreboard as a management tool**, is defined as all of the most significant information on a unit of economic activity - social or a sector thereof, provided daily management, namely a stable and constant form, according to clearly defined information needs. The Scoreboard has the following main features:

- Presents in a systematic form the most significant information regarding the development, policy influence and partial or final results of the work unit, its sectors or departments, providing elements necessary for decision making and control.
  - It combines, in proportions determined by specific activity, information on current activity with the statistical information and forecast.
  - Highlight deviations from plans and programs, and development of undesirable phenomena in the unit;
  - Provides benchmarks for shaping solutions and remedial measures perspective;
- The basic requirements to be met by the form and content are Scoreboard:
- To cover all functions in a balanced way to work unit or area concerned;
  - contain a higher level information processing and presented in an accessible form as;
  - To ensure rapid formation of a shared vision of the functioning unit, business or department concerned and to facilitate the obtaining of conclusions;
  - Be regularly presented to management.

Scoreboard use refers to periods of time establishing and reviewing procedures and that once they are taken into account as part of the management information system. Scoreboard The frequency is fixed during a year at intervals of less than one quarter, arising mainly driven changes how management is performing in that organization.

### **Types of Scoreboards**

In the specialty literature we have identified the following types of Scoreboards:

**The Scoreboard prospective / balanced**, is one of the pillars of the management system which can check the balance scale performance of an organization. The Scoreboard prospective / balance is based on three types of analysis:

- Analysis of causal relations: the measured elements are integrated into a causal chain defined in relation to the strategic guidelines.
- Analysis of the determinants of performance: indicators are retained as financial ones and the generic (profitability, customer satisfaction etc.) elected and those specific organizations.

- Analysis of financial relations: causal relations and determinants of performance are explained by concrete results finally expressed in financial terms. These indicators allow for communication and a clear vision and objective of the efforts carried out in the strategy.

The Scoreboard prospective / balanced grouping a set of financial and non-financial indicators, which are building the organization's performance by balancing and four interacting forces (general objective, specific objectives, key success factors and action plans), using cutting organization based processes and activities. Non-financial indicators are a feature Scoreboard, which allows officers to order management and data other than the financial - accounting. In this way, through the instrument panel provides a better link between the operational managers, who "judge" in terms of quantity and management controller, who works in value.

**Specialized scoreboards**, indicators shall be based on specific parameters and systematic industry which is addressed. Specialized dashboards, indicators of results and take it connects to the objectives and strategies. Also, allow tracking and understanding of performance and the causes that led to the attainment of expected performance.

Consequently, specialized dashboards should illustrate the picture of the phenomenon identified allow access to details such as:

- Identify facts and draw perspective;
- Identifies trends and exceptions;
- Be critical and responsive to allow quick and timely adoption of the decision;
- To provide clear feedback.

**The Scoreboard Benchmarking - TBB**, is designed to deliver performance benchmarking throughout the European Union based on indicators - key policy organization. Includes a list of indicators (47 in number), which measure performance against its policies to support innovation, entrepreneurship and market access.

### 3. Results

Management organizations that have multiple current situation of economic crisis phenomena, requires substantiation decisions based on real information, pertinent, relevant and timely.

The speed of current computer systems evolve, more focused increasing complexity of economic processes, expanding the micro-and macroeconomic interdependence and rapid change in the economic, financial and banking policy should require that the proper organization to keep pace with constantly changes taking place in information and processes in this way to ensure economic performance in terms of profitability, efficiency and effectiveness.

Information flows contain all the information necessary to conduct a particular activity is characterized by its content, volume, frequency and quality. Information circuits trajectory up the piece of information.

Organization size, complexity and interdependence of activities within it requires decentralization of authority and responsibilities, and bring need to adopt specific management tools for each sector. Each sector within the organization has a bank of indicators from which it can develop its own dashboard by which to analyze, coordinate, plan and take decisions on general and specific activity. Given the flexibility of the Scoreboard as a management tool, we consider it appropriate to use both top management and line management as appropriate specialized sectors.

Scoreboard is not only an instrument of control, but also a helpful tool in the management actions to achieve performance improvement and could be used successfully by managers and the management center general manager of the organization.

Also, use the Scoreboard provides management sectors and the general manager the opportunity to focus attention on areas of activity as a priority and set targets for them to be trusted with the responsibility centers.

Using the Scoreboard in the work of any organization manager provides permanent information on the extent of achieving the goals and targets allows the rapid establishment of

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deviations in relation to expected results, may be targeted by the different activities taking place in the company. The Scoreboard can be designed based on performance indicators and lead indicators which are designed to show which way to orient the process. Allows management to act timely and effective because knowledge of the data continuously to control the environment in which the organization operates.

We believe that The Scoreboard can be a perfect tool integrated into the management control system (computing costs - budgets). Because of its flexibility, it can become an instrument of change. The Scoreboard can use data from the general accounting system and budget without having to be confused with them, but sharing some common points.

#### 4. Conclusions

The management of any organization needs to adopt the attitude of a strategist which ensure its survival, consolidation and development. In order to carry out the three essential directions to follow, it will steadily focus on identifying the necessary information and on approaching its use in a strategic and economic vision, focused on the efficiency. In the actual context of economic crisis and instability faced by the management of organisations we consider the following modalities of improving the accounting - financial, informational system as being performant:

- The use of Specialised Scoreboards that measure and monitor performances at the level of every activity sector within the organization which facilitates the possibility of adopting decisions at line management level.
- The consolidation of Specialised Scoreboards in order to obtain a General Scoreboard with a view to making decision at high level management.
- Measuring the performance of the managerial team from the point of view of the profit, through drawing up and using the Scoreboard.
- Improving operational procedures so that the data base within the organization, will ensure accuracy, relevance, reliability and opportunity of the information needed by internal and external users.

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## DYNAMIC LINKAGES BETWEEN GREEK AND EMERGING CENTRAL AND EASTERN EUROPEAN STOCK MARKETS

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**Abstract:** *This paper investigates the short- and long-run behaviour of Central and Eastern European and the more developed Greek stock market. Evidence of one cointegration vector in both sub-periods (pre- and a post-EU) indicates market comovements towards a stationary long-run equilibrium path. No dramatic post-EU accession shock is detected in stock market dynamics. With the exception of Romania, all the countries appear more sensitive to shocks from Greek market in the first sub-period than in the second one. This might be due to the financial crisis and due to the fact that before the crisis foreign investors cover most of trading activity in emerging stock market.*

**Keywords:** stock exchange, interdependency, Central and Eastern Europe, price innovations

**JEL classification:** G14, G15, O16, O57, F21

### 1. Introduction

In the last two decades the extent globalization progresses led to the increasing of comovements among international equity markets, more precisely a high degree of interdependence among them. So, as world financial markets have become more closely linked in recent years, national stock markets increasingly react to each other. Some preoccupying examples of the increasing interdependence and contagion in the global financial markets are: the 1987 Wall Street crash, the 1992 European monetary system collapse, the 1994 Mexican pesos crisis, the Asian crisis in 1997, the Russian crisis in 1998, the 1999 Brazilian devaluation, the 2000 Internet bubble burst, the July 2001 default crisis in Argentina, and more recently the subprime crisis in 2007. These crises hit emerging markets and developed countries, but the first mentioned are more sensitive to shocks because of their underdeveloped financial markets and their large public deficits.

The purpose of this paper is to investigate the dynamic linkages between several CEE emerging stock markets and one developed stock market, namely, the Greek stock market (according to the FTSE Group). The Greek stock market could be considered still an emerging market on Western standards, but compared with the CEE emerging markets it is clearly a more developed one. Moreover, the main motivation of the analysis derives from its behaviour, being interested (at least before the crisis) in expanding in the region. The Greek direct investors were the first to observe the high potential of development in the area; after that, the Greek banks invested consistently and in some countries in the region became among the most important players. More recently, connected with the European integration of the CEE countries, the Greek stock exchange was interested to expand its influence, trying new collaborations or acquisitions on a regional level.

*Athens Exchange* (ASE), part of the *HELEN Exchanges Group*, is on the third place in the top of the market capitalisation in the CEE area, after Warsaw Stock Exchange and Vienna Stock Exchange (now CEE Stock Exchange Group). In April 2001, Athens Stock Exchange signed a Memorandum of understanding with Sofia Stock Exchange. At the end of the year 2003,

Thessaloniki Stock Exchange signed an agreement with Bucharest Stock Exchange, setting up the basis of a collaboration between the two institutions for creating a new segment of market – the “new market”, designed for small and medium sized companies, as it exists in all developed countries; unfortunately, this market segment has not become functional up to now. Starting with October 30<sup>th</sup> 2006, a Common Platform was implemented by the Athens Exchange and Cyprus Stock Exchange. In 2006, The Hellenic Exchanges group has expressed its interest in buying 44 percent of Bulgarian Stock Exchange shares (as well as WSE and other more important EU markets, including OMX, Deutsche Börse and Borsa Italiana). In June 2008, Hellenic Exchanges competed harsh, but unsuccessfully with Vienna Stock Exchange, Warsaw Stock Exchange and OMX (all stock exchanges being interested in expanding their regional influence) for obtaining the control of Ljubljana Stock Exchange (81.01% of the shares). In the context of the global financial crisis, that affected deeply Greece, nowadays temporarily the plans for expansions were postponed.

The CEE emerging markets analyzed in this paper are those that joined the EU in 2007 (Bulgaria and Romania), two EU candidate countries (Republic of Croatia and Turkey) and two non-EU countries (Bosnia and Herzegovina and Serbia). We have chosen these markets in order to analyze the different links between three categories of emerging European stock markets and a more mature one, on the other hand, one of the smallest in the former EU15. The analysis interval is between January 1, 2005 and December 31, 2010 for all indices.

The main contribution of this paper is that it provides further evidence on stock market integration and correlations in several CEE stock markets. The results can be directly utilized by portfolio managers in planning portfolio diversification strategies in accordance with the expected future volatility.

Our findings suggest that there exist some reaction from Central and Eastern European stock markets to the arrival of price innovations from Greece, but we found that the national market price innovations account for most of the error variance while Greek price innovations account for less of the forecast error variance.

The rest of the paper proceeds as follows. Section 2 consists of literature review. Section 3 describes briefly the development of Central and Eastern European equity markets. Section 4 explains the data and the methodology used. Section 5 discusses the empirical results. Section 6 concludes.

## **2. Literature review**

In the literature there are numerous studies on stock markets interdependence. However, depending on the data, methodology, and theoretical models used there is no clear resolution of the issue yet. Most of the studies on stock market interdependence have been done on geographical groups of markets. Coelho et al. (2007) demonstrate that global equity markets are increasingly interrelated. The results of Hu et al. (2008) support the previous study and indicate a dynamic relationship of world major stock markets over time.

An important place in the literature in the field is occupied by studies on the CEE markets' linkages. In this sense, Serwa and Bohl (2005) find modest evidence of significant instabilities in cross-market linkages after the crises and the fact that Central and Eastern European stock markets are not more vulnerable to contagion than Western European markets.

Syriopoulos (2007) highlight the fact that in both a pre- and a post-EMU sub-period there is evidence of market co movements towards a stationary long-run equilibrium path and that Central European markets tend to display stronger linkages with their mature counterparts, whereas the US market holds a world leading influential role. Furthermore, Syllignakis and Kouretas (2010) reveal that the financial linkages between the CEE markets and the world markets increased with the beginning of the EU accession process. There is also evidence that the emerging stock markets of Central and Eastern Europe (except for Estonia) together with the German and the US stock markets, have a significant common permanent component, which drives this system of stock exchanges in the long run. Syriopoulos and Roumpis (2009) support this idea that the Balkan stock

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markets are seen to exhibit time-varying correlations as a peer group, although correlations with the mature markets remain relatively modest. Also in this regard, Li and Majerowska (2008) demonstrate limited interactions among the markets; the emerging markets (Warsaw and Budapest) are weakly linked to the developed markets (Frankfurt and the U.S). In addition, they find evidence of returns and volatility spillovers from the developed to the emerging markets. Not least, Gilmore et al. (2005) found no robust co integration relationship between the UK, the German and Central European stock markets (Hungary, Poland, Czech Republic), over the period between July 1995 and February 2005. Égert and Kocenda (2010) find: a strong correlation between the German and French markets and also between these two markets and the UK stock market, very little systematic positive correlation between the developed and emerging stock markets, or within the emerging group itself and the fact that Hungary exhibits higher correlation with the developing markets and the emerging markets and its dynamics show an increasing trend.

In contrast, Yang et al. (2006) find that both the long-run and short-run relationships are strengthened in the period of 1999–2002 compared with the period before the Russian crisis across the stock markets in the U.S., Germany and four Eastern European countries. Schotman and Zalewska (2005) found that the Hungarian market was the most sensitive to the Asian and Russian crises, and the Czech market the least, an outcome that may be explained by the fact that the Hungarian market had the highest foreign share ownership level and the Czech market the lowest. Lucey and Voronkova (2008) examines the relationships between Russian and other equity markets before and after the 1998 crisis and point the fact that Russian equity market remained isolated from the influence by international markets in the long run and that while a structural break might have occurred in August 1998 this did not alter the nature of long-run relationships. Voronkova (2004) concludes that the emerging markets have become increasingly integrated with the world markets and shows the existence of long-run linkages between the UK, the German, and the French on the one hand and Central European stock markets (Hungary, Poland, Czech Republic) on the other hand, using daily data for the period 1993–2002. Harrison and Moore (2009) find that there is spillover effects between the U.K. and Germany European equity markets, but they observe that these Western equity markets influence Central and Eastern European with different degree. Büttner and Hayo (2010) demonstrate that the highest correlations exist between Hungary and Poland in foreign exchange and stock markets.

In terms of models used to test for integration in the stock markets, these are various. Janakiraman and Lamba (1998), used the vector autoregression (VAR) to demonstrate that the US market influences all other Australasian markets, except Indonesia, and none of these markets exert a significant influence on the US market. Other studies extend the basic VAR methodology and/or apply the methodology to other markets (e.g. Chelley- Steeley, 2005; M. Masih and R. Masih, 1999; Diamandis, 2009). Another study used the VARIFMA model to demonstrate the linkage between markets (Ozdemir, 2009; Olgun, and Ozdemir, 2008). A second generation of studies, like Li and Majerowska (2008) use GARCH-BEKK model to find evidence of returns and volatility spillovers from the developed to the emerging markets. Other studies use ARCH/GARCH family of econometric models to examine linkages and especially volatility and spillover of the stock markets (Edwards and Susmel, 2001; Kim and In, 2002; Cifarelli and Paladino, 2005; Fujii, 2005; Baur and Jung, 2006). A dominant approach in the literature is also, to apply the non-linear Granger-causality test for examining the dynamic relationship between stock market. In this sense, Ozdemir and Cakan (2006) use this model to highlight that US stock market Granger causes significantly the other considered stock markets, Japan and France do not linear Granger cause the US, but just the UK does. In the literature exist other studies that use this non-linear model (Syriopoulos, 2007; Chan et al., 2008; Lim, 2009).

Our work is motivated, firstly by a lack of research in the literature in these countries. Secondly, Athens Stock Exchange represents one of the largest stock markets in the region in terms of liquidity and market capitalization, even if it is a small one on a global scale. Thirdly, the seven economies are interrelated in terms of trade relations and geographic proximity. Finally, some of



them are EU members, some in the process of integrating into the European Union and some of them are outside EU.

### 3. A Brief Review of Central and Eastern European stock markets

After the collapse of socialist regime, stock exchanges have been re-established in the region. So, during the transition period to the market economy closely related to the privatization process, the stock market was created, regulated and developed. The stock markets in the area are attractive to investors because of the high potential to growth, in this sense some stock markets have become interested to become regional leaders, like Vienna and Athens. The market capitalization of several CEE markets is presented in Table 1.

Taking into account the stock markets belonging to EU countries, Warsaw, Vienna and Athens have the greater market capitalization in the area (taking into account Vienna, Prague, Budapest and Ljubljana).

**Table 1: Market capitalization of Stock Exchange in CEE countries, December 2010**

Exchange	Value at month end (EUROm)
Athens Exchange	50378.92
Belgrade Stock Exchange	7312.32
Bucharest Stock Exchange	9776.32
Bulgarian Stock Exchange	5498.48
CEESEG - Budapest	20624.40
CEESEG - Ljubljana	6994.43
CEESEG - Prague	31922.18
CEESEG - Vienna	93944.22
Istanbul Stock Exchange	229823.80
Sarajevo Stock Exchange	3729.14
Warsaw Stock Exchange	141918.41
Zagreb Stock Exchange	25987.86

Sources: \*\*\* European Securities Exchange Statistics December 2010, \*\*\* Macedonian Stock Exchange, Monthly Statistical Bulletin, December 2010, \*\*\* Zagreb Stock Exchange, Monthly Report, December 2010, [www.feas.org](http://www.feas.org)

The financial system of all the analyzed countries is largely bank-dominated and the stock exchanges are different and not completely integrated with the world financial markets. In addition, these markets are small in terms of listed companies, market capitalization and turnover value. Therefore, it may be sensitive to shifts in regional and worldwide portfolio adjustments of market participants, which mean it may be more volatile than well-established stock markets. So, since the contribution of these markets to internationally diversified portfolios has grown substantially, it is crucial to understand the relationship between CEE stock markets.

## 4. Data and methodology

### 4.1. Data description

The data consist of daily stock market indexes in local currency of seven countries: Bulgaria, Bosnia and Herzegovina, Greece, Republic of Croatia, Romania, Serbia and Turkey. The equity market indices are expressed in domestic currency in order to restrict their changes solely to stock price movements and to avoid potential distortions induced by exchange rate devaluations.

The stock indices that represent these seven markets are: FTSE/Athex taken for the Athens Exchange, Bucharest Exchange Trading (BET) for Bucharest Stock Exchange, SOFIX for Bulgarian Stock Exchange-Sofia, CROBEX taken for Zagreb Stock Exchange, SASX-10 for Sarajevo Stock Exchange, BELEX 15 for Belgrade Stock Exchange, XU100 for Istanbul Stock Exchange. The sample period is from January 1, 2005 to December 31, 2010. The data sets were collected from each stock exchange website.

#### 4.2. Methodology

We compute daily returns for each index using daily closing values of the index as:

$$R_{it} = \text{Ln} ( I_{it} / I_{it-1} ) * 100 \quad (1)$$

Where:  $R_{it}$  = daily return of index  $i$  on day  $t$ ,  $I_{it}$  = closing value of index  $i$  on day  $t$ ,  $I_{it-1}$  = closing value of index  $i$  on day  $t-1$ .

In our econometric investigation we first perform a standard unit root and stationary tests, namely the augmented Dickey–Fuller (ADF) on each series.

The causal relationship prescribes the direction of the impacts between two time series. In this sense, Granger causality measures are constructed to explore the causal relationship between two time series. The idea of Granger causality is a pretty simple one, namely that a time series  $X_t$  Granger-causes another time series  $Y_t$  if  $Y_t$  can be predicted better by using the past values of  $X_t$  than by using only the historical values of  $Y_t$ . In other words,  $X_t$  does not Granger-cause  $Y_t$  if:

$$\text{Pr}(Y_{t+m}|Y_{t-k}) = \text{Pr}(Y_{t+m}|Y_{t-k}, X_{t-k}) \quad (2)$$

Where  $\text{Pr}(\cdot)$  denotes conditional probability,  $Y_{t-k} \equiv (Y_t, Y_{t-1}, \dots, Y_{t-k})$ , and  $X_{t-k} \equiv (X_t, X_{t-1}, \dots, X_{t-k})$ . In this article, we suppose that  $Y_t$  and  $X_t$  are ATX and nine CEE emerging stock market price index, respectively. Testing causal relations between the two series can be based on the following bivariate autoregression:

$$Y_t = \alpha_0 + \sum_{k=1}^n \alpha_k Y_{t-k} + \sum_{k=1}^n \beta_k X_{t-k} + u_t \quad (3)$$

$$X_t = \gamma_0 + \sum_{k=1}^n \gamma_k Y_{t-k} + \sum_{k=1}^n \theta_k X_{t-k} + u_t \quad (4)$$

Where:  $\alpha_0$  and  $\gamma_0$  are constants,  $\alpha_k, \beta_k, \gamma_k, \theta_k$  are parameters, and  $u_t$  are uncorrelated disturbance terms with zero means and finite variances. The null hypothesis that  $X_t$  does not Granger-cause  $Y_t$  is rejected if the  $\alpha_k$  coefficients in the first equation are jointly significantly different from zero using a standard joint test. So, we can simply use an F-test to examine the null hypothesis =0. Critical is the choice of lags  $k$ , because insufficient lags yield autocorrelated errors (and incorrect test statistics), while too many lags reduce the power of the test.

Similarly,  $Y_t$  Granger-causes  $X_t$ , if the  $\gamma_k$  coefficients are jointly different from zero in the second equation. A bi-directional causality (or feedback) relation exists if both the  $\alpha_k$  and  $\gamma_k$  coefficients are jointly different from zero. Ozdemir et al. (2009) used this test to show that causality runs from the S&P500 to the stock prices of the 15 emerging markets but not vice versa. So, we use this test, within the framework of a vector autoregression (VAR) model, to examine the causality of stock indices.

#### 5. Empirical results

The Granger-causality test requires that the data series are stationary, otherwise inference from the F-statistic might be spurious because the test statistics will have non-standard distributions. The null hypothesis of the augmented Dickey and Fuller (ADF) is non-stationarity. We performed the augmented Dickey-Fuller unit root tests on each series (the results are not given here but are available by the authors upon request). The two tests are made for a constant and a constant and a linear trend, respectively. The tests reject the non-stationary null hypothesis for the stock price index at 5 % significance level for all analyzed countries. Therefore, both of the ADF tests reject the non-stationary null at 5 percent significance level for the first differences of stock price index for all seven countries.

The descriptive statistics of the daily returns for each analyzed stock index is shown in Table 2. As can be, the index taken for Belgrade SE, BELEX 15 has made lowest mean daily return (-0.032290%) with the highest daily standard deviation of return (76.94031%), while FTSE/ATHEX 20 – the index taken for

Athens Exchange – demonstrates lowest mean daily return with daily standard deviation of return. Also, Romania and Bulgaria have experienced a fairly high daily volatility.

**Table 2: Descriptive Statistics for National Stock Market Indices**

Country	Sample period	Mean (%)	Std. Dev. (%)	Min.	Max.
Greece	01/03/2005 to 12/31/2010	-0.000578	0.020050	-0.097963	0.102750
Bosnia and Herzegovina	02/06/2006 to 12/31/2010	-0.044426	1.704937	-8.840101	8.756590
Bulgaria	01/03/2005 to 12/31/2010	0.024546	1.900888	-12.64895	13.17775
Republic of Croatia	01/03/2005 to 12/31/2010	0.019479	1.572329	-10.76363	14.77896
Serbia	10/04/2005 to 12/31/2010	-0.032290	76.94031	-465.5173	459.5789
Romania	01/03/2005 to 12/31/2010	0.008725	2.063535	-13.11676	10.56451
Turkey	01/03/2005 to 12/31/2010	0.032242	1.844046	-10.11246	12.27793

Table 3 presents the correlation matrix of daily returns among the seven analyzed countries for entire sample period. It is evident from Table 3 that the correlations of returns from the analyzed countries are significantly different from zero at the 1% level. However, these correlation coefficients are not very large in magnitude. Indeed, the largest correlation coefficient takes the value of 0.148 for the Romania-Bulgaria pair and it is followed by the correlation coefficient of 0.135 for the Romania-Greece pair. The relatively higher correlation values for the two mentioned pairs reflect a relatively higher degree of interdependence between the countries of the pair, which are all EU countries. Interestingly, Republic of Croatia and Turkey in spite of their geographical proximity, exhibit an insignificant correlation with each other and with other of the analyzed markets. In fact, Turkey has the biggest market among the analyzed ones, four times bigger in capitalization terms comparing to Athens and it was from the beginning less probable to being influenced by Greece.

**Table 3: Correlation Matrix for National Stock Market Indexes, Full Sample Period**

	GR	BA	BG	HR	RS	RO	TR
GR							
BA	0.042524						
BG	0.070846	0.019617					
HR	0.001830	0.124704	0.014710				
RS	0.008169	-0.035113	0.022433	0.004103			
RO	0.135055	0.037906	0.148772	0.000716	-0.019281		
TR	0.003331	-0.005459	-0.005055	0.021139	-0.008815	-0.019981	

In order to track the changes in over time, we divide our sample into two sub-samples, pre January 2007 and post 2007 (based on the integration of Romania and Bulgaria in EU and on the financial crisis), and estimate the next models.

Johansen's maximum likelihood method is used to examine whether or not the FTSE/ATHEX price index and stock price index series of each CEE emerging market are cointegrated.

A vector error cointegration model is estimated for each sub-period under study to consider the series jointly presented in table 4. Two alternative model versions are compared and contrasted: a model with intercept but no trend in the cointegrating vector and the test VAR and a model with intercept and trend in the cointegrating vector but no trend in the VAR.

The null hypothesis that the seven stock markets are not cointegrated ( $r=0$ ) against the alternative of one or more cointegrating vectors ( $r>0$ ) is rejected, since the probability of both models statistic exceeds the critical value at the 5% significance level. Based on that, all variables were found statistically significant at the 5% level of significance and contribute to the long-run relationship. The statistics suggest no more than one cointegrating vector, since  $H_0$  of  $r \leq 1$  is not rejected, since the trace and maxim eigenvalue statistic exceeds the critical value at the 5% significance level. The CEE stock market and the Greek stock market share a cointegrating vector. This finding suggests that there are six common stochastic trends driving these seven stock markets. In addition, this suggests that future fluctuations of prices in one market can be determined or predicted to some extent using a part of the information set provided by the other stock price indices. Not least, because in the null cointegration relationship is recorded an upward trend in the second sub-period, this means there exist an increased convergence among the analyzed states.

The evidence of cointegration firstly is important because it excludes false correlations and suggests at least a unique channel for Granger causality test. Secondly, international portfolio diversification is less effective across the cointegrated markets, as investment risk cannot be reduced, and portfolio returns can exhibit similar behaviour to internal and external shocks. Thirdly, cointegrated stock indices converge towards a common long-run equilibrium path. As the evidence of cointegration guarantees some significant Granger causalities in the system, it is useful to examine, firstly the short-term causal linkages, and secondly the innovation accounting implications.

**Table 4: Johansen–Juselius likelihood cointegration tests**

Jan. 2005- Dec. 2006	Eigenvalue		Trace		Critical Value at 95%	
	Model 3	Model 4	Model 3	Model 4	Model 3	Model 4
<b>r=0</b>	0.435518	0.435853	335.4301	346.1514	125.6154	150.559
<b>r&lt;=1</b>	0.339212	0.340862	234.7851	245.4019	95.75366	117.708
<b>r&lt;=2</b>	0.230453	0.234449	161.8644	172.0411	69.81889	88.8038
<b>r&lt;=3</b>	0.205147	0.207809	115.7606	125.021	47.85613	63.8761
<b>r&lt;=4</b>	0.162043	0.171271	75.3512	84.02136	29.79707	42.9153
<b>r&lt;=5</b>	0.121999	0.148044	44.23642	50.9576	15.49471	25.8721
<b>r&lt;=6</b>	0.114175	0.1213	21.33746	22.75889	3.841466	12.518
<b>Jan. 2007- Dec.2010</b>	Model 3	Model 4	Model 3	Model 4	Model 3	Model 4
<b>r=0</b>	0.367154	0.367154	1614.339	1617.185	125.6154	150.559
<b>r&lt;=1</b>	0.236349	0.237104	1161.844	1164.69	95.75366	117.708
<b>r&lt;=2</b>	0.22047	0.220477	895.1664	897.0327	69.81889	88.8038
<b>r&lt;=3</b>	0.206859	0.206917	648.8424	650.6997	47.85613	63.8761
<b>r&lt;=4</b>	0.18041	0.181807	419.6374	421.4218	29.79707	42.9153
<b>r&lt;=5</b>	0.132695	0.13278	222.8744	222.9723	15.49471	25.8721
<b>r&lt;=6</b>	0.079638	0.07964	82.07533	82.07733	3.841466	12.518

The results for Granger-causality test is given in Table 5. The empirical results from the Granger-causality tests highlights that the Greek market exerts a strong impact only on Bulgarian SE, in both sub-periods. The situation is different in the second sub-period, where this test supports the leading role of the Greek market, as short-run channels of causality run from changes in the Greek market, and exert a strong impact on the following markets: Bosnia and Herzegovina, Bulgaria, Republic of Croatia and Romania. Put differently, not only stock returns in Greece Granger-cause stock returns in the three CEE markets, but the several CEE (Bulgaria, Republic of Croatia and Romania) also influence stock returns in Greece in the second sub-period. In addition, Romania influences stock returns in Greece in the first sub-period, too. The exceptions, Serbia and Turkey are found in both sub-periods to follow a more autonomous path as they does not influence, and are not influenced by the Greek market. This outcome is probably related to the small stock market capitalization in the case of Serbia and to the fact that Turkish stock exchange has significant linkage relationship with developing EU member countries and fewer relationships detected with developed EU member countries (Ergun and Nor, 2009). This finding is in contrast with Ozdemir's et al. (2009) paper, which shows that the centre dominates the periphery, but not vice versa.

The decomposition of forecast error variance of each market provides a quantitative measure of the short-run dynamic interdependences of the CEE emerging stock markets and Greek stock market. As it gives the proportion of the movements in the returns series that are due to their own shocks versus shocks due to the other series, the variance decomposition provides information about the relative importance of each random shock in affecting the series in the system. In this study, we attempt Choleski decomposition to orthogonalise the shocks method. So, in Table 6 are studied the variance decomposition results of 1-day, 5-day and 10-day horizon ahead forecast error variances of each stock market.

**Table 5: Pairwise Granger-causality tests between stock price indexes of emerging market (CEE) and Greek market (GR)**

	Null Hypothesis:	2005-2007		2007-2010	
		F-Statistic	Probability	F-Statistic	Probability
Bosnia and Herzegovina	CEE $\nrightarrow$ GR	0.6029	0.83709	1.41872	0.15098
	GR $\nrightarrow$ CEE	0.56915	0.86404	2.1281	0.01331
Bulgaria	CEE $\nrightarrow$ GR	1.06171	0.39098	2.84806	0.00074
	GR $\nrightarrow$ CEE	1.92016	0.03014	9.72475	4.30E-18
Republic of Croatia	CEE $\nrightarrow$ GR	0.9759	0.47094	7.93099	2.90E-14
	GR $\nrightarrow$ CEE	0.8112	0.63901	2.12433	0.01351
Serbia	CEE $\nrightarrow$ GR	0.58797	0.85143	0.55098	0.88147
	GR $\nrightarrow$ CEE	1.05918	0.39505	0.52283	0.90098
Romania	CEE $\nrightarrow$ GR	1.94963	0.02718	3.33807	8.90E-05
	GR $\nrightarrow$ CEE	0.81206	0.63812	3.37592	7.50E-05
Turkey	CEE $\nrightarrow$ GR	0.68045	0.7708	1.13273	0.32916
	GR $\nrightarrow$ CEE	0.30438	0.98858	0.25414	0.9951

Table 6 suggest that in all countries by day 5 ahead, the behaviour has settled down to a steady state, where a smaller percentage of the error variance in the series of all indices is attributable to own shocks. Furthermore, in all analyzed countries, the national market price innovations account for more of the error variance while Greek price innovations account for less of the forecast error variance. In addition, with the exception of Romania, all the countries registered a greater influence in the first sub-period than in the second one. This might be due to the crisis that hit all the countries and due to the fact that before the crisis foreign investors cover most of trading activity in all the emerging stock markets. Greek influence on all the analyzed states is very small, almost inexistent. On the basis that about 1% (the exception is 7,4% in Bulgaria in the first sub-period) of the variation in the returns of all indices is caused by shocks to the Greek market, indeed the extent of influence of the developed markets on the returns of the emerging markets is small, indicating a weak integration of the emerging markets with the developed markets.

**Table 6: Forecast Error Variance Decomposition of Daily Market Returns**

Country	Horizon (days)	Percentage of forecast error variance by innovations in:			
		Jan. 2005-Dec. 2006		Jan. 2007-Dec. 2010	
		Own innovation	Greek innovation	Own innovation	Greek innovation
Bosnia and Herzegovina	1	99.73680	0.263198	99.94874	0.051263
	5	94.22982	1.264504	98.17506	0.234055
	10	94.05304	1.311416	98.12854	0.170469
Bulgaria	1	95.31006	4.674483	99.67737	0.204320
	5	85.81181	7.384614	96.21181	0.434301
	10	86.05368	7.403302	96.23291	0.328346
Rep. of Croatia	1	98.83552	0.580479	99.62211	0.101454
	5	94.28499	0.550963	97.18619	0.838902
	10	94.74967	0.572099	96.82735	0.938230
Serbia	1	98.14792	0.127733	99.72047	0.002229
	5	85.50294	1.360395	97.73850	0.057839
	10	82.71255	1.519016	96.88100	0.058290
Romania	1	98.42134	0.280257	96.01934	0.774778
	5	89.85965	0.577508	93.89018	2.228580
	10	89.27843	0.435785	94.35245	2.239182
Turkey	1	94.37217	1.400830	99.19179	0.021795
	5	92.59801	1.660460	98.55086	0.069341
	10	92.92564	1.897280	98.64167	0.074494

## 6. Summary and concluding remarks

As several CEE states have joined the EU recently, several are candidates and along with increasing in globalisation process, the examination of dynamic interdependencies with major international stock markets remains an important issue. In this paper, we analyzed possible interdependences between six emerging stock markets in Central and Eastern Europe and the Greek stock market.

To investigate the short- and long-run linkages between the equity markets under study we employ three econometric models. These models are estimated in framework of maximum likelihood regression, Granger causality, and vector autoregression. The tests for cointegration using the Johansen procedure support the presence of one cointegrating vector between the CEE emerging markets and the Greek stock market in both sub-periods, indicating a stationary long-run relationship. Granger causal relationships have also been identified between the CEE emerging and the developed one.

Although no dramatic impact due to the EU integration has been detected, the transition appearing to be smooth and this may be related to the fact that macroeconomic policies have been long before integration adjusted to support convergence with the EU. However, the extent of the linkages is weak, as the variance decompositions by orthogonalised approaches demonstrate limited interactions between any pair of the emerging and the developed market under study. The implication of the low level of the linkages is that expected returns of the investment in the emerging stock markets would be determined mainly by the country-specific risk factors (Li and Majerowska, 2008). With the exception of Romania, all the countries appear more sensitive to shocks from the more mature market in the first sub-period than in the second one. This might be due to the crisis that hit all the countries and due to the fact that before the crisis foreign investors cover most of trading activity in emerging stock market.

Greek influence on all the analyzed states is very small, almost inexistent. We found that the national market price innovations account for more of the error variance while Greek price innovations account for less of the forecast error variance. This support the highlight of Syriopoulos (2007) that, the CEE stock markets tend to display stronger linkages with their mature counterparts rather than with the other CEE neighbours. Our study suggests potential benefits for international portfolio diversification into the emerging markets in Central and Eastern Europe.

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## SIMULATING UNIFORM BANK RATING SYSTEM CAAMPL IN CREDIT UNIONS

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**Abstract:** *Objective: compare the work of five Romanian credit unions, using elements of CAAMPL rating system.*

**Keywords:** capital adequacy, asset quality, liquidity and profitability

**JEL classification:** G2

**Introduction:** Cooperative group of credit analysis system using CAAMPL will be achieved through assessment and calculation of each component of the system, using data entered in the balance sheets of the five years studied, and other information with qualitative data. Related indicators' ratings and limits used inside the CAMPL system have as source the documents of National Bank of Romania, an institution that has developed, implemented and manages this assessment and early warning system.

### Analysis CAAMPL

#### 1. Capital adequacy (C)

To identify the adequacy of capital, the following indicators will be used: the solvency ratio 1, the solvency ratio 2, the rate of capital (leverage) and the equity share capital.

To the romanian credit unions analyzed, we identified the following values of indicators and related ratings:

**Table 1 Capital adequacy of credit union**

	C.ADEQUACY OF CAPITAL	2005	2006	2007	2008	2009
1	<b>Solvency ratio 1</b>	37.03%	29.77%	17.66%	16.53%	18.87%
	<b>Rating</b>	1	1	1	1	1
2	<b>Solvency ratio 2</b>	19.01%	14.47%	12.09%	10.85%	11.67%
	<b>Rating</b>	1	1	1	1	1
3	<b>Rates of equity (leverage)</b>	12.82%	10.44%	8.87%	8.14%	8.93%
	<b>Rating</b>	1	1	1	1	1
4	<b>Rate capital</b>	158.34%	238.74%	268.35%	306.89%	342.61%
	<b>Rating</b>	1	1	1	1	1
	<b>Rating capital adequacy</b>	1	1	1	1	1

Source: own calculations

During the period under review, the solvency ratio 1 decreased, but remained in the rating group 1. This depreciation is within the existing trend in romanian banking system.

Growing up in a smaller proportion of equity to risk weighted asset growth resulted in a reduction of the solvency ratio 2, but keeping in the most favorable rating class 1. The solvency ratio 2 and the evolution remains in the same direction as the overall solvency rate developments in the equity of the Romanian banking system. In the five years, in terms of rate equity, the group of banks has remained in rating class 1.



Equity share capital has improved in 2009 compared to 2005, by increasing to a greater measure of equity to capital. In the five years, in terms of this indicator, romanian credit unions analyzed were maintained in rating class 1.

In terms of capital adequacy, changes in the five years analyzed were a slight trend to a depreciation of the first three indicators and appreciation of the rate of capital. All the indicators examined were maintained in the 2005-2009 period in the same rating class 1. By applying the principle of contamination, the rating given to the bank, in terms of capital adequacy will be 1, which indicates a group rating of well capitalized banks.

The principle of contamination applied in assessing the entity's composite rating is considered as representing the worst rating of the individual, which is composed of the class of rating. For example, if an entity assessment examines two issues that received different ratings for each, that entity will be assigned as the final ratings the worst ratings of the two analyzed.

### 2. Quality of ownership (A)

Identification of ownership is important because the quality of bank's business through the assessment of this indicator shows what proportion of shareholders, the significant or the majority, support the work of the bank or constitute an obstacle to a qualitative development.

**Table 2. Shareholders of the credit unions**

A. SHAREHOLDERS			2005	2006	2007	2008	2009
COMPOSITE	RISK	TOTAL	1	1	1	1	1
SHAREHOLDERS							

Source: own calculations

Analyzing the capacity and performance of shareholders, measured in terms of support and accountability to shareholders, I appreciate that in terms of shareholding quality, banks fit within a rating class.

### 3. Asset quality (A)

Asset quality reflects the potential risk that can generate credits granted by the banking institution and the inherent risk of other assets and off-balance sheet transactions. In assessing the quality of assets, the following indicators will be calculated: overall risk, the share of overdue loans in total loans and the rate of overdue loans, doubtful loans in total assets, share of customer loans in total assets and total loans to customer deposits and borrowed sources.

Factors influencing a bank's asset quality refers to the procedures, methods and tools used in the management of credit and identification of inherent risk, the level of nonperforming loans, and credit risk off balance sheet transactions generated by them, and adequacy of policy reserves.

Considering that the reference level of risk for the general banking system in Romania amount published by the National Bank of Romania in 2005 to 47% in 2006 to 48% in 2007 to 53% in 2008 to 57% in year 2009 62.50%, interval evaluation of this indicator will be:

**Table 3. Intervals for overall risk assessment**

Year	Interval	Rating	Year	Interval	Rating	Year	Interval	Rating
2005	$x < 17$	1	2006	$x < 18$	1	2007	$x < 23$	1
	$17 < x \leq 37$	2		$18 < x \leq 38$	2		$23 < x \leq 43$	2
	$37 < x \leq 57$	3		$38 < x \leq 58$	3		$43 < x \leq 63$	3
	$57 < x \leq 77$	4		$58 < x \leq 78$	4		$43 < x \leq 63$	4
	$x > 77$	5		$x > 78$	5		$x > 83$	5

Year	Interval	Rating	Year	Interval	Rating
2008	$x < 27$	1	2009	$x < 33$	1
	$27 < x \leq 47$	2		$33 < x \leq 53$	2
	$47 < x \leq 67$	3		$53 < x \leq 73$	3
	$67 < x \leq 87$	4		$73 < x \leq 93$	4
	$x > 87$	5		$x > 93$	5

Source: NBR , Annual Reports 2005-2009

**Table 4. Quality assets at credit unions examined**

A.ASSET QUALITY		2005	2006	2007	2008	2009
1	<b>Overall risk ratio</b>	62.05%	65.52%	65.81%	68.11%	70.81%
	<b>Rating</b>	4	4	4	4	4
2	<b>Overdue and doubtful receivables rate in total loans outstanding</b>	2.31%	4.87%	4.24%	3.15%	3.13%
	<b>Rating</b>	2	3	3	2	2
3	<b>Share of overdue and doubtful receivables in total assets</b>	1.14%	2.42%	2.39%	1.89%	2.00%
	<b>Rating</b>	1	2	2	1	2
4	<b>Share of loans to customers in total assets</b>	49.14%	49.77%	56.38%	60.01%	63.86%
	<b>Rating</b>	1	1	3	4	4
5	<b>Loans rate / total resources</b>	56.36%	55.57%	61.87%	65.33%	70.12%
	<b>Rating</b>	1	1	2	3	4
	<b>Rating the quality of assets</b>	2	3	3	3	4

Source: own calculations

In the five years analyzed, overall risk indicator values ranks rating banks in group 4, with a slight depreciation of the overall risk rate of 62.05% in 2005 to 70.81% in 2009. This development is part of the existing trend in the banking system by increasing the percentage of risk weighted assets in total banking assets. Stepping lending credit institution implicitly entails a higher exposure to credit risk.

Rates of overdue and doubtful debts in total loans fall in 2006 and 2007 in rating class 3, and in 2005, 2008 and 2009 rating class 2, the indicator being below the average Romanian banking system in all the years analyzed.

Rates of overdue and doubtful receivables in total assets grew in 2006, 2007 and 2009 employing banks in rating class 2, in the remaining years the rate of falls in the highest rating class.

Asset quality, measured in terms of share of customer loans in total assets and total deposits and borrowed sources, reveals a value that ranks banks to a rating class 1 in 2005 and 2006. Since 2007, the indicators show a reduction, in 2009 banks lies in the rating class 4, a trend which can be explained by increasing and diversifying the portfolio of customer loans by banks.

#### 4. Management (M)

In accordance with the methods applied by the National Bank of Romania, the assessment of banks in terms of quality management will be done by identifying performance in risk management activities through identifying, measuring, monitoring and control.

Bank management is ensured by the Board along with a number of specialized committees. Board of Directors determines the direction of the Bank's activities and monitors these activities. According to the Articles of Association of Banks, the Council shall guide strategic investment plan and decide on changes to management structure, as well as on results of operations that may significantly affect the institution's balance sheet structure or risk profile. Board members are

personalities and professionals recognized and appreciated both in the Romanian banking environment and the national socio-economic environment.

Together with the Board of Directors, the Bank's current business is managed through the following committees: Management Committee, Risk Management Committee Banking, Asset and Liability Management Committee, the Operations Risk Committee, Credit Committee and the Audit Committee. Each committee has a clearly identified role in the bank's management structure, as follows: Management Committee coordinates the implementation of the strategy within the Bank Board of Directors, Bank Risk Management Committee shall examine and take appropriate decisions in general risk management, Risk Committee on operations is mainly focused on risk management of operational activities and Appropriations Committee sets policy and strategy of the bank lending decisions within divisions imposed by the Board.

In the banks, the main types of banking risks are managed centrally: credit risk, market risk, operational risk, currency risk, the interest rate and liquidity risk. Managing credit risk consists mainly of: improving the procedures of the credit risk management strategy, policies, rules on credit risk management, calculation of provisions for estimated losses on loans and equity management (monitoring aggregate exposure relative to equity). The calculation of capital requirements under Basel II, compliance with a hierarchical system of approving credit exposure limits, monitoring credit risk business lines and aggregate portfolio level. For the retail component of the loan portfolio, to better management of credit risk, there have been developed lending norms and policies, implemented credit scoring models for all products.

Operational risk is managed through the development and implementation of policies, rules and procedures for risk management; implementing an action plan can be put in practice in case of disaster or specific errors generated by the computer system. Regarding market risk, banks made daily evaluation of positions bank market valuation of trading book portfolio and track the levels defined as "attention" or "critical." With respect to interest rate risk, banks use management tools such as GAP analysis, static or dynamic, and economic value of assets. In order to improve liquidity risk, it is constantly attracting liquidity through treasury operations, foreign financing, capital markets, etc..

In addition to the organizational structure appropriate governance, the risk management is conducted in the bank and through a coherent process of bank risk management, which includes the following elements: identification, assessment, monitoring and risk control and risk reporting.

Assessment of management quality element of the credit institution can be achieved by using quantitative methods, such as Data Envelopment Analysis (DEA). To determine the economic efficiency that shows the waste of resources and improper allocation in relation to the potential, we started from the specific activity of banking intermediation.

Considering the above information on organizational structure and components of bank risk management tools, we can estimate that, in terms of management, the banks risk management reflects better performance by identifying, measuring, monitoring and control of it and point management to them within a rating class. This classification is supported by the lack of significant events materialize bank risk in the five years analyzed, highlighting the work efficiency and quality of bank management.

**Table 5. Management of credit unions examined**

<b>M.MANAGEMENT</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>TOTAL COMPOSITE RISK MANAGEMENT</b>	1	1	1	1	1

Source: own calculations

### *5. Profitability (P)*

Profitability is examined in terms of two indicators: economic profitability (ROA - Return on Assets) and financial profitability (ROE - Return on Equity). They reflect the volume and revenue trends.

**Table 6. Credit cooperatives Profitability analysis**

<b>P. PROFITABILITY</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Rates of economic profitability (ROA)</b>	2.40%	2.27%	1.76%	1.53%	2.37%
<b>Rating</b>	4	4	4	4	4
<b>Financial rate of profitability (ROE)</b>	18.70%	21.77%	19.81%	18.81%	26.55%
<b>Rating</b>	1	1	1	1	1
<b>Rating profitability</b>	3	3	3	3	3

Source: own calculations

Although 2009 saw an increase over 2008, the economic returns had a poor outcome in the years 2005-2008, the value of this indicator is still below 5% and banks within the rating group 4. Compared to the ROA indicator evolution of the Romanian banking system, banks group is above average for the banking system.

Throughout the period under review, cost is a rating class, with values that are over-regulated. This rating shows a good recovery in equity, and revenues are sufficient to cover the cost of operations and maintenance of adequate capital. Return on equity in the five years analyzed are well above the overall average of this indicator registered in the Romanian banking system. I believe that in this case, the contamination can not be applied due to large discrepancies between the two rating classes, 1 and 4. Evaluation of bank profitability can be achieved by upgrading the worst rating on account of favorable ratings. The final rating in this case would be 3, indicating that requires revenue improving their future.

#### 6. Liquidity (L)

**Table 7. Liquidity in credit unions examined**

<b>L. LIQUIDITY</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Liquidity indicator</b>	1.15%	1.12%	1.12%	1.09%	1.09%
<b>Rating</b>	2	2	2	2	2
<b>Immediate liquidity</b>	29.11%	25.55%	32.26%	30.63%	28.35%
<b>Rating</b>	5	5	4	4	5
<b>Rate loans / deposits</b>	67.24%	72.03%	75.25%	74.91%	77.33%
<b>Rating</b>	1	1	1	1	1
<b>Rating liquidity</b>	3	3	3	3	3

Source: own calculations

Liquidity indicator has evolved descendent class rating banks surrounding the end of March. From the point of view in terms of rate credits in deposits from customers, we believe that the banks remained within the five analyzed in a rating class.

#### *Degree classification made*

The final step in the analysis of banks CAAMPL considered is the establishment of a final score by identifying a composite rating for these banks in the five years analyzed.

The methodology used to identify the compound according to the rating system is based on some assumptions CAAMPL. Thus, the six indicators were classified into two categories:

- qualitative (IC1): the quality of ownership and management quality;
- quantitative indicators (IC2) capital adequacy, asset quality, profitability and liquidity.

Based on empirical results of the practical modeling of rating systems, weights given to the two elements in the final rating system is as follows:

$$\text{Rating compound} = 30\% * (\text{IC1}) + 70\% * \text{Rating (IC2)}$$

Rating qualitative indicators (quality of management and ownership) is 1 for the whole period. The quantitative rating was determined by giving equal weights of individual ratings of the

four performance indicators. The decision to grant the same based on weight of individual ratings of the four indicators of particular importance in assessing the quality of the bank, and early coverage of any failures that may face credit institution.

Under these conditions, the quantitative and qualitative ratings were calculated as follows:

$$\text{RatingIC2 Rating} = 25\% * (\text{C}) 25\% * \text{Rating (A)} 25\% * \text{Rating (P)} \text{Rating } 25\% * (\text{L})$$

Using the previous formula and the results identified, compound ratings can be calculated as follows:

**Table 8. Analysis of the credit cooperatives analyzed CAAMPL**

	<b>C.ADEQUACY OF CAPITAL</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
1	<b>Solvency ratio 1</b>	37.03%	29.77%	17.66%	16.53%	18.87%
	<b>Rating</b>	1	1	1	1	1
2	<b>Solvency ratio 2</b>	19.01%	14.47%	12.09%	10.85%	11.67%
	<b>Rating</b>	1	1	1	1	1
3	<b>Rates of equity (leverage)</b>	12.82%	10.44%	8.87%	8.14%	8.93%
	<b>Rating</b>	1	1	1	1	1
4	<b>Rate capital</b>	158.34%	238.74%	268.35%	306.89%	342.61%
	<b>Rating</b>	1	1	1	1	1
	<b>Rating capital adequacy</b>	1	1	1	1	1

<b>A. SHAREHOLDERS</b>		<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>COMPOSITE RISK SHAREHOLDERS</b>	<b>TOTAL</b>	1	1	1	1	1

	<b>A.ASSET QUALITY</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
1	<b>Overall risk ratio</b>	62.05%	65.52%	65.81%	68.11%	70.81%
	<b>Rating</b>	4	4	4	4	4
2	<b>Overdue and doubtful receivables rate in total loans outstanding</b>	2.31%	4.87%	4.24%	3.15%	3.13%
	<b>Rating</b>	2	3	3	2	2
3	<b>Share of overdue and doubtful receivables in total assets</b>	1.14%	2.42%	2.39%	1.89%	2.00%
	<b>Rating</b>	1	2	2	1	2
4	<b>Share of loans to customers in total assets</b>	49.14%	49.77%	56.38%	60.01%	63.86%
	<b>Rating</b>	1	1	3	4	4
5	<b>Loans rate / total resources</b>	56.36%	55.57%	61.87%	65.33%	70.12%
	<b>Rating</b>	1	1	2	3	4
	<b>Rating the quality of assets</b>	2	3	3	3	4

<b>M.MANAGEMENT</b>		<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>TOTAL COMPOSITE RISK MANAGEMENT</b>		1	1	1	1	1

<b>P. PROFITABILITY</b>		<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
	<b>Rates of economic profitability (ROA)</b>	2.40%	2.27%	1.76%	1.53%	2.37%
	<b>Rating</b>	4	4	4	4	4
	<b>Financial rate of return (ROE)</b>	18.70%	21.77%	19.81%	18.81%	26.55%

<b>Rating</b>	1	1	1	1	1
<b>Rating profitability</b>	3	3	3	3	3

<b>L. LIQUIDITY</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>Liquidity indicator</b>	1.15%	1.12%	1.12%	1.09%	1.09%
<b>Rating</b>	2	2	2	2	2
<b>Immediate liquidity</b>	29.11%	25.55%	32.26%	30.63%	28.35%
<b>Rating</b>	5	5	4	4	5
<b>Rate loans / deposits</b>	67.24%	72.03%	75.25%	74.91%	77.33%
<b>Rating</b>	1	1	1	1	1
<b>Rating liquidity</b>	3	3	3	3	3

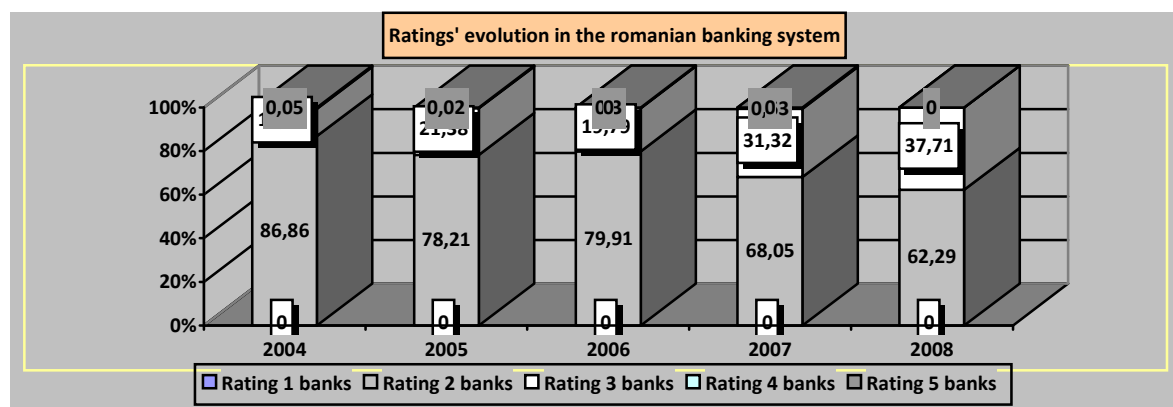
<b>COMPOSITE RATING</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>
<b>TOTAL COMPOSITE RISK</b>	2	2	2	2	2

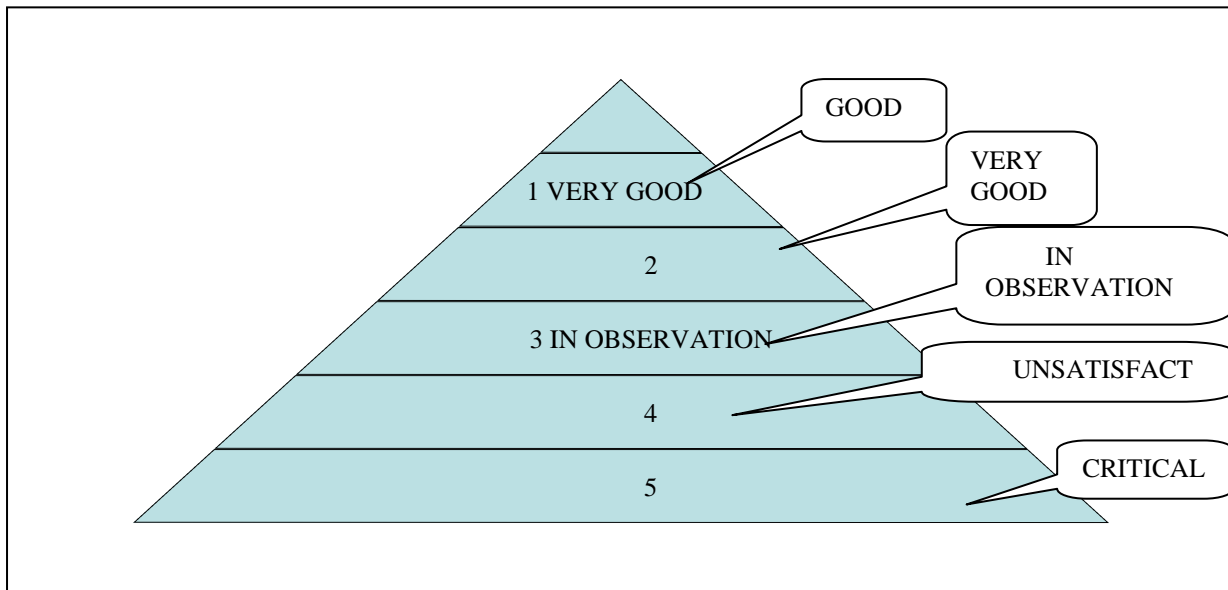
Source: own calculations

Romanian Credit Unions have a rating classification 2 in the period 2005-2009.

Rating compound 2 means that the banks in this group have a healthy basic structure. In this case, difficulties arise only moderate category of those whom the Board and executive management can and want to correct them. These institutions are stable, capable of overcoming the difficulties caused by market fluctuations and conform to the laws and regulations. In general, risk management practices are satisfactory. In these cases, there are no representative monitoring problems, the concern authority being a routine surveillance.

**Figure1 Ratings' evolution in the romanian banking system**





Source: NBR Annual Reports 2005-2009

The banking system in Romania is not assigned a bank or a rating category.

The above graphic note that no bank in Romania in the period under review was not classified as class rating 1. The banks classified as the second largest share of ratings hold throughout the period under review, although the trend in this category is decreasing.

Banks falling under category three rating rose from 12.55% in 2005 to 37.71% in 2009. In category 4 and 5 ratings assigned no bank.

In conclusion, we can say that the system analysis reveals an average strength of the banking system in Romania, which confirms the viability of monetary policy applied by the NBR during the period.

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## IS OVER-REACTION OF MERGER AND ACQUISITION ANNOUNCEMENTS PERSISTENT? EVIDENCE FROM THE U.S. STOCK MARKET BETWEEN 2003 AND 2007

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**Abstract:** *The purpose of this paper is to examine how the M&A announcements affect the wealth of the investors in the case of the acquiring firms and if there is any persistent over-reaction. There is an extensive amount of studies written about M&As and their impact on both the short term stock returns and the long term performance of the stock prices, but the period starting in 2003 and ending in 2007, between two financial crisis, is in none of them analyzed. The paper points out the implications of the size of the acquirer and the method of payment that the bidding firm uses in the case of different types of M&As. Our results indicate that the over-reaction of the stock prices at M&A announcements is persistent, but only in the long-run.*

**Key words:** M&A (merger and acquisition), over-reaction, wealth effect, short term reaction, long term reaction.

**JEL Classification:** G34, C12

### 1. Introduction

Mergers and acquisitions (abbreviated M&As in the rest of the paper) are a controversial subject in the financial literature. At one extreme are the studies that argue that managers pursue their own interest on the prejudice of the wealth maximization of the shareholders and that M&As appear as a willingness of the managers to increase the size of the company, because managers' salaries are positively correlated with the size of the company. At the other extreme are the beliefs that the stockholders earn positive abnormal returns from M&As using some private information about the capital markets.

The purpose of this paper is to examine how the M&A announcements affect the wealth of the investors in the case of the acquiring firms and if the over-reaction of these transactions is persistent or not. Over-reaction can be defined as a price change that exceeds the change in valuation (Duran and Caginalp, 2007). It can appear as a positive change in the stock price as well as a negative change. After a period of time, the stock prices reverse themselves. The phenomenon of over-reaction can exist on a short period (few days) or on a longer horizon, for example one or two years. For over-reaction to be persistent, a condition would be that the results are significantly distinct from zero.

The period that will be analyzed starts in January 2003 and ends in December 2006. The reason why we chose the above mentioned period is twofold: in general, in the years that follow an economic recession, the M&A market is observed to grow faster than before and the number of deals increases significantly. Exactly the same happened after the 2000-2001 financial crisis, when,



with the US stock market crunch, there was also a meltdown on the M&A market. But, this recession was followed, starting in 2003, by a period of steady growth due to favorable financial conditions and financial innovations, which led to a recovery of the stock market, also involving a new boom in the M&As market. We chose to examine the US stock market because United States experienced a much higher value of M&As the last years.

With regard to the different classifications used to analyze the shareholders' wealth, a distinction will be made between cross-border M&A announcements and domestic M&A announcements. The reason behind this choice is that, in the last few years, because of the increased globalization, the number of cross-border M&As have grown very rapidly and it is worth to analyze the impact that the foreign M&As have on the acquiring firms' performance. Furthermore, the acquiring firms, classified within these two categories, will be analyzed also according to three size classes (large, medium and small-cap) and, separately, with respect to three methods of payment (cash, shares and mixed).

Our paper can be viewed as an extension of the studies written by Mueller and Yurtoglu (2007) and by Loughran and Vijh (1997). The first paper examines the effects that mergers have on the returns of the acquiring companies. The authors analyze a large sample of mergers from both Anglo-Saxon and Non-Anglo-Saxon countries between 1981 and 2002 with a main focus on the evolution of the stock prices for the US acquiring firms. They found that the stock prices have a statistically positive performance in all the cases they analyzed, which is translated into persistent over-reaction of stock prices on the long-run. On the other hand, Loughran and Vijh (1997) analyze the relationship between the post-acquisition returns and the mode of acquisition (mergers or tender offers) and the means of payment (cash, stock or mixed) in the case of US acquirers between 1970 and 1989. They found that the acquirer firms that pay for their acquisition with cash tend to obtain positive and persistent abnormal returns in the five years following the acquisition, whereas the bidding firms that use stock as a mean of payment tend to have negative and significant abnormal returns.

The differences between these two studies and our paper lie in the classification of the M&As according to the three distinct groups of variables that influence the cumulative abnormal returns of the acquiring firms (the type of M&A, the method of payment and the firm size). In addition, we will study the period between 2003 and 2007 which is in none of them analyzed.

The change in the shareholders' wealth after a M&A is a controversial subject that has been discussed in an extended amount of studies. There is a significant body of literature focused on this subject, but there is not a clear conclusion whether the stock prices of the acquiring firms over-react or under-react after a merger or acquisition announcement is released. This is another reason why our paper can bring new evidence for the existing literature. Our results indicate that the over-reaction of the stock prices at M&A announcements is persistent, but only in the long-run. Also, it is shown that the domestic M&As overperform the cross border transactions. In the short run, the stock prices usually positively but insignificantly over-react to the M&A announcements. In the long run they have large negative and significant values, being a sign of persistent over-reaction.

The remainder of the paper is organized as follows: Section 2 provides an overview of the M&A transactions, highlighting the most important characteristics of cross-border and domestic M&As, as well as the role played by the firm size and by the method of payment in the future changes of the acquirer's stock prices. Section 3 reviews the empirical evidence on the performance of M&As. Section 4 explains the methodology and data used in our paper. Section 5 presents our main results for the post-acquisition performance of the acquiring firms' stock prices and Section 6 concludes.

## **2. An overview of the M&A transactions**

Mergers and acquisitions are terms usually used as synonyms, but, in fact, there is a clear distinction between the two. In a merger, the manager of the bidding company negotiates directly with the manager of the target company and the results are sent to the target's board of directors and

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voted by the target's board of shareholders. In this case, a new entity can appear (Jensen and Ruback, 1983). Sudarsanam (2003) defines an acquisition as an event in which a firm purchases the shares of another one. It has as a result the transformation of the acquired company into a subsidiary of the acquirer.

Starting in the early 1890s, M&As have encountered a great development, the total value of these transactions reaching, in 1999, before the financial crisis, almost \$2 trillions for the U.S. market and \$1.5 trillions for the European market. At the beginning, the market started engaging only in domestic M&As and later, because of the increasing globalization, there appeared also international M&As, which implies the existence of two companies from distinct countries.

M&A activities have been conducted throughout the world with the intention of creating synergy among the merging firms. M&A promises benefits that rest under different perspectives, like economic, strategic and financial perspectives. Under the economic perspective, a merger can have as a result the reduction of the costs faced by the firms and an increase in their market power. Cost reduction is a response to the economies of scale and scope. The strategic perspective invokes the idea of competitive advantage. When a merger or acquisition is achieved, the resulted firm will have new resources, technology and products which will help it to gain a larger market share.

Financial perspective for M&As include lower taxes, smaller bankruptcy costs (Jensen and Ruback, 1983). Another financial reason for a M&A is the managers' wealth. As a result of a merger or acquisition, the bidding company sharply develops and its growth will induce a higher salary for managers. This benefit has also its' counterpart disadvantage which rests on the financial theory. The difficulty appears because of the principal-agent problem, a conflict between managers and shareholders.

In general, M&As are transactions that involve a very high risk. An impressive amount of studies showed that more than 50% of the total M&A events are followed by negative returns for the acquiring firms' shareholders, and in some cases, these returns are also statistically significant distinct from zero.

In the case of cross-border M&As, the acquiring company must take into account some important characteristics which are different from the case of domestic M&As. Cross-border M&As are much more complex, because of the differences in political and economic environment, culture, accounting technics, tax rules and so on.

Biswas et al (1997) find that the most important reason for the observed increase in the number of cross-border M&A transactions in the last years is the globalization of the financial markets. Not only the U.S. firms acquired foreign firms, but also non-U.S. firms entered in the U.S. market. Another reason for acquiring international firms found by the three authors is the Ricardian theory of comparative advantage, meaning that the firm can produce at the lowest cost in the foreign country, or it can produce some new products that are not yet available in the country the firm just entered.

Harris and Ravenscraft (1991) explain other two reasons why the cross-border M&A transactions have grown in the recent years: market imperfection and the regulatory policies. Scholes and Wolfson (1990) found that after 1981, the number of purchases of U.S. companies increased because of the tax advantages.

Nevertheless, in the capital markets exist also barriers to cross-border M&As, barriers that can slow down the growth of foreign transactions. Sudarsanam (2003) presents a list of some of the barriers: structural barriers, which include the antitrust regulations, rules of stock exchange, and the fact that there does not exist a body entitled to supervise the takeover activity; informational barriers, which are generated by the problems the foreign companies encounter because of the absence of available accounting information about the target companies or the fact that the target company uses another accounting principles; the differences in the traditions and culture.

Post-merger performance can be affected by the method of payment used by the acquirer company. There is some evidence which shows that a company that pays with cash tends to have a better post-merger performance than an all-equity bid (Myers and Majluf, 1984).

The most important payment methods are cash, share exchange, convertible loan or preferred shares, deferred payment and loan stock. In the case the liquidity has a high value, the bidder will be more willing to pay with cash than in the case the liquidity is very low (Ghosh and Jain, 2000). When the managers of the bidding company have private information about the fact that their shares are overvalued, they will be willing to pay with shares.

For examining the effects that a merger or an acquisition has on the post-merger bidder's stock price evolution, the acquirer's size is also very important. Usually, small companies acquire small targets, the value of the transaction and the gains are also, in absolute terms, relatively smaller than in the case of larger companies. But, it has been shown that, in the majority of the cases, the small acquirers outperform the large ones in the sense that, while the small firms have small but positive abnormal returns, the large acquirers tend to have negative gains (Franks et al (1991), Moeller et al (2003)).

### **3. Wealth effects in M&A transactions**

#### **3.1. Cross-border versus domestic M&A transactions**

The evidence on the short term performance after a merger or acquisition is controversial. The results are very different and a clear conclusion does not exist. They are sensitive to the analyzed period and also to the event window used to estimate the abnormal returns. The evidence for the acquiring companies is mixed. Some studies find positive and insignificantly distinct from zero CARs for domestic M&As, while other observe negative and significant stock returns, like, for example, Houston and Ryngaert (1994). Goergen and Renneboog (2004) show that the cumulative abnormal returns in the case of the cross-border M&As, are usually positive, while the results for domestic transactions are negative.

Comparing the returns for domestic mergers and cross-border M&As, it can be seen that, in the case of the target firm, the stock prices in the first days following the announcements are smaller in the case of the cross-border M&As than in the case of domestic transactions. For the bidder companies, the studies show the opposite results. The CARs are larger for the cross-border M&As than for the domestic ones.

There is also an extensive amount of studies that evaluate the long-term stock prices' reaction of the acquiring firm when a new M&A is announced. On average, bidder companies realize negative and significantly distinct from zero cumulative abnormal returns. The study written by of Agrawal et al (1992) shows that the shareholders of the US acquiring firms suffer a significant loss of about 10% in a five-year period following the acquisitions.

In the same time, some authors, like Malatesta (1983) argue that, for 3-4 years after the M&A bidding firms do not have significant underperformance. Also, Loderer and Martin (1992), analyzing a sample of US M&As, find underperformance in the first three years after the event took place, but normal returns in the first five years following a M&A.

#### **3.2. Large, medium and small acquirers**

The size of the acquirer may give us a plenty of information about the evolution of the stock prices of the acquiring firms after the announcement. For example, usually, acquisitions by small companies are profitable for their shareholders but these firms make, in absolute terms, small acquisitions and small gains. On the other hand, large companies usually acquire large targets as well, but their shareholders tend to lose after the M&A (Moeller et al (2003)). Another reason why the acquirer's size is very important in analyzing the response of the stock prices to a merger or an acquisition announcement is that some authors prove that the managers of the small acquirers are more oriented to firm ownership than the managers of large acquiring companies.

#### **3.3. Cash, mixed and shares transactions**

For the short-term horizon, there are very distinct results for the M&As reaction depending on the method of payment. For instance, if we analyze the abnormal returns obtained by the bidder companies, we observe that there are differences between the findings of different authors. For example, Franks et al (1991) find that the results for the cash payments are positive and

insignificantly distinct from zero, but M&As that have equity as the mean of payment tend to be followed by a decrease in the returns, having CARs negative and significant. Travlos (1987) find that acquirers paying for the target firms with pure cash and pure equity tend to have insignificant negative abnormal returns in the first 5 and 10 days after the announcement. These results are contradicted by Dong et al (2006) who showed that the bidding company will have insignificant and positive abnormal returns in the case the transaction is paid with cash and positive and significant CARs otherwise. When the event window is extended over a longer period of time, there are some changes in the results compared to the short-term horizon. For instance, in the case of Franks et al (1991), the results for a period of 36 months are insignificant, positive for cash and mixed payments and negative for shares. Contrary, Bouwman et al (2003) find that the CARs for 24 months after the announcement are negative for all the methods of payment and significant only for cash and mixed payments.

In our paper we examine a period that was not used in any of these studies and we want to see if our results are persistent with the above mentioned findings.

#### 4. Data and methodology

##### 4.1. Sample selection and data sources

The focus of our study is the long-term reaction of acquiring firms' stock returns to the M&A announcements taking as event windows one year and two years after the publication of the announcement. But, because there could be important findings about the stock returns in the short run, as well, we will also analyze the reaction of the stock price to the announcements for another three event windows: (-5;5), (-3;3) and (-1;1) days.

The criteria used for extracting the data needed for the event study are: the acquirer is a US firm; the bidder is traded on NYSE, AMEX or Nasdaq; the bidder can be privately owned as well as publicly owned; the transaction is classified either as a merger or as an acquisition.

The dataset for our study contains a relative large sample of data referring to M&As. The sample consists of 140 M&A covering the period starting in January 2003 and extended until December 2006. The sample used is split up into cross-border and domestic M&As. Table 1 shows the distribution of the total number of M&As between cross-border and domestic M&A, the acquirer's size and the method of payment by year.

Firm size is referred to as the market capitalization of common stock at the beginning of the month when the event will take place. Market capitalization of common stock can be computed as the number of shares outstanding multiplied with the share price at the beginning of the month in which the M&A is announced. For a company to be considered small, the market capitalization has to be smaller than \$1 million. The medium-sized firms have a market capitalization between \$1 million and \$5 million and the large firms are that firms with market capitalization higher than \$5 million.

**Table 1 - The distribution of the M&A announcements relative to the type of the M&A, the method of payment and size of the acquirer**

Year	Total number of M&A	Number of M&A		Method of payment			Size of the acquirer		
		Domestic	Cross-border	Cash	Shares	Mixed	Small	Medium	Large
2003	40	21	19	17	16	7	11	12	17
2004	38	19	19	21	6	11	11	16	11
2005	36	18	18	19	6	11	9	16	11
2006	26	12	14	17	2	7	6	11	9
<b>Total</b>	<b>140</b>	<b>70</b>	<b>70</b>	<b>74</b>	<b>30</b>	<b>36</b>	<b>37</b>	<b>55</b>	<b>48</b>

##### 4.2. Methodology

The data about the target firms, acquirer firms, announcement date and the method of payment were collected from the Zephyr Database available on the Digital Library of Universiteit van Amsterdam. Also, information about the stock prices, the size of the acquirer firms, as well as the data for the Standard and Poor's 500 stock index for the U.S. market can be found on Datastream.

For a firm characterized by an objective of maximizing the shareholders' wealth, a good method to analyze the M&A success is the way in which the M&A affects the firm's stock prices on the long run. In an efficient capital market, the cumulative abnormal return for a long period of time should be zero and the effects that a merger or an acquisition has on the stock price should be seen around the announcement period. But, in general, the efficient market hypothesis is found not to be true. So, if the long term investors' wealth is affected by an event announcement in the sense that the shareholders are made better off, there should be a correlation between the observed increase in the stock prices of the acquiring firm and the information revealed on the market about the future event.

In the first place, we are interested to examine the long run effects of the M&A announcements (a period of at least one year after the M&A announcement of available daily data for the stock returns of the analyzed companies. But, there can exist information that prove the existence of abnormal returns only in the first few days after the announcement date and, after this short period, the stock prices could revert to the normal values (action known also as over-reaction of the stock prices at the announcement). This is the case of a scenario in which the capital market is efficient and all the information about the future costs and benefits of a merger or acquisition are incorporated into the stock price at the time of the announcement. Because of this, we will also analyze the abnormal returns of the stocks in the short run.

In order to examine the persistence of our results, we will test the hypothesis of market efficiency, the same theory tested also by Loughran and Vijh (1997) and the stock price over-reaction hypothesis. The efficient-market hypothesis (EMH) assumes that financial markets are "informationally efficient", which means that markets have the capacity to reflect instantaneously any information into the stock prices. Market efficiency requires that at the moment of M&A, there are equally chances that the stock price of the acquiring firm will be greater than expected as lower than expected. If the acquirers' stock prices are not reacting immediately after the announcement, we will conclude that the efficient market hypothesis does not hold.

The stock market over-reaction hypothesis states that a stock price usually reverses itself after the stock price rapidly increased or decreased. If this hypothesis holds, then investors can construct profitable investment strategies and their profits can be very high.

We follow two methodologies: first, to analyze the short run reaction of the stock prices of the acquiring firms following the announcement date, and second, to test, for the same set of companies, the long-run reaction to the announcement. In the end, we test our results for fixed effects, using a regression that takes into account all the variables that could influence the results obtained in my analysis.

To find whether there are abnormal returns caused by M&A announcements, the methodology of our paper has three important steps.

The first step in this analysis is to compute the cumulated abnormal returns for the short horizon analysis and the buy-and-hold abnormal returns of the acquiring firms for the long run analysis. For doing this, we have to estimate the expected return of each acquirer included in the sample, using a market model, based on the following formula:

$$E(R_{it}) = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \quad (1)$$

where  $E(R_{it})$  = the expected return on stock  $i$  at time  $t$ ,  $R_{mt}$  = the return on the market portfolio at time  $t$ .

We will measure the effect of M&A announcements on the acquirer's stock price by calculating the cumulative abnormal returns (CAR) over different event windows: (-1;1), (-3;3) and (-5;5). For doing this, we will need a measure of the abnormal return, which is:

$$AR_{it} = R_{it} - (\alpha^{OLS} + \beta^{OLS} R_{mt}), \quad (2)$$

where:  $AR_{it}$  = the abnormal return for stock  $i$  at time  $t$ ,  $R_{it}$  = the actual return on stock  $i$  at time  $t$ , and

$\alpha^{OLS}$  and  $\beta^{OLS}$  are the ordinary-least-squares estimates of the market model parameters.

In order to examine if there is short-run over-reaction in the case of our sample, we determine, after computing the abnormal returns for each stock  $i$ , the average abnormal return during time  $t$ . Now, we can calculate the cumulative abnormal return as follows:

$$CAR_t = \sum_{i=1}^T AR_i. \quad (3)$$

We will compute the cumulated abnormal returns through time, only for one security, and across securities (at the aggregate level, including all the securities). For the aggregation through time, we need to sum up the cumulative abnormal return for all the securities:

$$\overline{CAR}(\tau_1, \tau_2) = \frac{1}{N} \sum_{t=\tau_1}^{\tau_2} CAR_i(\tau_1, \tau_2). \quad (4)$$

In the end, CARs will be used in computing the  $t$ -test, a statistical test for the whole sample to find whether  $CAR_t$ s are statistically different from zero. It will be computed for each category that is analyzed (type of M&A, acquirer's size and means of payment).

$$t_{CAR} = \frac{CAR_{t_1, t_2}}{\frac{\sigma_{CAR_{t_1, t_2}}}{\sqrt{N}}}, \quad (5)$$

where:  $\sigma_{CAR_{t_1, t_2}}$  is the standard deviation of the cumulative abnormal return during event window, and  $N$  is the number of observations included in the sample.

Because we want to measure also the long-horizon reaction of firm's stock prices to M&A announcements, we need to take into account a post-announcement window of at least one year and to calculate the buy-and-hold abnormal returns (BHAR). Buy-and-hold abnormal returns method is a useful measure for long-term performance of the firm. Barber and Lyon (1997) state that the BHAR method is better than the CAR method because it accurately takes into account the wealth effects of the long-term investors.

$$BHAR_{i, \tau} = \prod_{t=1}^{\tau} (1 + R_i) - \prod_{t=1}^{\tau} (1 + E(R_i)). \quad (6)$$

Finally, we compute the average BHAR, using the following formula:

$$\overline{BHAR}_{\tau} = \frac{1}{N} \sum_{i=1}^t BHAR_{i, \tau}. \quad (7)$$

#### Regression analysis

Because it may not be very clear whether the type of M&A the means of payment and the size of the firm are, all together, affecting or not the post-M&A returns, we need also a model which will help me to capture the effects of the type of the M&A (cross-border or domestic), the acquirer's size and the method of payment. This is the second step in our methodology. For doing this, we will use the following regression model for each of the used event windows:

$$\text{Post - M \& A abnormal return}_i = \alpha_i + \beta_1 \cdot \text{cross - border M \& A dummy}_i + \beta_2 \cdot \text{small dummy} + \beta_3 \cdot \text{large dummy} + \beta_4 \cdot \text{cash dummy} + \beta_5 \cdot \text{shares dummy}, \quad (8)$$

where:

1. the dependent variable is the *Post-M&A abnormal return*,
2. the *cross-border M&A dummy* variable equals 1 if it is cross-border and 0 if it is domestic,
3. the *small dummy* variable is 1 if the acquirer is small and 0 otherwise,
4. the *large dummy* variable is 1 if the acquirer is large and 0 otherwise,

5. the *cash dummy* variable is 1 if the acquirer pays with cash and 0 otherwise,
6. the *shares dummy* variable is 1 if the acquirer pays with shares and 0 otherwise.

## 5. Empirical results

### 5.1. Returns to bidding firms

The average cumulative abnormal returns to the bidding firms are shown in Table 2 in which we have also indicated the number of observations that formed the sample and the values for the *t*-test applied to the average returns obtained in our analysis. The results are consistent with those found in the financial literature about stock price reaction at M&A announcements, presented in Section 3.

For the short-run analysis, the announcements of a merger or acquisition are, in all the cases, associated with insignificant cumulative abnormal returns. If for a one-year period, the BHARs have both significant and insignificant values, for the two-year period, all the returns for the bidding firms are statistically significant different from zero. This is a proof of the market over-reaction and violation of EMH. Our results are consistent with the existing literature about M&As, as in Loderer and Martin (1990) or Rau and Vermaelen (1998).

As it concerns the sign of the average cumulative abnormal returns, for the overall sample of M&As, the results indicate positive short-term CARs and negative long-term returns to the bidding companies. The same results have been obtained also by Asquith (1982), who explains that in the period around the announcement date, the returns for the overall mergers are small, positive and insignificantly different from zero. In contrast, for a longer period of time, it can be observed that the majority of the BHARs are significantly distinct from zero at a level of 5%. For a period of two years after the announcement, the *t*-test is -6.98, which means that the BHAR is negative and significantly distinct from zero.

When the sample is broken up into different categories, there appear some changes in the acquirer's returns when we compare them with the overall M&As results. Analyzing the first category of data, cross-border and domestic, we found that the short-run CAR are still insignificantly different from zero, positive in the case of the domestic M&As and negative in the case of cross-border announcements. The same results were obtained by Eun et al (1996) who find that, for a period of 11 days after the announcement, the average stock returns in the case of the bidding companies is -1.2%, insignificantly distinct from zero.

For the long-run examination, we obtained negative and significant results for domestic M&As while, in the case of cross-border M&As, the BHARs are insignificant for the first year data but significantly distinct from zero at the level of 5% for a two-year period. Our results are consistent with those found by Limmack (1991), who obtains a CAR of -8.06% for an event window of two years, returns that are significantly distinct from zero.

The differences between the large, medium and small acquirers are evident: while the short-run results for all the categories are negative and insignificant, the long-term results are negative and significant for all the cases with the exception of medium and small size firms for the first year, which are negative but insignificantly different from zero. A conclusion can be obtained from these results: the small acquirers overperform the large ones. These figures are coherent with those found by Franks et al (1991) and with the study written by Loughran and Vijh (1992).

Finally, for the acquirers that pay with different means of payment, we obtained negative and insignificant short term results for cash and shares, while, for "mixed" category, the CAR are positive and also insignificant. About the long-run results, we can say that in all the cases the *t*-test showed that the stock returns are negative and significantly distinct from zero, with the exception of one year BHAR for the "shares" category which has positive and insignificant result. In the short run, our results are similar with those found by Franks et al (1991). On the other hand, for a longer period of time, our results are different from the results obtained by Loughran and Vijh (1997) who find that the performance of cash bidders is strong, with positive abnormal returns. But, in the same time, these authors obtained the result that the long- run performance of stock acquirers is weak,

with negative and significant abnormal returns (the same results have been obtained also in our study).

Also, we have found that the positive returns for the domestic M&As, in the case of the three short-time event windows, are split up into positive and insignificantly different from zero results of the medium and small acquirers and negative abnormal returns for the large acquirers. The long-run abnormal returns are explained by the same sign results for all the three categories, the only difference being the fact that the medium and small firms have insignificantly different from zero BHARs for the first year of data.

About the results for the domestic M&As depending on the method of payment, the results show that all the categories have positive and insignificant different from zero short-term results, while the long-term results are negative and significantly distinct from zero in all cases except the one-year BHARs for cash and shares payments.

For the cross-border M&As, the situation is reversed. In fact, the results obtained for the cross-border events can be explained by a negative and insignificant result for the short-term CARs in the case of medium and small companies, but a positive result for the large companies and by negative and insignificant results for one-year data and negative, but significant results for two-year period.

**Table 2. Cumulative abnormal returns to the bidding firms for each of the analyzed categories**

		(t-5;t+5)	(t-3;t+3)	(t-1;t+1)	(t;t+250)	(t;t+500)
<b>All mergers</b>	N	140	140	140	140	113
	CAR	0.0057	0.0023	0.0075		
	BHAR				-0.1435	-0.8634
	t-test	0.1815	0.0760	0.2754	-1.8524	-6.9826*
<b>Domestic</b>	N	70	70	70	70	57
	CAR	0.0197	0.0224	0.0157		
	BHAR				-0.2624	-1.0563
	t-test	0.4274	0.4983	0.3756	-2.8970*	-5.8004*
<b>Cross-border</b>	N	70	70	70	70	56
	CAR	-0.0084	-0.0179	-0.0007		
	BHAR				-0.0245	-0.6669
	t-test	-0.2009	-0.4771	-0.0222	-0.2017	-4.0264*
<b>Large</b>	N	48	48	48	48	39
	CAR	-0.0041	-0.0025	-0.0034		
	BHAR				-0.1937	-0.4628
	t-test	-0.1202	-0.0773	-0.1091	-2.3065*	-3.0506*
<b>Medium</b>	N	55	55	55	55	44
	CAR	-0.0039	-0.0061	-0.0071		
	BHAR				-0.1203	-0.8316
	t-test	-0.0910	-0.1454	-0.1905	-0.9831	-4.7530*
<b>Small</b>	N	37	37	37	37	30
	CAR	0.0326	0.0210	0.0432		
	BHAR				-0.1127	-1.4307
	t-test	0.4190	0.2842	0.6444	-0.6144	-4.7788*
<b>Cash</b>	N	74	74	74	74	57
	CAR	0.0134	0.0020	0.0079		
	BHAR				-0.1754	-0.6840
	t-test	0.3735	0.0637	0.2804	-2.1166*	-5.0847*
<b>Shares</b>	N	30	30	30	30	27
	CAR	-0.0072	-0.0047	0.0101		
	BHAR				0.0668	-1.0672
	t-test	-0.0802	-0.0534	0.1230	0.2952	-3.3095*
<b>Mixed</b>	N	36	36	36	36	29
	CAR	0.0005	0.0086	0.0045		
	BHAR				-0.2530	-1.0262
	t-test	0.0108	0.1991	0.1330	-2.1291*	-4.4598*

\* t-test is significant at the 5% level based on a two-tailed test

\*\* t-test is significant at the 5% level, but insignificant at the 1% level based on a two-tailed test

The method of payment is another variable entitled to explain the results obtained for the cross-border M&As. More precisely, the negative short-run results can be explained by the same sign results in the case of the acquirers that paid with shares or another mixed method of payment, while the cash



category has positive and insignificant CARs. In the case of the cross-border events, it is very important to observe that for shares and mixed, the long-term results are also negative and insignificant.

**5.2. Regression analysis**

Table 3 presents the main results of the regression function presented in Section 4. In this table are presented the parameter estimates of the applied model and the *t*-test for the significance of these parameters. Also, there appears a test of autocorrelation which shows that in the analysis does not appear first order autocorrelation between the variables of the regression. This means that the model explains correctly the variables used in our empirical analysis.

**Table 3. The regression results in the case of cross-border M&As**

Independent Variables	Event windows				
	(-5;5)	(-3;3)	(-1;1)	(0;250)	(0;500)
<b>Intercept</b>	0.042398	0.038664	0.05819	-0.01336	0.445068
<i>t</i> -test	1.121346	1.118896	<b>2.002046**</b>	-0.057342	0.967304
<b>Cross-border<sup>a</sup></b>	-0.03279	-0.045203	-0.018942	0.245735	0.322611
<i>t</i> -test	-1.108148	<b>-1.671499*</b>	-0.832731	1.347715	0.4083
<b>Small</b>	0.063624	0.0685	0.070937	-0.064261	0.957438
<i>t</i> -test	<b>1.685133*</b>	<b>2.64**</b>	<b>2.444054**</b>	-0.276208	<b>2.073779*</b>
<b>Large</b>	-0.046043	-0.024821	-0.05614	-0.132085	0.978691
<i>t</i> -test	-1.2444	0.4647	<b>-1.973842*</b>	-0.579349	<b>2.038353**</b>
<b>Cash</b>	0.02962	0.014174	0.007539	-0.274952	0.372592
<i>t</i> -test	0.880793	0.6457	0.291638	-1.32684	0.3822
<b>Shares</b>	0.024554	0.018454	0.030658	0.2014	0.4376
<i>t</i> -test	0.51225	0.430674	0.85212	0.47090	0.7654
<b>Autocorrelation</b>	0.014				

\*significant at a 10% level

\*\*significant at a 5% level

<sup>a</sup> the results in the case of cross-border dummy variable can be interpreted as follows: a cross-border M&A announcement will have as a result a decrease with 0.033 units in the acquirer's returns. In the case of domestic transactions, the situation is the opposite: one domestic transaction will have a positive impact, equal to 0.033 units, in the acquirer's returns.

The coefficient estimates for the dummy variable used in the case of the type of the transaction are significant only for the cumulative abnormal returns computed for the event window (-3 ;3). This means we can not show that the type of M&As influences very decisively the abnormal returns obtained so far. But, as it was expected because of the results in Section 4, the estimated coefficients show that the companies that acquire foreign firms have negative gains in the short run, while the domestic transactions determine positive gains for the acquiring company. But, in the case of a longer horizon, companies that acquire foreign firms have larger gains than the domestic acquirers.

In contrast, if we are looking at the acquirers' size, we observe that all the three categories influence in a significant way the cumulative abnormal returns (respectively the BHARs in the long-run). This is true especially for the small companies which have a high value of the *t*-test for all the event windows, an

exception being the one year period. This result may appear because, in general, small acquirers obtain positive abnormal returns after the release of an announcement of merger or acquisition. Moeller et al (2003) find similar results in their study, their conclusion being that the size effect is robust in analyzing the acquirers' stock returns.

The method of payment is another set of variables that does not significantly influence the abnormal returns calculated in the previous section. For a period of one year, the cash payments are associated with a decrease in the value of the gains for the acquirers. But, for the other event windows, the estimated coefficients show a positive but insignificant influence of all the methods of payment over the calculated cumulative abnormal returns. This result is coherent with that found by Biswas et al (1997) who demonstrate that the method of payment is not an important variable in determining the abnormal returns that the acquirers' would gain in the case of a M&A transaction.

## 6. Conclusions

The results obtained indicate that the investors have a positive, but insignificant reaction in the first days of the announcement in the case of domestic M&As which is an evidence of better performance of the domestic M&As compared to cross-border M&As. Also, positive cumulative abnormal returns exist, in the short-run, when the acquirers are small companies and when the means of payment are cash or mixed. For the rest of the categories, there appear to be a negative reaction of the investors. All the positive figures tend to be reversed after a longer period of time, when the calculated BHARs have negative values, a sign for the market over-reaction after the announcement.

The large and negative long-term abnormal returns are inconsistent with the efficient market hypothesis. The results suggest that the stock returns of the acquiring firms are usually underestimated. The over-reaction hypothesis, which states that a stock price usually reverses itself after the stock price rapidly increased or decreased, is sustained by my results but only in the long run.

As we emphasized in Section 3, there are reasons that can explain the fact that in the long-run, on average, the negative and significant bidder companies' underperformance signals persistent over-reaction. One of them can be the fact that new information that affect the stock returns in the years following the announcement can not be isolated from the information we need. Another reason can be that, before the announcement and in the first days after the announcements, the market participants have a favorable opinion about the future evolution of the firm's stock prices, but as the time passes, their expectations are revised, resulting in a decrease of the stock returns.

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## CAPITAL ACCOUNT LIBERALIZATION IN ROMANIA

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**Abstract:** *Capital account liberalization is a complex process and its success requires proper sequencing and coordination with macroeconomic and other policies. Reflecting varying approaches and initial conditions, some countries have been able to liberalize their capital accounts while successfully maintaining financial sector stability, whereas other countries have experienced financial crises. In this paper, we analyze the impact of liberalization process, foreign currency, inflation and interest rate on Romanian capital account during April 2005- April 2008, respectively April 2005- January 2011. We find that liberalization process had a positive impact on capital account in both samples.*

**Key words:** capital account liberalization, foreign exchange, inflation, interest rate

**JEL classification:** E22, F31, P24, E43

## 1. Introduction

In the late 1980s developing countries from all over the world began easing restrictions on capital flows. A decade later many of the same nations experienced a string of financial crises, triggering a debate over the relative merits of capital account liberalization as a policy choice for developing countries. Critics claim that liberalization brings small benefits and large costs (Bhagwati, 1998; Rodrik, 1998; Stiglitz, 1999). Recent surveys document evidence to the contrary. Liberalization in developing countries reduces the cost of capital, temporarily increases investment, and permanently raises the level of gross domestic product (GDP) per capita (Henry, 2007; Obstfeld, 2007; Stulz, 2005).

Capital account liberalization remains one of the most controversial and least understood policies of our day. One reason is that different theoretical perspectives have different implications for the desirability of liberalizing capital flows. Another is that empirical analysis has failed to yield conclusive results. Figure 1 presents the linkages through government finances and policy choices on the one hand and through industrial and personal access to credit on the other.

Cobbam (2001) defines capital account liberalization as the process of removing restrictions from international transactions related to the movement of capital. It can involve the removal of controls on both domestic resident of international financial transactions and on investments in the home country by foreigners. Capital account liberalization, in broad terms, refers to easing restrictions on capital flows across a country's borders. This presumably results in a higher degree

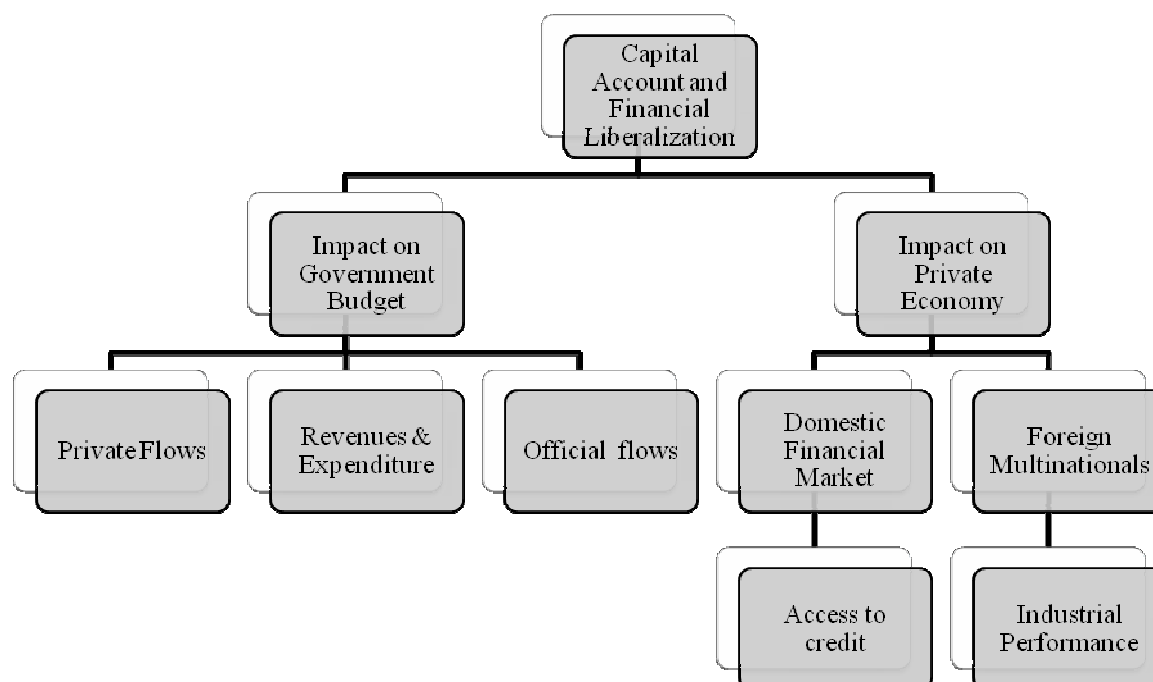
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of financial integration with the global economy through higher volumes of capital inflows and outflows. Capital account restrictions can take different forms including: limiting domestic banks' foreign borrowing, controlling foreign capital that enter into the economy, limiting the industry sectors in which foreigners can invest, and restricting the ability of foreign investors to repatriate money earned from investments in the domestic economy.

The central point of capital account liberalization is that it moves developing countries from a steady state in which their ratios of capital to effective labor are lower (and rates of return to capital are higher) than in developed world, to a steady state in which capital-to-effective labor ratios and rates of return equal those in the developed world (Henry and Sasson; 2008).

**Figure 1: Stylised linkages of capital account liberalization**



Source: Cobbam (2001)

Capital account liberalization can improve economic growth, can have favorable effects on the domestic financial system and can support an efficient allocation of resources. These benefits can be obtained provided that capital account liberalization is carried out with an appropriate sequencing of reforms and supported by a sound and sustainable macroeconomic environment: improved international allocation of savings, technology transfer, efficiency and strength of the financial system; liquidity and smoothing of cycles, risk diversification and resilience to shocks, greater market orientation, higher domestic investment and higher growth, respectively lower waste of resources and corruption (Ishii and Habermeie, 2002).

Capital account liberalization involves some risks. It introduces additional risks specific to capital movements, respectively it affects financial sector stability much as domestic financial liberalization does. If capital account liberalization is not appropriately sequenced and coordinated with complementary policies and reforms, it is possible that risks may arise. These risks regard fields such as: capital flows and crisis, macroeconomic disturbance, structural factors, government involvement in the financial sector.

In theory, capital account liberalization should allow for more efficient global allocation of capital, from capital-rich industrial countries to capital-poor developing economies. This should have widespread benefits—by providing a higher rate of return on people's savings in industrial countries and by increasing growth, employment opportunities, and living standards in developing countries.

Access to capital markets should allow countries to “insure” themselves to some extent against fluctuations in their national incomes such that national consumption levels are relatively less volatile (Kose and Prasad; 2004). Since good and bad times are not synchronized across countries, capital flows can, to some extent, offset volatility in countries’ own national incomes.

Capital account liberalization may also be interpreted as signaling a country’s commitment to good economic policies. For a country with an open capital account, a perceived deterioration in its policy environment could be punished by domestic and foreign investors, who could suddenly take capital out of the country. This provides a strong incentive for policymakers to adopt and maintain sound policies, with obvious benefits in terms of long-term growth. Inflows stemming from liberalization should also facilitate the transfer of foreign technological and managerial know-how and encourage competition and financial development, thereby promoting growth.

The paper is structured as follows. Section 2 presents a brief survey focusing on capital account liberalization in Romania. It discusses about the process of liberalization, the main key vulnerabilities of Romanian economy associated to capital account liberalization, respectively the process stages. Section 3 outlines the estimation method. Section 4 describes the data and presents preliminary statistics for the data. Section 5 discusses the estimation results. Section 6 draws conclusions regarding the experience lived by Romania during capital account liberalization and a few proposals.

## **2. The process of capital account liberalization in Romania**

In the perspective of the European Union, Romania has pledged to liberalize capital flows in accordance with Article 56 of the European Community Treaty; this article prohibits any restriction on capital movements between Member States or between Member States and third countries. Liberalization of capital flows in the European Union was achieved mainly as a result of applying the Treaty of Maastricht (1992) that provides complete liberalization of capital flows as a precondition for the introduction of euro currency.

Although the liberalization of capital flows in Romania started in 1991 with the adoption of Foreign Investment Law (No. 35/1991) which allows foreign investments in Romania, providing guarantees and incentives for foreign investors, the liberalization stage of capital flows was made in 2001 in the context of EU accession preparation.

An important step in the liberalization process was conducted in March 1998 when Romania assumed the obligations stipulated in Article VIII of the International Monetary Fund regarding the operations of current account convertibility. According to international practices and taking into account the concrete situation of Romania, the approach of capital flows liberalization is a gradual one.

The main objective is to complete the liberalization process until the EU accession date, except for the transition period required. Romania has fully accepted the *acquis communautaire* that regards Chapter 4 – Free movement of capital and has undertaken towards the European Union that it will remove all restrictions on capital flows by accession date.

The essential conditions required for the liberalization of capital transactions are: the existence of a macroeconomic framework conducive to sustained growth, eliminating major structural imbalances and the functioning of a solid financial system in an operational and settlement framework. The main key vulnerabilities of Romanian economy associated to capital account liberalization were:

*High inflation.* Inflation is perhaps the most striking difference between Romania and other candidate countries. Gradual approach of disinflation, which is inevitable because of its structural components, makes it difficult to quickly reduce the high real interest rates. Moreover, exchange rate scheduled appreciation is likely to increase risks associated to increased capital mobility. The high level of real interest rate and real exchange rate appreciation attract more foreign currency denominated credit for Romanian banks and companies, thus widening the spectrum of overexposure and possible bankruptcies in the chain.

*The low level of monetization and financial intermediation.* Among the EU candidate countries, Romania had the lowest proportion of M2, domestic credit and market capitalization to GDP (which reflects the insufficient development of the banking sector). In connection with capital account liberalization, low monetization increases the marginal impact of additional capital flows: at a given level of capital inflows, the lower monetization, the greater macroeconomic impact in terms of the exchange rate and monetary conditions.

*High volatility of short-term capital flows.* Romania has the highest volatility of private capital flows on short term from the entire region, and knows the large variations of the short-term capital flows and the medium and long term capital flows ratio. This suggests the need for a gradual approach of capital account liberalization, in which long-term flows should be liberalized before short-term ones, in order to stabilize, in the first stage, capital flows.

*Insufficient restructuring of the real sector.* Despite the relatively high share of private sector to GDP, the reducing of subsidies and the level of privatization revenues as a percentage of GDP, comparable to other transition economies, we can say that overall economic performance remains significantly below the reference economies. In this context, the full liberalization of capital movements can cause a boom in financial assets. The risk of such a boom in financial assets is directly proportional to the obvious difference between the rhythm of structural reform and the speed of financial liberalization.

*Poor corporate governance* evidenced by: misalignment to the international norms of corporate governance, small-scale application of international accounting standards, the high level of arrears, and poor implementation of laws on bankruptcy. In the context of capital account liberalization, firms could turn increasingly to loans denominated in foreign currency; in the absence of adequate risk management procedures at corporate level, it can reach at overexposure and associated market risks.

*Weak enforcement of law in the financial sector.* Critical problem lies in poor implementation due to the influence of lobbyists. All banking crises in Romania have started from the fraudulent activities of the shareholders and/or administrators of those banks. The risk of fraud may be favored by capital account liberalization, expanding the channels through which capital can leak out of the country. Surveillance activity of National Bank of Romania has a history of delayed interventions in the removal of problem banks out from the system. NBR task becomes more difficult, since it must monitor and evaluate the risks derived from credit expansion.

*The state of capital markets, insurance and derivatives and their supervisory mechanisms that are not tested.* Capital account liberalization also refers to markets and market segments that have not experienced a durable period of sustainable development (some of the liberalized tools does not even exist yet). New surveillance systems, implemented after the major fraud in the past, have not reached maturity and have not been tested over several years, which may induce significant potential risks.

*Profitability sources and low efficiency of banks.* The profitability of most banks is based on revenues from the portfolio of government bonds. Capital account liberalization foresees the access of non-residents on domestic market of governments bond issued in national currency. This will affect the profitability of local banks by reducing the volume of available government bonds, because of increased competition, and by lowering their efficiency. This second effect occurs because, for foreign investors, the benchmark is much lower (relating to foreign yields), they can therefore accept a more accelerated decline of local returns. Banks are thus more exposed to adverse shocks; given that it is affected their main source of profitability and that have not yet shown a great inclination to diversify the income sources.

To cope with the pressures mentioned above, banks may be tempted to short-term external borrowing, using government securities as collateral. The situation from 2002, when banks were the primary dealers of government securities and short-term guarantees were liberalized from January 1, 2003 and no provisions to specify what assets may be used as collateral to foreign borrowing, has spurred the call to such a risky approach as an alternative to internal restructuring.

This raises the risk of a "mismatch" of maturities (long-term assets and short-term liabilities). In addition, if the returns of government securities continue the downward trend and short-term borrowing costs in foreign currency remains unchanged, the interest rate differential is likely to become negative, forcing banks to borrow more on short term. Such a risk has materialized in Turkey after capital account liberalization, and contributed to the severe financial crisis that occurred there in 2000 year (Daianu et al., 2002).

In Romania, capital account liberalization was accomplished with relative delay behind other countries in Central and Eastern Europe. Deferral of capital account liberalization has been justified by several grounds. First, the gradual approach regarding structural reforms and macroeconomic stabilization programs of the '90s was reflected in rising inflation and interest rates compared to other countries in the region and EU Member States. Second, it was deferred capital account liberalization until the restructuring of the banking system, when the financial sector became robust enough to cope with capital flows increased potential reversibility. Third, the central bank was necessary to achieve a satisfactory level of international reserves; this objective is achieved in the first half of the past decade.

The process of capital account liberalization in Romania includes three stages (Altar et al.; 2006):

*First stage 2001 -2002:* Liberalization of direct investments and real estate of abroad residents as well as personal capital flows and other capital flows (such as admission of national value titles to the cote on the external market, mortgages from the part of the foreigners applied to the residents, credits on a medium or long term for the commercial transactions or the services offered by the residents to the nonresidents);

*Second stage 2002 – 2005:* Liberalization of capital movements related to the performance of insurance contracts and other capital flows with significant influence on the real economy (which means: capital transfers for the execution of insurance contracts, transactions in foreign currency made by residents, loans with a maturity of less than a year offered by foreigners to residents, financial loans and credits offered by residents to foreigners, mortgages made by residents to foreigners, admission of the foreign assets on the Romanian capital market);

*Third stage 2005 – 2006:* Liberalization of capital transactions with impact on the balance of payments (this includes: free access of non-residents to bank deposits in national currency, to open current bank accounts in the national financial institutions by non-residents, operations with obligations and other instruments on the open market by non-residents, the right of residents to open bank accounts abroad, entire conversion of the national currency).

Applying the principles above, full capital account liberalization was completed in 2006, before Romania's EU accession, and was overlapped on the adoption of inflation targeting strategy. This strategy was implemented in 2005, after being considered for the first time in 2001, when it was mentioned in the Pre-Accession Economic Program of the Central Bank as a major option.

In Romania, control over capital operations was necessary to avoid some shocks that could appear on the market. Developing countries are exposed to large flows of speculative capital from two main reasons: the political and economical instability of these countries provide greater opportunities to win from short-term capital flows, respectively monetary policies of developing countries have more limited effects on capital movements (Beju; 2007).

### **3. Methodology**

The literature on capital account liberalization is very fast. Studies provide some mixed results on the effects of liberalization.

One of the earliest studies in this area by Alesina, Grilli and Milesi-Ferretti (1994), finds no significant effect of openness on growth. Their results are based on a study of 20 industrial countries during the period 1950 - 1990. They find that the effect on growth was small. Their study was followed by a study by Grilli and Milesi-Ferretti (1995), who also found the same negative



effect of openness on growth, by using a larger sample of 61 countries. This study was extended by Rodrik (1998) to a larger sample of countries. Also, they obtain the same results of no effect.

There are similarly a number of studies that show that liberalization has significant effects on the cost of capital, investment, and economic growth. Quinn's (1997) study showed positive results. However Quinn developed a more complex measure of capital account liberalization. He made a scale that ranged from zero to eight. Quinn considered the impact of both capital account openness and a change in openness and found a positive association to growth. His study thus suggests that the evidence of negative or no effect may have been a result of the measure of openness used. Edwards (2001) dealt with this issue, where he used lagged values of capital account openness, along with other variables as instruments, to overcome the problem of endogeneity. He still found positive results for the effect of capital account openness on growth but this is limited to high-income countries. Edison et al. (2002) find that this relation is stronger in emerging markets, especially Asia. Prasad et al. (2003) conclude that "...an objective reading of the vast research effort to date suggests that there is no strong, robust, and uniform support for the theoretical argument that financial globalization per se delivers a higher rate of economic growth."

Klein and Olivei (2008) study the impact of capital account liberalization on financial depth and economic growth in a cross-section of developed and developing countries over the periods 1986-1995, respectively 1976-1995. They found that countries with open capital accounts in the majority of these periods enjoyed a significantly greater increase in financial depth than countries in which capital account restrictions still exist.

In this study, we propose to analyze the impact of the liberalization process, exchange rates, inflation and interest rate on capital account (three of the main key vulnerabilities of Romanian economy associated to capital account liberalization). In the absence of a theoretical model that offers a clear explanation of these determinants, we construct the following regression that includes these elements:

$$KA = \alpha + \beta_1*FC + \beta_2*I + \beta_3*IR + \beta_4*LIB + \varepsilon_i \quad (1)$$

where, KA is capital account, FC- foreign currency, I – inflation, IR- interest rate, LIB- a dummy variable that takes a value of one when the capital account is liberalized, and zero otherwise.

LIB is included in the regression in order to examine the effect of liberalization process on capital account. The main focus of the estimation is on the coefficient estimate of LIB with a significant negative (positive) coefficient indicating a decrease (increase) in capital account evolution following liberalization.

#### 4. Data

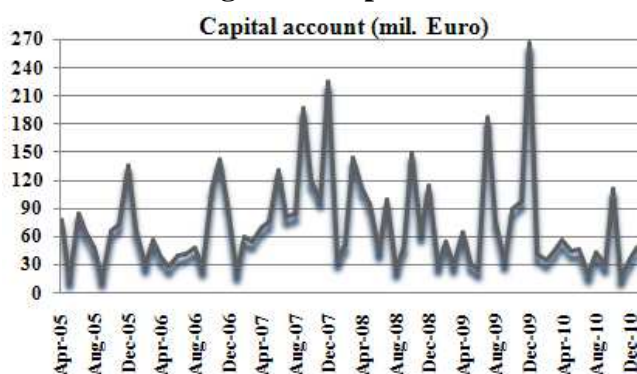
Date agreed with the European Union to liberalize the capital account was April 11, 2005 when non-residents had access to short-term deposits in RON. The process of liberalization ended in September 2006, when foreigners had access to government securities.

In this study, we choose the period April 2005 – January 2011. Taking in account the financial crisis, we share the period in two samples: April 2005 – April 2008, respectively April 2005 – January 2011. The first sample has 37 observations, and the second sample 70 observations.

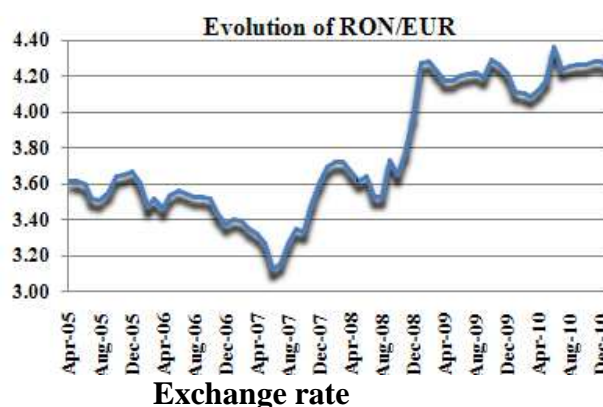
All data are monthly. Capital account is expressed in million euro (figure 2); the foreign currency is the exchange rate of RON/EUR (figure 3), inflation is monthly rate (annual rate of change) (figure 4), and for interest rate we use ROBOR (figure 5).

Romanian capital account refers to capital transfers (public administration and other sectors), respectively to the purchase or sale of intangible assets.

ROBOR is the Romanian Interbank Offer Rate. Data for capital account, exchange rate and interest rate are taken from the interactive database of National Bank of Romania (NBR), and the data for inflation is taken from the Eurostat database.

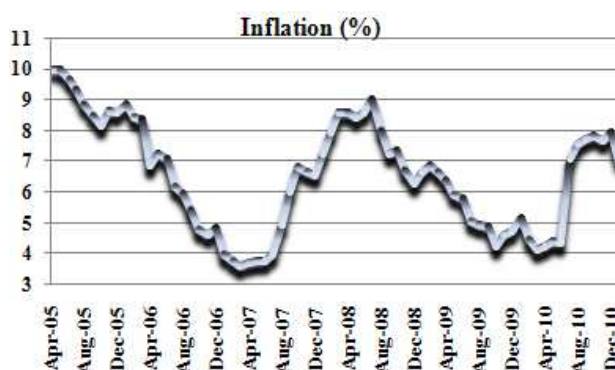
**Figure 2: Capital account**

Source: NBR

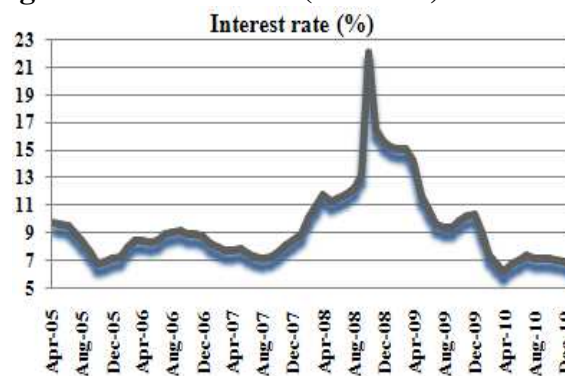
**Figure 3:**

Exchange rate

Source: NBR

**Figure 4: Inflation**

Source: Eurostat

**Figure 5: Interest rate (ROBOR)**

Source: NBR

Table 1 reports the main descriptive statistics for return series. Mean returns are higher in the first sample, exception is the exchange rate. We also observed that returns are skewed and consistently leptokurtic in both samples. The Jarque-Bera statistic is rejected for all the variables.

**Table 1: Descriptive statistics**

Sample	2005M04 - 2008M04				2005M04 - 2011M01			
	KA	FC	I	IR	KA	FC	I	IR
Mean	0.00479	0.00000	0.00004	0.00004	0.00462	0.00002	0.00002	-0.00002
Median	0.00075	-0.00003	-0.00012	0.00003	0.00071	0.00000	-0.00011	-0.00004
Maximum	0.04667	0.00048	0.00243	0.00134	0.06231	0.00073	0.00630	0.00671
Minimum	-0.00845	-0.00042	-0.00177	-0.00117	-0.00848	-0.00042	-0.00177	-0.00252
Std. Dev.	0.01315	0.00020	0.00092	0.00055	0.01342	0.00022	0.00111	0.00106
Skewness	1.63918	0.27438	0.49021	0.03930	2.00218	0.94039	2.68667	3.41005
Kurtosis	5.04622	3.12547	3.62064	3.01505	7.71869	4.32488	16.19075	24.87553
Jarque-Bera	23.02423	0.48851	2.07575	0.00987	111.71100	15.43675	591.70030	1531.40400

## 5. Empirical Results

In this section we provide evidence of the impact of liberalization process, foreign currency, inflation and interest rate on capital account.

Liberalization process has a positive and significant impact on Romanian capital account in both samples. The other three variables have different impact on capital account (table 2). In the

first sample, the euro currency and inflation had a positive, but insignificant impact on capital account, while the interest rate had a negative impact. In the second sample, the situation has changed. This difference may be due to the appearance of the financial crisis. This time, the euro currency and inflation had a negative, but insignificant impact on capital account, while the interest rate had a positive impact.

**Table 2: Empirical results**

Sample	2005M04 - 2008M04	2005M04 - 2011M01
<b>c</b>	0.004976 (0.00219)**	0.015036 (0.00164)*
<b>FC</b>	2.633529 (11.77812)	-0.535607 (7.61363)
<b>I</b>	1.226938 (2.51920)	-1.360175 (1.50166)
<b>IR</b>	-5.975821 (4.09396)	0.895789 (1.57363)
<b>LIB=1</b>	0.004791 (0.00216)**	0.004616 (0.00160)*

Notes: \*, \*\* and \*\*\* denote rejection of the null hypothesis at the 1%, 5% and 10% respectively. In parentheses are the t-Student values.

## 6. Conclusion

Capital account liberalization was initially seen as an inevitable step for poor countries economic development. This liberalization allows financial flows from capital abundant countries (where the expected returns are low) to countries with small capital (where the expected returns are high). Resource flows of liberalized countries would reduce their cost of capital, respectively will increase their investments. The main political question was not how to realize capital account liberalization, but when, before or after the adoption of macroeconomic reforms: trade liberalization and inflation stability.

Romania's case shows that capital account liberalization, if it is done before all the preconditions are fully accomplished, it will involve substantial risks and significantly complicate monetary policy. The experience lived by Romania illustrates that the use of administrative decisions, such as the debt / income ratio for households, might be efficient on short term to allow other policies to intervene in time for the correction of existent imbalances. But on long-term markets and private agents will learn how to avoid such administrative restrictions.

We propose to study in our further research if the crisis had an impact on Romanian capital account, in order to justify the differences that appear in our samples, respectively the impact of capital account liberalization on Romanian financial account.

## Acknowledgement

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## ASSETS AND LIABILITIES MANAGEMENT. ANALYZING THE EXCHANGE RATE RETURN ON USING GARCH MODELS

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**Abstract:** *The Assets and Liabilities Management (ALM) plays an important role in banking institutions, providing them with effective ways to invest capital while controlling risk. Through the operations carried by commercial banks the currency risk is present in various situations, so it is vital that they possess the right tools to measure and quantify the exchange rate risk. This paper analyze and quantify risks associated with the main currencies: Euro, dollar, yen, British pound, Swiss franc for a period of five years (2005-2011). Using GARCH methodology we build models that allow quantification and control of the currency risk in commercial banks. We also find that during this period the return on currency was minor and in the case of British pound even negative.*

**Key words:** exchange rate, assets liabilities management, GARCH model.

**JEL Classification:** G01, G21

### 1. Introduction

The current economic environment brought to the attention of the financial institutions specialists the need of a better banking supervisory and regulations, so the Basel Committee (BIS) seeks the revision of Basel Agreement and the introduction of new regulations (Basel III) and also new surveillance indicators, tightening the existing ones in the process. Although there are a large number of indicators that can be used by the national and supranational supervisory authorities the global economic crisis has shown that new regulations in this field are required. The implementation of the Basel II recommendations was made in the European Union by [FSA, 2009]: Capital Requirement Directive 2006/48/EC (CRD), Capital Adequacy Directive 2006/49/EC (CAD). CRD aims to ensure the financial soundness of credit institutions (banks, investment firms, etc.), it stipulates the value of their capital needs that they must hold to cover risks and protect depositors [FSA, 2009]. Basel II was implemented by the CRD from 1 January 2007 and is based on three pillars [International Convergence of Capital Measurement and Capital Standard, 2004]

- Minimum Capital Requirements. Which follows the levels of the minimum capital of the banks, the credit risk, operational risk, market risk.
- Supervisory Review Process. Which treats with the risk management and supervisory review.
- Market discipline. Completes the first two pillars by developing ways of disseminating information to participants in financial markets, providing them with necessary information on the levels of capital, risk exposure and risk management.

The evolution of the global economy, with the increasing global interconnectivity and the development of securitization, and especially the economic crisis has made the CRD and Basel II to become obsolete, the new economic situations requiring new tools and rules to meet current challenges generated by the economic crisis. Thus from 2011 will come into force the CRD 2 and CRD 3 amendments which complement and update CRD / Basel II, while another amendment - CRD 4- is in talks to be evaluated and then implemented in the future.

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In this context, the role of the "risks management" within the bank institutions and the Assets/Liability Management Committee is in the attention of the specialists. The financial risks represent the probability that an unexpected future event generate financial losses, having as effect the non-fulfillment of the financial objectives [Ziembra, 2006], the financial risks can be divided in the following categories: capital risk, credit risk, market risk, liquidity risk, operational risk. Market risk is defined as the risk appearing as a result of the modification of the assets and liabilities prices on the market. The market risk comprises: interest rate risk, currency risk, the risk of the assets price fluctuation, merchandise risk.

The Assets/Liability Management (ALM) can be defined as follows:

1. Strategic management of the balance for the purpose to optimize/minimize the variability of the net income from interests and the market value of the bank capital taking into account all the risks on the market [Golosoiu, 2010];
2. Maximization of the incomes, adjusted according to the risk, given to the shareholders on long term.

The purpose of the ALM depends on the risk management by using methods and techniques leading to a quantification of the existent and probable risk for a better understanding of the challenges the financial institution is dealing with. It is undertaken a good planification of the liquidities both on short and long term, it is realized the intern transfer of the funds, the planification and the allocation of the capital, the analysis of the profit, as well as the management of the trading risk. The management of the trading risk becomes very important, taking into account the fact that in the current economic crisis the banks have confronted high level of losses because of the losses suffered as a result of the exposures on the derivative markets, especially through the transaction CDS (Credit Default Swap) and CDO (Collateral Debt Obligation).

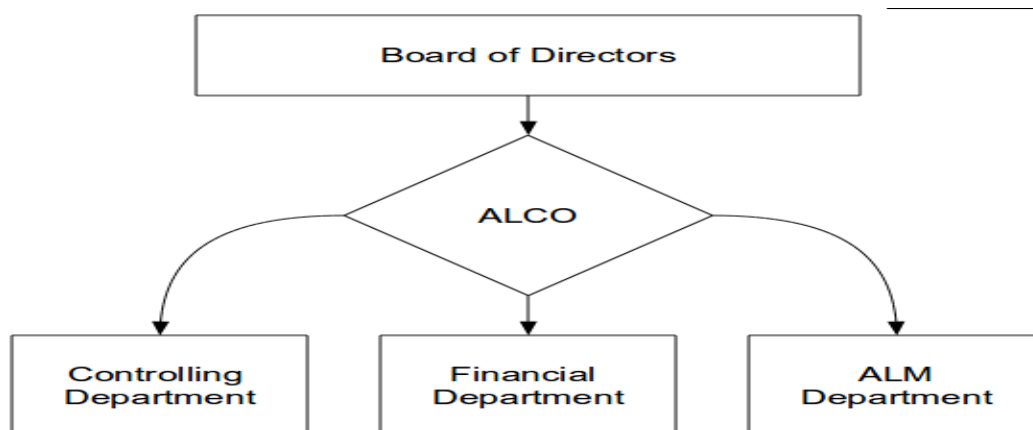
The implementation within the financial institutions of the assets and liability management is realized through:

- The active coordination/surveillance from the highest level of management (board);
- Proper policies, procedures, limits;
- A proper evaluation, monitoring and management of the risks;
- An ample internal control.

Within the ALM, it is the Assets/Liability Management Committee (ALCO) which establishes the risk level accepted by the financial institution, as well as the risk/profit report. The role of the Assets/Liability Management Committee is to act as an intermediate between the departments of the organization, gathering information within the Financial Department regarding the accomplishment of the established objectives, uses the models put at the disposal by the Analysis and Prognosis Department in order to issue qualified recommendations to the Administration Council of the Financial Institutions, the Board taking the final decision regarding the accepted risk levels. The bank risks modeling can be realized both by using accounting information from financial situations or if not available by using Monte Carlo simulations [Trenca, I & Benyovszki, A, 2009].

The starting point of the analysis of the exchange rate evolution is the theory of purchasing power parity (PPP), but the researches in this field have shown the application limits of this theory [Guglielmo&Luis,2010], the main critics brought to this theory being given by the reduced relevance of the obtained methods and the necessity to use large amount of data series. One of the problems of the researchers refers to the structure of the data series on the financial markets (because these are generally leptokurtic, the moment of the order 3 of the series is much bigger than in the case of normal distribution), leading to an increase of the probability of the appearance of extreme phenomena, but at the moment of the ARCH models development [Engel, 1982] and then the GARCH generalization [Bollerslev, 1986] it lead to the appearance of some instruments enough advanced to model the financial series. The appearance of the GARCH models lead to a better understanding and a modeling of the evolution of the financial series, developing both in univariate and multivariate models [Bauwens, 2006].

**Fig.1. ALCO's role in top management**



The evolution of the Romanian exchange rate has been analyzed being used the GARCH modeling by Codirlasu [2001] on the series ROL/EURO and ROL/DOLAR for the period 2000-2001, being remarked the fact that the series follow an asymmetric ARCH process. Using available series during the period 1999-2003, Necula [2008] applies the GARCH and the Copula-GARCH modeling, concluding that the dynamic models of the type Copula-GARCH bring more information and stability concerning the obtained results.

Continuing the series of the researches in Romania, the paper proposes the analysis of the evolution of the exchange rate of 5 currencies, for the period 2005 and up to present, using the series modeling by means of the ARCH and GARCH methods.

**2. Modelling the exchange rate return**

**2.1. Methodology and data**

The analyzed series are 5 currencies: Euro, dollar, British pound , Japanese yen and Helvetian franc, the analyzed period is between January 3, 2005 and February 22, 2011, daily series; the date are obtained from Romanian National Bank official site [www.bnro.ro](http://www.bnro.ro) and the software packaged used is GRETL, in order to obtain returns form the daily date we apply the following transformation:

$$r = \log (\text{curs}_t) - \log (\text{curs}_{t-1}) .$$

The ARCH models developed by Engel [1982] have the following equations:

$$y_t = \beta_0 + e_t \tag{1}$$

$$e_t | I_{t-1} \sim N(0, h_t) \tag{2}$$

$$h_t = \alpha_0 + \alpha_1 e_{t-1}^2, \alpha_0 > 0, \quad 0 \leq \alpha_1 < 1 \tag{3}$$

The equation(1) expresses the series evolution, a following a normal distribution law of conditional equations (2) and (3). Equations 2 and 3 express the ARCH type models, autoregressive models with different time variance, residuals follow a normal law of 0 mean and  $h_t$  variance. The value of  $\alpha_0$  and  $\alpha_1$  must be positive, and  $\alpha_1$  has a value between [0,1] in order to avoid an explosive processes, also errors(residuals) follow a normal distribution law.

ARCH models have been developed later in the GARCH (Generalized autoregressive conditional heteroskedasticity) by Bollerslev [1986], which bring the use of lags as an innovation in equation variance, equations in the GARCH (1,1) case are:

$$y_t = \beta_0 + e_t \tag{4}$$

$$e_t | I_{t-1} \sim N(0, h_t) \tag{5}$$

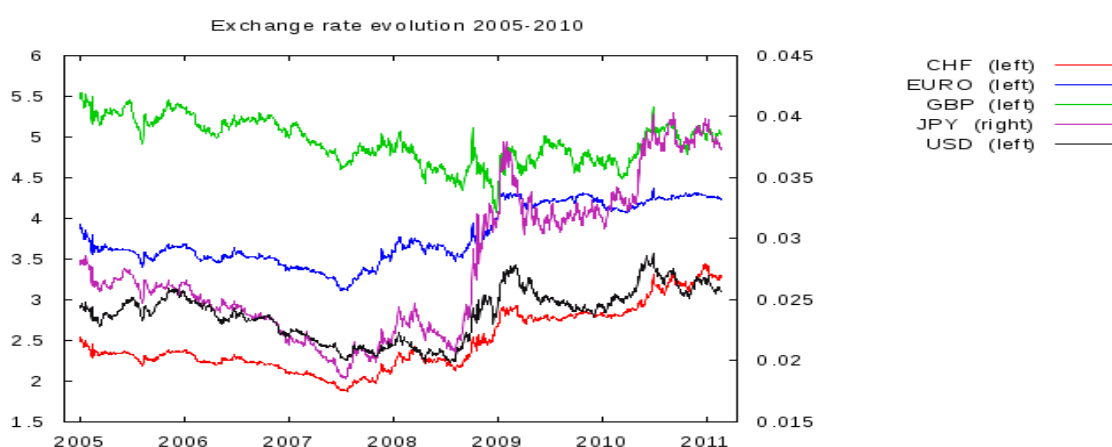
$$h_t = \alpha_0 + \alpha_1 * e_{t-1}^2 + \beta_1 * h_{t-1}, \alpha_0 > 0, \quad 0 \leq \alpha_1 + \beta_1 < 1 \tag{6}$$

- **Analyzind the exchange rate and exchange rate return**

During the analyzed period, the exchange rate RON/EURO fluctuates between a minimum level of 3.12 and a maximum level of 4.37 RON/EURO, having an average value of 3.63 RON/EURO, the square average deviation being of 0.34. The graphic analysis of the data series shows us that in case of a rate exchange evolution, this suffers great fluctuations and we can divide the analyzed period in two sub-periods:

- 2005-2007, the period during which the national currency suffers and improving period, with an average decreasing tendency
- 2007-2010, the national currency Leu suffers a sudden resettlement to a level similar to that during the period 2005, but at the effects of the international crisis the currency Leu devaluate heavily and since the beginning of 2009, this tendency flattens.

**Fig.2. Exchange rate evolution 2005-2010**

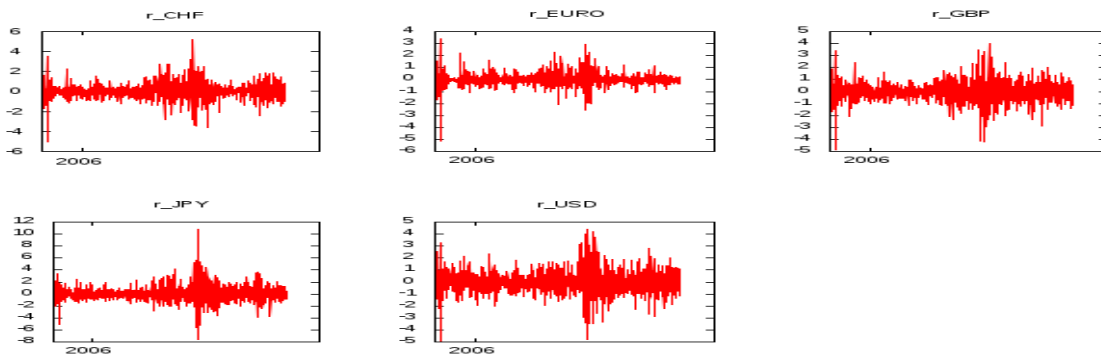


The Japanese Yen and the Swiss Frank knows the harshest appreciation during the analyzed period, the evolution of these two currencies in comparison with the currency RON is in accordance with their evolution on international level considering as well the important currencies, Euro and Dollar. Taking into account the fact that the Yen and the Frank are more stable and more certain currencies than the Euro and the Dollar, we have to consider as well the evolution of the economies lying behind these two currencies and the Eurozone and the USA. Thus, if at the beginning of the economic crisis the USA was the first economy being hit by the crisis, the later evolutions have deeply affected the Eurozone, especially through the sovereign debts, referring here to Ireland, Greece and now Portugal, countries which had to adopt austerity measures in order to control public debt.

The evolution of the five currencies efficiency during the analyzed period is positive, except the British pound, which has an average efficiency of -0.0036 during the period 2005-2010, and it is the Japanese Yen having the highest efficiency.



**Fig.3. Exchange rate return evolution 2005-210**



Returns are experiencing a high fluctuation and it can be observed the clustering phenomenon of the variation, periods of high volatility periods following them with lower volatility. With these statistical characteristics:

<b>Summary statistics, using the observations 2005/01/03 - 2011/02/22 (missing values were skipped)</b>				
<b>Exchange rate series</b>	<b>Mean</b>	<b>Median</b>	<b>Minimum</b>	<b>Maximum</b>
r_CHF	0.0165	-0.0209	-5.0280	5.2237
r_EURO	0.0048	-0.0164	-5.1064	3.3856
r_GBP	-0.0063	-0.0367	-4.8380	4.0183
r_JPY	0.0180	-0.0917	-7.5475	10.8060
r_USD	0.0043	-0.0428	-4.9684	4.4348
<b>Exchange rate series</b>	<b>Std. Dev.</b>	<b>C.V.</b>	<b>Skewness</b>	<b>Ex. kurtosis</b>
r_CHF	0.7043	42.6780	0.2936	6.6242
r_EURO	0.4925	103.4600	0.0401	12.9240
r_GBP	0.7513	118.4300	0.0649	4.8223
r_JPY	1.1339	63.0380	0.7312	9.0178
r_USD	0.8788	202.4900	0.2709	3.7355

In order to identify the best models which will be used we will have to carry out the following test:

1. test for normality, using the Jarque-Bera, Doornik-Hansen and Lilliefors test of normality which indicate that the normality hypothesis doesn't hold with an 95% probability, indicating that the series are leptokurtic.

<b>Test for normality</b>				
<b>Return on exchange rates</b>	<b>Doornik-Hansen test</b>	<b>Lilliefors test</b>	<b>Jarque-Bera test</b>	<b>p-value</b>
r_CHF	901.25	0.09	2883.87	0
r_EURO	2192.98	0.11	10891.5	0
r_YEN	1071.87	0.09	5442	0
r_Dollar	399.60	0.07	929	0
r_GBP	616.73	0.06	1517.51	0

2. Testing the series stationary using the ADF test. The ADF test examines whether the coefficient of the simple linear equation has a subunit ratio value, which is understood that the series return to there average and they are not an explosive-type processes. From the tests we conclude that the series are stationary with a probability of 99% for all five series.

<b>ADF test</b>				
<b>Return on exchange rates</b>	<b>Lag order</b>	<b>Test statistic</b>	<b>P-value</b>	
r_CHF	2	-26.10	99.00%	
r_EURO	2	-26.43	99.00%	
r_YEN	2	-24.94	99.00%	
r_Dollar	6	-14.49	99.00%	
r_GBP	2	-24.94	99.00%	

3. Testing the serial independence is performed by means of the Liung Box Q Statistics test (Appendix 1) - The used tests prove the existence of series self correlation so that we will introduce lag yields in the analysed models
4. Testing the heteroskedasticity hypothesis using the LM test.

<b>LM test</b>			
<b>Return on exchange rates</b>	<b>on</b>	<b>Test statistic</b>	<b>ARCH effect</b>
r_CHF		166.40	*
r_EURO		239.65	*
r_YEN		254.5	*
r_Dollar		187.97	*
r_GBP		211.5	*
*- ARCH effect present,**-ARCH effect absent			

**Testing GARCH models**

For the explanation of the best GARCH model we consider the lags of the yield variable as well as for the explanation of heteroskedasticity phenomenon and thus the model will look like:

$$y_t = B_0 + y_{t-1} + \dots + y_{t-n} + e_t$$

$$e_t | I_{t-1} \sim N(0, h_t)$$

$$h_t = \alpha_0 + \alpha_1 e_{t-1}^2 + \alpha_2 e_{t-2}^2 + \dots, \alpha_0 > 0, \quad 0 \leq \alpha_1, \alpha_2, \dots < 1$$

Within the models analyzed we will take into account the relevant coefficients (Student test), as well as the maximizing the Akaike and Schwarz information criteria, the starting point being the tests used (Autocorrelation and Partial Autocorrelation Functions, t Student test) which show that the return variable is influenced by the evolution over the previous period and for the variance ( the ARCH test) shows the presence of lags . Analysis of these assumptions shows that the most efficient GARCH model is:

Return series	Model	Lag r	Akaike Criterion	Schwarz Criterion
r_CHF	AR(3),GARCH(2,1)*	1,2,3	2759.56	2802.39
r_EURO	AR(2),GARCH(2,1)*	1,2	1359.64	1397.12
r_GBP	AR(2,3),GARCH(2,1)*	2,3	3079.01	3116.48
r_JPY	GARCH(1,1)*	-	4191.37	4212.80
r_USD	AR(1,3),GARCH(2,1)*	1,3	3676.78	3714.26

\* - without constant.

Based on Akaike and Schwarz information criteria the best models have been selected , thus, except for the r\_yen case where, statistically, only the variant coefficients of the equation matter statistically, the other series are influenced both by the values of previous periods the lags being 1-3 and the evolution of the GARCH component. Equations obtained are explained as follows:

Exchange rate returns	Models equation	Variance equations $h_t$
r_CHF	$r_{estimat} = 0.0747852 * r_{1} - 0.0619709 * r_{2} - 0.0715405 * r_{3}$	$h_{t\_estimat} = 0.00550368 + 0.150032 * e_{t-1}^2 + 0.0729759 * h_{t-1} + 0.772552 * h_{t-2}$
r_EURO	$r_{estimat} = 0.142198 * r_{1} - 0.0925638 * r_{2}$	$h_{t\_estimat} = 0.00459795 + 0.281182 * e_{t-1}^2 + 0.0703646 * h_{t-1} + 0.648453 * h_{t-2}$
r_GBP	$r_{estimat} = -0.0561547 * r_{2} - 0.0604602 * r_{3}$	$h_{t\_estimat} = 0.0108682 + 0.149969 * e_{t-1}^2 + 0.230284 * h_{t-1} + 0.601900 * h_{t-2}$
r_JPY	$r_{estimat} = e_t$	$h_{t\_estima} = 0.0126557 + 0.117498 * e_{t-1}^2 + 0.876873 * h_{t-1}$
r_USD	$r_{estimat} = 0.0462002 * r_{1} - 0.0579079 * r_{3}$	$h_{t\_estima} = -0.0136523 + 0.104679 * e_{t-1}^2 + 0.145654 * h_{t-1} + 0.730460 * h_{t-2}$

### 3. Conclusion

Within the ARCH model proposed for our country, the rests follow a normal law of distribution and by means of the analyzes of time series of the exchange rate we remarked that this follows an asymmetric leptokurtic law of distribution. We identify two main tendencies in the case of the exchange rate evolution, that is during the period 2005-2007 when the currency RON consolidates, having a moderate tendency and during the period 2007-2010, a period knowing a high devaluation of the national currency in 2008 and 2009 in two waves, fluctuating then between 4.1-4.3 RON/EURO. The fluctuations referring to the efficiency are higher at the beginning of 2005 and during the years 2007-2009, the first period being explained as the pre-adherence period of our country to the European Union and the large amount of capital entering our country, while during the years 2007-2009 the evolution of the efficiency is influenced by the economic crisis evolution on global level, after signing the agreement with the IMF and the central bank receiving the first installment from the IMF, which produced an active intervention on the market leading to a decrease of the exchange rate volatility.

The modeling of the time series, especially the data series on the financial markets not respecting the law  $N(m,z)$  because they are generally series with leptokurtic distributions being thus predisposed to extreme actions, is very difficult; the analysis methods and modeling are in a continuous perfection process, together with the ARIMA models developing other models such as ARCH and the generalizations resulting from this model, beside the application of different econometric tests and models being often necessary a creative approach. The analysis proposed to offer a model of inter-banking rate fluctuations ROBID and the exchange rate RON/EURO, offering a model of prognosis useful for the banks and which can be used within the financial and prognosis departments to assure the quality of the bank portfolio.

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## 5.APPENDIX

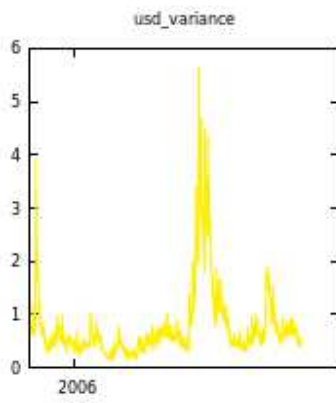
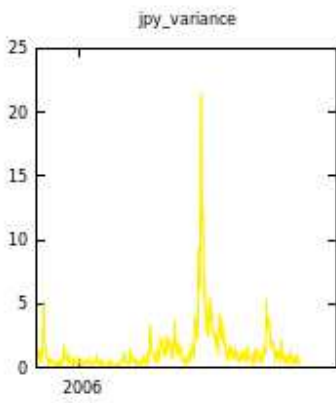
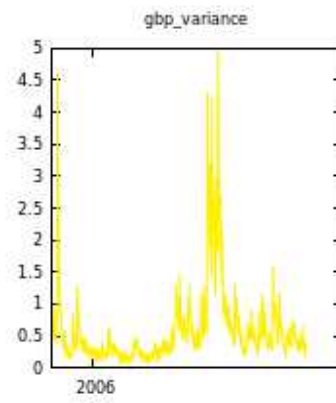
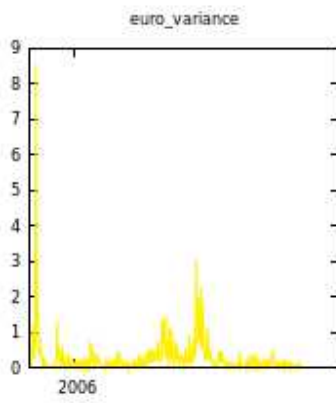
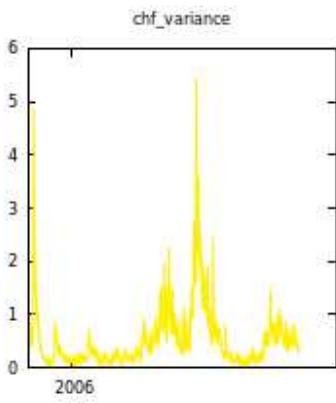
## APPENDIX 1. AC and PAC Functions

Autocorrelation for r_CHF				Autocorrelation for r_EURO			
LAG	ACF	PACF	Q-stat. [p-value]	LAG	ACF	PACF	Q-stat. [p-value]
1	0.104 ***	0.104 ***	16.9469 [0.000]	1	0.2033 ***	0.2033 ***	64.8357 [0.000]
2	-0.0705 ***	-0.0822 ***	24.7559 [0.000]	2	-0.1269 ***	-0.1756 ***	90.12 [0.000]
3	-0.1314 ***	-0.117 ***	51.8764 [0.000]	3	-0.1638 ***	-0.1052 ***	132.241 [0.000]
4	0.0054	0.0271	51.9222 [0.000]	4	-0.0119	0.0289	132.462 [0.000]
5	0.0456 *	0.0258	55.1977 [0.000]	5	0.0462 *	0.0053	135.82 [0.000]
6	-0.0158	-0.038	55.5916 [0.000]	6	0.0162	-0.0127	136.231 [0.000]
7	0.013	0.0281	55.8586 [0.000]	7	0.0248	0.0375	137.201 [0.000]
8	0.0313	0.0339	57.4003 [0.000]	8	0.0296	0.0261	138.582 [0.000]
9	0.0013	-0.0118	57.4032 [0.000]	9	0.0009	-0.006	138.584 [0.000]
10	-0.0122	-0.0031	57.6382 [0.000]	10	-0.0172	-0.0022	139.050 [0.000]

Autocorrelation for r_GBP				Autocorrelation for r_JPY			
LAG	ACF	PACF	Q-stat. [p-value]	LAG	ACF	PACF	Q-stat. [p-value]
1	0.1102 ***	0.1102 ***	19.0566 [0.000]	1	0.0327	0.0327	1.6799 [0.195]
2	-0.0919 ***	-0.1053 ***	32.2945 [0.000]	2	-0.0262	-0.0273	2.7543 [0.252]
3	-0.0806 ***	-0.0591 **	42.4843 [0.000]	3	-0.0548 **	-0.0531 **	7.4724 [0.058]
4	-0.0027	0.0042	42.4958 [0.000]	4	-0.0531 **	-0.0505 **	11.9003 [0.018]
5	0.0211	0.0078	43.1945 [0.000]	5	0.017	0.0175	12.3555 [0.030]
6	-0.0129	-0.0215	43.4559 [0.000]	6	-0.0578 **	-0.0649 **	17.6078 [0.007]
7	-0.0141	-0.0075	43.7695 [0.000]	7	0.0576 **	0.0574 **	22.825 [0.002]
8	-0.0266	-0.0259	44.8821 [0.000]	8	0.0216	0.0138	23.5573 [0.003]
9	-0.0373	-0.0368	47.075 [0.000]	9	-0.0537 **	-0.0572 **	28.101 [0.001]
10	-0.0338	-0.0327	48.8769 [0.000]	10	-0.0531 **	-0.0498 **	32.5513 [0.000]

Autocorrelation for r_USD			
LAG	ACF	PACF	Q-stat. [p-value]
1	0.0912 ***	0.0912 ***	13.0512 [0.000]
2	-0.0521 **	-0.061 **	17.3162 [0.000]
3	-0.0668 ***	-0.0569 **	24.3313 [0.000]
4	-0.0187	-0.0103	24.8819 [0.000]
5	0.0387	0.0352	27.2309 [0.000]
6	-0.0169	-0.0296	27.6818 [0.000]
7	0.0515 **	0.0589 **	31.864 [0.000]
8	0.0135	0.0052	32.1515 [0.000]
9	-0.073 ***	-0.0723 ***	40.5514 [0.000]
10	-0.0584 **	-0.0403	45.9263 [0.000]

**APPENDIX 2. Predicted error variance**



## BASEL III: COUNTERCYCLICAL CAPITAL BUFFER PROPOSAL- THE CASE OF ROMANIA

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**Abstract:** *The Basel III. framework represents a critical step in the process of enhancing the capital rules by which banks are required to operate. One of the macroprudential element contains the Countercyclical capital buffer, where the primary objective is to use a capital buffer to achieve the goal of protecting the banking sector from periods of excess aggregate credit growth that have been associated with the build up of system-wide risk. The aim of this paper is to highlight the key breakthroughs in Basel III and present the Credit-to-GDP guide, with practical application in the case of Romania.*

**Key words:** Basel III., Countercyclical capital buffer, Credit-to-GDP guide, Buffer add-on, procyclicality.

**JEL classification:** G01, G21, G28, E58.

### 1. Introduction

The first international capital standard, Basel I., was issued by BCBS in 1988, and was fully implemented in 1992 by the G-10 countries. The main objective of this was to secure the holdings of banks, so credit institutions would be capable to absorb losses from the crediting activity. This standard only addressed the exposure of banking institutions to credit risk, the amount of capital required to protect against losses by assuring that they hold a capital level of 8% of the total risk-weighted assets.

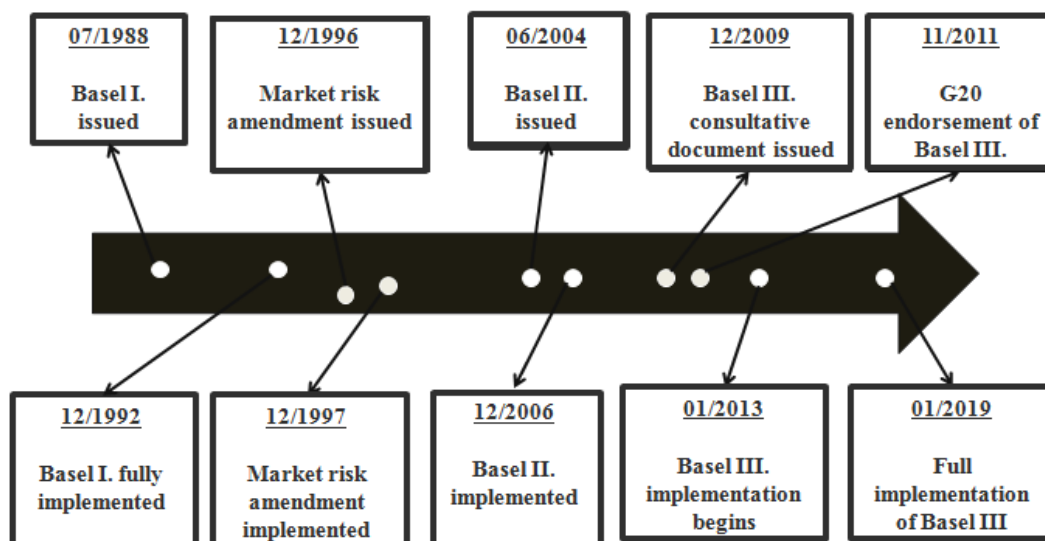
After the issue of the first agreement, there was a positive development of methods and techniques of risk assessment, so in 1996 capital adequacy to market risk has been included into Basel I. and in 2004 Basel II was issued, (as in Figure 1). Basel II. offered banks the opportunity to design their own internal models to estimate risk, and at the same time conserving the 8% capital adequacy. The first pillar revises Basel I., containing the minimum capital requirements. To establish the total capital adequacy, credit institutions have to primarily determine individual risk exposures to credit risk, market risk and operational risk, and finally add the individual exposures. The second pillar of Basel II. is focused on banking supervision, and the third pillar targets the market discipline, to motivate prudent management by enhancing the degree of transparency in banks, an important element in promoting safety and soundness of the banking system as a whole.

The main drawback in Basel II. is the fact that it doesn't take into account the correlation between risks. The assumed hypothesis is that there is perfect correlation between the different types of risk, which may overestimate the portfolio's exposure to market risk, and can lead to a higher level of capital allocation, having a negative impact on profitability. In this case in the end the bank portfolio diversification strategies are not rewarded.



Since the beginning in 2007 of the financial crisis, the real problems of the international banking system have seen the light of day, many leading banks in the United States and Europe fell one after another, being victims of crisis. The crisis has shown that problems of a single bank in a given country or a region, can affect the entire financial sector, beyond national boundaries, illustrating the shortcomings of risk estimation models. According to BCBS, the severity of the crisis was increased by the banking sector, due to the fact that credit institutions had too much exposure, increasing leverage over the acceptable levels, this being accompanied by the gradual erosion of the level and quality of capital base, together with insufficient liquidity reserves. In these circumstances the banking system was unable to absorb losses, while the crisis was exacerbated by a process known as procyclical deleveraging (BCBS, December 2010, p.9). This means the reduction of the ratio between equity of credit institutions and their debt, increasing the cost of credit further, so deepening recession. Thus, in the most severe moments of the crisis, the market lost confidence in banks' solvency and ability to generate liquidity, which has culminated in a contraction of liquidity and credit availability. This situation has been saved only by the intervention of authorities, characterized by massive injections of liquidity. The effect of the crisis was transmitted almost instantaneously to a large group of countries around the world, characterized by a contraction in global liquidity and reduction of cross-border credit supply. Given the speed with which the crisis has been transmitted, its unpredictable character and the serious effects on credit institutions and the whole economy, it is imperiously necessary for each country to improve its resilience to future internal and external shocks.

**Figure 1. Evolution of bank capital regulation**



Source: Author's processing based on Basle Committee on Banking Supervision (November 2010), Herve Hannoun: *The Basel III Capital Framework: a decisive breakthrough*, p. 2.

To address the market failures revealed by the crisis, a revised framework, Basel III. was proposed by BCBS, suggesting a more sensitive approach to the extreme and unforeseen changes in the market. These reforms are meant to strengthen the banking sector and raise the resilience of individual banking institutions to periods of stress with two different approaches, a microprudential focus and a macroprudential focus. These reforms address the system-wide risks that can build up across the banking sector as well as the procyclical amplification of these risks over time. Basel III. is an extremely important step in strengthening capital rules. The Committee considers that after its implementation, the agreement will greatly reduce the likelihood and severity of a crisis in the banking sector, while enhancing global financial stability. The main objective of this agreement is to improve the banking sector's ability to absorb shocks from economic and financial crises, thereby reducing the risk of contagion from the financial sector to the real economy.

The new agreement contains the following objectives: raising the quality, consistency and transparency of the capital base, enhancing risk coverage, supplementing the risk-based capital requirement with a leverage ratio, reducing procyclicality and promoting countercyclical buffers, introducing a global liquidity standard and addressing systemic risk and interconnectedness of banking institutions.

**Figure 2. Calibration of the capital framework**

	Common Equity Tier 1	Tier 1 Capital	Total Capital
Minimum	4.5	6.0	8.0
Conservation buffer	2.5		
Minimum plus conservation buffer	7.0	8.5	10.5
Countercyclical buffer range*	0 – 2.5		

Source: Basle Committee on Banking Supervision (December 2010), *Basel III: A global regulatory framework for more resilient banks and banking systems*, Annex 1, p. 72.

The first objective is to *raise the quality, consistency and transparency of the capital base*. According to BCBC it is essential that the exposure of banks is secured by high quality capital base, one of the fundamental problems pointed out by the crisis was the inconsistency in the definition of capital, the lack of transparency and disclosure that would have enabled the market to fully assess and compare the quality of capital between institutions. To avoid these issues BCBC introduced the expression ‘*common equity*’, this containing common shares and retained earnings. In the previous agreement credit institutions required a level of 2% of Tier I. in risk-weighted assets, while Basel III. introduces a level of 4.5% of Tier I., and 3.5% of common equity, in the same time conserving the 8% of capital adequacy. Currently Basel II. is characterized by Tier I., Additional Tier I., Tier II. and Tier III., each characterized by different intervals, a banking institution could choose his own position. The complexity in defining the capital made it difficult to determine what type of capital should be used in times of losses, reaching the situation where a bank's capital was represented by 1% of risk-weighted assets, a dangerous and uncertain situation, as demonstrated by the crisis. All these being worsened by the fact that the methodology of calculation of these funds was made by complicated rules, applying various deductions, characterized by a complete lack of transparency, making it impossible to compare the capital adequacy of individual banks. According to the new agreement from Tier I., innovative hybrid capital instruments, characterized by stimulus of purchase, such as step-up clauses, which could take up to 15% of Tier I. will be completely eliminated. These clauses, also known as triggers, according to Sebastien Levy, (2002); are complicating the valuation process of debt securities, and may also cause a sharp deterioration in the borrower's financial position. At the same time it may have destabilizing effect on the financial markets. In addition, Tier 2 capital instruments will be harmonised and so-called Tier 3 capital instruments, which were only available to cover market risks, eliminated. To improve market discipline, BCBS wants to improve the transparency of the capital base with all elements of capital required to be disclosed along with a detailed reconciliation to the reported accounts.

The second objective is to *enhance risk coverage*, in the years preceding the crisis, most banks have registered a more significantly growth rate of assets than risk-weighted assets. This suggested that banks have not fully captured the risks present in their activities. In response the reforms from Basel III. will raise the capital requirements for the trading book and for complex

securitisation exposures, also for resecuritisations instruments, both in the banking and the trading book; BCBS carrying out further research to delineate more clearly the trading of the bank itself, trying to eliminate the opportunity of arbitrage between the two.

The third objective is to *supplement the risk-based capital requirement with a leverage ratio*. One of the underlying features of the crisis was the build up of excessive on- and off-balance sheet leverage in the banking system. During the most severe part of the crisis, the banking sector was forced by the market to reduce its leverage, which amplified further the pressure on asset prices, declines in bank capital, and the contraction in credit availability. The Committee therefore introduced a leverage ratio requirement that is intended to achieve the following objectives: limiting the level of leverage in the banking sector, avoiding the deleveraging processes, which were destabilizing the entire financial system and economy. The leverage ratio is calculated:

$$LEVERAGE\_RATIO = \frac{TIER\_I}{TOTAL\_EXPOSURE} \geq 100\%$$

The fourth objective is to *reduce procyclicality and promot countercyclical buffers*. According to the Committee one of the most destabilising elements of the crisis was the procyclical amplification of financial shocks throughout the banking system, financial markets and the economy. As the amount of credits in the economy increased, which was followed by an increase in credit losses, banks have adopted a prudent position immediately, resulting in a restraining credit supply. Banking institutions were forced to further restrict their crediting activity, because even during the crisis, they considered it necessary to pay dividends or compensation, so avoiding the transmission of negative signs to markets. Their actions intensified the initial crisis, pushing the economy into a deeper recession, with declining asset prices and rising level of unproductive loans. The Basel Committee introduced measures to make banks more resilient to such procyclical dynamics. These measures will help ensure that the banking sector serves as a shock absorber, instead of a transmitter of risk to the financial system and broader economy. So we can see the great importance of the capital buffer, to protect the banking sector, ensuring that banks remain solvent through periods of crisis, but also that they maintain the flow of credit in economy in periods of stress, without their solvency being questioned.. Basel III. recommends that banks establish a level of 2.5% conservation buffer, as shown in Figure 2, the level of this depending on the ratio between common equity and Tier I. funds. Banks that report common equity between 4.5% and 5.125% must conserve 100% of the capital buffer, those between the interval 5.125% and 5.75% only 80%, with an indicator between 5.75% and 6.375 % only 60% of capital. Credit institution with the ratio between 6.375% and 7% are required to hold 40% of the capital buffer, and those with the ratio between common equity and Tier I. over 7% do not have to allocate capital for the capital buffer. A banking institution can only begin to conserve capital buffer only after having first met the initial conditions, namely the 6% of Tier I. funds and 8% of total capital.

Another measure is to establish the *countercyclical capital buffer*, which is introduced to ensure that banking sector capital requirements take account of the macro-financial environment in which banks operate. It is designed to ensure the banking system has a buffer of capital to protect it against future potential losses when excess aggregate credit growth is judged to be associated with a build-up of system-wide risk . Credit institutions will have to conserve a countercyclical buffer that varies between zero and 2.5% to total risk weighted assets. The buffer for internationally-active banks will be a weighted average of the buffers deployed across all the jurisdictions to which it has credit exposures. The two types of capital buffers are introduced for the same objective, namely to protect banking system in times of crisis.

Another important reform of Basel III. introduces a *global liquidity standard*, designed to stabilize the banking sector, BCBS considering that additional capital requirements are a necessary, but not a sufficient condition for stability. During the liquidity phase of the crisis, many banks with adequate capital levels experienced difficulties, the main reason of this being the bad management of their liquidity. Before the crisis, funding for credit institutions was available at low cost. The rapid reversal of the market conditions illustrated how quickly liquidity can evaporate from the

economy and that this state can last for an extended period of time. The banking sector came under severe stress, and in response, the Committee published in 2008 *Principles for Sound Liquidity Risk Management and Supervision*, principles that provide detailed guidance on the risk management and supervision of funding liquidity risk, and which should promote a better risk management. Two key indicators are proposed, namely the *Liquidity Coverage Ratio*-LCR, and the *Net Stable Funding Ratio*-NSFR. The two indicators have different, but complementary objectives in the supervision of liquidity risk. The LCR objective is to promote the resilience of banks in the short term against liquidity risk, by ensuring that banks possess sufficient high quality liquid assets for 30 days during a shock. The NSFR objective is to promote resistance for time horizons longer than one year, so limiting the reliance of credit institutions on short-term fundings

LCR is defined as:

$$LCR = \frac{STOCK\_OF\_HIGH\_QUALITY\_LIQUID\_ASSETS}{TOTAL\_NET\_CASH\_OUTFLOWS\_OVER\_THE\_NEXT\_30\_CALENDAR\_DAYS} \geq 100\%$$

While NSFR is equal to:

$$NSFR = \frac{AVAILABLE\_AMOUNT\_OF\_STABLE\_FUNDING}{REQUIRED\_AMOUNT\_OF\_STABLE\_FUNDING} > 100\%$$

Another objective *addresses systemic risk and interconnectedness of the banking sector*. BCBS indicates that systemically important banks are dominant players in the financial sector, and their interconnectedness could amplify shocks by bankruptcy or deterioration of their financial standing

The Basel Committee and the Financial Stability Board are developing a methodology for quantitative and qualitative that should be able to characterize the systemic importance of financial institutions at a global level, also studying the magnitude of additional loss absorbency that globally systemic financial institutions should have.

## 2. Countercyclical capital buffer proposal

As mentioned earlier, BCBS introduced Basel III., which contains the countercyclical capital buffer proposal, designed as a macroprudential tool, at the disposal of national authorities. This should be introduced when aggregate credit growth exceeds the economy's growth rate, namely when system-wide risk is building up, so ensuring that the banking sector capital requirements take account of the macro-financial environment. The primary aim of the proposal is to protect the banking sector, in this context not simply ensuring that banks remain solvent through periods of crisis, but that they also maintain the flow of credit in economy in periods of stress, without their solvency being questioned.

Each region can determine its own level of the countercyclical capital buffer, while the buffer decisions will be preannounced 12 months before its effective application, so giving banks time to meet the additional capital requirements before they take effect, while reductions of the countercyclical capital buffer will take effect immediately.

The Committee formulated five principles to guide the supervising authorities in using this tool, this is because, according to BCBS, it is essential that the use of the countercyclical capital buffer to be firmly anchored by a clear set of principles to help banks to understand the reasons behind the buffer decisions. The following principles have been formulated by the Committee:

**Principle 1:** *Buffer decisions should be guided by the objectives to be achieved by the buffer, namely to protect the banking system against potential future losses when excess credit growth is associated with an increase in system-wide risk.*

Therefore, the capital buffer is not intended to be used as a tool to manage asset prices and economic cycles, BCBS recommending that the introduction of buffer decisions to be taken only after an assessment of as many relevant macroeconomic, financial and supervisory information as possible, given that the countercyclical capital buffer adequacy may have implications on monetary and fiscal policy. The buffer can then be released when the credit cycle turns, so that the additional

capital can be used by the banking sector to absorb losses and reduce the risk of the supply of credit, these usually being constrained by regulatory capital requirements.

**Principle 2:** *The credit/GDP guide is a useful common reference point in taking buffer decisions. It does not need to play a dominant role in the information used by authorities to take and explain buffer decisions. Authorities should explain the information used, and how it is taken into account in formulating buffer decisions.*

According to BCBS the supervising authorities in each country are free to use any other variables, besides the one presented to evaluate the credit growth in the economy, the level of system-wide risk, as well as in taking and explaining buffer decision. Accordingly they can build similar methodologies similar to the Credit/GDP guides that reflect the specific behavior of their financial system. This approach does not require that this methodology should play a dominant role in this activity, but according to the Committee it should not be totally ignored.

**Principle 3:** *Assessments of the information contained in the credit/GDP guide and any other guides should be mindful of the behaviour of the factors that can lead them to give misleading signals.*

According to this principle, in the evaluation of the variables from the Credit/GDP guide, as other variables, which automatically include the analysis of a broad set of information in the introduction phase, and in the release phase, the authorities should establish if these are consistent one with each other. In the use of this indicator it is also important to consider whether if its behavior in each region may reflect the accumulation of system-wide risk properly, without sending out false information. In addition, the evolution in the long-term of the Credit/GDP indicator is a purely statistical measure, which is not able to properly capture the turning points of the cycles. Explaining the information used and how it is synthesised to reach the final buffer decisions should help understanding the proces by banks, authorities in other jurisdictions, also contributing to the credibility and transparency of the banking system.

**Principle 4:** *Promptly releasing the buffer in times of stress can help to reduce the risk of the supply of credit being constrained by regulatory capital requirements.*

The buffer can be released gradually by national authorities only in situations where credit growth slows and system-wide risk drops, but in other cases BCBC recommends the prompt releasing of it. Also they recommend indicating the length of the release phase and how long they expect to last. This should help reduce uncertainty about future capital requirements and simultaneously ensure that banks can provide capital surplus that can be used to absorb losses.

**Principle 5:** *The buffer is an important instrument in a suite of macroprudential tools at the disposal of the authorities.*

The Committee recommends the use of alternative macroprudential tools to reduce the increased system-wide risks - such as loan-to-value limits, interest rate qualification tests or sectoral capital buffers, which can be used in situations where the excess credit growth is concentrated in specific sectors, while the aggregate credit growth is considered to be normal.

### Calculation methodology

The calculation methodology presented in the Credit/GDP guide includes the following steps to determine the credit-to-GDP ratio, its deviation from its long-term trend and the level of countercyclical capital buffer:

#### 1) Calculating the credit-to-GDP ratio

$$RATIO_t = \frac{CREDIT_t}{GDP_t} \times 100\%$$

$CREDIT_t$  is a broad measure of credit to the private, non-financial sector in period t, while  $GDP_t$  represents the Gross Domestic Product. Both are defined in nominal terms for year t, and national authorities are advised to calculate this ratio on a quarterly basis.

## 2) Calculating the credit-to-GDP gap

In this phase the credit-to-GDP ratio is compared to its long term trend, this being equal to  $GAP$ . If there is a large positive gap, namely the credit-to-GDP ratio is significantly above its trend, this may denote that credit level in the economy may exceeded the economy's growth rate.

The  $GAP_t$  in period  $t$  for each country is calculated as the actual credit-to-GDP ratio,  $RATIO_t$  minus its long-term trend  $TREND_t$ :

$$GAP_t = RATIO_t - TREND_t$$

Where  $TREND_t$  is an approximation of the average of the credit-to-GDP ratio, based on the historical values of each economy. The Hodrick-Prescott filter was used to smooth the series, because it has the advantage that recent observations are given higher weights. The Hodrick-Prescott filter is a methodology of decomposing the observed series, to separate the cyclical component of a time series. It seeks to extract from the series  $y_t$ , the trend  $\tau_t$ , and its cyclical component,  $c_t$ ,  $y_t = \tau_t + c_t$ , where the cyclical component is the difference between the original series and its trend,  $\tau_t$  is a trend component that will minimize the expression:

$$\sum_1^T (y_t - \tau_t)^2 + \lambda \sum_2^{T-1} [(\tau_{t+1} - \tau_t) - (\tau_t - \tau_{t-1})]^2$$

The first term of the sum represents the squared deviations  $y_t$  from trend  $\tau_t$ . The second terms contains  $\lambda$ , and measures the sum of the squares of the trend component's second differences. This second term penalizes variations in the growth rate of the trend component. The larger the value of  $\lambda$ , the higher is the penalty. The Committee suggest a value for  $\lambda$  of 400,000, since they consider that this is an appropriate value to capture the long-term trend in the behaviour of the credit/GDP ratio .

## 3) Transforming the credit-to-GDP gap into the guide buffer add-on

According to BCBS additional capital, or the buffer add-on ( $VB_t$ ), which is expressed in percent of risk-weighted assets, is zero when the  $GAP$  is below a certain threshold,  $L$ . When the  $GAP$  varies between the minimum and the higher threshold,  $H$ , then it will be equal to its variation, and when exceeds  $H$ , the buffer will be equal with the maximum level,  $VB_{max}$ . So the lower and upper thresholds  $L$  and  $H$  represent the key point in determining the timing, and the speed of the adjustment of the buffer add-on. The Committee suggests  $L = 2$  and  $H = 10$ , considering that these may represent an optimal level, even though they depend to some extent the choice of smoothing parameter ( $\lambda$ ), the length of both series. A threshold of  $L=2$  means:

$$\left( \left( \frac{CREDIT_t}{GDP_t} \right) \times 100\% \right) - (TREND_t) < 2\%$$

and the buffer add-on in this case will be zero, while a threshold of 10 means  $H$ :

$$\left( \left( \frac{CREDIT_t}{GDP_t} \right) \times 100\% \right) - (TREND_t) > 10\%$$

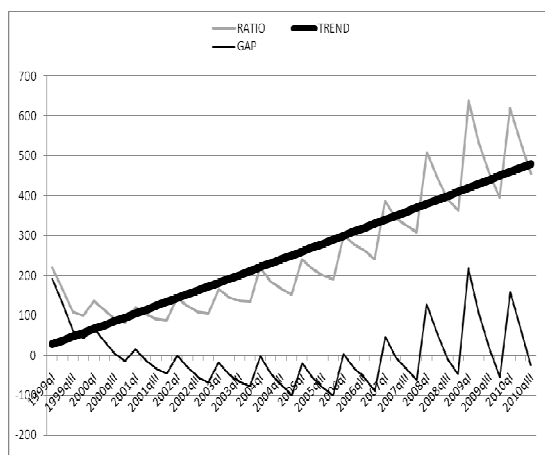
where the buffer add-on will be at its maximum level, namely 2.5% of risk-weighted assets. The Committee points out that the credit-to-GDP ratio and its long-term trend are powerful signals of banking crises. The Committee therefore recommends that the authorities carefully choose thresholds, and the levels of  $L$  and  $H$  are only a recommendation. So  $L$  should be low enough, so that banks have time and the ability to build up capital before a potential crisis. As banks are given one year to raise additional capital, this means that the indicator should signalize the crisis at least 2-3 years before. At the same time  $L$  should be high enough, so that no additional capital is required during normal times. For  $H$ , at which point no additional capital would be required, even if the gap

would continue to increase, should be low enough, so that the buffer would be at its maximum prior to major banking crises.

### 3. The Countercyclical capital buffer in Romania

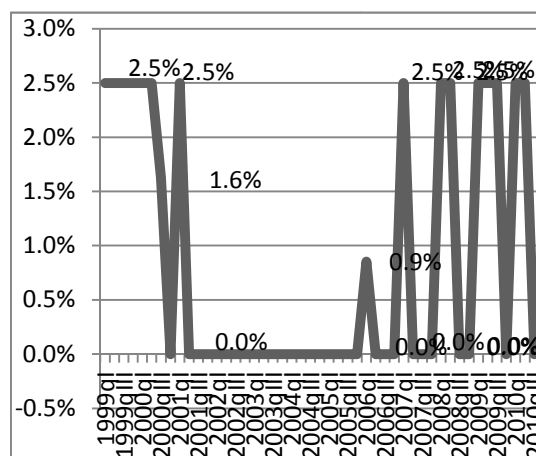
The methodology recommended by the Basel III. proposal, to reduce pro-cyclicality and minimize system-wide risk, namely by implementing the countercyclical capital buffer is presented by applying this methodology in the case of Romania. In the first step the level of the buffer additions were determined by using quarterly data, which is recommended also by the Committee, after which data of annual frequency was used, in order to compare the level of the buffer with the ones obtained for the other states, determined by BCBS. The statistical data used in this study consist of quarterly and annual data for the Credit and GDP series, which were extracted from <http://epp.eurostat.ec.europa.eu> and [www.bnr.ro](http://www.bnr.ro). The sample period is from the first quarter of 1999 to the third quarter of 2010, totalling 47 quarterly observations and 12 annual observations.

**Figure 3: The evolution of the credit-to-GDP ratio, the long-term trend-TREND, and its deviation from it, captured by GAP using quarterly data**



Source: Author's calculations

**Figure 4: The buffer add-on in Romania using quarterly data**

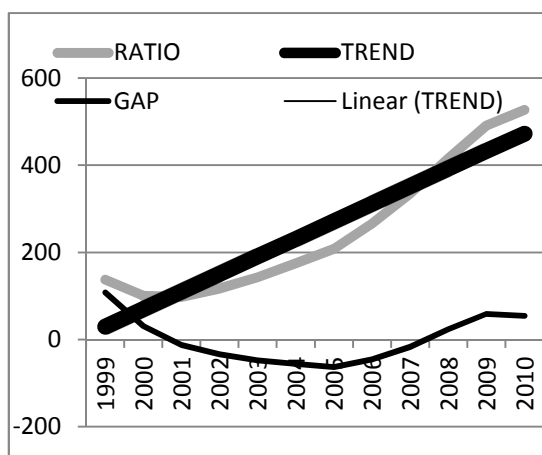


As shown in Figure 3., the evolution of the credit-to-GDP ratio is characterized by a strong cyclical component, a feature that is borrowed from the behavior of the quarterly GDP. By applying the Hodrick-Prescott filter the series is adjusted, obtaining the long-term trend. The difference between Trend and quarterly Ratio is illustrated by the Gap. The values recorded by the Gap have extreme variations, with a downward trend, from 192.2% in the first quarter of 1999 until the end of the year 2006. From the first quarter of 2007 the Gap begins to grow, with a value of 47.2%, peaking in the first quarter 2009, at 217.7%, after which it begins to fall, but remaining above the higher threshold, H of 10%. This development of the Gap, translated into capital buffer that would have been introduced by banks in Romania, in the first quarter of 1999 until the second quarter 2000, the buffer add-on would reached the maximum rate of 2.5%. This high level indicates the presence of the dot-com bubble in 2000 in Romania, whose effects already began to shrink in the third quarter of that year, with a level of the counter-cyclical capital of 1.632% from the risk-weighted assets. By the end of 2000 the Gap falls below the lower threshold L, the countercyclical capital buffer would have been reduced to zero by the central bank. In the first quarter of 2001, the credit's growth rate exceeds the economy's growth rate, but from the next quarter until the end of 2006 this level is significantly below its average. This shows that the crediting activity was far below the normal growth between the years 2001 and 2006, and there was no sign of a future shock. From the first quarter of 2006 the Gap has exceeded for the first time the minimum safety level L, breaking the lower threshold again in the first quarter of 2007. The

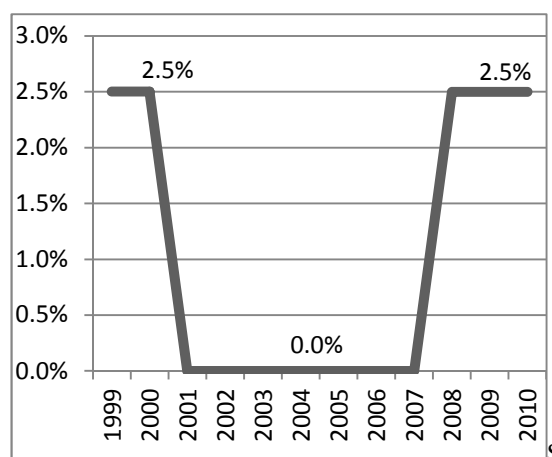
financial crisis is reported on time, in 2006 the Central Bank could have been warned, and this would have meant the reintroduction of the buffer. The Gap oscillates between 2007 and 2008, emitting mixed signals, in the first quarter of 2007 exceeding safety threshold, reaching 47.2%. It drops again in the remaining three quarters of 2007, and begins an upward trend in the first two quarters of 2008, increased to 128.8%, then again in third quarter falling to a level of -9.2%. This moment, the third quarter signalizes the releasing of the capital buffer to zero after the first signs of crisis.

If we analyze the annual Gap from Figure 5., the results are very similar to the quarterly ones, namely between the years 1999-2000, and 2008-2009 the aggregate credit growth exceeds the economy's growth rate, while in 2001-2007 the Gap is below the minimum threshold of 2%. In Figure 6. the buffer that would have been set up in 1999 and 2000 to a level of 2.5% of the risk-weighted assets, between 2001-2007 the capital buffer should be zero, being released in 2001 and reintroduced in 2007. The annual frequency data doesn't capture the signal in 2006 of reintroduction of the buffer, and in 2009, the release of it. Expecially for this reason it is recommended that authorities use quarterly data in their analysis, the annual frequency is especially useful in comparing the status of Gap with other regions.

**Figure 5: The evolution of the credit-to-GDP ratio, the long-term trend-TREND, and its deviation from it, captured by GAP using annual data**



**Figure 6: The buffer add-on in Romania using annual data**



Source: Author's calculations

If we compare the situation in Romania with the countries present by the Committee, we can see the similarities in the development of the Gap. This indicates in the case of Romania the crisis in 2006, while in Spain, the Netherlands, Austria is reported up to 4-7 years before. This is due to specific banking system in Romania, which is not correlated to international banking sector in a so pronounced way, in terms of derivatives, mainly due to central bank regulations. But there are countries such as Belgium, France, India, Italy, Russia, Japan, where the crisis was reported only in 2007-2008, or not at all, so the Credit/GDP is behaving in Romania relatively well. But precisely because of these characteristics, listed above, it is recommended that authorities review and correct this methodology with other variables.

The methodology recommended by the Basel III. to reduce pro-cyclicality and minimize the system-wide risk, namely by implementing the countercyclical capital buffer in Romanian behaves relatively well, especially for quarterly data. The crisis is reported in time, both in 2000 and 2007. The national authorities are warned in time, so banks would have the chance to build up capital buffers during times of economic boom, ensuring their solvency during times of stress, maintain the flow of credit in economy, without their solvency being questioned.



#### 4. Conclusions

In this paper we attempted to highlight the key breakthroughs in Basel III and present the Credit-to-GDP guide, with practical application in the case of Romania. Since the beginning in 2007 of the financial crisis, the real problems of the international banking system have seen the light of day, the banking system wasn't able to absorb the credit losses, while the crisis was further amplified by a procyclical deleveraging process and by the interconnectedness of the credit institutions.

To address the market failures revealed by the crisis, a revised framework, Basel III, was proposed by BCBS, suggesting a more sensitive approach to the extreme and unforeseen changes in the market. These reforms are meant to strengthen the banking sector and raise the resilience of individual banking institutions to periods of stress with two different approaches, a microprudential focus and a macroprudential focus. These reforms address the system-wide risks that can build up across the banking sector as well as the procyclical amplification of these risks over time. Basel III is an extremely important step in strengthening capital rules, the Committee considering that the agreement, after its being implemented, will greatly reduce the likelihood and severity of a crisis in the banking sector, while enhancing global financial stability. The main objective of this agreement is to improve the banking sector's ability to absorb shocks from economic and financial crises, thereby reducing the risk of contagion from the financial sector to the real economy.

The new agreement contains the following objectives: raising the quality, consistency and transparency of the capital base, enhancing risk coverage, supplementing the risk-based capital requirement with a leverage ratio, reducing procyclicality and promoting countercyclical buffers, introducing a global liquidity standard and addressing systemic risk and interconnectedness of banking institutions.

An innovative macroprudential tool is suggested to the national authorities, namely the countercyclical capital buffer, the primary aim of it is to protect the banking sector, in this context not simply ensuring that banks remain solvent through periods of crisis, but that they also maintain the flow of credit in economy in periods of stress, without their solvency being questioned. The methodology that should help authorities in the decision-making process, in the implementing phase of the buffer, and also in the releasing step is presented in the credit/GDP guide. This contains the principles that should guide the authorities step by step, also helping them in determining the level of the buffer add-on.

To illustrate the methodology presented by the Committee, and see if the credit-to-GDP ratio can correctly signalize the crisis, credit-to-GDP ratio was built using quarterly and annual data from Romania. All results indicate that the shock is reported correctly, thus giving banks the chance to build up capital just in time, being protected in times of crisis, in the end reducing the risk of system-wide shocks.

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## THE IMPORTANCE OF TAXATION IN THE EU

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**Abstract:** *The motto of this study is without a doubt, the following quote, owned by J. Schumpeter: "The spirit of a people, the culture, social structure, political facts, all these and more others can be found in its fiscal history ... He who knows how to listen to this message will understand much better the economy struggles of history (Paul A. Samuelson, 2001). Presentation of the defining features of the tax systems of Member States is based primarily chronological criterion, ie the date of accession of those countries, and secondly alphabetical ordering (ie the countries which joined in the same period are presented in alphabetical order these countries). Analysis of the basic features of national tax systems is achieved mainly by means of three great works: The structure of tax systems in the European Union (European Commission, Structures of the taxation systems in the European Union, Luxemburg, 2003), tax systems and reforms in Europe (Bernardi, L., Profeta. P., 2004), trends in EU tax (Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010), inventory tax (European Commission, Inventory of taxes, Luxemburg, 2000), and the numerous documents in the Community site or sites in each member country statistical and used as the basis for various research works. A major source of documentation for the understanding of the role of the Community countries gives the total tax revenue (including social security contributions) to organize their tax systems we find in the table. 1: "share of total tax revenue (including social security contributions) in GDP in the EU Member States in 2000-2010."*

**Key words:** tax revenue, fiscal policy, monetary union

**JEL Classification:** H24, H30, H31, H39, E62

### Essential features of the tax systems of EU countries

Realizing a sort of increasing averages for the years 2000-2010, 27 countries rank as follows:

**Table 1. The share of total tax revenue (including social security contributions) in GDP in the EU Member States in 2000-2010**

Rank	Country	Hierarchical Media 2000-2010
1.	Estonia	28.35
2.	Portugal	29.04
3.	UK	29.14
4.	France	30.32
5.	Italy	31.08
6.	Ireland	31.52
7.	Malta	32.34
8.	Sweden	56 8
9.	Hungary	32.58
10.	Spain	32.99

11.	Slovenia	34.51
12.	Germany	34.66
13.	Greece	35.15
14.	Belgium	35.88
15.	Romania	36.05
16.	Rep. Czech	37.57
17.	Lithuania	37.96
18.	Luxembourg	38.36
19.	Poland	38.39
20.	Austria	39.6
21.	Netherlands	41.59
22.	Bulgaria	43.2
23.	Cyprus	43.41
24.,	Slovakia	44.18
25.	Denmark	44.63
26.	Finland	48.93
27.	Latvia	48.96
<b>EU27</b>		<b>36.78</b>

Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

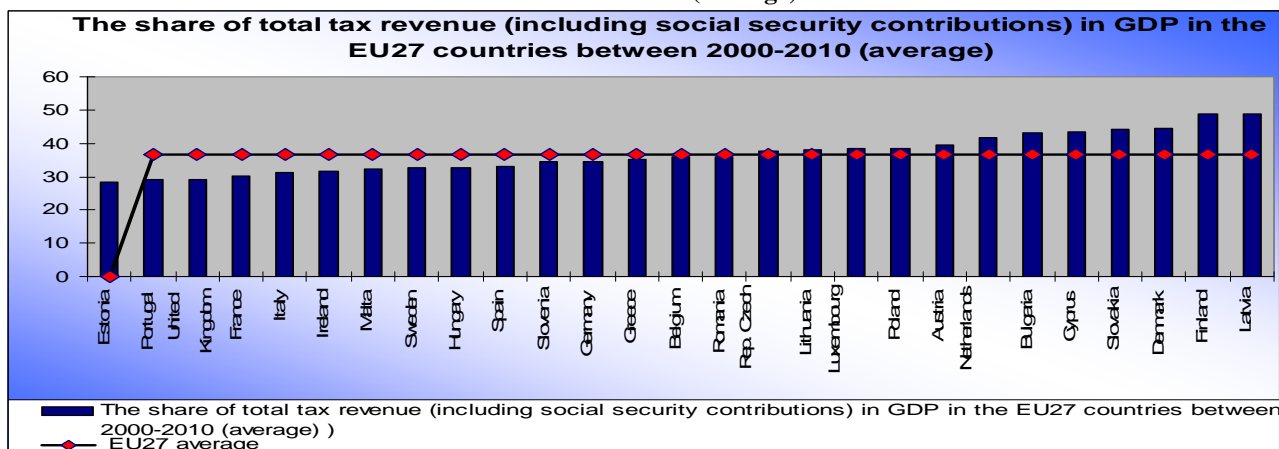
The average share of total tax revenue in GDP of the 27 EU countries between 2000-2010 is 36.78%.

It can easily extract some conclusions: there is a fairly large range of values, approximately 20.61 % of Estonia with 28.35% and 48.96% in Latvia. Community Media Over 12 countries are: Czech Republic, Lithuania, Luxembourg, Poland, Austria, Holland, Bulgaria, Cyprus, Slovakia, Denmark, Finland and Latvia.

Under the EU average are located in 15 states: Estonia, Portugal, United Kingdom, France, Italy, Ireland, Malta, Sweden, Hungary, Spain, Slovenia, Germany, Greece, Belgium and Romania

Figure 1 painted graphic information presented in Table no. 1. It is apparent from this graph, countries that are close to the average EU27: Belgium, Romania. Czech Republic and Lithuania.

**Figure 1. The share of total tax revenue (including social security contributions) in GDP in the EU27 countries between 2000-2010 (average).**



Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

Figure 2 shows the pressure of indirect taxes in EU countries in 2010. Following the same reasoning, orders increased the total tax revenue ratio (including social security contributions) in GDP of the EU countries for 2010.

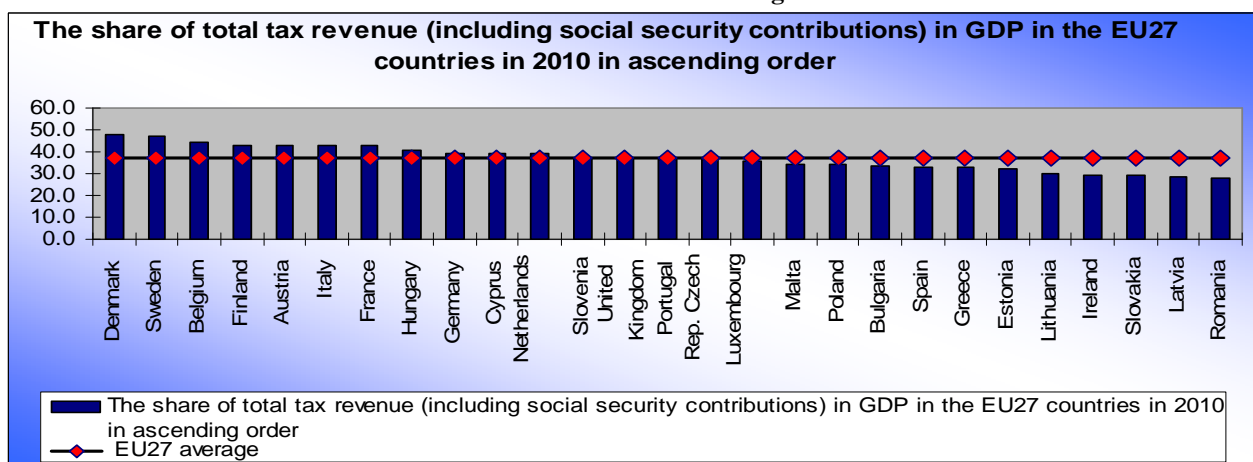
**Table 2. The share of total tax revenue (including social security contributions) in GDP in the Member States of the European Union in 2010**

Rank	Country	2010
1	Denmark	48.2
2	Sweden	47.1
3	Belgium	44.3
4	Finland	43.1
5	Austria	42.8
6	Italy	42.8
7	France	42.8
8	Hungary	40.4
9	Germany	39.3
10	Cyprus	39.2
11	Netherlands	39.1
12	Slovenia	37.3
13	United Kingdom	37.3
14	Portugal	36.7
15	Rep. Czech	36.1
16	Luxembourg	35.6
17	Malta	34.5
18	Poland	34.3
19	Bulgaria	33.3
20	Spain	33.1
21	Greece	32.6
22	Estonia	32.2
23	Lithuania	30.3
24	Ireland	29.3
25	Slovakia	29.1
26	Latvia	28.9
27	Romania	28.0
<b>EU27</b>		<b>36.95</b>

Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

Basically this is done in the figure no. 2. Field values of 2010 represented the lower boundary is drawn between the two countries and Romania, with maximum value 28.0% ,48.2% belonging to Denmark. The ranking of the countries in the European Community is now the following

**Figure 2. The share of total tax revenue (including social security contributions) in GDP in the EU27 countries in 2010 in descending order**



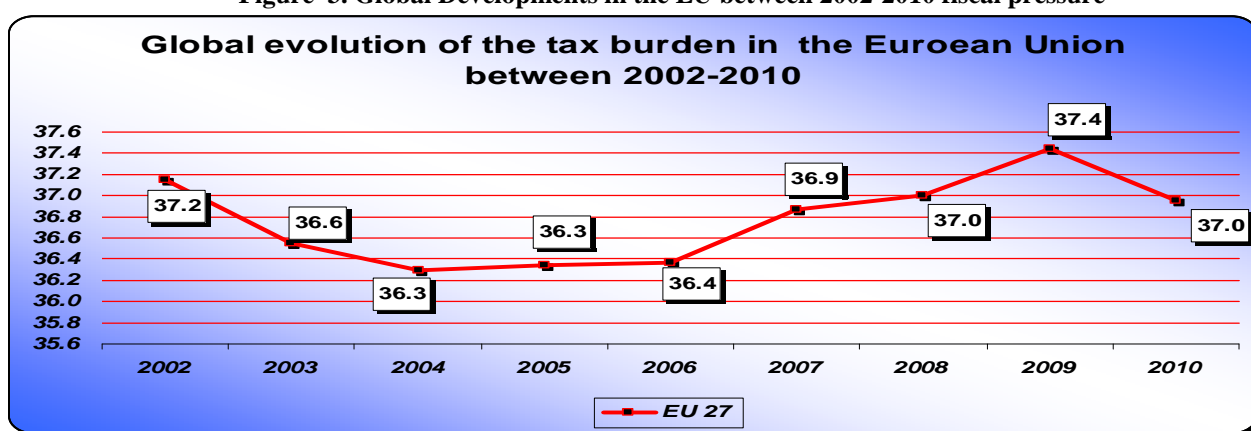
Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

For 2010, the difference between minimum and maximum point of this indicator is above 20%. The upper interval is no longer Latvia ,but Denmark was thus replaced, Denmark with 48.2%, but the minimum is now located in Romania - 20.0%.

The 2010 average is slightly increased compared with the average of the 2002-2010 interval. The share of total tax revenue (including social security contributions) in GDP of the 27 Member States, being 36.95%. Thus positioning of countries compared to this size is: are placed above the EU27 average in Denmark, Sweden, Belgium, Finland, Austria, Italy, France, Hungary, Germany, Cyprus, Netherlands, Slovenia, United Kingdom and Portugal, under the EU27 average are located: Czech Republic, Luxembourg, Malta, Poland, Bulgaria, Spain, Greece, Estonia, Lithuania, Ireland, Slovakia, Latvia and Romania. Comparing the ordering list of EU for the period 2002-2010 with list of 2010, it seems surprising change Latvia's placement, which ranked last of the first list that in countries with high values of 48.98%, moving to the present (2010 representing the most current data of our study) to mark the end of the range and even 2nd place with a share of 28.9%.

The evolution of the average share of total tax revenue (including social security contributions) in GDP for the 27 countries in 2002-2010 is shown in the figure no. 3.

Figure 3. Global Developments in the EU between 2002-2010 fiscal pressure

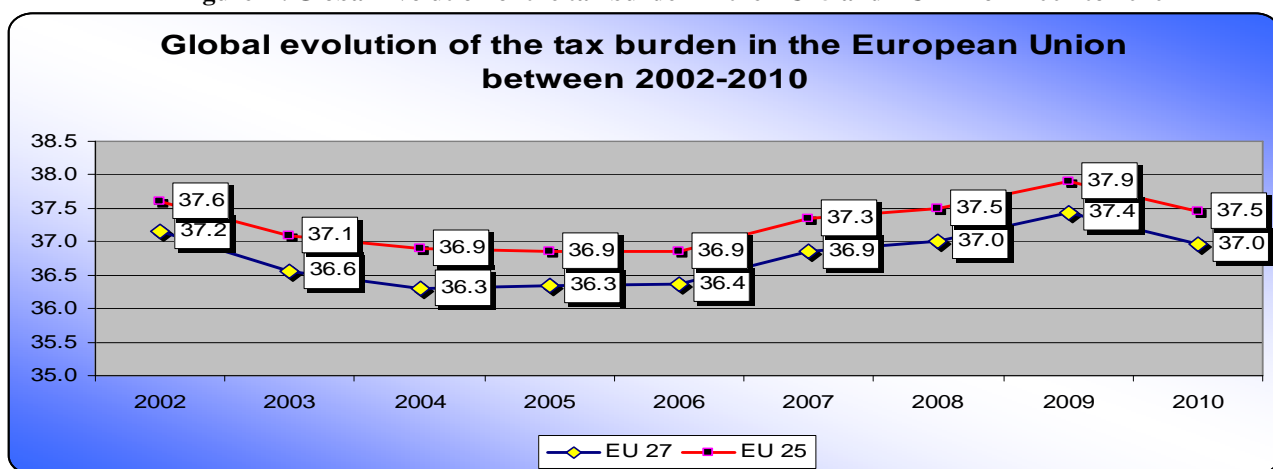


Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

Analyzing this note a thumbnail graphic, used in tracing the developments of less than one percent - from 36.3% to 3 recorded 36.3%, then begins to rise again in 2009 when it reaches 37.45%. Then decreases to 37.0% in 2010.

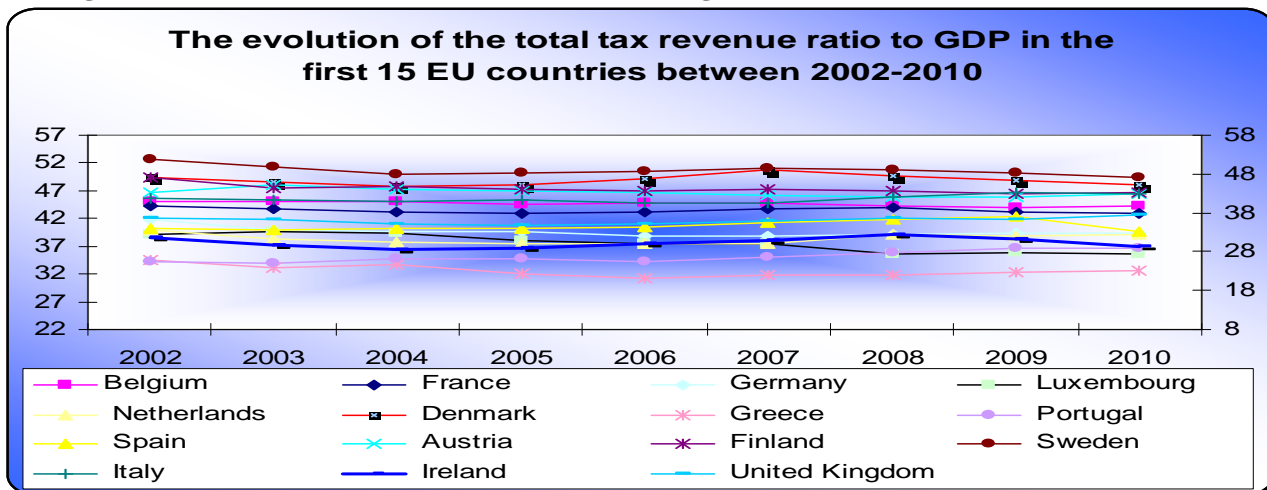
Note that generally overlaps with the EU25 average of EU 27 average, the differences are very small (maximum 0.6%) (see figure no. 4).

Figure 4. Global Evolution of the tax burden in the EU25 and EU27 from 2002 to 2010



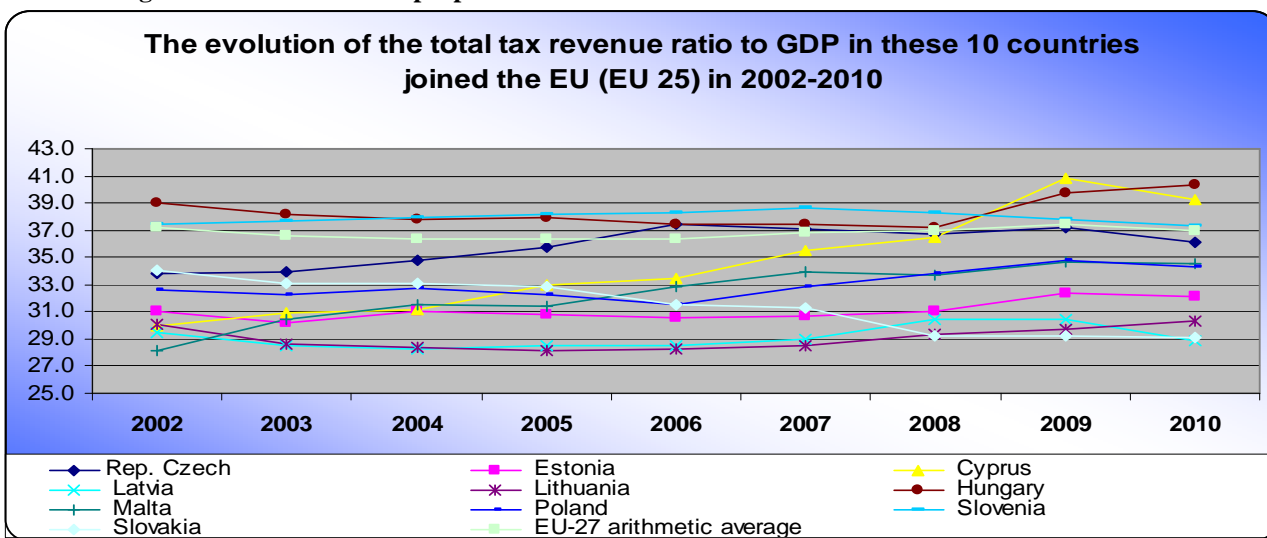
Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

Figure 5. Evolution of total fiscal revenue ratio (including CAS) in GDP in the EU15 countries in 2002-2010



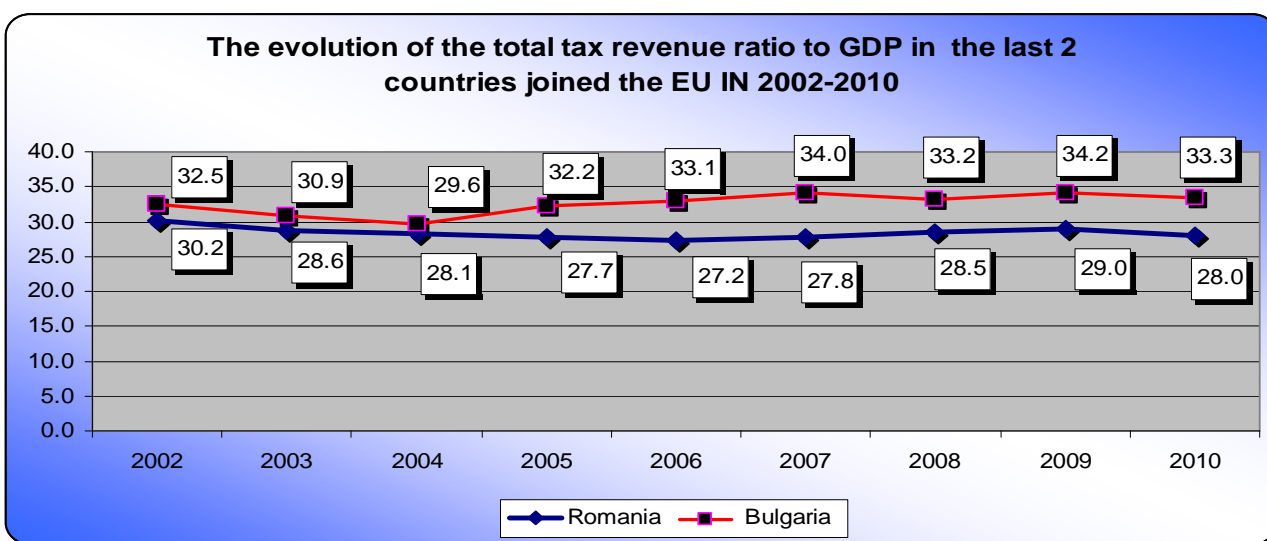
Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

Figure 6. Evolution of the proportion of indirect taxes in GDP in the EU25 countries in 2002-2010



Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

Figure 7. Evolution of the proportion of indirect taxes in GDP in the EU27 countries in 2002-2010



Source: Taxation trends in the European Union, Luxembourg: Publications Office of the European Union, 2010

The graphics 5,6 and 7 are determined by the difference between total tax revenue ratio (including social security contributions) in the EU15, EU25 countries and EU27 countries in 2002-2010: the graphics are the first developments of the first 15 EU countries, and the second the same evolution for the same period for the 10 new countries joined the EU area (figure no. 6) and are presented graphically in the last last two acceding countries (figure no. 7) .

### Conclusions

When a country joins a monetary union, drop one of the two macroeconomic instruments: monetary policy, but maintain control of the second fiscal policy. Changes in expenditure and / or taxes work on the budget balance, which will immediately generate discussion on debt financing.

Financial policy faces a major deficit that is very slow in implementation. The design budget is a long and complicated process, and if the budget must comply with European design long-term financial prospects. The change in fiscal policy is difficult and involves going through a period of time. At European level, a country's fiscal policy can help or harm other countries. In the context of European unity, it should be noted that a country can not make a decision completely ignores the effects on other members of the union, fiscal policy should be coordinated decisions taken by all members. It follows that tax policy, the only remaining member in the context of the transfer of sovereignty in monetary matters should also be based on coordinated actions and decisions.

In principle, all countries involved could agree on common tax policies so as to reach the situation where, if possible, to benefit from a choice of solutions to all Member States.

Therefore, the European financial area faces three major problems: the need for fairness for all Member States, EU enlargement and monetary union restrictions that imposes on the economic mechanisms of adjustment. The issue of fairness is essential, since Member States will paralyze the development cooperation budget if revenue collection and expenditure allocation is not done fairly. Existing elements of inequity is the result of the common agricultural policy (CAP) and it is expected that farmers in the future financing of the activity to be abandoned. Structural Funds aimed at primarily the improvement of convergence between Member States, but it is expected that Member States will receive before some of these funds, not to create a group within the union of a group of donor countries and recipient countries. We note in this difficult context of resource allocation that Member States are not yet fully prepared to transfer sovereign powers irrevocable tax policy at European level. Keeping an overall national budget, which will operate independently of each state revenue and expenditure, is how to predict the financial and fiscal organization of European space for a considerable time to come.

Moreover, the fact that the overall EU budget is not comparable to existing federal states is equally indisputable and expected. Construction of single politically the European Union and wider range of applicability of the principle of subsidiarity is that the EU is far from the organization and functioning of a federation, each retaining a significant dimension of national sovereignty.

In conclusion, common fiscal policy is possible manifest itself in all its areas of impact, but neither the principle of subsidiarity can not be met without the measures taken at national level do not affect the situation of the other Member States.

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## FINANCING ENTREPRENEURSHIP: BUSINESS ANGEL INVESTING, A FINANCING OPTION IN A TIME OF CRISES

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**Abstract:** *Evidence of the impact of crises can be notice everywhere, small and medium size enterprises being generally more vulnerable in this period, due to their increasing problem in obtaining adequate access to capital. Even if entrepreneurs have a large variety of options to finance their new venture, taking in consideration the benefits of informal venture capitalist known in the western economies as "business angels" may represent a value adding solution for the best start in a time of crises.*

**Key words:** entrepreneurship, *small and medium size enterprises* (SME), source of financing, business angels, angel financing

**JEL classification:** G23 - Pension Funds; Other Private Financial Institutions

### 1. Introduction

*Small and medium size enterprises* (SME) represents a basic sector for developing an economy. New business ventures and SMEs have a number of critical roles to play in supporting innovation. Creating new job creators, contributing to personal developing and well being of the entire society. But, in order to be able to perform their key role in every national economy, SME needs good conditions for start-up, and furthermore, for growing and developing.

### 2. The impact of the economic crisis on entrepreneurship process

We are living in a global economy characterized by rapid changes, the acceleration of scientific and technological processes and an unprecedented level of competitiveness. These mutations have forced the company to evolve, to eliminate what used to be and look towards the future. Not in any way, but with certainty. The challenges that companies face today are well known: boundaries in change, rapid development of global markets, explosive competition, demographical changes and an increasingly rapid change rhythm. Companies struggle to get adapted, by building the organisations of tomorrow based on the new operation strategies and techniques and on a new way of thinking things through. [Ciuhureanu, Balteş, 2009]

The key and beneficial role the SME sector has in any economy is no longer a novelty for anyone: innovativeness and flexibility, speeding up structural changes in the economy, introducing new competition and contributing this way to productivity, job creation and economic growth.

Those, it is essential that there are necessary resources accessible so that these companies can develop and grow even further.

While the 2008 through 2009 recession was severe in many countries, a number of countries have suffered a vivid aftershock in 2010. On the one hand it is expected that will be fewer start-up activities because of lower perceived opportunities. On the other hand, recessions can free up old markets and resources, and some people may actually see new opportunities to start businesses given the change in their circumstances that the recession has generated.[GEM, 2010]

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Global Entrepreneurship Monitor (GEM) reports are based on interviews with more than 175,000 people were from 59 economies, including Romania, covering over 52% of the world's population and 84% of the world's GDP. The participating economies have been grouped into three levels: factor-driven, efficiency-driven, and innovation-driven, based on the World Economic Forum's (WEF) *Global Competitiveness Report* which identifies three phases of economic development based on GDP per capita and the share of exports comprising primary goods.[GEM, 2010]

The 2010 GEM Global Report, regarding the opportunities for starting and growing a business compared to one year ago, shows that in 2009, an average of 60% of the entrepreneurs found it more difficult to start a business. This percentage dropped to 50% in 2010. The same comparison made in GEM 2009 report shows that more than half of the entrepreneurs found it more difficult to start a business in 2009, compared with 2008.

According to the mentioned source, the rate of established business ownership (those running businesses more than 3 ½ years old) declines with greater economic wealth. Between the main reasons to discontinue a business in the previous 12 months, financial difficulties, such as unprofitable businesses and getting finance problems, were mentioned most often. Although factor-driven and efficiency-driven economies reported the highest proportion of financial difficulties, financial difficulties leading to business discontinuation have risen in all three economic groups in 2010. Financial difficulties remain lowest in the innovation-driven group, where entrepreneurial finance is generally more developed, but even here there are fewer problems raising finance in these countries.[GEM, 2010; GEM 2009]

The 2010-2011 Global Competitiveness Report is based on records of 139 economies, being the most comprehensive assessment of its kind. According to it, the global economy continues to be characterized by significant uncertainty. While most of the emerging economies have bounced back to healthy growth, advanced economies are still facing continuing difficulties such as persisting unemployment, weak demand, and spiraling debt. Reforms in the financial and labor markets remains the major challenges countries are struggling with.[GCR, 2011]

The above mentioned report sets financial market development as the eighth pillar of twelve, sustaining competitiveness. The core role of a well-functioning financial sector for economic activities was highlighted by the recent financial crises, the importance of access to capital being recently underscored by the liquidity crunch experienced by businesses and the public sector in both developing and developed countries.[GCR, 2011]

From the same evidence for Romanian entrepreneurs, the most problematic factors to do business, from a list of 15 factors, is in 2010, access to financing, weighted to 15.9%, followed by Inadequate supply of infrastructure (13,9), Inefficient government bureaucracy (12,2), Tax rates 11,6% and Tax regulations 11,2%. On the last places are mentioned Government instability/coups 0,4% and Poor public health 0.1%.

**Table1 : The top three scorers for Financial development measurement between 2008 -2010**

Rank	2008		2009		2010	
	Country	Score	Country	Score	Country	Score
1	United States	5.85	United Kingdom	5,28	United States	5,12
2	United Kingdom	5,83	Australia	5,13	United Kingdom	5,6
3	Germany	5,28	United States	5,12	Hong Kong SAR	5,04

(Source: Financial Development Report 2009 and 2010, available at <http://www.weforum.org/reports>)

The Financial Development Report being in 2010 at the third edition, provides a score and rank for 57 of the world's leading financial systems and capital markets, defining “*financial development as the factors, policies, and institutions that lead to effective financial intermediation and markets, as well as deep and broad access to capital and financial services*”. According to this

ranking system, where financial development were captured across seven pillars (institutional environment, business environment, financial stability, banking financial services, non-banking financial services, financial markets and financial access), the top three scorers (on a scale from 1 to 7) and the ranks for the best qualified countries are presented in Table 1

Besides the changes of the top countries, we must consider the changes in scores for the best performances, in terms of the decreasing of the financial development performance, due to the global financial crisis.

Taking into consideration all the seven pillars that measure financial development for Romania, in 2010, the dates are presented in Table 2.

**Table2 : Financial development mesurment for Romania in 2010**

<b>Pilars for financial development</b>	<b>Rank (out of 57)</b>	<b>Score (1–7 scale)</b>	<b>Best performer</b>
<b>Institutional environment</b>	26	4.5	Multiple
<b>Business environment</b>	26	4.7	Switzerland
<b>Financial stability</b>	50	3.8	Venezuela
<b>Banking financial services</b>	56	2.1	Denmark
<b>Non-banking financial services</b>	53	1.4	China
<b>Financial markets</b>	40	1.8	United Kingdom
<b>Financial access</b>	40	3.0	Switzerland

(Source: Financial Development Report 2010, available at <http://www.weforum.org/reports>)

As it can be noticed, Romania has obtained only a score of 1.4 points from a maximum of 7 for non-banking financial service, which places our country on the 53 rank out of 57 for this indicator. The same undesirable situation can be observed related to financial market. The situation is not good neither for the financial market nor for Banking financial services and financial access. Better conditions are shown about Institutional environment and business environment, which puts Romania in the middle of the rank for these two pillars of financial development. Regarding the last two editions of the Financial Development Report, for 2008 and 2009, evidences from Romania were not included in this statistics.

These are only a few statistics from worldwide evidence, related to the influence of the crises on entrepreneurial process. These and the other not mentioned here, drives to the same conclusion: the financial performance is decreasing, and this phenomenon is affecting both develop and less developed countries. In all statistics, where there is evidence, Romania is positioned at the last part of the ranks, far enough from the best performer in Europe and worldwide.

Another thing that has to be mentioned is that financial difficulties and accessing finance problems was the main cause of discontinuing or not starting a business. Small firms consistently report higher financing obstacles than medium and large enterprises, the sector being at the present time, especially hard hit by the global crisis. The situation is also exacerbated by weaknesses in the financial systems of many developing countries. Entrepreneurs are using significantly less external funding for both working capital and fixed asset investment. Much more, these firms do not only report higher financing obstacles, they are also more adversely affected by these obstacles which have almost twice the effect on their growth comparative with large firms. [FDR, 2010]. The OECD 2009 rapport on The Impact of the Global Crisis on SME and Entrepreneurship Financing and Policy Responses, shows that SMEs are generally more vulnerable in times of crisis due to a lot of reasons: for SME is more difficult to downsize as they are already small; they are individually less diversified in their economic activities; they have a weaker financial structure (i.e. lower capitalization); have a lower or no credit rating; they are heavily dependent on credit. In the same rapport is mentioned that “*Increased insolvency rates appear to confirm SMEs’ increased inability to obtain short-term financing.*” [OECD 2009]

### 3. Alternative source of financing

Obtaining adequate access to capital is one of the biggest hurdles to starting and growing a new business. [Audretsch, 2011]. Entrepreneurs have a wide variety of sources in seeking capital for their new businesses. To name but a few, self financing, savings, friends and family, bank loans, venture capital, and business angels. All these sources are different from one another, offering advantages and disadvantages. It is very important to elaborate proforma accounting documents (balance sheet, profit and loss account etc.), financial forecasting, financial policies, financial strategies, financial plans, budgets, forecasting regarding costs in the production process etc. by using proper performance indicators regarding the company's activity with which the necessary resources and the obtainable results are being measured [Ciuhureanu, Balteş, Gorski, 2010].

As a first step, the company finds the necessary financial resources by resorting to its own sources and/or the borrowed ones [Balteş, Ciuhureanu]. Research [Rogers, 2009; Baron, 2007] indicates that approximately 70% of all entrepreneurs finance their new business with their own capital, savings being the most important source of capital for new venture. At the beginning of their activity entrepreneurs turn to a group usually known as the 3F's: *Family, Friends and Fools* to raise the capital they need. Anyone of them will supply a variable amount of short term funds usually insufficient for the future activity of the entrepreneur. According to Baron and Shane, in many industries, especially in the retail business and catering, a great number of entrepreneurs obtain capital from family members. Often these are informal forms of financing, based on entrepreneur's promise to return the money when the running business allows. In some cases, obtaining capital from family members becomes a systematic method of financing, interest being paid for the borrowed capital. In other cases, family members become shareholders of the company, in exchange for capital.

This way of obtaining start-up capital has both advantages and disadvantages. Using the 3F's capital, sometimes called "love capital" provides capital for emotional rather than business reasons [Rogers, 2009] and with a critical analysis [Preston, 2007], willing to support a dear person. The good aspect is that, in case the business goes wrong, they may be more conciliatory than institutional lenders, and is likely possible to force the entrepreneur into bankruptcy if the repayment cannot be made. The negative aspect is that family member and friends may not understand the risk of the investment, comprehending the fact that such an investment might be completely lost. Therefore, they may have unreasonably high expectations related to return of the capital and interest payment, even if the business didn't succeed. And, which is much important, usually the 3F's are not value-added investors.

Bank loans remained the most common form to obtain financing. It can be a commercial loan, in which the borrower pays interest on the money borrowed, or a line of credit that allows entrepreneurs to draw up a set amount of money at a particular interest rate whenever they need it.

But for a start-up, especially in the time of crises, it may be very difficult: the business is new, the macroeconomic environment is hostile, and the entrepreneur may not have assets to guarantee a loan and positive cash flow necessary to pay the interest loan, he may not qualify for traditional loans.

Confronted with worsening access to credit, SMEs are exploring alternative sources of finance.

In the book "Entrepreneurial finance: finance and business strategies for the serious Entrepreneur" by Steven Roger and Roza Makonnen is captured an old saying in entrepreneurial finance, which says that "*whom you raise money from is more important than the amount or the cost*". This lenders are value-added investors, who, in addition with their financial investment brings value to the company.

Entrepreneurs may obtain funds from formal venture capitalists, who are people working for organizations that raise money from large institutional investors and invest that funds in new firms. [Baron, 2007]. Venture capital is generally more professionalized. This form of financing

enter as equity, [Baron, 2007 Trigo, 2010] on limited partnerships, for a fix long-term period of time usually of 10 years. At the end of this period the partnership dissolves and distributes its assets to the partners. Venture capitalist may provide, in addition to providing money, assistance in operating the new businesses, help for marketing research and good connection with investment bankers.

The classic venture capitalists are great value-adding investors, but have also great expectations for the new business they are going to finance. To meet the criteria for support, a new venture must have a proprietary competitive advantage, offer a product with a clear market, and have an experienced management team and a plan to go public. Usually, formal Venture Capital funds are mainly interested in

companies that are in more advanced stages of their entrepreneurial development, which are high growth and have already proved something [Trigo, 2010]. Therefore, only few SME meet their requests. Furthermore, venture capitalists impose a large number of restrictions and include a large number of contractual terms in their relation with the entrepreneurs. [Rogers, 2009]

#### **4. Business Angels investing**

Angel investments is not a new concept in western and European countries, the term originally describing the individuals who were patrons of the arts [Rogers, 2009] In the '20s, the producers of Broadway shows were seeking businessmen willing to invest in theater productions. The explosions of music-hall production sites that follow are due to those who have supported them with money, business connections and knowledge.

If the company is too young or too offbeat to qualify for traditional bank financing then business angels might be the best financing option.

Even if the number of 'business angels' is growing throughout Europe, it is more prominent in North West Europe than in Southern Europe, remaining largely a phenomenon of Anglo-Saxon countries. In this countries the is also a large literature regarding this kind of phenomena.

Business angels are known as informal venture capitalists. Typically [Rogers, 2009; Baron, 2007] angel investors are individuals former entrepreneurs who invest their own money in high potential start-ups companies, focusing on industries in which they have experience, geographically closed to their living and working place, in exchange for a share in the company, income and capital gain. Usually business angels didn't have any relationship with the entrepreneur prior to the investment, and are seeking out small and growing companies. [Applegate] Angels provide early stage investment, being the primary source of outside capital for very young companies. [Preston, 2007]

Unlike the family and friends, business angels have a holistic view of the business, fully understanding the risks that it involves, being therefore ready to support the complete loss of invested money.

Usually, formal venture capitalists are not interested in the seed/start up stages, because the risk of loose is too high. Because formal venture capitalists are investing someone else's money, they have the obligation of maximizing investment return, with a minimal risk of loss. Investing their own money, in smaller amounts that venture capitalist does, business angels accept the high rate of risk, but hey will only invest where they see a significant potential return on their investment, and ask for a high rate of return. This also allows business angel to take a more rapidly decision to invest, basing even on their sixth-scene feeling about entrepreneur, and having the freedom to chose their level of diligence and commitment to the business.

Beside money, business angels bring their expertise in business management, and which is much important, their personal network of contacts, which could mean new and more customers, suppliers, business relations and access to strategic partners.

There isn't an agreement in the specialty papers about the amount of money a business angel invest in one new deal the amount of money is between 10.000 £ and 200.000 £ , with no minimum or maximum to invest. Typically every business angel has a diversified portfolio of two to five

investments, allocating smaller amounts at a time, of just 5% to 15% of their overall investment portfolio to high risk start-ups. Thus, in case the business goes wrong and the investments fail, as they often do, the losses will not affect their lifestyle.

Both business angels and formal venture capitalists are involved in similar business and in similar ways. They both do selective investment, in order to obtain finance, the entrepreneur and his new business has to meet the criteria of these individual investors. Both funds enter as long term equity, and both venture capitalist and business angels will have an interest in the management of the company, but in case of venture investors, it will not be so tight as in the case of a 'business angels.

Expectation on return of investment is high in both cases. As mentioned before, angels and venture capitalist may have no connection with the entrepreneur before the investment, so they don't give money basing on subjective reasons, as family and friends may do. So, they need a reasonable expectation of return in order to invest their money in a company.

The difference between business angels and venture capitalist appears in time of investment. According to Baron and Shane in their book "Entrepreneurship: a process perspective", each stage of a new venture has different sources of capital, different uses of capital and different expected rates of return, as shown in Table 3:

**Table : Stages of financing a new venture**

<b>Stage</b>	<b>Condition of the venture</b>	<b>Sources of capital</b>	<b>Uses of capital</b>	<b>Cost of capital</b>
<b>Pre-Seed Stage</b>	The entrepreneur has only the idea, based on a market opportunity. He doesn't form a company yet and has no written business plan	Entrepreneur Friends and Family Business Angels Corporations	Write a business plan Form a legal entity	70%-100% rate of return
<b>Seed Stage</b>	The entrepreneur has formed a legal entity, has a partial venture team and has a written business plan	Entrepreneur Friends and Family Business Angels Venture Capitalists Corporations	Develop a prototype Fill out the team Do marketing research	60%-80% rate of return
<b>First Stage</b>	The entrepreneur has organized the company, developed the product/service and did the initial market research	Entrepreneur Friends and Family Business Angels Venture Capitalists Corporations	Make initial sales Establish production Buy/rent fix assets	40%-60% rate of return
<b>Second Stage</b>	The entrepreneur has produced and sold initial version of the product/service and the organization is running	Business Angels Venture Capitalists Corporations Asset-based financiers Corporations	Scale up production Hire additional employers	20%-40% rate of return

(Source: adapted from Baron and Shane)

While angels invest at an early stage in a company growth, venture capitalist invest primarily in later-stage companies. Because of this, business angels are taking a very high risk, compared with venture capitalist for which, when investing, there already exist a market-proven technology, a complete team and established sales.[Preston, 2007]

When consider angel investment, entrepreneurs should take in consideration both advantages and disadvantages of this form of financing. Business angels may provide financing, management knowhow, and can be of great help to business development. But on the other the

entrepreneur, will lose decision making power, which, for some individuals, it is unacceptable. The amount of control a business angel has in a company depend on agreement, being dependent on the percentage of shares he acquire.

Despite their beneficial role in supporting entrepreneurship, business angels were also affected by the financial crises. A research made by Center for Venture Research at the University of New Hampshire in October 2010, shows that “ *Angels have decreased their appetite for seed and start-up stage investing, with 26% of Q1,2 2010 angel investments in the seed and start-up stage, marking a steady decrease in the seed and start-up stage that began in 2008 (45%) and 2009 (35%), and it is the smallest percentage in seed and start-up investing for several years.[...] In Q1,2 2010, 65% of the membership in angel groups was latent angels, which is an increase from 2009 (54%) and 2008 (36%). This decline was reflected in an increase in post seed/start-up investing with 56% of investments in this stage*”. This puts under question the chance of world-wide new venture to survive and face the worst financial conditions, worsened in time of crises.

Business angels may be found alone, or in angel groups, which are organized into a number of different legal, organizational and administrative structures. There are many sites offering information on Angel finance, especially in Anglo-Saxon countries. To name but a few: British Business Angels Association (BBAS), The European Trade Association for Business Angels, Sees Funds and other Early Stage Market Players (EBAN), National Venture capital Association (NVCA), World Business Angels Association (WBAA)

If the first sources for entrepreneurship financing are well known, the last one is less used in Romania. At these moment, despite the benefits and the value-adding business angels can provide to a new venture, they are not promoted as it is used to be in the western countries.

Created in 2006 by Mycompany, who owns it, the site [www.bizangels.ro](http://www.bizangels.ro) is the main Romanian service that puts investors seeking investment in touch with entrepreneurs being in search of capital search, aiming to facilitate the communication between them.

**Bucharest Business Angels (BBA)** is an association whose main goals are to provide new financing solutions for the launching of successful businesses and to support their development by consulting, transfer of know-how and best practice from Business Angels to the entrepreneurs, established at the end of 2006. The most recent business angel organization established in Romania in 2008 is “MP Business Angels”, located in Iași.

Romans entrepreneurs still remain reticence to this relatively new method of business financing. As Mr. **Mihai Andrei, the president of BizAngels declared in an interview accorded to Adevarul Newspaper in 2007, there were 300 of entrepreneurs, but they seem not to have any inters in making propositions. While a year, it on business angels site have been registered only 30 business ideas, but only four obtained angel finance.** Examples of successful business in Romania, which occurred with business angels investment are: the company "La Fântâna", the drinking water distribution company, and company "Brandient", the first consulting firm specialized in country brand.

## 5. Conclusions

Flexible, easy to adapt to the market requirements, SME are also important new job creators, contributing to the personal developing and well being of the entire society

But to be able to fulfill these features, SME needs to benefit of the financial resources for its development. At a worldwide level and enclosed in Romania, the crises has highlighted and aggravated the financial problems of all companies: difficult access to the credits, capital dilution, market contraction and payment difficulties. In this situation, informal venture capital provided by business angels may represent a solution for finding the financial resources for the revival of the economy.

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- [www.bizangels.ro](http://www.bizangels.ro)



## INSTITUTIONAL HARMONIZATION AND STATE REGULATIVES IN THE CENTRAL BALKANS

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**Abstract:** *Serbia has conducted numerous reforms since 2001. In order to achieve macroeconomic stability and sustainable economic growth, large economic entities have undergone the process of restructuring; numerous companies have been privatized; and negotiations for European Union accession have begun. A similar situation exists in the Balkans region. A number of activities and measures have been conducted to improve business environment, attract foreign and domestic investments, enable accelerated growth and the development of a real sector, enhance the level of competitiveness and productivity, and decrease unemployment. The reform of the financial system plays a significant role in the overall reform process. Thus, it is necessary to create a new regulatory framework based on European Union directives that provides a considerable level of security and protection for all participants in the financial market. This would create a fertile ground for modern trading and the implementation of new instruments in the national and international markets. A set of laws and bylaws enacted provide modern financial market functioning, stability, and development.*

**Key words:** banking system, financial system, Serbia

**JEL classification:** E44, G15

### 1. Introduction

Foreign investments have become a priority for many countries in the Balkan region, particularly for Serbia, which reopened international relations in 2000. Foreign investors, including the American council business society and economic diplomacy representatives, have enhanced foreign investments (The white book of the Council of Foreign Investors recognizes problems and suggests ways to improve foreign investment conditions) in the region. In June 2004, Serbia adopted the Action Plan for the Republic of Serbia, which facilitated direct investments with the Government Commission for Public Economic Development. Two years later, the Animation and Development Strategy for Foreign Investment was adopted. This strategy involved sign posts and fixable terms to create favorable business behavior.

#### 1. 1. Investment directives in the region

The investment climate is not the same for every business in any one state. For advancement in the business environment, it is necessary to create opportunities for both domestic and foreign institutions. Eastern Europe has undergone significant reform in the past few years. Among the 175 countries ranked by World Bank for their efforts in business advancement, Serbia placed 68<sup>th</sup> in 2006, down from 27<sup>th</sup> in 2005. In the Balkans region, however, only Slovenia ranks higher. Serbia faces increasing competition from Croatia, Romania, and Bulgaria.

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In 2006, Serbia underwent extensive reformation by adopting one of the most efficient standards in the world (The International Bank for Reconstruction and Development, The World Bank, Doing Business 2007: How to reform; Comparing regulation in 175 economies, 2006, 3). Serbia is among a group of countries that have been advancing in the business world, especially in the employment sector. (The International Bank for Reconstruction and Development, The World Bank, Doing Business 2007: How to reform; Comparing regulation in 175 economies, 2006, 3) Serbia was ranked at the bottom in terms of granting permission to work, an important consideration for foreign investors. According to the European Bank (EBOR), Serbia is in route to transition, meaning that it is crossing into the official market economy and becoming the most targeted area for foreign investments (Table 1).

**Table 1. Top ten banks by market share in Serbia and Croatia**

	Serbia			Croatia		
Rank	Bank name	Mil \$	%	Bank name	Mil \$	%
1.	Raiffeisen bank	2636	14	Zagreb bank	1321	23.1
2.	Bank Intesa	1891	9.9	Business Zagreb bank	1022	17.9
3.	Hypo Alpe – Adria bank	1847	9.5	Erste&Steiermarkishe	6627	12
4.	Commercialbank	1540	8.7	Raiffeisenbank	6172	10.8
5.	HVB	1348	7.2	Society General	4837	8.9
6.	Society General	897	4.6	Hypo Alpe-Adria bank	3867	7.4
7.	Vojvodjanska bank	741	4.1	Croatian post bank	2180	3.8
8.	Alpha bank	654	3.5	OTP bank	1944	3.5
9.	Procredit bank	627	3.3	Slavonska bank	1631	2.9
10.	EFG Eurobank	601	3.1	Volksbank	1010	1.8
	Top 10	12782	67.9	Top 10	30611	92.1
	Other banks	4213	32	others	2999	7.8
	All banks	16995	100	All banks	33610	100

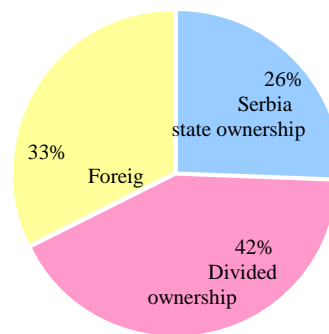
Source: www.hrcb, www.nbs.yu, author prepared

Last year, Serbia ranked first in the Balkans region for economic growth. EBOR emphasizes that one of main reasons is the low basement, meaning macroeconomic and structural problems; thus, restructuring public enterprises is a priority. Similar problems include a low transition level for infrastructure reform as well as increased competition. Over the past six years, such problems as political instability and lack of ownership rights have created a poor image of bureaucracy and corruption. Recently, Serbia enhanced its technical standards, quality control, origin regulation, consumer control, and accreditation procedures to combat this image.

## 2. Regulative economic and financial systems

The adoption of new bank laws has been motivated by EU directives and base regulations. Advantages of these new laws include corporative management principles; improved voting rights and bank capital; rational bank procedures; detailed bank control; client security rights, and risk management.

In 2006, 38 banks profited. Most were foreign owned banks, followed by domestic, corporate, and state owned banks, respectively. Overall, 72% were foreign banks, 20% were state banks, and 8% were domestic private banks.

**Figure 1. Bank ownership structure since 2005**

Source: ESPI Institute, [www.institutespi.org](http://www.institutespi.org)

In 2008, an estimated 114% of 40 countries comprised the credit ratio of the GDP, compared to 98% in 2000. Serbia had a credit ratio of 27% in 2006 and placed 35<sup>th</sup>. This ratio was 18.7% in 2003, 22.7 in 2004, and 28% in 2005. Latvia, Bulgaria, Ukraine, Lithuania, Estonia, Romania, Georgia, Russia, and Ireland have doubled this ratio since 2000. It is expected that the credit ratio in Serbia will be 31% for 2007, which remains far from that of other counties in the region.

In 2006, there were fifteen leasing enterprises, nine of which had foreign ownership five of which had domestic ownership, and one of which had domestic bank ownership with foreign capital. The central bank grants licenses for financial leasing, employing the standards for rejection irregularity in conducting business. Written conditions for contract agreements provide transparency with obligations for financial leasing institutions.

Investment fund law is a new regulation in the region. The UCITS 1 and UCITS 2 directives (1985–2000) were developed by the EU for transition countries. Investment funds provide an efficient way to mobilize resources for corporations. Investment in the national economy influences dynamic development and the domestic capital market. Besides investment funds, voluntary retirement funds are represented by thrifty catalizators in developed financial markets.

The problem concerning the deficit is caused by transfers as well as the growing number of retirees and employees. Consolidated payment and reformation retiring administration in Serbia has been realized with the support of World Bank. (Voluntary retired funds and schemes are part of a third pillar retired system model) The basic principles of retirement funds include voluntary membership, defined investment risk, egalitarian members, work publicity, and accumulation funds. Advantages of voluntary retirement funds include safe equity, larger incomes, taxes allowances, smaller investment risk, and the development of a thrifty culture.

Currently, there are four registered funds with assets comprising 0.03% of the GDP. The EU directive offers secure manipulation of the financial market (Directive 2003/6/EC) as well as integrity and credibility for foreign financial markets through market manipulation. (The conception of privileged information is completely harmonized with the Market Manipulations Directive, which defines privileged information and manipulations of the financial market) The prospectus directive (Directive 2003/71/EC) provides personal cards, which give important information to potential investors (The securities act is organized by regular form, precise defined issuer subject responsibility, as well as the other persons involved in prospectus work. Directive 2004/39/EC, organizing financial market and Security Exchange Commission. Directive 2004/109/EC, transparency matter and protect investors.).

### 3. Banking comparisons in the region

The banking sector in Serbia is characterized by fragmentation. Only five banks have earned more than 5%, which comprise 50% of banking. There is no Cartesian banking problems; the largest problems are predominantly caused by the business environment. On the other hand there, there are many of banks with less than 2% equity; 25 banks in the sector create the entire market share. Thus, further bank consolidation is necessary in the long term.

**Table 2. Bank shares for total banking assets in Serbia**

	31.12.2007.		31.12.2008.	
Asset volume	Bank number	Asset participation	Bank number	Asset participation
Over 5%	5	50.3	5	49.3
2% till 5%	5	18.2	8	26.4
Under 2%	30	31.5	25	24.3

Source: www.nbs.yu, Bank balance sheets, author prepared

Unlike Croatia, there is no bank cartelization in Serbia. The top 10 banks comprise 92.2% of the market in Croatia but only 68 % in Serbia. The top 5 banks in Croatia comprise 72.7% of the market, compared to 50% in Serbia. It is important to note that the banking sector in Serbia, despite enormous growth in the last few years, comprises only one third of the balance sum in Croatia banks. The banks that have dominated market share can expect profitability due to good network positions and connections with clients.

**Table 3. Share in balance bank categories by ownership origin (in millions of dollars)**

Origin stockholders	Capital	participation	Asset	participation	placement	Participle	Deposits	participation
Austria	685	23%	6573	35%	3201	34%	4613	37%
Greece	637	21%	3225	17%	1362	15%	2007	16%
Italy	204	8%	2084	10%	1059	10%	1512	11%
France	174	7%	1032	6%	604	6%	890	6%
Slovenia	95	3%	549	3%	250	3%	338	3%
Hungary	74	3%	243	2%	152	2%	156	1%
Cyprus	57	2%	318	2%	151	2%	191	2%
Germany	64	2%	628	3%	301	4%	425	3%
Sweden	15		43	0%	20		23	
Other for.inv.	102	4%	302	2%	207	2%	203	2%
Serbia state	252	10%	1242	6%	645	7%	722	6%
Serbia enterp.	380	14%	1501	9%	957	10%	910	8%
Physical person	35	1%	159	1%	91	1%	106	1%
Total	2774	100	17899	100	9000	100	12096	100

Source: Bank balance sheets, author prepared

The market is introducing new products and widening investment funds, especially private retail funds that are connected with insurance in some cases. In 2006, the dominant bank capital owners in Serbia were states, banks, and investors from Austria and Greece. Austrian banks have invested capital from one side and placed assets on the other side, which is the most important precondition for high profits. Italy also has a favorable market relationship but a small market share. The most unfavorable banks operate with domestic capital.

### 4. Financial system attractiveness

The regulatory framework for the financial market must continue development in order to achieve macroeconomic stability. Since 2006, Serbia has successfully reached an agreement with

MMF and achieved a credit rating of B+, indicating stable to positive outlook. In the same period, World Bank, OECD, EBRD, and other referent institutions announced Serbia as the leader in Central and Southeast Europe. (Report World Bank, Business effects in 2007.)

Serbia offers many advantages to foreign investors (Agency for direct investment and export promotion) such as strategic positioning, the lowest tax rate on profit enterprises in Europe, and a simple procedure for export trading and production. The EU has recommended the development of company law and an action plan (Valuation system used by Freedom House, valuation 1 is absence of corruption; valuation 7 is max corruption) based on expansion transparency. There are two important areas for corporate governance: financial services regulation (Transparency Directive (December 2004), Prospectus directive 9 November 2003), Insider deals directive (October 2002), national codexes corporate managing, corporate management in OECD) and voluntary regulation. Corporate governance (Modernizing Company Law and Enhancing Corporate Governance in the European Union. A Plan to Move Forward) refers to transparency of public information; equal treatment of auctioneers; a limited role of interest groups in corporate management; and a responsible management board.

## 5. Conclusion

The banking sector in the Balkans region has changed rapidly over the past few years. Simultaneously, the market positions of banks have changed. The enormous interest in foreign banks has led to strong competition. Foreign banks that are already positioned in the domestic market have brought noticeable change to the business culture and mentality of Serbia. A number of activities aim to improve the business environment, attract foreign and domestic investments, enhance the level of competitiveness, and decrease unemployment.

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**PERFORMANCE ANALYSIS OF THE BUCHAREST STOCK EXCHANGE INDICES**

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**Abstract:** *This article examines the performance indices of the Bucharest Stock Exchange, a young capital market, in training. Economic and financial crisis has left its mark on the BSE index returns, which have turned negative. In 2010, the BSE index rose slightly, after significant declines in 2008 and 2009 partial recalls. Romania's economic performances disappointing investors have led residents to adopt a general strategy of waiting, which was largely followed and local investors. In our opinion, growth prospects of performance index BSE are good in 2011, even if they will not be attained maximum values in 2007 for a very long time.*

**Key words:** indices, performance, Bucharest Stock Exchange, stock market

**Jel Classification:** G14, G01

### **1. General considerations on emerging capital markets**

Europe's financial system has undergone significant changes since the early 1990s. Similar to advanced European economies, the financial system in the region has been largely dependent on the banking sector. The penetration of foreign banks in many of these countries, following the privatization of state banks, gave the banking sector a leading role in corporate financing. However, in recent years, these countries have actively sought to develop local capital markets.

The accession of several countries to the European Union in May 2004 and Romania and Bulgaria in January 2007 enabled the growing interest of foreign investors for the stock exchanges of the region. Increased participation of foreign investors together with capital account liberalization, have also provided a significant boost to the foreign exchange market development in the region and led to relatively rapid growth, of the financial derivatives markets.

Yet, in spite of the significant progress of the past 15 years there are still key challenges to ensure future growth of capital markets. Both liquidity of shares and bonds on emerging capital markets in most Central and Eastern Europe remain low, the bond market remains small, especially corporate bond issuance and also the number of large firms is too limited to support the issuance of bonds or shares.

Regulatory and legal mechanisms remain weak to a great extent, providing little protection for investors. In addition, EU accession raises questions about the direction of development, consolidation and integration of emerging capital markets in Europe.

The share sector diversification, the development of market infrastructure and institutional investors, strong corporate governance and transparency are generally accepted as factors contributing to capital market development.

Many emerging European markets still suffer from inadequate reporting standards and lack of credibility from corporate entities. In other cases, the rules concerning compulsory disclosure of annual reports are not yet sufficiently consolidated. For example, corporations in Poland reveal less information in their annual reports than are legally necessary, despite the fact that the system of

supervision and management of the Warsaw Stock Exchange is largely regarded as exemplary, and that Poland implemented strict regulatory mechanisms aimed at protecting investors. In Turkey, poor financial information has discouraged investors and generated increased capital market volatility.

Strengthening the regulation may not be enough to encourage capital market development. Corporate bond market situation in emerging Europe is a weakness in the financial infrastructure of emerging capital markets of Central and Eastern Europe. In some countries, potential issuers have been discouraged by higher input costs, legal restrictions, regulatory processes and lack of government incentives.

The lack of a credible credit rating system constitutes an important barrier to the development of corporate bond markets in the region. In some parts of Central and Eastern Europe there are no local rating agencies and the culture of using risk assessment ratings is largely undeveloped. Moreover, even in countries where there are rating agencies, the culture of corporate bond issue rating remains weak.

Foreign investors play an increasingly important part in shaping the region's capital market development. Furthermore, foreign institutional investors have a particular importance for financial and legal system stability, for managerial competence and market liquidity. Currently, international institutional investors invest only a relatively small percentage of their portfolios into emerging capital markets in Europe. This is partly due to low liquidity in certain market segments, which prevents foreign investors from massive investments.

Thus, emerging capital markets present some risks: namely political, economic, financial, currency risks, etc.

- From the political point of view, investors will consider monitoring a combination of factors related to political stability as well as to investment and investor security;
- Economic risk assessment involves evaluating economic factors related to the functioning of the respective economy, such as the growth rate of GNP, GNP per capita, budget deficit, balance of payments deficit, inflation, foreign investment levels;
- Financial risk assessment requires monitoring factors that could disrupt financial transactions, such as the size of the financial freeze, bankruptcy law, loan repayment delays;
- Information risk assessment takes into account factors such as low market transparency, high costs for obtaining information, cultural and linguistic barriers, accounting practices of the respective country that differ from International Standards.

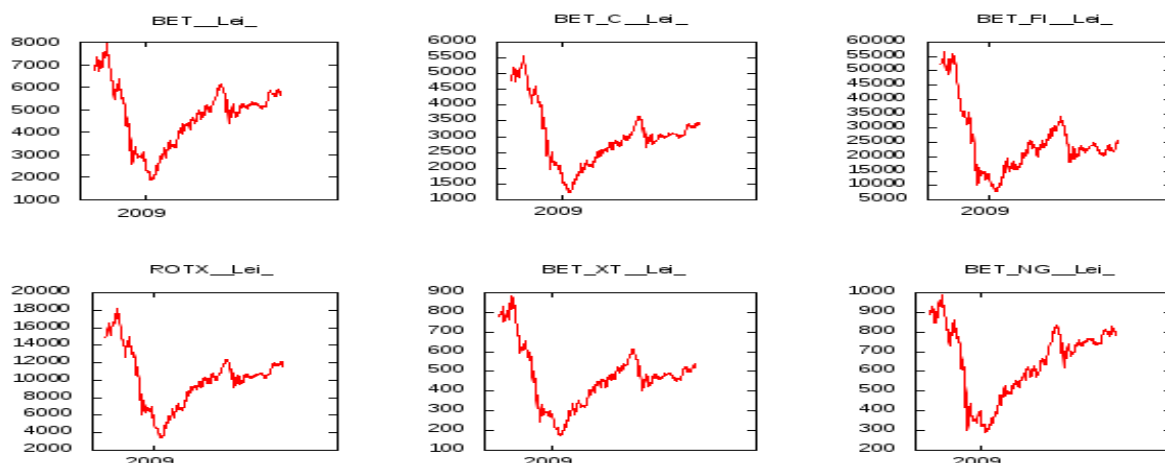
Emerging markets are characterized by a number of specific risks:

- Risk of volatility: refers to the high volatility of exchange rates varying from one period to another.
- Liquidity risk: takes into account the reduced volume of stock transactions, huge investments and divestments. There are a relatively small number of attractive and accessible investment instruments on these markets. A factor that determines low liquidity of emerging stock market is weak attendance of individual investors on the domestic stock market.

## **2. Bucharest Stock Exchange indices. Presentation and methodology for calculating**

The evolution of the Bucharest Stock Exchange in Romania, still a young and emergent market, has been analysed by means of several indices of the capital market: BET, BET-C, BET-FI, ROTX, BET-NG, BET-XT.

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**Fig.1 Evolution of Romanian stock market Indexes**

Periodic adjustments in the values of indices are designed to update the weights used in their calculation as a result of:

6. some corporate events (capital increase etc.);
7. changes in the structure of the basket indices due to the inclusion or exclusion of a company;
8. the evolution of stock prices included in the index for the previous quarter.

The adjustments refer to the following corporate events: split / consolidation, granting free shares, granting rights to subscribe for new shares at a price below market price, etc. The operational adjustments correct the artificial influences on the value of the index due to corporate events announced by companies that are part of the indices component.

The first official index of the Bucharest Stock Exchange was BET, calculated as a weighted arithmetic average based on stock market capitalization, taking into account the 10 most liquid shares listed on BSE, Class I and II. The purpose of designing the BET index was to reflect the overall trend of prices of the most liquid and active 10 companies traded on the BSE, and also to create the conditions for trading index derivatives.

The start value of this index was 1.000 points, the start date September 22nd, 1997, and the reference date September 19th 1997. Since 2000, the Index Committee (responsible for operations referring to the structure of stock market indices and related rules, as decided by the Stock Exchange Committee) has decided that the index portfolio is updated monthly (before that date, the update was done quarterly).

The formula of BET index is:

$$BET_T = BET_{T-1} \cdot \frac{\sum_{i=1,N} p_{i,T} \times q_{i,T} \times Ff_i \times R_i \times c_{i,T}}{\sum_{i=1,N} p_{i,T-1} \times q_{i,T} \times Ff_i \times R_i \times c_{i,T-1}}$$

where :

BET – the value of BET index at present, T;

BET<sub>t-1</sub> - the value of BET index at the previous moment, T-1;

p<sub>i,T</sub> - the price for I Company shares at present, T;

p<sub>i,T-1</sub> the closing price of I company shares at time T-1;

q<sub>i,T</sub> number of shares at present;

R<sub>i</sub>- factor representation at maximum 20% of the weight of the index components, corresponding to the shares of i company;

c<sub>i,T</sub> - price correction factor corresponding to shares of a company and at time T, for the days of operational review;



$c_{i,T-1}$  – price correction factor corresponding to shares of a company and at time T-1, for the days of operational review;

N – the number of companies included in the index basket.

The trend of stock market is influenced by a multitude of economic, political, social and psychological factors, which represent the cornerstone of economic conjuncture; hence the interest towards the stock market, the barometer of the national, regional or even world economy. Performances obtained on the stock market in time, the complex activity of stock exchange, are generally expressed through a system of indices, quantifying, quantitatively and qualitatively, the traded processes, the impact of the supply and demand of financial instruments.

Stock market indices are very useful for investors; their evolution is taken into account in the process of placement and fructification of capital, meaning that investors are pursuing a structure of their portfolio securities suitable for the indices structure.

Indices can be defined as a numerical expression, measured in points, of the most representative securities' rate evolution.

Beginning with 1998, the BET-C composite index was also introduced (Bucharest Exchange Trading - Composite), being the second official index of BSE, with a starting value of 1,000 points, having April 16th 1998 as reference date and April 17th 1998 as start date; it is calculated as a weighted arithmetic mean (like the BET index) with market capitalization of all prices listed on BSE. BET-C is a second generation index, comprising a large number of securities from different sectors of activity.

The purpose of the BET-composite index is to reflect the evolution of all shares traded (excluding FIC stocks), the new companies entering the stock exchange quotation being included in the index basket on the day following the market price formation.

The maximum allowed share of the capitalization of a company in the BET-C basket is 20%, as in the case of BET, it is only the number of companies entering the structure that is variable. BET-C basket includes all companies listed on BSE, out of the regulated market segment, Class I and II, except the five financial investment companies.

The BET-C index has shown a 14% growth in 2010. It is expressed both in national and foreign currency (at official exchange rate of BNR), making it a useful indicator for investors. Index value is calculated in real time and displayed on the terminal operators. The index is reproduced in real time by Reuters and Dow Jones Telerate news agencies and published on the official website of the Stock Exchange.

The formula of BET index is the following: :

$$BET - C_T = BET - C_{T-1} \cdot \frac{\sum_{i=1,N} p_{i,T} \times q_{i,T} \times R_i \times c_{i,T}}{\sum_{i=1,N} p_{i,T-1} \times q_{i,T} \times R_i \times c_{i,T-1}}$$

BET-CT the value of BET-C index at present, T;

BET-CT-1 the value of BET-C index at the previous moment, T-1

$p_{i,T}$  the share price of the company i at present, T;

$p_{i,T-1}$  the closing price of company i shares at time T-1;

$q_{i,T}$  numer of shares at present T ;

$R_i$  factor representation of maximum 20% of the weight of the index components, corresponding to the shares of i company; it is calculated to three decimal places and belongs to (0,1];

$c_{i,T}$  - price correction factor corresponding to shares of a company and at time T, for the days of operational review; it is calculated to six decimal places;

$c_{i,T-1}$  price correction factor corresponding to shares of a company and at time T-1, for the days of operational review; it is calculated to six decimal places;

Periodic adjustments are meant to update the weights used when calculating BET-C as a result of:

i. some corporate events (capital increase etc);

ii. changes in the structure of the basket of BET-C index due to the inclusion or exclusion of a company;

iii. the evolution of share prices included in the index for the previous quarter.

At the end of the year 2000, the BSE launched the BET-FI index (Bucharest Exchange Trading-Financial), a sector index for investment funds. The starting value was 1,000 points as well, the start date November 1st 2000. It represents the first sector index launched by the BSE and it presently reflects the overall trend of prices of investment funds listed on BSE. The only rule to include an investment fund in the BET-FI is that it be listed on BSE. It has depreciated by 8% in 2010.

The calculation methodology is similar to that used for BET and BET-C.

On March 15th 2005, the BSE also launched, together with the Vienna Stock Exchange so Exchange, the Romanian exchange index ROTX (Romanian Traded Index), calculated and disseminated by WBAG (Wiener Börse AG - Vienna Stock Exchange) and BSE in real time, the index being part of "CECE Index Family," International index family for Central and Eastern Europe.

ROTX reflects in real-time the movement of the most liquid "blue chip" shares listed on the stock exchange and which need to be continuously traded so as to be eligible; there is a list of shares that are potentially eligible to be included or excluded from the Romanian Exchange index, called "Watch List" and there is also an Index Committee. The index values were calculated retrospectively starting with January 1st 2002, when the value of 1000 points was settled for both the index expressed in domestic currency (RON) and the one expressed in euros (EUR) or U.S. Dollar (USD). The criteria for share selection are: market capitalization, liquidity, price availability, sector representation, market interest rate.

The formula for calculating the ROTX is:

$$ROTX_t = ROTX_{t-1} * \left[ \frac{\sum_{i=1}^N (P_{i,t} * Q_{i,t-1} * F_i * R_i)}{\sum_{i=1}^N (P_{i,t-1} * Q_{i,t-1} * F_i * R_i)} \right]$$

ROTX<sub>t</sub> - ROTX value at time t

ROTX<sub>t-1</sub> - ROTX value at time t-1

P<sub>i,t</sub> – stock price i-th at time t expressed in domestic currency

P<sub>i,t-1</sub> – stock price i-th at time t-1 expressed in domestic currency

Q<sub>i,t-1</sub> – number of shares at time t-1

F<sub>i</sub> - free float factor of share i-th

R<sub>i</sub> – representation factor of share i-th

N – number of shares of ROTX

ROTX is calculated based on RON, Euro and USD, according to the exchange rate.

In July 2008, BSE introduced two more indices: BET and BET-NG-XT. BET-XT is a blue-chip index to reflect the price trends of the 25 most liquid companies traded on a regulated market, including the SIFs, the maximum weight of a company in the index basket being of 15%. BET-NG index is a sector index registering the changes in stock prices of energy companies that are traded on a regulated market of BSE. The maximum weight of a company in the index basket is 30%. The methodology for calculating these two indices are similar to those used for BET, BET-C and BET-FI.

### 3. Analysis of stock market evolution using GARCH model

#### 3.1. The methodology and data used

The data used are the daily series of the six indices from Bucharest Stock Market: BET, BET-C, BET-FI, ROTX, BET-XT and BET-NG,, the analyzed period is from March 20, 2008 to March 21, 2011, the series are daily, and the data used is obtained from [www.bvb.ro](http://www.bvb.ro), the software used is GRETLL1, in order to obtain returns from the initial data the next conversion formula will be used as follows:

$$r = \log(\text{close}) - \log(\text{close}_{t-1}) .$$

ARCH models developed by Engel [1982] have the following equations:

$$y_t = \beta_0 + \epsilon_t \quad (1)$$

$$\epsilon_t | I_{t-1} \sim N(0, h_t) \quad (2)$$

$$h_t = \alpha_0 + \alpha_1 \epsilon_{t-1}^2, \quad \alpha_0 > 0, \quad 0 \leq \alpha_1 < 1 \quad (3)$$

The equation(1) expresses the series evolution, and so if  $Bo$  is the series' lag we have a random walk model, following a normal distribution law of conditional equations (2) and (3). Equations 2 and 3 express the ARCH type models, autoregressive models with different time variant, residues follow a normal law of 0 mean and  $ht$  variant. The value of  $\hat{\alpha}0$  and  $\hat{\alpha}1$  must be positive, and  $\hat{\alpha}1$  a number in the unit interval in order to avoid explosive processes<sup>2</sup>, errors(residue) follow a normal distribution law.

ARCH models have been developed later in the GARCH (Generalized autoregressive conditional heteroskedasticity) by Bollerslev [1986], which bring the use of lags as an innovation in equation variance, equations in the GARCH (1,1) case are:

$$y_t = \beta_0 + \epsilon_t \tag{4}$$

$$\epsilon_t | I_{t-1} \sim N(0, h_t) \tag{5}$$

$$h_t = \hat{\alpha}0 + \hat{\alpha}1 \epsilon_{t-1}^2 + \beta_1 h_{t-1}, \hat{\alpha}0 > 0, 0 \leq \hat{\alpha}1 < 1 \tag{6}$$

**3.2. Econometric analysis of the evolution of BSE index values**

Throughout the analysed period of time, the main indices on BSE had a decreasing trend for all indices examined, manifesting accelerated decline for the entire researched period of time as a result of the evolution of external markets, which in turn have undergone strong corrections, and also consequent to the manifestation of the economic crisis in the national economy.

Analyzing the evolution of yields (Table 1) on the Romanian market it is obvious that they have fluctuated strongly during the analyzed period, the average yields for the main indices on the Romanian market being negative.

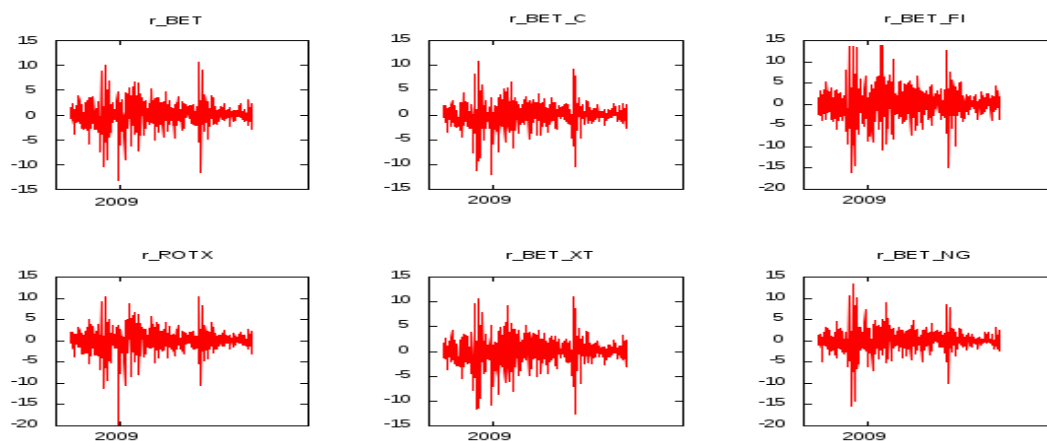
The BET-FI index, which includes the SIFs suffers the strongest correction, the yields of this index being the lowest, also the risk of holding shares in the BET-FI is the most speculative as the average deviation level is the highest of 3.49 for the years 2008-2011.

At the opposite side there are the shares that make up the BET-NG index consisting mainly of companies belonging to the energy sector, where the average yields for the period analysed are also negative but at a much lower level than other indices, along with the average deviation which is also low, turning this index into good investment in a falling market.

**Table 1. Summary Statistics, using the observations 2008/03/20 - 2011/03/21**

Variable	Mean	Median	Minimu m	Max	Std. Dev.	C.V.	Skewness	Ex. kurtosis
r_BET	-0.01984	0.06360	-13.1168	10.5645	2.35760	118.835	-0.464571	4.60626
R_BET_C	-0.04357	0.02425	-12.1184	10.8906	2.17935	50.0208	-0.594915	5.37673
r_BET_FI	-0.09696	0.00000	-16.0756	13.8255	3.49360	36.0304	-0.209760	3.69199
R_ROT_X	-0.02828	0.04155	-19.6532	10.4292	2.48937	88.0352	-0.998296	7.95198
r_BET_XT	-0.04904	0.04257	-12.6874	11.0239	2.55580	52.1174	-0.392950	3.90566
r_BET_NG	-0.01527	0.00593	-15.2569	13.4552	2.42182	158.565	-0.397374	7.67401

**Figure 2. Return evolution of indexes**



Source: own graphics using GRETL

Studying the yields charts for the period 2008-2011, it is noticeable that they fluctuate around the average, but their version is not constant over time, having a period with a low period of the variant and others in which it strongly increases; there is a cluster phenomenon in the series, where the high variant of the last period is followed by a high level all of the variant as well. Thus, it is highly probable that the heteroskedasticity phenomenon exists. Econometric analysis of the evolution of BSE index values

In order to identify the best models we will carry out the following test:

7. test for normality, which indicate that the normality hypothesis doesn't hold with an 95% probability, indicating that the series are leptokurtic.

<b>Test for normality</b>				
<b>Return on exchange rates</b>	<b>Doornik-Hansen test</b>	<b>Lilliefors test</b>	<b>Jarque-Bera test</b>	<b>p-value</b>
r_BET	241.19	0.09	695.55	0
r_BET_C	273.28	0.10	955.24	0
r_BET_FI	202.70	0.07	434.92	0
r_ROTX	333.04	0.11	2117.44	0
r_BET_XT	198.16	0.09	499.96	0
r_BET_NG	526.17	0.10	1874.94	0

8. Testing the series stationary quality, by means of the ADF test. The ADF test examines whether the coefficient of the simple linear equation is a subunit ratio, and also if series return to the average and if they are not explosive-type processes. Series are stationary with a probability of 99% for all six outputs..

<b>ADF test</b>			
<b>Return on exchange rates</b>	<b>Coefficient</b>	<b>Test statistic</b>	<b>P-value</b>
r_BET	-0.94	-25.89	99.00%
r_BET_C	-0.91	-25.19	99.00%
r_BET_FI	-0.87	-24.15	99.00%
r_ROTX	-0.85	-11.06	99.00%
r_BET_XT	-0.84	-11.12	99.00%
r_BET_NG	-0.91	-25.19	99.00%

- Testing the serial independence is performed by means of the Liung Box Q Statistics test (Appendix 1) - The used tests prove the existence of series self correlation so that we will introduce lag yields in the analysed models
9. Testing the heteroskedasticity hypothesis using the LM test.

<b>LM test</b>		
<b>Return on Indexes</b>	<b>Test statistic</b>	<b>ARCH effect</b>
r_BET	139.59	*
r_BET_C	141.14	*
r_BET_FI	175.31	*
r_ROTX	52	*
r_BET_XT	134.41	*
r_BET_NG	236.48	*
*- ARCH effect present, **-ARCH effect absent		

For the explanation of the best GARCH model we consider the lags of the yield variable as well as for the explanation of heteroskedasticity phenomenon and thus the model will look like:

$$y_t = B_0 + y_{t-1} + \dots + y_{t-n} + e_t$$

$$e_t | I_{t-1} \sim N(0, h_t)$$

$$h_t = \hat{\alpha}_0 + \hat{\alpha}_1 e^2_{t-1} + \hat{\alpha}_2 e^2_{t-2} + \dots, \hat{\alpha}_0 > 0, \quad 0 \leq \hat{\alpha}_1, \hat{\alpha}_2, \dots < 1$$

Within the models analysed we will take into account the relevant coefficients (Student test), as well as the maximizing the Akaike and Schwarz information criteria, the starting point being the tests used (AC and Functions CAP) which show that the yield variable is influenced by the evolution over the previous period and for the variant (ARCH test) the presence of lags is also detected. Analysis of these assumptions shows that the most efficient model is:

Return series	Model*	Lag r	Akaike Criterion	Schwarz Criterion
r_BET	AR(1), GARCH(2,1)	1	3102.3	3130.03
r_BET_C	AR(1), GARCH(2,1)	5	2975.29	3003.02
r_BET_FI	AR(1), GARCH(1,1)	1	3725.83	3748.97
r_ROTX	AR(1), GARCH(1,1)	5	3186.2	3209.3
r_BET_XT	AR(3), GARCH(2,1)	1,5,9	3196.91	3233.84
r_BET_NG	AR(1), GARCH(2,1)	3	3044.2	3071.95

\* - without a constant.

Based on Akaike and Schwarz information criteria the best models have been selected, thus, except for the r\_yen case where, statistically, only the variant coefficients of the equation matter statistically, the other series are influenced both by the values of previous periods the lags being 1-3 and the evolution of the GARCH component. Equations obtained are explained as follows:

Return on INDEXES	Equation of the model	Equation of the variance $h_t$
r_BET	$r_{BET\_estimat} = 0.075 * r_{-5}$	$h_{t\_estimat} = 0.1150 + 0.3033 * e^2_{t-1} + 0.1994 * h_{t-1} + 0.4971 * h_{t-2}$
r_BET_C	$r_{BET\_C\_estimat} = 0.0935 * r_{-5}$	$h_{t\_estimat} = 0.0894 + 0.2661 * e^2_{t-1} + 0.2520 * h_{t-1} + 0.4818 * h_{t-2}$
r_BET_FI	$r_{BET\_FI\_estimat} = 0.0864 * r_{-1}$	$h_{t\_estimat} = 0.1287 + 0.1638 * e^2_{t-1} + 0.8351 * h_{t-1}$
r_ROTX	$r_{ROTX\_estimat} = 0.0945 * r_{-5}$	$h_{t\_estimat} = 0.1259 + 0.2847 * e^2_{t-1} + 0.7152 * h_{t-1}$
r_BET_XT	$r_{BET\_XT\_estimat} = 0.0763 * r_{-1} + 0.0772 * r_{-5} + 0.0653 * r_{-9}$	$h_{t\_estimat} = 0.1122 + 0.2801 * e^2_{t-1} + 0.2802 * h_{t-1} + 0.4395 * h_{t-2}$
r_BET_NG	$r_{BET\_NG\_estimat} = -0.0686 * r_{-3}$	$h_{t\_estimat} = 0.0601 + 0.2088 * e^2_{t-1} + 0.5128 * h_{t-1} + 0.2782 * h_{t-2}$

• **Conclusions**

The present research seeks to analyse the trend of the main indices of the Romanian stock market in order to understand their evolutions. Therefore, throughout the analysed period of time, their evolution was strongly influenced by the international economic crisis, the average yields in this period being negative for all series. Further on, the effects of the economic crisis are felt by BSE index whereas their return to an upward trend has to do with the improvement on the economic situation worldwide and, in particular with the evolution of the main foreign markets, meaning the European, American and Asian ones.

Due to its weak capitalization and low liquidity (the market being emerging in Romanian) on the Romanian market the revival of the Romanian stock market seems impossible without the improvement of foreign markets. Data analysis for the last three years has shown the challenges investors have to face in this market, the negative returns and high risk that also exist on the Romanian market. The financial series in general and the capital market in particular are time series that do not follow normal distribution laws, the

performed analysis demonstrating their leptokurtic character, thus, using the modeling of heteroskedastic-like time series are the natural choice in modeling these time series.

Using conditional autoregressive type heteroskedastic type models we have identified GARCH models in order to explain their evolution and especially the associated risk. The family of GARCH models is an extremely vast one that is why we seek to apply the further on to other models derived from GARCH capable to better capture the characteristics of financial series: asymmetry and risk. The models presented aim to provide investors and financial institutions exposed to capital market with instruments that would lead to a better understanding of the evolution and the risks associated with the Romanian capital market.

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## 5. Appendix Appendix 1.

