

## Goliath

*“Economic systems justify their reason of being through the quantitative rule of evermore and much faster, political systems aim for the absolute control, cultural ones entertain globalism and religious ones claim universalism.”*

Growth can be observed as a common trait of both natural and artificial systems. The difference lies in the fact that artificial systems, created by man, have the tendency to not follow the rule of commonsense while growing.

In a multi-secular forest, the tree which does not follow the general rhythm of growth does not endure. A forest lasts over the ages when the trees grow in matching rhythm. What stays small or grows too large compared to the median height of all the trees will drop out of the game. This is not to say that some forests are not taller than others or that the woods cannot contain species of different size. The problem is that the same specie constitutes a durable forest, following the principle of the equal access to the resources of light and humidity.

Nature is a democratic principle in the understanding of necessity. The food chain functions on the rule of the disequilibrium favorable to all. Nature is built upon the commonsense of the vital proportions, the only secret to success being that of harmonious together-living.

If within all living nature the growth is governed by the sign of arithmetical harmony, except for the occasional occurrence of cancerous behavior, then in man-made world – with its multiple dimensions of economy, politics, culture, religion etc. – growth follows the trend of geometrical progression. Economic systems justify their reason of being through the quantitative rule of evermore and much faster, political systems aim for the absolute control, cultural ones entertain globalism and religious ones claim universalism.

Due to the fact that they are overbidding their functions, artificial systems experience decline, they are marked by the implacable growth-decline cycle. All which gets to grow more than it is necessary to the proportional measure between cause and effect, between intention and consequence or between reasons and ends will self-destroy sooner or later.

The flagrant disparities between the hypothesis and the conclusions indicate a logical inconsistency. The much too large deviations from the mean of entry and exit values show the structural precariousness of a system. That which becomes too large kills diversity and tends to be self-sufficient. Monopoly, for instance, equalizes through massification, demotivates through centralization and subordinates through power.

The world proves that it chooses Goliath. Everything it does is pervaded by the admiration for Goliath. This inclination towards massiveness pertains to the

materialistic fiber of mankind. It illustrates the admonition for the recognition of its demiurgical power. It is the effect of the breaking of the chains with which nature had pinned it to the rock of reason and of the rational.

Being too big is the end whose attainment certifies liberation to mankind. Liberty has begun with the sense of conquering nature. The goal of mankind is to exit nature, to be a supra-nature by dimension and costs. The image of the supra-nature is diverse, from the capacity for destruction (which is, in fact, self-destruction) to the squandering of resources.

Somewhat symptomatic, the supra-nature created by mankind has the consistency of implosion. That which becomes too large falls under its own weight. From empires to global companies, the rule of falling has functioned without fault. The history of mankind is, essentially, the history of the growth and decline of over-grown structures. Where growth had been spectacular an even more spectacular fall has followed.

The global economy, as a preferred formula of the creative power of mankind, defies the rule of the natural commonsense. The markets have become so large that they align everything in accordance to their demands. The society is organized on the principles of the markets. The banks have lifted their power of influence so high that states pay a tribute for existing. The Paretian polarization of revenues approaches the limit of the absurd: 1 to 99! It seems now a golden age when ten percent of the population owned ninety percent of the wealth.

Goliath gets his revenge!

Marin Dinu

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## Quantitative vs. Qualitative in the Romanian Fiscal Adjustment

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**Abstract.** *As it encountered a fiscal event (budget liquidity crisis) in 2009, Romania should have proceeded to one of the most ambitious fiscal correction in the last 30 years in EU. Nevertheless, the absence of vision regarding the increase in quality of the fiscal adjustment is obvious. The fiscal correction made until now has rather been a quantitative one, falling within certain strictly numerical targets. In this paper, we present a series of signals arguing for the necessity to increase the fiscal quality. Moreover, we propose a few immunization mechanisms of the Romanian economy against the contagion of the current uncertainty in the Euro area or against the future crises.*

**Keywords:** fiscal adjustment; contagion; immunization mechanisms.

**JEL Codes:** E61, E63.

**REL Codes:** 8M, 18B.

## Introduction

The economic crisis showed that Romania did not have good policies in good times. The pro-cyclic policies represented the main factor of the macroeconomic drifts recorded during the period 2005-2009. On the other hand, it is obvious that the methods for the analysis of the fiscal and budgetary policy's efficiency during the pre-crisis period – based on the analysis of the real budget deficit – proved to lack relevance (Table 1).

Table 1

### The cyclic budget deficit and the structural budget deficit in Romania

– %GDP –

Years	Output gap	Structural budget deficit (% real PIB)	Structural budget deficit (% potential GDP)
2000	-1,55	-3,86	-3,43
2001	-0,57	-3,22	-4,06
2002	-0,60	-2,56	-3,89
2003	-0,91	-2,14	-3,78
2004	0,86	-1,09	-2,96
2005	2,60	-2,70	-1,42
2006	6,05	-4,36	-4,91
2007	8,81	-5,16	-6,13
2008	9,13	-8,57	-7,06
2009	-1,92	-8,26	-9,11
2010	-4,00	-6,53	-8,26

Source: Author's calculations, 2011.

The estimation of the cyclic budget deficit and of the structural budget deficit has been made according to the EU method, in 3 stages: a) The estimation of the gap between the real gross domestic product and the potential gross domestic product (potential GDP), according to the method recommended by the European Commission – the production function method, according to the procedure described by Denis et al. (2006); b) The estimation of the cyclic component based on the output gap and on the sensitivity of the budget deficit; c) The estimation of the structural component by means of eliminating the cyclic component out of the current budget component (see details in Socol, 2011).

Romania makes a purely quantitative adjustment, with future consistent payment delays (half-wits, amend for those who obtained the revenues recovery in court etc). Even though Romania has the second most ambitious fiscal

correction program (with an annual average fiscal adjustment speed of 1.9% of the GDP with reference to the decrease of the structural deficit), the quality of the fiscal adjustment is poor. There are a few signals showing this fact:

The first one is related to the analysis of the budget executions from the second half of 2011. We may easily notice that the positive evolution of the budget revenues are firstly due to the consistently higher returns from VAT (which increased from 19% up to 24%) and from the increase of the excises. The private environment is not stimulated to make investments and to create jobs. The decrease of consumption has determined constant nominal evolutions regarding the tax on profit and the tax on salaries and on income (even real losses of 4.5% for the tax on profit and for the tax on salaries). The rigidity of the budget expenses have not decreased, with reference to the goods and services (plus 11.5% on nominal, showing the incapacity to clean the budget system of corruption, the persistence of half-wits etc.) and to social assistance (minus 2.4% only, reflecting the incapacity to correspondingly aim to the assistance forms for the vulnerable persons). The decrease of the costs with the personnel in 2010 and 2011 is a good thing, but it is not actually but a payment delay for them. The budget execution shows that the total savings regarding the costs with the personnel, by means of income cuts proposed during the period between June 2010 and June 2011 are approximately 2% of the GDP, almost 8 billions of RON, and the amends won by the public employees in court during the last year are 8 billions of RON, too. So, actually, the austerity measures in these fields only represent a deficit which is delayed until the period 2013-2014, when these amends should be paid, and they will be indexed to inflation. The high increase of the costs with interests is also worrisome (plus 27.3% nominal, plus 22% real) showing financing difficulties and the increase of the burden for the next generations. Last but not least, the increase of the capital expenses (plus 16.5% on nominal) represent a positive but weak signal for the stimulation of the economic growth. Weak because the public investments do not represent a priority, generating low multiplication effects.

The second signal for the low quality of the fiscal adjustment in Romania is related to the fact that there are no consistent programs for creating jobs. The economic crisis has strongly struck the Romanian labour market, the total of the employees decreasing by 640,000 persons during the period September 2008 – August 2011 (according to the data from the Romanian National Institute of Statistics, 2011). The result is high pressures upon the budgets for social assistance, pensions, unemployment, health etc where higher and higher deficits are recorded.

The third signal may be argued by making an analysis for the dynamics related to the contribution of the total factor productivity to the economic growth. The IMF forecasts and those of the National Forecast Committee regarding the contribution of the production factors to the economic growth are not consistent with each other. In case both International Monetary Fund and National Forecasting Commission of Romania forecast an average 2.8-2.9% economic growth rhythm for the period 2010-2015, when the factors' contribution to the economic growth are detailed, there are significant differences between the calculations of the two institutions. If IMF anticipates a major contribution of the capital factor to the economic growth (3.4 percents) and a negative contribution of the total-factor productivity (TFP) (0.4 percents), NFC estimates an average contribution of the capital factor which is much lower (1.2 percents) and a significantly positive contribution of the TFP (1.6 percents). This means that IMF considers that the intensive elements of the economic growth – TFP contribution – institutional development, add on the technical progress, research development innovation, competitiveness increase, add on investments in human capital, financial markets maturity etc. – have a lower contribution if compared to the extensive ones – keeping the sustainable growth model – while NFC forecasts a change of the model by predominant elements of economic growth quality until 2015 (Dinu et al., 2011).

The fourth signal is related to the high decrease of the Romanian economy's potential. Romania's post-crisis economic potential is half of the pre-crisis one. The potential GDP increase ratio decreased to a half of that from the pre-crisis period. If during the period 2005-2008 Romania had a potential GDP increase rhythm of 5-6%, the studies show that it will get decrease to 2.5-3% on a medium term. The IMF estimation regarding Romania's economic growth in 2012 got decreased from 3.7-4% to 1.5-2%, i.e. to a half.

The fifth signal is related to the fact that Romania has the lowest degree of absorption of the European funds. If we exclude the pre-financing, we find a real degree of absorption of 4% only.



Table 2

**The situation of the structural and cohesion funds' absorption by Romania**  
(December 31<sup>st</sup> 2010)

– Mil. Euros –

	Total allocations 2007-2013	Payments - december 2010			Absorption rate (%)	Absorption, exclusive prefinancement (%)
		Total, from which	Prefinancement	Rambursments UE		
Regional development	3,726	554.9	381.4	173.5	14.9	4.7
Environment	4,512	318.5	266.2	52.3	7.1	1.2
Infrastructure	4,565	47.2	0.0	47.2	1.0	1.0
Competitivity	2,554	251.2	106.3	144.8	9.8	5.7
Human capital	3,476	464.2	416.6	47.6	13.4	1.4
Administrative capacity	208	10.2	4.1	6.1	4.9	2.9
Technical assistance	170	9.0	1.2	7.8	5.3	4.6
<b>Total</b>	<b>19,211</b>	<b>1655.3</b>	<b>1175.8</b>	<b>479.5</b>	<b>8.6</b>	<b>2.5</b>

**Source:** Authority of Coordination Structural Instruments, Fiscal Council calculus.

On march 31<sup>st</sup> 2011, the absorption rate increased by 1.5 – 2 percents for each program. Totally, the absorption rate increased from 8.6% at the end of 2010 up to 11.06% at the end of the first quarter of 2011. if we exclude pre-financing, the indicator corresponding to the real absorption is of approximately 4% of the total EU assignments for Romania, related to the period 2007-2013.

Starting from the signals listed before and considering the last evolutions of the global economy (especially the turbulences determined by the Euro area sovereign debts crisis), we may agree that the risk of overlaid crises in the Romanian economy has not passed. It is obvious that Romania should avoid the black scenario given by the series of internal shocks which degrade the macroeconomic environment → the uncertainty of the financial markets increases → CDS explodes → we enter a partial default – determined by the impossibility to access the external markets + high depreciation of the RON → liquidity crisis of the budget and so on. We must admit that the vicious circle can be broken with difficulty as we are inside it. The solution of fast indebtness does no longer represent an observable option, as Romania has exceeded the sustainability threshold for the total public debt estimated to 37% of the GDP for a while. Any additional loan will deepen the low economic growth rates, and it will put pressure on the real rates of interest and it will make economy less immune to the future crises.

The following question arises: what has to be done to immunize the Romanian economy? We consider that, firstly, a pack of institutional measures is necessary (this paper will only make reference to this type of measures).

The introduction of the fiscal rules in Constitution. Setting up a fiscal rule of 0.5% of the GDP as a target to be reached by the structural budget deficit until 2016 + a rule for limiting the public debt to maximum 45% of the GDP, with corrective actions at certain thresholds.

Then, it will be necessary to settle a crisis cell in the Minister of Public Finances, which should implement a series of early fiscal stress/ fiscal warning indicators, according to the method proposed by IMF. The crisis cell will implement a report including two signaling instruments: *an indicator for the fiscal vulnerability*, which permanently measures the degree of fiscal vulnerability, and *an indicator for the fiscal stress*, which provides an assessment for the Romanian economy's tendency towards extreme "events", such as non-fulfillment of the fiscal obligations and high peaks in the extent of the interest rate (methods detailed in Baldacci et al., 2011).

In order to efficiently benefit from the financing opportunities existing on the market, the Minister of Finances should conclude cooperation partnerships with investors brokerage companies existing on the international capital markets. Moreover, the Minister of Finances should implement partnerships with famous bank consortiums which should prepare the entrance on the external credit markets in a very short time under favorable conditions. Romania should base on the experience of the brokers and of the bank consortiums in order to speculate the financing opportunities occurring over time, thus reducing the costs with the loans for refinancing the debt or for covering new expenses.

Setting up the Economic Programming and Forecast Council (by restructuring the CNP), an institution which will settle Romania's strategic and development directions, by means of orientative economic programming. CPPE will elaborate a sectoral development strategy, based on the analyses made by the economic research institutes, with reference to the competitive advantages available to the Romanian economy. During the second stage, CPPE will propose a method to prioritize the public investments (the next step being to provide multi-annual financing for the listed investments and to game on the public and private partnership solution for the other investments, their sale or providing financing from extra-budget sources only). By means of its available supports, the government will involve the economic agents in this new development pattern. The state will make massive and priority investments, which will stimulate the economy. Municipal bonds and fiscal facilities will be given for investments in infra-structure, in research and development, in the

human capital, in renewable energy, in IT, in ecologic agriculture and in other superior fields. By means of the multiplying effects of these public funds, orders will be given to the private companies, which will begin to make investments. The subsidies and the state assistance will be conditioned and they will be prioritarily given to the highly competitive potential sectors, settled in the CPPE analyses. CPPE will quarterly monitor the efficiency of investing such public funds towards strategic directions settled according to the EU system of structural indicators.

An emergency could also be the implementation of a pack of measures for the faster absorption of the European funds. The negotiation with EU for the re-assignment of the structural and cohesion funds for Romania + the realistic estimation of the degree of absorption regarding the European funds until 2015 + the remaining amounts enter an Economic Re-launching Fund together with the amounts which have not been attracted by the other cohesion countries + application to EC with reference to the amounts related to co-financing not to be included in the deficit + declaring VAT as exigible.

We consider that Romania should continue the fiscal correction, moving the focus on mechanisms related to the continuous fiscal discipline, to the prioritization of the public investments, to sustainable reforms in education and health and also schemes for the stimulation of the private investments in field with high added value.

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## Amplification Effects and Unconventional Monetary Policies

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**Abstract.** *Global financial crises trigger off amplification effects, which allow relatively small shocks to propagate through the whole financial system. For this reason, the range of Central banks policies is now widening beyond conventional monetary policies and lending of last resort. The aim of this paper is to establish a rule for this practice. The model is based on the formalization of funding conditions in various types of markets. We conduct a comprehensive analysis of the “unconventional monetary policies”, and especially quantify government bonds purchases by the Central bank.*

**Keywords:** unconventional monetary policies; amplification effects; central banking; crisis management.

**JEL Codes:** E44, E58, E65, G15, H60.

**REL Code:** 8J.

## Introduction

Since the beginning of the 2000s, global finance has had three distinctive characteristics. The first characteristic is the disintermediation of capital markets, mostly caused by the increasing use of securities to raise capital, rather than banks. It is all the more considerable that the government and firms of a country used to borrow in comparison with households. The second characteristic is that the boundary between intermediary financial institutions and markets is not clear. This is shown by the important weight of market capitalization of banks, and by the fierce competition between traditional stock exchanges and electronic platforms, that are sometimes controlled by banks. The third characteristic is the increasing importance of OTC markets, without price quotes and volume statistics, contrary to organized securities exchanges. This can have a destabilizing effect, considering that only a small part of the trades executed in the OTC markets are handed over to a clearing house.

Consequently, global financial crisis trigger off specific large amplification effects that strengthen the expected financial acceleration effects (Adrian, Shin, 2009). Those amplification effects allow relatively small shocks to a single market to propagate through the financial system, leading to both rapid and deep drops in the value of financial assets and large increases in the costs of external finance to economic agents.

Under these circumstances, there was a wide range of Central Banks (CBs)' responses to the recent financial crisis. These unconventional monetary policies have three main characteristics (Caruana, 2010). In a remarkably short time, the CBs brought down the official interest rate nearly to zero. They provided large amounts of additional CB liquidity to commercial banks, and dramatically expanded the size of their balance sheets by directly purchasing assets, supporting asset prices and achieving a decrease in yields on bonds and long term interest rates.

The aim of this paper is to describe the whole range of unconventional monetary policies. We will focus on quantifying direct government and private bonds purchases in the case of a shock, with a negative link between an increase in the cost and availability of external funding of economic agents. The paper is organized as follows. It begins with a survey of recent literature on central banking. On this basis, in section 2 we propose a model of a CB's decision-making in the case of a shock, triggering amplification effects. In the model, if the decrease in the official interest rate combined with additional refinancing operations in the interbank market does not allow an easing in funding conditions, the CB will purchase government bonds and private securities. As a conclusion, in section 3 the paper finally turns to capital markets' structure reforms with a central idea: if a financial crisis keeps triggering off amplification effects, unconventional monetary policies could become the standard practice of monetary policy.

## 2. Survey

It is generally agreed that financial innovations improve risk diversification in credit markets, which in turn reduces the likelihood of a crisis (Gai et al., 2008). However, the financial accelerator can be reinforced by amplification effects if the market players' risk perception (and aversion) suddenly sharply increases (Krishnamurthy, 2009, Mishkin, 2009, Martin, Ventura, 2010, Sarkar, Shrader, 2010). Moreover, in the context of "global finance", any market disruption (especially over the counter [OTC]) (Blanchard, 2009) is likely to cause a turmoil on a wide range of asset prices (Adrian, Shin, 2010, Ehrmann et al., 2010), hence a potential market liquidity shortage in the interbank market, especially within the originate-and-distribute business model. The subsequent deleveraging is greater when pro-cyclical accounting standards or regulatory regimes have strengthened the wealth effect in good times (Berger et al., 2008, Chatterjee, 2010, Dell'Ariccia et al., 2008, Geanakoplos, 2010, Tobias, Shin, 2010). First, aggregate liquidity is closely linked to the balance sheet of the banking system (Gatev, Strahan, 2006, Shin, 2008). Secondly, banks liquidity depends on market liquidity and may suddenly vanish, behaving like a binary variable (Franck, Krausz, 2007). Regulators are likely to bail out a large proportion of banks because of both the "too-big-to-fail" and the "too-many-to-fail" effects (Acharya, Yorulmazer, 2007).

In such circumstances, it is necessary (e.g. for Eurosystem and US Federal Reserve) to conduct an unconventional monetary policy (Korinek, 2011). On the one hand, this implementation complements the lender of last resort function in order to deal with the financial and banking crisis, with a sharp lowering of official interest rates. On the other hand, it represents a continuation of monetary policy toward asset prices and returns (Caruana, 2010), causing changes in inflation expectations. Traditional standing facilities are associated with a "stigma" effect in the interbank market (Armantier and al., 2009, Le Maux, Scialom, 2010), hence the injection of large amounts of liquidity through the use of new instruments, such as the (anonymous) Term Auction Facility. Furthermore, after the beginning of the subprime phase of the crisis, CBs significantly extended refinancing deadlines for various operations and broadened the range of eligible collateral for repurchase agreements and refinancing operations (e.g. Primary Dealers Credit Facility; Fleming et al., 2009). These measures also aimed to restore interbank confidence and markets liquidity (Noyer, 2009). Nevertheless the risk-bearing capacity of market makers (prime brokers) remains highly limited and major banks stop providing liquidity to OTC markets (Brunnermeier, Pedersen, 2009, Brunnermeier, 2009, BIS, 2009, Monnet, 2010). Thus CBs act as buyers of last resort or market-makers-of-last-resort (Lagos et al., 2009, Bolton et al., 2009). Assets purchases finally aim to get more robust corporate balance sheets and relatively healthy banking sectors.

Despite moral hazard effects (Keister, 2010) and a CBs' balance sheet expansion and deterioration (Buiter, 2009), these coordinated quantitative and credit easing policies made it possible to rein in crisis (Bentoglio, Guidoni, 2009, Besson, Nguyen, 2011). Baumeister and Benati (2010) underline the need to avoid deflation, which is achieved. Fahr et al. (2011) or Sarkar and Shrader (2010) show the effectiveness of the Fed's action. Lenza et al. (2010) or Giannone et al. (2011) find the same result concerning the ECB's policy. However they state that this positive effect is undermined because the relationship between assets purchases and money markets spreads should include the possibly delayed impact on confidence. Market spreads are actually not only a dependent variable; they affect corporate portfolio choices, hence a critical indirect effect of unconventional monetary policies through confidence (Berg, 2010, Gelain, 2010, Guichard et al., 2009, Manganelli, Wolswijk, 2007). Recent researches also focus on the sequencing of these policies (Chiu, Koepl, 2009) and the zero lower bound on nominal interest rates (Cúrdia, Woodford, 2009). DSGE frameworks based on frictions and the financial accelerator assess the positive impact of CBs policies (Cúrdia, Woodford, 2009, Christiano et al., 2010, 2011, Dellas et al., 2010, Del Negro et al., 2010). Recent developments provide more specific results by introducing a stylized banking sector with its own collateral and borrowing constraints (Gerali et al., 2010, Meh, Moran, 2010), and highlight the impact of market liquidity risk on monetary policy transmission channels (Gambacorta, Marques-Ibanez, 2011). Asset securitization globally increases banks' exposure to risks (Brunnermeier, Sannikov, 2009), hence the importance of the bank capital channel (N'Diaye, 2009), the risk-taking channel<sup>(1)</sup> (Borio, Zhu, 2008), the role of asset prices (Jeanne, Korinek, 2010), and consequently of counter-cyclical macroeconomic responses<sup>(2)</sup>.

Those theoretical underpinnings are necessary to reduce market uncertainty and improve coordination and crisis management. In this context, Gertler and Karadi (2009) compute an optimal unconventional response to the disruption of financial intermediation. The aim of their paper is to determine the proper amounts to moderate the downturn when the CB directly lends in private credit markets. As shown by the present sovereign debt crisis, the breakdown of banking activities also worsens public finances and government bonds risk premium (Schuknecht et al., 2010), through recovery plans and recapitalizations schemes. Monetary authorities are all the more inclined to buy government bonds than those usually safe haven securities are in turn purchased by banks ("flight to quality"). We present a simple theoretical model in which the so-called modern CBs (Buiter, Sibert, 2008) quantify the amount of asset purchases in primary and secondary markets, by taking into account the additional issuance of government bonds. The CB's demand for securities faces liquidity shortages in these markets. As in the recent contagious crisis, the shock in the firstly declining market has fundamental causes, and they remain outstanding even though confidence and markets functioning are restored.



### 3. The model

Let us assume an initial shock in a single market, rather than a bank. This initial trigger leads to a strong deterioration in funding conditions of a wide range of markets. Following Goodhart & Huang (1999), we propose a model of the CB's decision making, based on a set of predetermined desired levels of liquidity in these markets. The initial shock causes a change in liquidity levels, which is partly predictable and partly stochastic. We consider three types of markets: credit markets (including the interbank market), primary and secondary securities markets.

The main problem in modeling is the treatment of the difference between nominal liquidity and its desired level. In central banking models, the loss from getting macro-policy wrong is usually quadratic, since the total damage caused by the deterioration of financial conditions is a non-linear function of the magnitude of the original shock. However, the remarkable expanding size of the CBs' balance sheets shows that the treatment of deviations from the target cannot be symmetrical. Thus, we apply a minimum desired level of liquidity in each market. If this threshold level cannot be achieved by the decrease in the official interest rate, the CB will conduct bonds purchases.

#### 3.1. Markets setup

There is a total of  $N$  different assets, each of these corresponding to a different market with index  $i$ . The government bonds market is associated with 0 index; credit markets with 1 (the interbank market) to  $n_1$  indexes; the other primary and secondary markets, respectively, with  $n_1+1$  to  $n_2$  and  $n_2+1$  to  $N$  indexes.

Each type of asset is characterized by funding conditions, which include the cost and availability of capital. The availability of capital, called "liquidity" of the market in the rest of the paper, is measured by the difference between demand and supply of funding. The cost of capital is measured by the risk spread between the nominal return on asset  $i$ ,  $r_i$ , and the official interest rate,  $r_{cb}$ . At the beginning of the model, all the markets are in equilibrium. After the shock  $r_i$  is affected by variations in both the official interest rate and the spread (depending on the amplification effects of the initial shock).  $r_i$  takes the form of interests in the case of credit and bonds markets; for all other markets it is supposed to be fully anticipated. The return on the  $i$  asset is written as follows:

$$r_i = r_{CB} + \pi_i, \quad i = 0, \dots, N \quad (1)$$

### *Credit markets*

Credit markets are associated with  $I$  (the interbank market) to  $n_I$  indexes. Liquidity is measured by the difference between demand ( $LD_i$ ), and supply ( $LS_i$ ) of credit, which increases with a rise in the interest rate<sup>(3)</sup>. Before the shock, the market is in equilibrium. Then the liquidity indicator ( $CM_i$ ) can become positive, that is:

$$LS_i = -c \times r_i + d, \quad c > 0, d > 0 \quad (2)$$

$$LD_i = -a \times r_i + b, \quad a > 0, b > 0, c > a, d > b \quad (3)$$

$$CM_i = LD_i(r_i) - LS_i(r_i) \quad (4)$$

Apart from the interbank market, credit markets are specific: in case of a liquidity shortage, the CB cannot conduct direct intervention. It can neither provide liquidity as a lender of last resort (as in the interbank market), nor directly purchase assets (as in primary or secondary markets). If lowering official interest rates does not take credit markets back to equilibrium, the liquidity shortage will remain.

### *Primary markets*

Primary stock markets are associated with  $0$  (government bonds, see below) and  $n_{I+1}$  to  $n_2$  indexes. In these markets liquidity is measured by subscription ( $D_i$ ) of securities issues ( $S_i$ ) with an expected return ( $r_i$ ).

$$PM_i = S_i(r_i) - D_i(r_i), \quad \text{with } \frac{d S_i}{d r_i} < 0 \quad (5)$$

$$\frac{d D_i}{d r_i} < 0 \quad \text{and} \quad \frac{d^2 D_i}{d r_i^2} > \frac{d^2 S_i}{d r_i^2}$$

As in credit markets, the supply function is more strongly decreasing than the demand. Whenever the liquidity indicator  $PM_i$  is strictly positive and exceeds the CB's threshold, it will purchase assets in the relevant(s) market(s).

### *Secondary markets*

Secondary markets are associated with  $n_{2+1}$  to  $N$  indexes. The supply and demand of assets are functions of return as described in the case of credit markets (5). The liquidity indicator takes the value of the excess supply of assets ( $SM_i$ ). This value is initially 0 for all secondary markets (organized securities exchanges vs. OTC markets, simple vs. complex assets markets). After the shock, it must remain within the limit of the CB's threshold as seen above.

*Primary market of government debt*

This market is associated with the  $i=0$  index. The supply function  $S_0$  depends on the structural deficit  $\bar{S}$  and the other markets' liquidity indicators.

$$S_0 = \bar{S} + \alpha \sum_{i=1}^{i=n_1} (LD_i - LS_i) + \beta \sum_{i=n_1+1}^{i=n_2} (S_i - D_i) + \gamma \sum_{i=n_2+1}^{i=N} (S_i - D_i),$$

$$\alpha, \beta, \gamma \in [0, 1] \quad (6)$$

When the crisis occurs, the supply function is increased by the cost of the recovery policy (in case of an excess demand of funds in credit markets and primary markets) and of the financial sector support policy (in case of an excess demand of funds in secondary markets).  $\alpha$ ,  $\beta$ , and  $\gamma$  depend on government priorities.

Demand for government bonds  $D_0$  takes a similar form. It depends on the "risk-free" part of the portfolios and regulatory compliance  $\bar{D}$ , the magnitude of the deficit  $\lambda S_0$ , and the value of liquidity indicators in other markets.

$$D_0 = \bar{D} - \lambda \times S_0 + \zeta \sum_{i=1}^{i=n_1} (LD_i - LS_i) + \eta \sum_{i=n_1}^{i=n_2} (S_i - D_i) + \theta \sum_{i=n_2}^{i=n} (S_i - D_i),$$

$$\lambda, \zeta, \eta, \theta \geq 0 \quad (7)$$

When the crisis occurs, demand for government bonds is increased because of the "flight to quality" effects entailed by the illiquidity of one or more other markets. Unlike the supply function, for which the coefficients are positive and less than 1, those of the demand function are positive without upper bound. The transfer of investors on government bonds is actually not reduced only to illiquid markets.

Replacing the supply function with its value we get:

$$D_0 = (\bar{D} - \lambda \times \bar{S}) + (\zeta - \lambda \times \alpha) \sum_{i=1}^{i=n_1} (LD_i - LS_i) + (\eta - \lambda \times \beta) \sum_{i=n_1}^{i=n_2} (S_i - D_i)$$

$$+ (\theta - \lambda \times \gamma) \sum_{i=n_2}^{i=n} (S_i - D_i)$$

So the potential liquidity shortage in government bonds market can be written as:

$$S_0 - D_0 = (1 + \lambda)\bar{S} - \bar{D} + (\alpha(1 + \lambda) - \zeta) \sum_{i=1}^{i=n_1} (LD_i - LS_i) +$$

$$+ (\beta(1 + \lambda) - \eta) \sum_{i=n_1}^{i=n_2} (S_i - D_i)$$

$$+ (\gamma(1 + \lambda) - \theta) \sum_{i=n_2}^{i=n} (S_i - D_i) \quad (8)$$

Recovery policies worsen deficit and increase bonds' supply. The "flight to quality" effects increases bonds demand. The government bonds market is illiquid when the recovery policies adverse effects, outweigh the favorable "flight to quality" effects.

### 3.2. Timing of the model

#### *Set-up*

Let us consider the following three-period model. At  $t = 0$ , all the markets are in equilibrium, except for the government bonds debt market: there is an excess demand for assets in this market.

At  $t = 1$ , a shock may occur in one of the secondary markets ( $i \in [n_2 + 1, N]$ ). The market that is suffering the shock is denoted  $i = \hat{i}$ . In this market, the shock triggers both a liquidity shortage and an increase in the risk spread. At this stage of the model, amplification effects generated by the shock affect only the interbank market ( $i = 1$ ). The CB will provide liquidity to fill the market liquidity shortage but keep the official rate unchanged.

At  $t = 2$ , funding conditions (cost and availability of capital) in the  $\hat{i}$  market are unchanged. In the other markets, there can be two cases: either the interbank market is weakly affected at  $t = 1$  and the liquidity provision will restore its funding conditions, or amplification effects become widespread and there will be worsening funding conditions in all markets. In this second case, the CB will continue its liquidity provision in the interbank market and begin to implement the unconventional monetary policy. This policy has three characteristics: 1/ the official interest rate is brought down almost to zero; 2/ the CB purchases government bonds if required; and 3/ it purchases private assets in the (remaining) illiquid secondary markets. We will discuss in particular this second case in the model.

#### *Initial state ( $t_0$ )*

At the beginning all the liquidity indicators comply with the CB's threshold levels.  $\overline{CM}_i$ ,  $\overline{PM}_i$  and  $\overline{SM}_i$  are respectively associated with the threshold levels in credit markets, primary markets, and secondary markets:

$$\begin{cases} S_{0\ t_0} - D_{0\ t_0} < 0, & \overline{PM}_0 < 0 \\ LD_{1\ t_0} - LS_{1\ t_0} = 0, & \overline{CM}_1 = 0 \\ LD_{\hat{i}\ t_0} - LS_{\hat{i}\ t_0} = 0, & \overline{CM}_{\hat{i}} > 0, \ i = 2, \dots, n_1 \\ S_{i\ t_0} - D_{i\ t_0} = 0, & \overline{PM}_i > 0, \ i = n_1 + 1, \dots, n_2 \\ S_{i\ t_0} - D_{i\ t_0} = 0, & \overline{SM}_i > 0, \ i = n_2 + 1, \dots, N \end{cases} \quad (9)$$

Contrary to the other markets that are in equilibrium, government bonds ( $i = 0$ ) are over-subscribed. The CB's threshold levels are positive, except for the government bonds market and the interbank market. In the government bonds market, there must be a positive excess demand, and the interbank market must not be rationed.

### 3.3. The shock ( $t_1$ )

#### *Initial shock and spill-over in the interbank market*

The shock occurs at  $t_1$  in one of the secondary markets - this market is denoted  $i = \hat{i}$ . In this market, the shock affects both spreads and liquidity:

$$\begin{cases} \pi_{\hat{i} t_1} > \pi_{\hat{i} t_0} \\ SM_{\hat{i} t_1} > SM_{\hat{i} t_0} \end{cases}$$

Amplification effects generated by the initial shock affect only the interbank market, as follows:

$$\begin{cases} \pi_1 t_1 > \pi_1 t_0 \\ CM_1 t_1 > CM_1 t_0 \end{cases}$$

The rise in the spread depends on the rise in the spread in the  $\hat{i}$  market (that was affected by the initial shock) and the size  $j$  of this market. It also depends on a multiplicative term composed of a parameter  $p$  and of a random term  $\epsilon$ :

$$\begin{aligned} \pi_1 t_1 &= \pi_1 t_0 + \Delta \pi_1 \\ \Delta \pi_1 &= \Delta \pi_{\hat{i} j} (p + \epsilon), \quad p > 0 \end{aligned} \quad (10)$$

By using **Error! Reference source not found.**] we get the initial value of the interest rate  $r_1 t_0$  in the interbank market:

$$LD_1 t_0 - LS_1 t_0 = 0 \quad \Rightarrow \quad r_1 t_0 = \frac{b-d}{a-c} \quad (11)$$

Next, we substitute this value in equation (1). Since the official CB's interest rate is unchanged at  $t_1$ , the rise in the interbank market interest rate is solely caused by the variation in the spread. The interbank market interest rate is the following:

$$r_1 t_1 = \frac{b-d}{a-c} + \Delta \pi_{\hat{i} j} (p + \epsilon) \quad (12)$$

Thus, rationing in the interbank credit market is given by the following equation:

$$LD_1 t_1 - LS_1 t_1 = -(a - c) \Delta \pi_{\hat{i} j} (p + \epsilon) \quad (13)$$

*Amplification effects in the interbank market and liquidity provision*

In order to capture the level of information asymmetry  $g$  in the market that is affected by the original shock and to describe the resulting amplification effects, the random term in equation (10) is formulated as a product of two variables:

$$\begin{aligned} E(\epsilon) &= \epsilon \times f(g), \quad 0 \leq g \leq 1 \\ f(0) &= 1, \quad \frac{df}{dg} > 0, \quad \frac{d^2f}{dg^2} > 0 \end{aligned} \quad (14)$$

The value of  $g$  depends on the market that is affected by the original shock.  $g = 0$  if the market is an organized securities exchange listing simple assets.  $g$  will be relatively low in the case of an organized securities exchange listing complex assets, and relatively high in the case of an OTC derivatives market using a clearing house. Finally, in the case of an OTC derivatives market without central clearing,  $g = 1$ . So  $E(\epsilon) = \epsilon$  in the case of an organized securities exchange listing simple assets and  $E(\epsilon) > \epsilon$  otherwise. Furthermore, since it is all the more difficult for market operators to identify disequilibria than the markets are complex and unorganized, we assume  $f(g)$  to be a convex function.

So the random part  $\epsilon$  of the spread shock (10) and the liquidity shock (credit rationing, as described in equation (13)) is amplified depending on the market that is affected by the original shock, that is:

$$\Delta \pi_1 = \Delta \pi_i j (p + \epsilon f(g)) \quad (15)$$

$$LD_{1 t_1} - LS_{1 t_1} = -(a - c) \Delta \pi_i j (p + \epsilon f(g)) \quad (16)$$

The CB will respond with providing an amount  $X$  of liquidity:

$$LD_{1 t_1} - LS_{1 t_1} > \overline{CM}_1 \Rightarrow X = LD_{1 t_1} - LS_{1 t_1} \quad (17)$$

#### 3.4. The widespread capital markets crisis ( $t_2$ )

*Interbank market*

In the market that is affected by the original shock, funding conditions are unchanged. In the other markets, the evolution of funding conditions depends on the magnitude of the shock at  $t_1$  in the interbank market.  $\overline{\Delta \pi_1}$  is the upper bound of the spread shock that the CB is able to contain. On the one hand, if  $\Delta \pi_1 \leq \overline{\Delta \pi_1}$ , the liquidity provision will restore funding conditions in the interbank market and this will break off amplification effects. The other capital markets will not be affected.

On the other hand, if  $\Delta \pi_1 > \overline{\Delta \pi_1}$ , the liquidity provision is not sufficient to break off amplification effects. This case will be solely described in the remainder of the model. As a response to the increase in spreads and the decrease in liquidity in all capital markets, the CB will bring down the official interest rate to its lowest bound  $\underline{r_{CB}}$ , implementing a first unconventional monetary policy measure. Following (10) the spread and the interest rate in the interbank market are now respectively:

$$\pi_{1 t_2} = \pi_{1 t_0} + \Delta \pi_1 j (\Delta r_{CB} + p + \epsilon), \text{ avec } \Delta r_{CB} = \underline{r_{CB}} - r_{CB t_0} \quad (18)$$

$$r_{1 t_2} = r_{1 t_1} + \Delta r_{CB} + \Delta \pi_1 = r_{1 t_1} + \Delta r_{CB} (1 + \Delta \pi_1 j) \quad (19)$$

The above equation (18) expresses the fact that the ability of the CB to contain the crisis by lowering the official interest rate depends on the magnitude of the amplification effect, as measured by  $(p + \epsilon)$ .

Credit rationing in the interbank market at  $t_1$  can be written as:

$$LD_{1 t_2} - LS_{1 t_2} = -(a - c) \left[ \Delta r_{CB} + \Delta \pi_1 j (\Delta r_{CB} + (p + \epsilon f(g))) \right] \quad (20)$$

Thus, credit rationing depends negatively on the sensitivity of credit demand with respect to interest rates  $a$ , and positively on the sensitivity of credit supply  $c$ . The CB will continue its liquidity provision and totally fill this liquidity shortage, substituting for the interbank market, in the same way as at  $t_1$ .

#### *The other markets (credit and other assets)*

All the other markets are now also affected by propagation effects. The excess funding demand in these markets is a positive function of private credit rationing in the interbank market:

$$\begin{cases} LD_{i t_2} - LS_{i t_2} = \zeta \times j_i (LD_{1 t_2} - LS_{1 t_2}), & i = 2, \dots, n_1 \\ S_{i t_2} - D_{i t_2} = \eta \times j_i (LD_{1 t_2} - LS_{1 t_2}), & i = n_1 + 1, \dots, n_2 \\ S_{i t_2} - D_{i t_2} = \theta \times j_i (LD_{1 t_2} - LS_{1 t_2}), & i = n_2 + 1, \dots, N \end{cases} \quad (21)$$

In addition to private credit rationing in the interbank market, the excess funding demand in each of these markets is a positive function of the size of the market  $j_i$ , and a of coefficient ( $\zeta$  in credit markets,  $\eta$  in primary markets and  $\theta$  in secondary markets). Those coefficients represent the rate of transfer from each of the three types of markets to the government debt market (7) in the case of a disequilibrium. The more financing conditions in a type of markets are dependent on the interbank market, the larger the transfer to public debt will be, as a result of a "flight to quality" behavior.

### Government bonds purchases

Following from equations (6), (7) and (21), the CB sets the amount of government debt that it has to purchase in order to fulfill the liquidity condition (defined in equation (9)).

$$\begin{aligned}
S_{0\ t} - D_{0\ t} &= (1 + \lambda)\bar{S} - \bar{D} + (LD_{1\ t_2} - LS_{1\ t_2}) \times \\
&\times \left[ \zeta(\alpha(1 + \lambda) - \zeta) \sum_{i=2}^{n_1} j_i + \eta(\beta(1 + \lambda) - \eta) \sum_{i=n_1+1}^{n_2} j_i + \theta(\gamma(1 + \lambda) - \theta) \sum_{i=n_2+1}^N j_i \right] = \\
&= (1 + \lambda)\bar{S} - \bar{D} - (a - c) \left[ + \Delta \pi_i j \left( \overset{\Delta r_{BC}}{\Delta r_{BC}} + (p + \varepsilon f(g)) \right) \right] \times \\
&\times \left[ \zeta(\alpha(1 + \lambda) - \zeta) \sum_{i=2}^{n_1} j_i + \eta(\beta(1 + \lambda) - \eta) \sum_{i=n_1+1}^{n_2} j_i + \theta(\gamma(1 + \lambda) - \theta) \sum_{i=n_2+1}^N j_i \right]
\end{aligned} \tag{22}$$

If the excess supply of assets, as expressed by the difference below, is not negative and less than its threshold level  $\overline{PM}_0$ , the CB will purchase the following amount of government debt:

$$Y = \begin{cases} 0, & (S_{0\ t_2} - D_{0\ t_2}) \leq \overline{PM}_0 \\ (S_{0\ t_2} - D_{0\ t_2}) - \overline{PM}_0, & (S_{0\ t_2} - D_{0\ t_2}) > \overline{PM}_0 \end{cases} \tag{23}$$

### Private assets purchases

In the other securities markets, the same principle applies. The only difference is that, in those markets, the CB's threshold level of the liquidity indicator is strictly positive, which means that a positive excess funding demand is tolerated. In each of these markets if the liquidity indicator is greater than its threshold level the CB will purchase assets with an amount  $Z_i$ . For example in primary markets:

$$Z_i = \begin{cases} 0, & (S_{i\ t_2} - D_{i\ t_2}) \leq \overline{PM}_i \\ (S_{i\ t_2} - D_{i\ t_2}) - \overline{PM}_i, & (S_{i\ t_2} - D_{i\ t_2}) > \overline{PM}_i \end{cases} \tag{24}$$

So at  $t_2$  the CB's monetary policy includes both a conventional measure, namely liquidity provision, and two types of unconventional measures, namely the large decrease in the official interest rate and government bonds/private securities purchases.



*Key factor in the quantity of securities purchases*

Finally, equations (21), (22), (23) and (24) point to three key factors in the quantity of the CB's assets purchases. First, following from (22) and (23), for a given additional supply of government bonds caused by the cost of the recovery policy, the model highlights that the amount of government bonds purchases  $Y$  depends on the initial situation of public finances  $\bar{S}$ . A large structural deficit implies large bonds purchases in order to achieve the threshold liquidity level in the government bonds market. On the contrary, if  $\bar{S}$  is low the CB's involvement is less extensive and its independence is strengthened, hence the need for coordination of fiscal policies in the case of a monetary union. Secondly, the amount of purchases of both types of securities (private securities, as described in (21) and (24), and government bonds as described in (22) and (23)) depends on the initial level of the official interest rate. If it is relatively high, then the interest rate tool is more able to fix the markets' funding conditions. The third key factor in the quantity of securities purchases is the connection between the single markets and the interbank market ( $\zeta$ ,  $\eta$  and  $\theta$  in (21)). A strong connection allows the amplification effect of the initial shock, originally limited to the interbank market, to spill over and cause a global liquidity shortage. As a result, the CB will have to purchase large amounts of private securities. In brief, equations (21), (22) (23) and (24) say that if there exists a possibility of an amplification effect, there is a stronger rationale for careful and coordinated fiscal policies, rapid shifts from expansionary to contractionary monetary policies after a recession has ended, and close monitoring of liquidity indicators of the markets that are strongly correlated with the interbank market.

Note that the exact timing of monetary policy after a crisis ("the exit strategy") is one of the key factors of the CB's ability to manage the following crisis. Moreover, the model could be extended by the consideration of the relationship between official interest rates and the relative sizes of the different types of markets (credit markets and simple assets markets vs. complex and/or OTC markets, generating amplification effects).

**Conclusion**

Eventually our contribution is twofold. First, we build a simple model of unconventional monetary policies in the context of a global financial crisis that is caused by amplification effects of a shock in a secondary complex assets market, resulting in widespread liquidity shortages. This formalized analysis of the different stages of the crisis and of the CB response aims to bring out the underlying rule for the practice of unconventional monetary policies. The need for a better coordination of market operators in the occurrence of global

financial crises actually implies that some kind of rule should be defined. Regardless of the question of disclosure of the CB's threshold levels, uncertainty would be lowered by the existence of such a monetary policy rule quantifying each class of assets purchases that may be conducted.

Secondly, conclusions can be drawn about capital markets organization. The question of the widespread adoption of central clearing is indeed closely linked to crisis management issues. Hence the International Swaps and Derivatives Association creates industry standards for derivatives since clearing requires greater standardization. Clearing is usually associated with a reduction of the risk of default of market operators. We emphasize that collateralization, margin requirements and contributions to the clearing houses guaranty funds also reduce the dimension of amplification effects. Considering, in general, the low degree of standardization of OTC assets market and, in particular, the impossibility to clear customized OTC products, the repetition of this type of crises and the need for unconventional monetary policies is inevitable. Nevertheless, their frequency can be reduced, and the importance of the CB's policy response can be limited.

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## Notes

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- <sup>(1)</sup> This outcome calls into question the principle of separating monetary policy and financial stability. The links between financial stability and monetary policy are questioned from the moment that low interest rates for a long time (or CB's commitment to keep policy rates low for an extended period) tend to provide incentives for banks to take ill-considered risks (Adrian, Shin, 2008, 2009, Altunbas et al., 2009, 2010, Bekaert et al., 2010, Ciccarelli et al., 2010, Eickmeier, Hoffman, 2010, Gambacorta, 2009, 2011, Ioannidou et al., 2008, Jimenez et al., 2009, Taylor, 2009). The trade-off between price stability and financial stability (Rajan, 2005, White, 2006) should affect the conduct of monetary policy (De Walque, Pierrard, 2009, Agur, Demertzis, 2009). However according to Dokko et al. (2009), Dooley (2010), Feldstein (2010) or Pollin (2009), CBs did not play a crucial role in generating the crisis. It is the end of the "Jackson Hole" broad consensus, according to which CBs' main task is to keep inflation low and stable in order to anchor inflation expectations (Fahr et al., 2011, Goodhart, Tsomocos, 2007).
- <sup>(2)</sup> Aglietta (2011), Blinder (2010), Borio (2011), Galati and Moessner (2011) or Tucker (2009) point out the fact that CBs are in the best position to implement a counter-cyclical policy since they are best informed.
- <sup>(3)</sup> This result is obtained with a more strongly decreasing credit supply function than the demand, as a generalization of Stiglitz and Weiss (1981). Even when the interest rate is low, the return to the bank is a decreasing function of the interest rate, because of the induced deteriorating behavior and/or distribution of borrowers. So in each credit market the aggregate credit supply function is monotonic and decreases with the interest rate. There is an excess supply (demand) for funds in times of low (high) interest rates.

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## Theoretical considerations about implementation of IAS 41 in Romania

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**Abstract.** *Although agriculture is an important part of the world economy, accounting in agriculture still has many shortcomings. The adoption of IAS 41 „Agriculture” has tried to improve this situation and increase the comparability of financial statements of entities in the agricultural sector. Although controversial, IAS 41 is the first step of a consistent transition to fair value assessment in the agricultural sector. The objective of our work is the analysis of IAS 41 and current accounting agricultural situation in Romania. Accounting regulations in Romania are in accordance with European directives and, in many respects, converged with IFRS referential. Provisions of IAS 41, however, are not reflected directly in Romanian regulations. With the increase of forest land transactions and foreign investments in animal farms, it is expected that recognition and measurement of biological assets under IAS 41 to become a necessity.*

**Keywords:** agricultural accounting; biological assets; fair value; IAS 41; Romania.

**JEL Code:** M41.

**REL Code:** 14I.

## 1. Introduction

Agriculture is an important sector of the global economy. However, for a long time accounting in agriculture was not a priority for researchers and standard issuers. Internationally, a standard dedicated exclusively to agricultural field was only issued in December 2000: IAS 41 "Agriculture". This standard introduced a model of fair value to agricultural accounting. Reactions to it were immediate. Advantages and disadvantages of switching from historical cost to fair value have been widely debated. Although views are far from converging, many authors are afraid that this is a major departure from the convenient valuation method required and will entail serious drawbacks for the agricultural sector (Argilés et al., 2009, p. 15).

On July 19th 2002, the European Parliament adopted a regulation requiring that starting with 2005, International Financial Reporting Standards (IFRS) are applied for the preparation of consolidated accounts of listed companies. On January 1st 2007, Romania joined the European Union. A number of Romanian companies and groups began to apply the international accounting referential. In parallel, the Romanian accounting regulations have been harmonized to some extent with international accounting referential. Provisions of IAS 41, however, are not directly reflected in these regulations.

Our research purpose is to analyze IAS 41 and current agricultural accounting situation in Romania, to highlight the gap between the two referentials.

The rest of the paper is organized as follows: Section 2 discusses the background literature on implementation of IAS 41. Section 3 presents the letter and spirit of IAS 41. Section 4 describes the applicable accounting regulations in the agricultural sector in Romania. In the final section, the conclusions are accompanied by a description of tentative avenues of research.

## 2. Background literature on the implementation of IAS 41

In this section, we provide a brief overview of the theoretical and the empirical literature on the implementation of IAS 41. The literature focusing on these aspects is extremely rich. Some studies have analyzed the impact of implementing IAS 41 in only one country (Koiv et al., 2001 on Estonia; Grege-Staltmane, 2010 on Latvia; Argilés et al., 2009 on Spain; Burnside, Schiller, 2005 on Sweden). Other papers are multicountry studies (Elad, Herbohn, 2011, PricewaterhouseCoopers, 2009, Herbohn, Herbohn, 2006). In addition, some studies analyze the effects of the implementation of IAS 41 on the agricultural sector as a whole (Elad, 2004, Lefter, Roman, 2007, Mateş, Grosu, 2008) and others consider various agricultural industries: forestry (Svensson et al., 2008,



Jansson, Fagerström, 2011); farm (Argilés, Slof 2001, Visberg, Parts, 2002); wine (Booth, Walker, 2001); animal husbandry (Aldea (Romanescu), 2009).

The thematic approach is also different. Some studies investigate the implications IAS 41 has over the harmonization of international accounting standards. Thus, Elad (2004, p. 633) argues that through a radical departure from historical costs, the standard causes some theoretical and practical problems that might affect its widespread adoption. Moreover, it is not only incompatible with francophone countries accounting models but raises major problems of implementation in different national settings.

Other studies analyse the ideological role that IAS 41 plays in legitimating social conflict in the context of companies being compelled to adopt the fair value evaluation model (Elad, 2007) or highlight the increased volatility, manipulation and subjectivity of reported earnings under this standard (Herbohn, Herbohn, 2006, Penttinen et al., 2004, Dowling, Godfrey, 2001).

The problem is that the IAS 41 has generalized fair value assessment for all biological assets although not all of these assets are designated for capital appreciation or sold, which leads to a misleading information (Aryanto, 2011, p. 4). In addition, there are several models to determine fair value. The use of different assessment models leads to differences of earnings quality in agricultural sector internationally (Elad, Herbohn, 2011, p. 9). Interviews conducted in the agricultural companies have shown that IAS 41 demands a lot of extra work and it is hard to establish the fair value (Burnside, Schiller, 2005, p. 34, Elad, Herbohn, 2011, p. 88).

Even though most studies are positioned against the requirement of IAS 41 to assess the biological assets to their fair value, there are also supporters of this treatment. Thus, Argilés & Slof (2001, p. 22) points out that the generalization of this model is good for small family farms that do not have the resources and skills to calculate their costs. Barlev & Haddad (2003, p. 383) argues that fair value accounting also provides a complete full disclosure and it is compatible with transparency. In other words, the fair value entails a more consistent valuation method, as well as a more reliable and comparable source of information (Argilés et al., 2009, p. 16).

### 3. The letter and spirit of IAS 41

IAS 41 deals with recording of transformation of biological assets. Biological assets include any living plant or animal. Biological transformation is the process of growth, aging, production and procreation of biological assets. This transformation leads either to the production of an agricultural product or a change in the biological asset. Recognition of biological assets and agricultural products

happens when: (i) the company controls the asset as a result of past events, (ii) it is probable that future economic benefits associated with the asset will be generated and (iii) the fair value or cost of the asset can be measured appropriately.

With the initial recognition and with each accounting year-end, biological assets should be valued at their fair value minus estimated costs of sale.

In determining fair value, the standard establishes a hierarchy of approaches. Firstly, fair value corresponds to the price in an active market. An active market is a market where the following conditions are met: (i) the items traded in that market are homogeneous, (ii) there are willing buyers and sellers any time and prices are publicly available.

Secondly, in the absence of an active market, fair value can be estimated in various ways: in relation to the price of recent transactions, in relation to market prices of similar assets, adjusted to take into account the differences; by reference to criteria commonly used in the respective industry.

Thirdly, if market-determined prices or values are not available for biological assets, the entity may determine fair value by discounting expected cash flows from the asset, using a current market-determined pre-tax rate. For calculation of this value IAS 41 provides the following rules: (i) any increases in value of biological assets as a result of additional biological transformation and future activities of the entity shall be excluded, such as enhancing the future biological transformation, harvesting and selling; (ii) cash flows for financing the assets, taxes or restoring of biological assets after harvest shall not be included (e.g., cost of replanting trees after harvest in a plantation forest), and (iii) estimates of the possible variations in cash flows will be included either in estimated cash flows or in the discount rate or a combination of both.

IAS 41 allows, however, an exception to the fair value assessment. Thus, in case that at the time of initial recognition for a biological asset there is no market price and other methods of estimating fair value are not reliable, the asset may be valued at acquisition or production cost minus the amortization and necessary depreciation. This exception, however, ceases to apply when a reliable estimate of fair value can be made.

Biological assets are sometimes physically attached to land (for example, trees in a plantation). Often, there is no active market for these assets separately, but there is a market for both (land and plantation). In this case, the plantation can be assessed by deducting the fair value of the land out of the whole price.

Gains or losses arising on initial recognition of a biological asset recognized at fair value minus the estimated selling costs and the change in fair value minus estimated selling costs should be reflected in the profit and loss sheet of that year.

Grants related to biological assets at fair value should be accounted for in income when all conditions of awarding the grant are met. If a government grant is awarded for a biological asset that is valued at cost value less any accumulated amortization and any accumulated depreciation loss, IAS 20 Accounting for Government Grants and Disclosure of Government Assistance applies.

#### 4. Accounting in the Romanian agricultural sector

In Romania, financial accounting is oriented in two different directions. A number of groups and companies are applying International Financial Reporting Standards including IAS 41. Most companies still apply the regulations of the Minister of Public Finances' Decree 3055/2009. These regulations are consistent with the provisions of the Fourth Directive of the European Council 78/660/EEC regarding the annual accounts of certain types of companies and those of the Seventh Directive of the European Council 83/349/EEC regarding consolidated annual reports. However, the accounting regulations in Romania are converging with IFRS referential for a number of issues.

The general criteria for recognition of national regulatory assets are taken from the International Framework for the Preparation and Presentation of Financial Statements. Provisions of IAS 41, however, are not reflected directly in Romanian Accounting Regulations (RAR). Thus, in terms of biological assets, they are found both in the category of fixed assets and current assets.

Biological assets that are recognized as fixed assets are not accounted for in a special way but just as any other tangible assets. Initial recognition is at purchase cost or production cost and appropriate recognition in the balance sheet at cost less accumulated amortization and accumulated provisions for depreciation. Although the RAR provides alternative evaluation rules for tangible assets, traditionally, livestock, plantations and other biological assets have not been presented in the balance sheet at fair value.

When they are recognized as current assets, biological assets are included in inventories. The RAR states that stock and young animals born of any kind (calves, lambs, piglets, foals, etc.) raised and used for breeding, fattening animals and birds to be sold, bee colonies and production animals – wool, milk and fur – are considered inventories. As for cereal crops, from planting to harvest they are accounted for as product in progress, and the yields as stocks of finished products.

Inventories shall be valued using the historical cost model. According to this model, assets are initially recognized at purchase cost and are presented in the balance sheet at a minimum between cost and the value that can be obtained from sale or use. It is obvious that in terms of biological assets, there are

significant differences between accounting rules and regulations of Romania and IFRS. In summary form, these differences relate to:

(i) the use of different valuation models: historical cost, in Romania, and estimated fair value minus selling costs in IAS 41;

(ii) clarification of the concept and content of biological assets: while IAS 41 clarifies the concept and content of the biological assets, Romanian regulation contains no specific provisions for this category of assets. It is only the general chart of accounts that contains two specific accounts for agricultural activity: 2134 "Animals and plantations" and 361 "Animals and birds."

(iii) disclosure: IAS 41 distinguishes between mandatory elements to be included in the main financial statements and those that are presented in the balance sheet or the notes. Biological assets are one of the elements that must be presented in the balance sheet, with the possibility of including some details in the notes. In addition IAS 41 sets out a list of disclosures (aggregate gain or loss during the current period deriving from the initial recognition of biological assets and agricultural products and from the change in fair value minus the estimated cost of sale; narrative or quantified description of each group of biological assets; information about biological assets whose title is restricted or that are pledged as security; methods and assumptions for determining fair value, etc.). In Romania, the financial statements are standardized, hence presenting information in a particular manner is only possible in the notes. As a result, in the balance sheet, informations on biological assets are found under two headings: „Animals and plantations in the category of fixed assets” and „Animals and crops under production”.

One can assume that if national regulations do not approach certain aspects of IFRS, IFRS can be used as a reference. We believe, however, that although in Romania there are large entities that carry out agricultural activities, they are not yet interested in voluntarily applying the provisions of IAS 41. This attitude can be explained through tax considerations (Vuță et al., 2009, p. 164), the small number of specialists in international agricultural accounting and the lack of guidelines on assessment techniques.

## 5. Conclusions and directions for future research

The agricultural sector is an important part of the global economy. However, agricultural accounting and assessment guidelines in this area are still largely lacking. IAS 41 is an attempt to improve this situation and increase the comparability of financial statements of companies in the agriculture sector. Its implementation in various countries has led to a radical change in accounting practices of major agricultural companies by switching

from historical cost to fair value although reactions were not immediate. The main drawbacks claimed refer to (Svensson et al., 2008 : pp. 56-57): the cost of recognising biological assets at fair value exceeds the gains obtained by this evaluation method; the fair value method described in IAS 41 increases the volatility of earnings; selecting a discount rate for the evaluation of biological assets involve subjective judgment. However, IAS 41 remains the consistent first step of a transition to fair value assessment in the agricultural sector.

In Romania, agriculture is a sector with considerable potential, occupying traditionally an important place in the national economic structure. However, IAS 41 is not directly reflected in Romanian regulations. But if we consider the large areas of forest bought by foreign investment funds and several foreign investments in animal farms, we expect that in the near future Romania will need to consider its application.

There is much scope for further research in this area. It is worth exploring longitudinal assessment and disclosure practices in annual reports of European entities subject to IAS 41. In addition, researches could be done in order to test how IAS 41 is perceived in European agricultural companies and the evolution of these perceptions across years of application.

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## Migration and Tourism Demand

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**Abstract.** *This study considers the relationship between immigration and Portuguese tourism demand for the period 1995-2008, using a dynamic panel data approach. The findings indicate that Portuguese tourism increased significantly during the period in accordance with the values expected for a developed country. The regression results show that income, shock of immigration, population, and geographical distance between Portugal and countries of origin are the main determinants of Portuguese tourism.*

**Keywords:** tourism demand; panel data; immigration and Portugal.

**JEL Codes:** F0, F2, F22.

**REL Codes:** 10G, 14F.

## 1. Introduction

Portugal is located in the South of Europe and we are seeing an increase in immigration. The process of immigration in Portugal is relatively recent.

The relationship between tourism and immigration in Portugal has not been investigated till yet. Immigration and tourism have a complex and dynamic nature. One reason for this descriptive relation is associated with the reasons for the visit, in the case of immigration (foreign population in the country) involves family and friends (Jackson, 2003, Yuan et al., 1995). The studies by Dwyer et al. (1992), Oigenblick and Kirschenbaum (2002), and Fischer (2007) show that immigration promotes tourism. In other words, immigrants are key drivers of the host country. Both immigration and tourism have increased in recent decades.

The empirical studies of the tourism demand (Eilat, Einav, 2004, Vogt, 2008, Fischer, 2007) confirms the importance of relative price, geographical distance and bilateral trade. The inclusion of the variable immigration - stock of immigrants is not as usual in empirical studies. The studies by Dwyer et al. (1992), and Oigenblick and Kirschenbaum (2002) pointed out that immigration has a positive impact on tourism demand in host countries.

This paper uses a panel data for international tourist flows to Portugal, from 16 countries, for the period 1995-2008. The structure of the paper is as follows. Section 2 presents the literature review and empirical studies. In section 3, we present the methodological approach and model specification. Section 4 shows the empirical results. The final section provides conclusions.

## 2. Literature review and empirical studies

The studies of tourism and migration have been developed independently of one another up to second half of the twentieth century (Bell, Ward, 2000). Tourism as a form of temporary international migration can, like other types of movement, shift in the distribution of population.

Williams and Hall (2000) referred that interdisciplinary exists between tourism and immigration.

Clarke (2004) referred that there is a convergence between immigration and leisure activities in the host country. In turn, the link between tourism and immigration involves family and friends (Jackson, 1990, 2003, Yuan et al., 1995). More recently, Lew and Wong (2002) demonstrated the importance of the internationalization of migration associated with the labour market (opportunities) and other forms of migration, the networks (family and friends, VFR). Tourism can be explained by international migratory movements.



Tourism as a form of temporary international migration can be explained by the movements and structural changes in the distribution of the population.

Oigenblick and Kirschenbaum (2002) admitted that tourism is a facilitator of immigration.

In recent decades, the phenomenon of migration, trade and tourism has gained many adherents in academia as Eilat and Einav (2004), Phakdisoth and Kim (2007), Mervar and Payne (2007), Vogt (2008), and Fischer (2007). These studies showed that immigration and international trade seem to promote tourism.

A substantial attention has been given to the relationship between migrations, which has a significant influence on tourism arrivals. The questions from here to: Is international migrations sustaining VFR?

Ledesma-Rodriguez et al. (2001) applied the panel data to analyze the short and long-run elasticities for visitors of Tenerife. The study of Naude and Saayman (2005) used a panel data for the period 1996-2000. The authors identified the determinants of tourism arrivals (VFR) in 43 African countries. Roget and Gonzalez (2006) studied the determinants for rural tourism demand in Galicia.

Maloney and Rojas (2005) used a dynamic panel data to analyse Caribbean destinations.

Garínz- Muñoz and Montero-Martin (2007) applied a GMM-DIF proposed by Arellano and Bond (1991) to evaluate inbound Germany tourism in Spanish destination for the period 1991-2003.

Recently, Mervar and Payne, (2007) used dynamic estimates to explain the determinants of tourism demand, i.e. the lagged dependent variable. Also Phadisoth and Kim (2007) specify a panel of static data and dynamic (GMM-DIF) applied to the demand for tourism in Laos. Brida and Risso (2009) used a dynamic panel data study of the Germany demand for tourism in South Tyrol. The dynamic panel approach analyses the short and long-run effects. Brida and Risso (2009) concluded that the cost of travel and the relative price have a negative and significant impact on tourism demand. The authors also showed that the lagged dependent variable (tourism demand, VFR) has a positive and relevant effect on actual demand, reflecting, according to the authors, the loyalty of Germany tourists.

### 3. Methodological approach and model specification

A gravity model will be used in estimating the relationship between immigration and international tourism to and from Portugal.

This study uses a dynamic panel data (GMM-System). This estimator permits the researchers to solve the problems of serial correlation,

heteroskedasticity and endogeneity for some explanatory variables. These econometric problems were resolved by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998, 2000), who developed the first differenced GMM (GMM-DIF) estimator and the GMM system (GMM-SYS) estimator. The GMM-SYS estimator is an alternative to the standard first differenced GMM estimator. To estimate the dynamic model, we applied the methodology of Blundell and Bond (1998, 2000), and Windmeijer (2005) to small sample correction to correct the standard errors of Blundell and Bond (1998, 2000). The GMM system estimator is consistent if there is no second-order serial correlation in the residuals (m2 statistics). The dynamic panel data model is valid if the estimator is consistent and the instruments are valid.

### 3.1. Econometric model: explanatory variables and data

For the researchers, the visiting friends and relatives (VFR) are the most common variable used in creating econometric models of VFR, beside the total duration of visiting friends and relatives thousands of night per year. In this study, the regression of VFR in Portugal is from 16 different countries<sup>(1)</sup> between the years 1995 and 2008. The data used to create the total number of visits, as dependent variable, are annually collected from INE- National Institute of Statistics. Our panel data is unbalanced.

*Hypothesis 1: There is a positive impact on the visiting friends and relatives in the long run.*

Phakdisoth and Kim (2007), Brida and Risso (2009) defended the idea that lagged tourism demand ( $VFR_{t-1}$ ) has a positive impact on the economy.

*Hypothesis 2: Tourism demand will be influenced by income of the tourist from countries of origin.*

GDP, is the gross domestic product per capita in the country of origin of tourist, expressed in constant 2000 US\$, was collected from the World Bank. According to the literature, we expect that the number of foreign tourist arrivals to increase in Portugal as the income in tourists' origin country increase.

*Hypothesis 3: Immigration flows play an important role in sustaining tourism.*

The stock of immigration collected from the Border Services "Serviço de Fronteiras" (Ministry of Internal Affairs) corresponds to legal immigrants in Portugal.

According to previous studies, Dwyer et al. (1993), Oigenblick and Kirschenbaum (2002), and Fischer (2007) tourism and immigration are correlated i.e. tourism encourages migration.

*Hypothesis 4: Population changes in a country could positively sustain tourism flows.*

According to the literature (Witt, Witt, 1995, Oigenlick, Kirschenbaum, 2002) we expect a positive sign. The population data has been collected from World Bank.

*Hypothesis 5: Tourism increases if transportation cost decreases.*

*DIST* is the geographical distance between Portugal and the tourist generating countries. According to the literature we expect a negative sign for this variable.

### 3.2. Model specification

$$VFR_{it} = VFR_{it-1} + \beta_0 + \beta_1 \times X_{it} - \rho \times \beta_1 \times X_{it-1} + \delta t + \eta_i + \varepsilon_{it}$$

Where *VFR it* is the total number visits by foreign nationality to Portugal, *X* is a set of explanatory variables. All variables are in the logarithm form;  $\eta_i$  is the unobserved time-invariant specific effects;  $\delta t$  captures a common deterministic trend;  $\varepsilon_{it}$  is a random disturbance assumed to be normal, and identical distributed (IID) with  $E(\varepsilon_{it})=0$ ;  $Var(\varepsilon_{it})=\sigma^2 > 0$ .

### 4. Empirical results

This section presents the estimation using GMM-System estimator proposed by Arellano and Bover (1995) and Blundell and Bond (1998, 2000). We used STATA econometric software to estimate the model. The model presents consistent estimates, with no serial correlation the Arellano and Bond test for  $M_2$ . The specification Sargan test shows that there are no problems with the validity of instruments used. The GMM system estimator is consistent if there is no second-order serial correlation in the residuals ( $M_2$  statistics). The dynamic panel data are valid. The Windmeijer (2005) finite sample correction is used. In the Table 1 we can observe the relationship between tourism demand and immigration. All explanatory variables are significant (LogGDP, LogIMI,

LogPOP, and LogDIST at 1% level); the coefficient (LogVFR<sub>t-1</sub>) is significant at 5% level.

For Lagged dependent variable (LogVFR<sub>t-1</sub>), the expected sign is positive confirmed by the results. So we can infer that this variable has a positive impact on Portuguese economy. Brida and Risso (2009) found a positive sign for lagged dependent variable. As expected, the variable LogGDP has a significant and positive effect on tourism demand. Phakdisoth and Kim (2007), and Brisa and Risso (2009) also found this result.

Table 1

<b>GMM-System</b>		
Variables	Coefficient	Expected Sign
LogVFR <sub>t-1</sub>	0.101 (2.26)**	(+)
LogGDP	1.41 (5.67)***	(+)
LogIMI	0.49 (9.27)***	(+)
LogPOP	0.15 (5.05)***	(+)
LogDIST	-1.05(-5.98)***	(-)
C	13.50 (9.25)***	
M1	-1.43 [0.153]	
M2	0.97 [0.32]	
Sargan test	15.91 [1.00]	
N	125	

The null hypothesis that each coefficient is equal to zero is tested using one-step robust standard error. T-statistics (heteroskedasticity corrected) are in round brackets. P-values are in square brackets; \*\*\*/\*\* - statistically significant at the 1 per cent, 5 per cent levels. M<sub>1</sub> and M<sub>2</sub> are tests for first-order and second-order serial correlation in the first-differenced residuals, asymptotically distributed as N(0,1) under the null hypothesis of no serial correlation (based on the efficient two-step GMM estimator). The Sargan test addresses the over-identifying restrictions, asymptotically distributed  $\chi^2$  under the null of the instruments' validity (with the two-step estimator).

The variable the migrant stock (LogIMI) is positively related to the dependent variable. Oigenblick and Kirschenbaum (2002) and Fischer (2007) showed that the level of tourism depends not only on the population of origin country, but also on the migration flows.

The variable population (LogPOP) finds a positive sign, as we expected. A 1% increase in population of the origin country would increase 0.15% foreign tourist arrivals to Portugal.

The coefficient of LogDIST (Distance) validates the hypothesis 5. This result confirms the importance of the neighbourhood. Following Phakdisoth and

Kim (2007), we can conclude that international tourism demand is directly influenced by the distance from the countries of origin of tourists and tourism destination country.

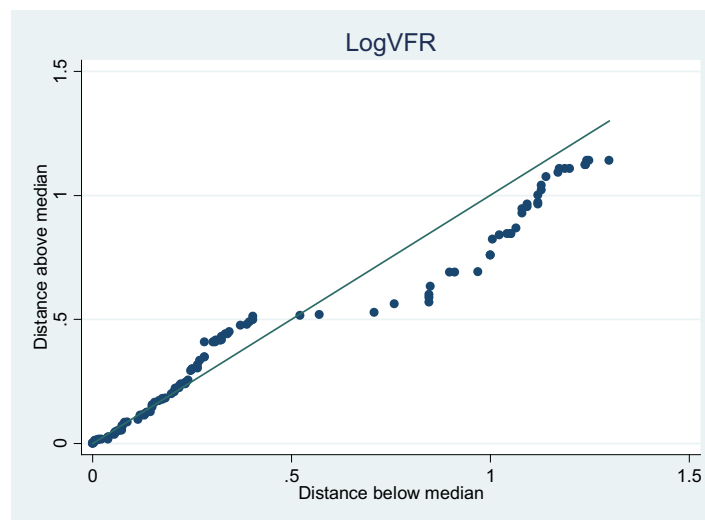
## 5. Conclusions

In this paper we analyzed the relationship between VFR visits and immigration using dynamic panel data in case of Portugal. The GMM –system has rarely been applied to tourism analysis. Our results supported the hypothesis that there is a positive correlation between immigration and tourism demand. This result is in line with in existing literature such Dwyer et al. (1993), Oigenblick and Kirschenbaum (2002), Fischer (2007). The econometric models showed that GDP per capita, and population which determines the ability to travel, are explanatory variables which have a positive impact on VFR visit. For geographical distance, the results indicated that it has a negative influence on inflows, as expected. Finally, although the use of more recent econometrical techniques should at least be compared, and it would be dangerous to generalize from this empirical study, it may be preferable to use the GMM approach in empirical visiting friends and relatives (VFR) or tourism demand, rather than static panel data (pooled OLS, fixed effects, and random effects).

## Appendix

Table 2

Correlation matrix					
	LogVFR	LogGDP	LogIMI	LogPOP	LogDIST
LogVFR	1.00				
LogGDP	-0.06	1.00			
LogIMI	0.57	0.03	1.00		
LogPOP	0.13	0.16	0.30	1.00	
LogDIST	0.06	0.14	0.16	0.20	1.00
N	130				



**Figure 1.** *Distribution of VFR*

### Note

- <sup>(1)</sup> The countries selected are Austria, Belgium, Brazil, Canada, Czech Republic, Denmark, France, Finland, Hungary, Italy, Luxembourg, Spain, Sweden, Netherlands, United Kingdom and USA.

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## Current Research on Flexibilizing the Labor Market<sup>(1)</sup> – first part –

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**Abstract.** *Increasing the competitiveness of companies is closely linked to its development of a strategic human resources management. Such a trend has emerged in response to dynamic environment, most of organizations including human resources function in the global strategy, based on the fact that human resources can have a decisive influence upon the success of an organisation. In these conditions, the main concern of the entities is to locate and identify the human resources to ensure their competitive advantage in an international environment. Under conditions of globalization process amplification, human resources should be managed as investments, the organizations will consider human capital as a cost of work required and will have very small chances of success.*

**Keywords:** human resources management; labor market flexibility; wages civilization; globalization.

**JEL Code:** J08.

**REL Code:** 12E.

## Introduction

The intensification of competition at international level, as result of amplifying the globalization process, and progresses registered in managing human resources determine us to recognize the important role of human resource management as being one of the most important factors for success. The influence of certain factors on the international development of a company is well known, e.g. cultural diversity, international migration of labor force, development of market relations and competition in an international context, etc. This has immediately resulted in intensifying efforts of entities in preparing their own employees and their families, thus highlighting the fact that exploring the international dimensions of the activity of human resources has become, at the level of multinational entities, one of the most important activities of the human resources department.

Apparently, there still is an imbalance between focusing efforts to internationalize human resource activities and the attention granted to this phenomenon, with emphasis on the first of the two components. The internationalization of activities of entities and education institutions, as a result of the globalization process, will have, in turn, as main effect, the highlighting of content and importance of the international management of human resources. The increasingly large number of conferences and seminars on the internationalization of activities of human resource management, simultaneous with the intensifying of efforts in this direction, demonstrate the increased attention granted to this field by specialists, managers, researchers and even students, to the same extent. Perhaps the most important recognition of these tendencies is represented by the application the international management of human resources within more and more companies. The tendencies of internationalizing the activities of entities increase attention granted especially to activities of the human resource departments, as one of the key factors for ensuring success.

We can assert that we are assisting, in the latest period, to an increase of importance of human resource departments within companies, especially as a result of rapid changes of the external environment. The demographic and labor force evolutions, global economic conditions, legislative frame, technological developments are challenges to which entities can resist. Because these challenges directly influence human resources and the necessities of an organization for surviving and being competitive, it is necessary to reconsider the function of human resources in an international environment.

The effects of globalization are also felt at the level of human resources, and the globalization process amplifies the international dimensions of human resource management. This is why it does not come as a surprise that, under the

increasing international competition and the increasing number of companies, the largest part of the labor force develops its activity outside national borders.

We can unequivocally assert that, at present, we are witnesses of the development of a multicultural labor force, as result of the interference of different national cultures.

Performing activity in an international competition frame even implies a redefinition of the role of the human resource department of a company, as it is characterized by:

- the capacity to react on a highly competitive market, within global business structures;
- tight relations with the strategic plans of the company;
- involvement of both managers and employees in formulating and implementing objectives;
- orientation towards quality, productivity, team work, labor force flexibility.

Such an approach involves a collaboration relationship between the human resource department and the superior management of the organization, so that human resource managers become the central element of all activities of a company.

Increasing the competitiveness of companies is closely linked to its development of a strategic human resources management. Such a trend has emerged in response to dynamizing the environment, as the majority of organizations include the human resources function in the global strategy, based on the fact that human resources can have a decisive influence upon the success of an organization. Under these conditions, the main concern of entities is that of localizing and identifying human resources which ensure their competitive advantage in an international environment.

Duerr M.G. asserts, referring to the need of highly trained human capital, the following:

Logically, any problem, regardless of the level where it occurs, national or international, is created by man, but ultimately the man is the one who resolves it. Thus, having the right people at the right place and time represents the key which ensures the success of a company on international level. If we manage to solve this problem, it means that we will be able to solve, much faster and easier, all the others.

In the opinion of Dowling P. and Schulerr R., the main factor differentiating the national or entity's management from the international management of human resources is represented by the categories of employees in multinational entities. This means that, in a broader sense, the international

management of human resources includes all the other functions of human resources management, but in numerous cases the complexity of the managerial practice in the field of human resources is underestimated, under the conditions of the existence of multinational entities.

The managerial styles applied in various multinational companies have proved their effectiveness and efficacy internally, but, most of the times, externally, these have led to frustrations and realizations below the anticipated level. That is why, for ensuring its international success, a company must consider not only the financial and marketing aspects, of which many of the decisions depend, but especially the aspects regarding labor force (Manolescu, 2004).

Entities around the world are more and more conscious that, in order to survive, they must be competitive on international markets, to cope with a competition sustained from all points of view.

Studies realized on globally successful companies show that these not only operate on a multinational scale, but also have a work force and an organizational culture which reflects their global market. These companies, among which we can name General Electric, Coca-Cola, Microsoft, Walt Disney, Intel, follow the principle that people are the most important production factor and employ a part of the staff from the foreign country where they operate. Many times, multinational entities, when they expand in a foreign country, they prefer to send their managers and specialists in the field for imprinting the branches with the specific and basic economical principles of the mother-company.

This leads to a migration of work-force through multinational entities. Some companies invest in under-developed countries because there they can find people with great productive potential and who, at the same time, accept lower salaries than in the company's country of origin. For a multinational organization, the management of human resources must take into account the cultural differences and the managerial practice. Although there is the risk that these employees are not familiar with the technology and principles of the company, it seems that, in the end, this is a profitable affair.

The expansion to international level of activities of the human resource management is especially materialized in the transfer of managerial know-how from the field of human resources from one country to another, from the level of multinational entities to its branches or between various companies, regardless of their dimensions or field of activity.

At present, the most ample challenge which the international economic environment raises to the field of human resources is globalization. The Australian Department for Foreign Affairs defines globalization as a phenomenon generated by the action of the following factors: technical progress, labor force mobility, commerce liberalization and know-how transfer.

The significance of the term of globalization can be analyzed and understood from different points of view. Giddens A. and Rowley C. consider that the phenomenon of globalization can be described by three essential characteristics its universal character, economical and social implications which it generates and intensity of manifestation.

In the opinion of specialists from the field of strategic management, such as Floyd D., globalization is analyzed from the point of view of the competitive advantage which can be obtained by a company by expanding its activity at global level.

Analyzing the content of this definition, we can observe that specialists in strategic management underline the fact that the competitive advantage can be obtained by a company if its activity accomplishes the criteria of efficiency, and labor force costs are low. Beyond the action of certain factors, such as free circulation of labor force and goods, these are actually the main criteria which the multinational entities target in the process of activity expansion at global level, by establishing new branches in other geographical areas.

In his paper *Culture and Globalization a Latin-American challenge*, Granell E. describes globalization as a continuous process characterized by the following particularities: development of foreign investments, amplifying export activities and development of strategic alliances at international level, for expanding the activities of entities on new markets. In the opinion of Granell E., globalization does not represent the elimination of each company's local specific and of regional differences, or the imposition, by developed states, of their own models of success, but, on the contrary, globalization implies the integration of differences in a common model, applicable at universal level, of which main purpose is represented by obtaining success. From the point of view of organizations, globalization is perceived as being one of the most important factors which influence their activity.

It is well known that, by its nature, the globalization phenomenon affects in a greater or lower extent the development directions of the activity of each organization, but, from the point of view of the human resource management, the following aspects must be clarified. Can globalization and management of human resources be considered two compatible partners? Which is the influence exercised by one over the other? Are their objectives convergent? Does globalization involve the harmonization, at international level, of human resource management systems from different countries?

In the opinion of some authors such as Ramirez M. and Mabey C., the finality of the globalization process is represented by obtaining success, in conditions of successfully capitalizing managerial abilities and understanding the cultural differences existent from one country to another. Other specialists

consider that, beyond the expansion of entities' activity beyond national borders, the success of organizations in the global context is ensured by the efficient use of human capital. This means that investments in human capital, for ensuring, maintaining, developing and motivating human resources, represent the main premise which the entities must capitalize, for ensuring the competitive advantage.

Under the conditions of amplifying the globalization process, human resources must be approached as investments; the organizations which will consider human capital as a cost imposed by their activity will have very slim chances for success. In the opinion of E. Keep, the entities which, from various reasons, consider that their own staff represents a cost or a good and which do not invest in developing people, can be considered as not applying the management of human resources. The main aspect which must be understood by the responsible factors is that globalization eliminates national borders, and people are the main factor which ensures the adaptability and flexibility necessary for companies in order to achieve success. In the opinion of specialists in the field of human resources, the competence level of human resources managers has a major influence in the process of integrating the strategy of human resources in the global strategy of the organization. In the context of globalization, the management of human resources becomes the main instrument and means through which organizations can ensure their competitive advantage, and the strategic decisions of managers must reflect more and more the commitment to people. The absence, at organizational level, of coherent human resource strategies makes possible the adaptation of organizations to changes of the international environment, as human resource activities must be understood as being interdependent with all the other processes developed at the level of an organization. "This is because in the global era people, not entities, form the adaptive mechanism which determines the manner in which organizations respond to challenges of the environment. The leadership of human resources, as strategic managerial process, is much more difficult compared to the promotion of technical progress or lack of financial resources. Organizations which have learned how to lead their people, applying an effective management of human resources, are much ahead of others, because the insurance and maintenance of the quality of human resources are long-term strategic processes" (Kathri, 2007).

In the context of internationalizing businesses, the function of human resources has gained a key role, being considered a strategic partner which can decisively influence the strategy for development and expansion of multinational entities, both centrally, and at the level of branches.

The globalization of markets and businesses has determined the amplification of the role of human resources within organizations, which imposes an increased attention to elaborating human resources strategies, integrated in the global strategy of the organization, which allows creating the frame for training managers at international level. In this context, a greater and greater role must be given to activities of development of human resources and career management. According to some authors such as Perlmutter H., in the phase of initial development of the international activity, multinational entities adopt an ethnocentric approach, as expatriate managers are transferred at the level of branches in host-countries, for the purpose of implementing at their level the strategies and policies developed within the mother-company. Subsequently, as branches in the host-country are developed, the control exerted by the mother-company over them becomes lower and lower, and the ethnocentric approach is substituted by the polycentric or regiocentric approach. This means that, gradually, the mother-company adapts to the local specific of the host country or of regions where its branches are located, and expatriate managers are replaced by local staff.

#### Flexibilization of the labor market – recent concept of policies, based on the de-regulation of economies

In the frame of other markets, the labor market, although is one of the most important, is still a derived market. It suffers the influence of other markets and, at the same time, produces effects which can also be found in other economic sectors.

Considering the human capital, we can assert that, as consequence of the cultural, tradition, institutional aspects, this market is a sui generis market, or we can say that it is an imperfect market. Sometimes, the legislative and institutional frame necessary for this market to function is formed in several generations, and the theories trying to explain its functioning also change.

At present, there are mainly two means for approaching it:

- considering human resources as a production factor and, from here, trying to formulate balance conditions similar to those of other production factors, underlining the necessity of adjustments based mainly on price;
- humanist approach, connecting the occupancy and flexibilization to the human development.

Romanian researchers are inclined, by tradition, to use the second approach, but, gradually, the patronal-type approach makes its way, which attributes to the flexibility of the labor market the property of ensuring a normal functioning of this market.

The flexibilization has made its way especially in countries developed in the 8th decade, following the emphasis of the economical crisis and of the impossibility to balance this market by interventionist-type measures.

It is thus considered that reducing some legal norms and rules, meant to increase the degree of freedom of economic agents, can cause disproportions on the labor market.

It must be mentioned that, while in developed countries, a legal and institutional de-regulation process is underway for a decade and a half, in Romania authorities try to establish a new legal and institutional frame, coherent with the competitive functioning of the other markets.

It is important to avoid copying mechanisms existing in the developed countries, but, at the same time, to avoid including rigid elements in the system, which would subsequently be flexibilized.

Regarding this theme, some authors consider that flexibility and flexibilizing must be made for the benefit of occupying labor force. Adjustments can be made, without passing, necessarily, through unemployment. In order for this alternative to become real, it is considered that the economic reform must have as priority objectives the occupancy, training, development and utilization of human resources, and not treating these as a secondary product. This involves passing from passive policies to active ones, based on economic solutions and partnership.

Some natural or acquired rigidities have been consolidated on the labor market, along time. Flexibilization is mainly imposed in the crisis period of the regulation system, of Keynesian type.

Flexibility implies an increased and quick response capacity of the labor market to the signs received from the economic environment, favoring mobility and fluidity of the offer to the variations of labor force demand. It is obvious that flexibility overcomes the rigidity of remuneration and of the salary cost, including employment relations, organization of labor and work time. The market where the elasticity of work forces to variations of the demands is high and prompt is considered to be flexible. Flexibility is required all the more so as an internationalization process of economies and markets takes place, simultaneously with accelerating the technical and managerial progress.

Occupancy structures permanently need corrections, by promoting a new content of qualifying different formulas for organizing work time, new remuneration systems, etc. in report to incidences induced by this type of variations; some economists consider that labor flexibility tends to replace buffer stocks of raw materials, materials.

Flexibility must be perceived in the limits of efficiency, competition, without sacrificing the collective and individual labor security, as Roy Marchal, former American Minister of Labor, also points out, in the foreword to Philip Martin's book, entitled *The mobility of work force and public policy*.



It must be integrated in a global strategy of labor resource management. Flexibility is a means, a solution, among many others, and not the only remedy.

Flexibilizing production systems, transforming labor force in just a simple element of price of cost, can turn out to be a victory a la Phyrus; instituting a too great freedom at employment and dismissing is a two edged sword... Identifying the employee with the fate of the entity is the only thing which can make him progress... For this, it is necessary a certain occupancy stability, a convenient social protection and staff informed regarding the projects of the company's leadership.

On the short term, the effectiveness of flexibilization measures of salary costs, representing a moderation of salary increments, salary rigor and austerity, has any significant effects on occupancy, unemployment and inflation. Although salary and salary cost continue to be approached as main mechanism for regulating labor demand and offer, their rigidity to decreases being considered as a triggering factor and supporter of increasing unemployment, the evolutions from the last quarter of century seem to indicate that the report between labor force demand and offer tends to autonomize itself, to distance itself from the evolution of salaries.

Salaries are to decrease significantly in order for them to have a favorable effect on labor force occupancy and reducing unemployment.

In fact, in certain periods and countries it has been acknowledged that nominal salaries increase with the mass and long-term unemployment and with open inflation, defying certain economical theories.

Unemployment and inflation are also influenced by other factors which act on other markets

- increase of material costs,
- decline of industrial production,
- difficulties of restructuring,
- depreciation of the national currency,
- increase of monetary emission and monetary mass, considering that the national offer for goods and services remains low, and the solvable demand is restricted (by fiscal, budgetary measures, rate of interest, salary, etc.)

In this sense, in a study performed by the International Office for Labor, Robert Boyer – well-known specialist in problems of labor market functioning – mentioned. It would be economically inefficient – and socially dangerous – to make employees pay for imbalances occurred from other parts, e.g. from the international monetary system.

Analyzing the problematic of the labor market, we have acknowledged that, basically, the human society, in its evolution, can be divided in two types of civilizations: non-salary civilization and employee civilization.

The historical experience shows, however, that the process of increasing the weight of employed population is not linear; in different periods, marked by strong crises caused by natural or social disasters, a rebound of employed population can be observed, being considered a type of downfall.

This phenomenon can also be determined by the scientific and technical evolution, insofar as highly trained and talented people withdraw from the labor market and establish their own enterprises in which, assisted by effective computers, produce their own products, which they commercialize, thus entering an exchange report, as product or service owners for money.

How much will the weight of these independent modern individual producers increase, still remains to be seen. Anyway, this phenomenon still remains, mainly, at the level of distance workers, tele-workers, who have moved their workplace from enterprises and institutions to their homes.

Within this labor force segment, there is a great potential; among these, it is possible that a part will become independent individual producers, which will be able to sell their own products, and not the simple work force, which can be considered a progress.

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## Note

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- <sup>(1)</sup> In the second part we treat the issue of outsourcing human resources and assessing the effects.

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## Crisis: a Return to Rationality

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**Abstract.** *This paper analyses the causes of economic crisis trying to reconcile the theory of "animal spirits" with the money supply expansion. It also aims to show the limits of the two opposing theories: both of the Keynesian and the Austrian ones, and to investigate the economic crisis in Greece, focusing on the causes that triggered it. This paper also shows the effects of population, bankers and of government officials greed on economic activity in general, and the crisis in particular.*

**Keywords:** depression; Keynesianism; Austrian theory; the Greek crisis.

**JEL Codes:** B13, D03, E12.

**REL Codes:** 18D, 7A, 16A, 17A.

## Introduction

There have been numerous economic crises in the history of mankind which were often accompanied by speculative bubbles (the tulip bubble in 1637, the stock market bubble in 1929, the dot.com bubble from the beginning of the 2000's or, more recently, the real estate bubble in 2008). There are numerous studies regarding the nature of the causes of the economic crises, but they are strongly disputed by the economists that have different doctrines. Thus, on one side there is the Keynesian doctrine, which states that one of the major causes of the economic crises and probably the most important is the human behaviour. The human behaviour operates more on the basis of spontaneous decisions generated by an exacerbated optimism (*animal spirits*), and not based on the expectations generated by rigorous mathematics (Keynes, 1936, Akerlof, Shiller, 2009).

On the other side, from antagonistic positions, the monetarists and the Austrian School economists claim that the blame should be put on the variation (the contraction – in the monetarist doctrine, or the expansion – from an Austrian perspective) of the money supply (Mises, 1978, Friedman, Schwartz, 1982, de Soto, 1998). “Credit expansion leads inevitably to a crisis.... It is the necessary and inevitable result of such policies” (Mises, 1978).

Although these explanations of the crisis are well founded and the followers of each side still strongly support them, there are some aspects of the causes of the crises that these theories fail to fully explain. Thus, Keynesian theory does not explain why crises occur only at certain times and are not continuous, because the individual animal spirit is permanent and therefore they should always behave emotionally. In its turn, the Austrian theory cannot prove how in some periods in which the money supply has increased that economy has not experienced an economic crisis.

The best example is the crisis triggered by the tulip bubble in Holland in the XVIIth century, when coins made of precious metals were still in circulation, having an intrinsic value determined by the market (thus eliminating any weakness of fiduciary money) and, moreover, people could coin their own money (free coinage) (French, 1992). In other words, they could go to a mint with gold or silver bars which were then molten and transformed into coins, usually in exchange for a small fee to cover the costs of this service. Thus, the state did not have a monopoly over the money

supply and could not influence its size, but, however, the money supply has increased even under the existence of private money made of precious metals.

We will try to overcome differences of opinion between the two doctrines and to demonstrate that the causes of economic crises lay in the synergy between lax credit conditions and animal spirits-like behaviour of people.

### 1. The causes of economic crises

To demonstrate that the economic crises cannot be fully explained only through the growth of the money supply, we will further analyse the example of the Dutch tulip bubble in 1637. Beginning with 1634, the price of tulip bulbs has started to rise dramatically, until the point when a bulb was worth more than its own weight in gold. It is said that for a tulip bulb people would offer even five acres of land (Mackay, 1841). The speculative trend was growing and, due to the fact that more and more individuals wanted to buy tulip bulbs, transactions with non-existing bulbs or bulbs ready to be harvested in one year's time have emerged. This speculative bubble had its burst in February 1637 and the financial losses were enormous.

Some studies (Hoppe, 1995) suggest that the Bank of Amsterdam was responsible for the growth of the money supply at that time, but this is contradicted by numerous economists. Adam Smith and David Hume, for example, claim that the Bank of Amsterdam had a very good reputation and that it even had a 100% cash reserve ratio. The proof that this bank was functioning flawlessly is the panic produced by the French threat in 1672, when massive cash withdrawals occurred at the same time and most banks were forced to suspend their payments – e.g. the banks in Rotterdam and Middleburg. The Bank of Amsterdam was the exception and could return all the deposits because it kept a 100% reserve rate (de Soto, 1998).

It is true that the money supply has increased after 1600 due to the imports from America and free coinage, a fact which, according to the Austrian theory, leads to the emergence of crises, but the increase in money supply continued even after the tulip crisis (French, 1992). The conclusion would be that the money growth alone from that period cannot justify the crisis from 1637, because the money supply has continued to increase even after 1637, when the tulip bubble ended, yet this fact has not triggered any other crises or speculative bubbles.

The second element that contributed to the initiation and intensification of the crisis is the emotional reaction (animal spirits) of individuals. Because people had more money, they began to purchase tulip bulbs, thus increasing their price. Noting that the price was increasing and they could gain a lot of money without much effort, people began to buy more bulbs and so they boosted the price of tulip bulbs. Because this increase in price was not based on the intrinsic properties of the bulbs, but on the propensity to speculation of individuals, it is easy to guess that at some point the end of the speculative bubble would have come. Recent researches have demonstrated the large role that emotions play in the process of buying, seemingly irrational. By analysing the facial expressions of the buyers, the researchers identified mental processes underlying common decisions and concluded that the buyers are driven by emotions rather than by rational thinking (Chiru, 2010).

After the appearance of fiduciary money and fractional reserves, the credit expansion became easier, thus creating the premises for economic crises. Given this background, it is normal to observe a multiplication of economic crises in the conditions in which people could get consumer credit very easy and then use them for speculation. It should be noted that only consumer credit (or circulation credit in the Austrian terminology, "created from nothing") leads to an increase of demand and, therefore, of prices. Production credits (or commodity credit, based on savings – in Austrian terminology) do not lead to price increases (Mises, 1978).

The question which may arise is the following: If people's propensity to speculate is known, why do bankers grant credits so easily? The answer is obvious: the bankers themselves are also people and they receive the same pleasure when they gain from speculation. But, in their case, the greed can be explained easier. On one hand, bank managers receive consistent bonuses for being compliant with some financial performance indicators, especially related to the volume of loans granted, so they are encouraged to relax credit conditions to give more credit. On the other hand, in the banking system occurs something that economists call moral hazard. This happens because bankers know that it is considered best practice for the Central Bank to intervene when a bank is found in a difficult situation because, as their theory states, the whole banking system is based on trust and the risk that people lose their confidence in the banking system and therefore withdraw all their money cannot be accepted. In this current situation, based on fractional system, banks cannot deal with massive withdrawals, because they don't have all the money in the depositors' accounts, and a massive wave of withdrawals would

determine the collapse of the entire banking system. Thus, if something goes wrong, losses will not be covered by individual banks, but by the Central Bank and, finally, by the population that will pay for them in one way or another. Of course that, if all goes well, profits will be acquired by banks which are in this way stimulated to grant even more credits.

Sometimes, and this is even worse, even the state is economically irrational, proposing populist measures or even borrowing money to pay for them. We can mention here the case of USA, in which the governments that have imposed a series of measures to the banks with the purpose to help low-income people to purchase housing. These measures led to the violation of prudential regulation and to the bankruptcy of two major financial institutions, Fannie Mae and Freddie Mac, a fact which exacerbated the crisis in the US (White, 2008). Another famous case, presented below, is the case of Greece, in which the government had borrowed money from international markets to support the huge inefficient bureaucratic apparatus (about half of all employees are in the public sector). Moreover, they were paid even 14 salaries per year and had many financial facilities.

## 2. Greece, Euro and moral hazard: recompensing lies with taxpayers' money

Through the errors, omissions and frauds committed during the last years, Greece is threatening to jeopardise the monetary stability of the European Union, and the distance between the fundamental principle of the Economic and Monetary Union – abandoning the national instruments of monetary policy by creating a common currency, but with the member states still keeping a relatively high degree of independence regarding their fiscal policy – and the recent evolutions in the Euro zone is becoming larger. Until recently, 11 of the 17 member states of the Euro zone have approved the decision of extending the attributions of the European Financial Stability Facility, its new attributions covering also the acquisition of bonds on the secondary markets, the recapitalisation of banks found in difficult situations and granting credit lines to countries with difficulties in financing their external debt (the PIIGS group of countries – Portugal, Ireland, Italy, Greece and Spain). Thus, the countries that have systematically violated the conditions imposed by the Stability and Growth Pact are recompensed with the necessary stimulants to continue the financial chaos in which they find themselves at the moment.

The conditions pushed by the Maastricht Treaty upon the states that wish to be part of the Euro zone – limitations upon the budget deficit, public debt, inflation rate and interest rate – had an official role to impose a prudent fiscal policy to those states. In time, the limitations were violated, more and more often. Greece, Italy and Belgium have public debts that exceed their GDP with more than the limit of 60%. Ireland, a country with a fiscal policy conservative enough so as to ensure a sustained economic growth, with annual rates of more than 8% for two decades, had to transfer to its taxpayers the debts of the banking sector, the public debt having increased from 28% to more than 120% in the last four years. Also, Germany and France have violated since 2003 the stipulation regarding the 3% limit on the budget deficit. Not surprisingly, the country that succeeded in not respecting in any year the limits regarding the budget deficit and the public debt is Greece, a country which, in present, jeopardises the stability of the European monetary unification project. The cumulated public debt of the 17 member states of the Economic and Monetary Union (Eurozone) exceeds in present 85% of the cumulated GDP of these countries, and 14 of the 27 member states of the European Union have public debts that surpass the 60% of the GDP limit.

Repeated violation of the rules, imposing new rules – which, very likely, will be disregarded as well (and, afterwards, re-modified) – maintain and amplify the problem of the moral hazard created generally by public spending and, in special, by errors in the economic policy. The Greek government lied repeatedly to the European Commission about budget deficits, and the availability of the Greeks to pay taxes is reducing dramatically. The endemic corruption in Greece does not surprise anyone anymore. Given these circumstances, which are the guarantees that Greece can offer to prove its real desire and capacity to pay its debts? With a public debt that tends to 150% of GDP, the Greek government is, de facto, in a bankruptcy situation, succeeding to keep itself afloat almost exclusively based on financial infusions of European Banks and International Monetary Fund.

### 3. How did Greece end up on the brink?

Greece, a country characterised by a suffocating and inefficient bureaucracy, with a political class immune to corruption accusations (according to art. 62 from the Greek constitution, government members cannot be prosecuted without the parliament's approval), supported financially by the generous funds offered by the European Union (the total



community structural assistance allocated to Greece for the period 1994-2013 exceeds 68.6 billion Euro), can be considered a major setback for the Euro project. During the last 60 years, the Greek political power has been disputed by two families, Papandreou, leading the country in the 40's, 60's, 80's, 90's and the first half of the 2000's, and Karamanlis, which dominated the Greek politics in the 50's, 70's, and in the years preceding the current crisis, 2004-2009 (Lynn, 2010). Far from the democratic ideal pictured by the Greek scholars of the Antiquity, the Greece of the 2000's is an oligarchic system in which the political power is concentrated in the hands of an elite characterised by a lack of any solid principles of governing responsibly.

Even if two of the conditions – nominal convergence criteria – regarding EU accession require that the public debt and budget deficit does not exceed 60%, respectively 30%, Greece has failed in every year, starting with 1991, to respect these limits. The lowest value of the budget deficit, 3.10%, was attained in 1999 and the closest value to the public debt target was attained in 1998, of “only” 97%. The cosmetic adjustment of official statistics – for example, by not including a part of the defence spending (despite the issues that it's dealing with, Greece keeps on spending nearly 3% of GDP for defence, a percentage higher than in any other European states) or the debts of public hospitals – raised serious question marks in the other states of the Euro zone about the credibility of the Greek government.

The major causes of the debt crisis that Greece is dealing with in present are represented by large and continually growing governmental deficits that this country has registered ever since the moment of the accession to the Euro and, specially, by the Keynesist type of answer that the Greek government has adopted at the start of the economic crisis. At the end of 2009, the Greek government announced that the budget deficit exceeded the target agreed by 9 percentage points, from 3.7% to 12.7%. The main cause of the worsening of Greece's situation consists in a mix of counterproductive public policies, backed by a legislation hostile to business, which have contributed to the creation of a fatal combination for the economy. With a public sector that represents 40% of GDP, taxes upon the workforce exceeding 44% of the total wage expenses incurred by employers and, therefore, a flourishing labour market, a progressive tax system for individual income, with rates between 0% (for income lower than 12.000 Euro) and 45% (for income that exceeds 100.000 Euro), a standard VAT of 23% and a profit tax of 23%, Greece can hardly be considered an attractive business environment. The competitive advantages that Greek businesses have in certain fields – tourism, some

agricultural and food products, unconventional energy production and others – do not manage to counterbalance the errors of political economy of the Greek government.

Still, Greece cannot be blamed alone for the present situation. Although all the signs indicated the impossibility of the Greek government to pay the debts, there was a series of banks (together with the European Central Bank – its independence from political pressure being annihilated by its president Jean-Claude Trichet – there could be mentioned Deutsche Bank, Commerz bank, Dexia, Société Générale, BNP Paribas) that continued to buy Greek bonds, postponing the inevitable. Not surprisingly, those banks count on the support offered by the states from which they belong, should Greece default. And the one who will pay the bill in the end is, obviously, the taxpayer.

### Conclusions

The crisis arises from a synergy of loans easily granted and emotional behaviour of individuals mainly based on their greed. These elements have generated speculative bubbles which, after an excessive increase, have burst, triggering the start of the crisis.

The crisis acts as a warning signal, indicating that something is not working well in that economy and the old economic behaviour needs to be modified. First of all, the money supply should be carefully managed in order to limit speculative credits and to encourage productive investment. Secondly, people should be made aware of risks to which they expose when they take excessive debt. Also, individuals should consider economic returns before investing in different assets, because when they borrow excessively relying upon a continuous price increase, they need to be warned that this approach will turn out to be unrealistic every time (no price can increase indefinitely with annual rates exceeding 100%). Bankers should reflect more on the effects that their decisions have on the economy and act more responsibly when they decide upon the conditions of granting credits.

In turn, even state officials should abandon populist behaviour and also consider the long-term effects of their decisions when they propose various legislative measures. Considering the evolutions from the Euro zone, the politicians' appetite for exaggerated public spending seems impossible to control. Although the Stability and Growth Pact had established clear boundaries regarding the budget deficit (3% of GDP) and public debt (60% of PIB), countries like Greece, Italy, Spain or France have systematically

exceeded those limits (Besides, Greece is the country that had never fulfilled any of these conditions, starting with 1991). Populist measures of some politicians can surely find methods of financing, skilfully eschewing the rules of the game. And when the rules cannot be eschewed, they will be simply suspended: the European Council had suspended the Stability and Growth Pact each time when the unfulfilment of the criteria should have been sanctioned – first of all in 2003, when France and Germany exceeded the limit regarding the budget deficit and, more recently, during the current crisis, when many of the states in the Euro zone have exceeded the two thresholds regarding budgetary stability.

The shortest and safest way towards the economic crisis can be, thus, illustrated by the words of Aristotel Onassis: “To be successful, keep looking tanned, live in an elegant building (even if you’re in the cellar), be seen in smart restaurants (even if you nurse one drink) and if you borrow, borrow big” (Manolopoulos, 2011).

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## Assessing the Sectoral Dynamics of Non-performing Loans: Signs from Financial and Real Economy

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**Abstract.** *The paper is an attempt at studying the mechanisms whereby the economic activity dynamics and money market conditions affect the developments in nonperforming loan ratio across the main activity sectors, namely agriculture, industry, commerce and constructions. The default rates are modeled both on the basis of a linear approach and via a logistic function, starting from the methodological solution of the reputed conditional risk model referred to as Credit Portfolio View. The robustness of the analytical framework is ensured by applying SUR estimation method for simultaneous systems of equations in combination with that of autoregressive vectors. The empirical analysis is based on unique set of quarterly data, which allows for assessing the quality of non-financial companies loan repayment. The relevant explanatory variables were used in various configurations and lags for constructing several macroeconomic credit risk models.*

**Keywords:** nonperforming loans; financial stability; macroeconomic credit risk models; real economy; monetary conditions.

**JEL Codes:** G01, G17, G21, G32, G33.

**REL Code:** 11B.

## 1. Introduction

Finding the determinants of reimbursing capacity of non-financial corporations starts from the empirical observation that bank credit default rates are higher during recessionary periods than during an economic upturn (Williamson, 1985, Kiyotaki, Moore, 1997, Marcucci Quagliariello, 2009). At the root of such discussions lay economic growth and interest rates, along with the exchange rate in the case of countries with a large share of foreign-currency denominated loans in the loan stock.

This paper follows the methodological line suggested by Wilson C. Thomas (1998), who went into more details as regards the theme of conditional credit risk models and proposed the reputed Credit Portfolio View model. Accordingly, the relation between credit risk and the macroeconomic landscape is best described by the logistic function and the lag is considered within the time frame delineated by the frequency of observations (one year).

Boss Michael (2002) applies the above-mentioned methodological solution in order to model the sectoral dependence of credit risk to the state of the Austrian economy both at the level of exposures to non-financial corporations and at the level of exposures to households. Empiric evidence shows that the macroeconomic factors generating default rates are, generally, the same for both types of counterparties, with the inflation rate and the short-term interest rate equally influencing the repayment ability of both non-financial corporations and households.

Virolainen Kimmo (2004) models the credit risk dynamics for Finland by using macroeconomic variables such as economic growth, inter-bank interest rate for a maturity of up to one year and the corporate indebtedness level. Unlike previous research works, the analysis of default rate sensitivity relating to the stock of loans extended to non-financial corporations vis-à-vis economic performance is broken down by sector, in six types of activity. At the same time, in measuring the coefficients of the equation system the author opts for the SUR method with a view to limiting the correlation between estimated regression errors resulting from the significant degree of correlation between the dependent variables.

Fiori, Roberta, Foglia Antonella and Iannotti Simonetta (2007) envisage analysing the extent to which the economic picture in Italy affects the developments in credit risk triggered by the exposures to non-financial corporations broken down by sector in eight categories. The methodology is based on Wilson's approach (1998) and the subsequent developments designed by Virolainen (2004), whereas the assessment of the operational form of the empiric relation between the logistically changed values of default rates by

sector and the macroeconomic environment is achieved via SUR method. The information on default rates at sectoral level is achieved by accessing the archives of the Central Credit Register in Italy. The preliminary testing of explanatory variables includes an enlarged set of macroeconomic indicators comprising 22 factors but, at the end of the multivariate filtering, only seven systemic factors were elicited, namely economic growth, the degree of financial intermediation, the short-term interest rate, the real EUR/USD exchange rate, the inter-bank interest rate spread, the inflation rate and the price of oil. Out of these indicators, within the individual specifications, the presence of the eight equations forming the estimated system is higher for the first four indicators.

As far as new EU Member States are concerned, analyses in this particular area are more difficult to identify. Jakubik and Schmieder (2008) give an overview of the macroeconomic factors weighing on credit risk in the Czech Republic, compared to Germany. The paper features different approaches to nonperforming loans generated by households and those by non-financial corporations, with empirical results showing some similarities between the two countries in terms of the set of exogenous variables. Both in the Czech Republic and Germany the annual GDP growth rate and the year-earlier financial indebtedness exert an influence on the default rate associated with corporate loans. In regard to households, one variable from either set of indicators for the labour market and the counterparties' financial burden are included in the function form of regressions estimated for the two countries. The major determinants identified in the paper are the year-earlier unemployment rate and the real interest rate recorded three quarters before in the case of the Czech Republic and the current disposable income and the year-earlier financial indebtedness in the case of Germany.

Starting from the methodological approaches summarised previously, we envisage developing a system to predict nonperforming loan rates that will be able to identify at sectoral level the macroeconomic determinants of the repayment behaviour of debtors, legal entities, across the Romanian banking system.

The operational objective of our research paper is to build a set of econometrical models to answer to four interrelated questions: (i) Which are the components of the macroeconomic variables set that can signal in advance the developments of the companies nonperforming loans?; (ii) Which are the lags and the individual intensities of the macroeconomic relevant indicators when affecting the companies overdue loans rate? (iii) What is the hierarchy of the factors with impact on the dynamics of companies overdue loans?; (iv) What are the characteristics of the loans reinbursement behaviour in case of shocks on real economy or money market?

The paper is composed out of three sections and it concludes with the main findings and future research objectives. In the first section we described the methodological framework for assessing companies overdue loans, starting with the findings in the international literature. The second part comprises of both presentation of the data series that were used and the economic rational and statistical evidence which lead us in selecting the explanatory variables. In the third section we described main empirical findings derived by constructing and testing of the macroeconomic credit risk models.

## 2. Methodological framework

Methodological solutions used in identifying a symplified functional form of the macroeconomic models for assesing credit risk are based on multivariate regressions, estimaed independently or simultaneously (in systems of equations).

For capturing the general economic context that influence the repayment behavior of companies in different economic sectors, the sensitivity of rate of nonperforming loans to the developments of the Romanian economy is assesed individually on four major components of economic activity.

The methodology used in this research paper is based on the approach used by Virolainen (2004), which developed the conditional credit risk model proposed by Wilson (1998). Consequently, the conceptual model for the forecasting system of the nonperforming loans ratio is based on the hypothesis that the functional link between the endogeneous variable and the set of explanatory variables is captured by the logit function. The functional link is also investigated as a linear equation.

The methodological solution used in the research paper is based on the following systems of equations:

$$\left\{ \begin{array}{l} \ln\left(\frac{RCN_{AGR,t}}{1 - RCN_{AGR,t}}\right) = \sum_{i=1}^n \alpha_i \times y_{s,t} + \varepsilon_{AGR} \\ \ln\left(\frac{RCN_{IND,t}}{1 - RCN_{IND,t}}\right) = \sum_{j=1}^m \alpha_j \times y_{j,t} + \varepsilon_{IND} \\ \ln\left(\frac{RCN_{COM,t}}{1 - RCN_{COM,t}}\right) = \sum_{i=1}^n \alpha_i \times y_{s,t} + \varepsilon_{COM} \\ \ln\left(\frac{RCN_{CONS,t}}{1 - RCN_{CONS,t}}\right) = \sum_{j=1}^m \alpha_j \times y_{j,t} + \varepsilon_{CONS} \end{array} \right. , \text{ and} \quad (1)$$



$$\left\{ \begin{array}{l} \Delta RCN_{AGR,t} = \sum_{i=1}^n \alpha_i \times y_{s,t} + \varepsilon_{AGR} \\ \Delta RCN_{IND,t} = \sum_{j=1}^m \alpha_j \times y_{j,t} + \varepsilon_{IND} \\ \Delta RCN_{IND,t} = \sum_{i=1}^n \alpha_i \times y_{s,t} + \varepsilon_{COM} \\ \Delta RCN_{IND,t} = \sum_{j=1}^m \alpha_j \times y_{j,t} + \varepsilon_{CONS} \end{array} \right.$$

The individual impact of macroeconomic factors on the evolution of rates of default is analysed using first difference (with quarterly frequency) of the time series using SUR (Seemingly Unrelated Regression) econometric estimation technique. This econometric framework improves the efficiency of the estimation by adjusting the coefficients of both equations so that to reduce the errors correlation, as the significant correlation between the dependent variables of the system can generate a high errors' correlation. The framework for identifying the determinant factors is improved by using autoregressive vectors that can better identify the persistence and impact in time of the macroeconomic variables on the evolution of rates of nonperforming loans.

The relevance of the determinant factors was computed based on individual contribution to the adjusted R squared for systems of equations estimated using the SUR method and on variance decomposition for a 24 month time horizon in case of VAR models

### 3. Data

The dynamics of the overdue companies loans was illustrated as an overdue loans value weight. A loan is considered overdue if the debt service is higher than 90 days.

The data used for the empirical analysis cover quarterly information during the period of Q3 2004 – Q1 2010. The beginning of the estimation period is determined by the availability of data for the dependent variables - companies default ratios for the following sectors: agriculture, industry, services and constructions. The independent variables were grouped into two subgroups: a) real economy; and b) monetary conditions (Table 1).

Table 1

<b>List of candidate variables</b>		
	<b>Determinants</b>	<b>Expected sign of impact on the dependent variables</b>
<i>Real economy</i>		
1	Seasonally adjusted value added expressed both in constant and current prices for the above mentioned economic sectors	-
2	Gross income	-
3	Energy price index	+
4	Fuel price index	+
5	Quaterly FDI flow	-
6	Quaterly export value flow	-
<i>Monetary conditions</i>		
1	Interest rate for RON loans	+
2	Interest rate for euro loans	+
3	1M and 3M EURIBOR rate	+
4	Volume of mortgage loans	-
5	EURRON exchange rate	+

These data were drawn up from the reports of the Statistics National Institute and those of the National Bank of Romania.

The variables of the labor market and value added were seasonally adjusted based on the Tramo Seats methodology in order to eliminate the impact of the seasonal factors on this market, especially of the public sector. Moreover, as all the data series were considered non-stationary and integrated of order one, based on their economic significance and statistical tests (ADF și Phillips-Perron), their stationalisation was ensured through first-diferentiation. Moreover, except nonperforming loans rates and interest rates, all the variables were considered in the econometrical analysis in natural logarithms.

#### 4. Empirical analysis

For selecting the models' specifications, the starting point was the estimation of equations systems. Given the complexity of the analysis, the selection procedure for the determinant factors consisted in employing a reasonable number of models that used a large diversity of exogenous variables.

Models' specifications, including number of lags, was chosen so that to insure functional stability of the mechanism both form the economical and econometrical point of view, taking into account specific statistics as adjusted R squared, informational criteria, tests for regression errors.

Empirical results lead to the selection of four (relatively) distinct specifications based on combining of two methodologies for regressions estimation (linear and logistic) and two measures of added value (in current and constant prices) and the lags and the individual intensities of the macroeconomic relevant indicators when affecting the companies overdue loans rate were estimated both with SUR systems of equations and with VAR models (Table 2).

Table 2

## Systems of equations specifications for the dynamics of the default rates

Factors Models	Agriculture				Industry				Services				Constructions			
	VA No	VA No	VA R	VA R	VA No	VA No	VA R	VA R	VA No	VA No	VA R	VA R	VA No	VA No	VA R	VA R
	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit
<b>Real economy</b>																
Value added of the sector	-0.03 (3)**	-0.39 (2)**	-0.03 (3)**	0.00 -	-0.05 (3)**	-1.00 (3)**	-0.06 (2)**	-1.58 (2)**	-0.13 (3)**	-2.60 (2)**	-0.17 (3)**	-3.79 (2)**	-0.03 (3)**		-0.08 (4)**	
Gross income	-0.23 (3)**	-3.69 (3)**	-0.20 (3)**	-3.77 (3)**										-2.47 (2)**		-2.33 (2)**
Fuel prices	0.07 (1)*	-0.12 (1)**	0.06 (1)*	1.13 (1)**												
FDI	-0.008 (4)**	-0.123 (4)**	-0.009 (4)**	-0.136 (4)**		-0.030 (6)**	-0.002 (8)**	-0.036 (8)**	-0.003 (2)**		-0.003 (2)**					
Export					-0.03 (6)**	-0.32 (6)*	-0.03 (4)**	-0.57 (4)**								
<b>Monetary conditions</b>																
RON interest rate	0.50 (2)**	8.27 (2)**	0.47 (2)**	7.25 (2)**	0.11 (2)**	2.90 (2)**	0.06 (2)*	2.62 (2)**	0.19 (1)**	2.52 (1)**	0.16 (1)**	2.40 (1)**				
EUR interest margin					0.48 (4)**	12.52 (4)**	0.74 (4)**	19.27 (4)**					1.02 (5)**	17.59 (1)*		
EURRON exchange rate										1.05 (5)**		0.96 (5)**	0.05 (6)**	1.49 (5)*	0.04 (6)**	2.46 (5)**
Mortgage loans													-0.02 (2)**	-1.02 (2)**	-0.03 (2)**	-0.73 (2)**
Constant	0.060	0.909	0.063	0.989	0.004	0.074	0.002	0.056	0.027	0.119	0.025	0.078	0.008	0.311	0.010	0.264
Adjusted R squared	70.4%	68.0%	70.9%	64.8%	54.2%	58.1%	59.4%	67.7%	76.8%	63.0%	76.6%	68.3%	84.8%	53.6%	77.5%	68.3%
Durbin Watson	2.12	1.58	1.84	1.36	1.37	1.38	1.28	1.89	1.84	1.40	2.02	1.70	2.10	1.59	1.76	1.70

**Note:** (x) represents the impact interval expressed in number of quarters.

Results of the statistical tests show that the set of models comply with demands of a good econometrics performance. The response time frame of the rates of default to a shock on macroeconomic and monetary variables was set based on the lag of the independent variables in the regression equations.

Structural investigation of the determinants set was followed by detailed investigation of the autoregressive profile, which emphasize the importance of the second round effects. The autoregressive profile analyzed by using vector-autoregression (VAR) models. These models evaluate the persistence of effects of shocks on different macroeconomic and monetary variables on the dynamics of defaults.

Based on the results of the impulse-response functions of default rates to macroeconomic and financial variables identified in the SUR systems of equations estimations procedure, 16 alternative VAR models were estimated. Thus each VAR model specification was consistent with final specification of each equations in the estimated systems of equations, while the number of lags for each VAR was selected so that to insure its stability and in the same time to be consistent with economic theory and statistically relevant (Adjusted R-squared, Informational criteria).

According to analysis of the roots of characteristic polynomial, all the four VAR specifications fulfill the stability condition. Moreover, according to the residuals correlogram, there is no autocorrelation of the errors. For generating the impulse-response functions, the time horizon taken into account was 8 quarters and the interpretation of the results was based on the cumulated impulse-response functions of the two rates of defaults to a shock on variables in the system.

Results of the cumulated impulse-response functions, for a tiome horizon of two years are presented in Table 3.

Table 3

<b>Impulse-response functions for the VAR models</b>	
<b>Agriculture</b>	<i>(1) a shock on gross income has an impact on the rate of defaults that lasts four quarters.</i>
<b>Industry</b>	<i>(1) a shock on the RON loans interest rate has a statistically significant impact on default rate after one quarter; (2) a shock on FDI has an impact on default rate starting from the first quarter and lasts four quarters.</i>
<b>Services</b>	<i>(1) the impact of a shock on value added in services is statistically significant after first quarter and lasts 3 quarters; (2) a shock on FDI has an impact on default rate starting from the fourth quarter; (3) a shock on RON loans interest rates has an impact on default rate starting with the fourth quarter and has a high percintency.</i>
<b>Constructions</b>	<i>(1) the impact of a shock on EUR loans interest rate margin is statistically significant after one quarter; (2) the impact of a shock on EURRON exchange rate is statistically significant after three quarters; (3) the impact of a shock on mortgage loans has an impact on default rate starting with the fourth quarter and has a high percintency.</i>

The econometric was deepened by variance decomposition for both simultaneous equations and VAR models, in order to emphasize how much of the variance of rates of default is explained by the variance of each determinant macroeconomic or financial (Table 4).

Factorial decompositions shows that the monetary variables are more important than those of the real economy in explaining the dynamics of the rate of defaults for construction sector, while for agriculture sector the findings are opposite. For industry and services sectors, the models seems not to show a clear conclusion on this regard.

The loan reimbursement capacity of the companies from the agriculture sector is determined mainly by the dynamics of the gross income, foreign direct investments and interest rate for RON denominated loans. For industry, the determinants factors are the financing cost, expressed by the interest rate for RON denominated loans and the interest rate margin for EUR denominated loans and added value measured in constant prices. Factorial decomposition for the services and commerce sector shows the importance of the real economy variables, as value added and FDI. Among the monetary factors the contribution of RON loans interest rate is especially noticed, exchange rate having only a minor impact. But the exchange rate is especially important, along with the risk premium for EUR denominated loans and the evolution of mortgage loans, in explaining the dynamics of rate of default in the construction sector.

Table 4

## Factorial decomposition

Factors	Models	Agriculture				Industry				Services				Constructions			
		VA No	VA No	VA R	VA R	VA No	VA No	VA R	VA R	VA No	VA No	VA R	VA R	VA No	VA No	VA R	VA R
	Met.	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit	Linear	Logit
Real economy																	
Sector value added	SE	4.4%	3.0%	4.9%	0.0%	17.2%	12.1%	14.4%	17.7%	39.8%	29.0%	38.6%	35.3%	2.8%	0.0%	24.5%	0.0%
	VAR	14.8%	28.3%	3.7%	8.6%	17.0%	20.4%	19.3%	11.8%	4.2%	13.2%	21.5%	12.2%	29.6%	33.8%	17.5%	44.9%
Gross income	SE	35.4%	39.0%	31.9%	39.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.6%	0.0%	25.3%
	VAR	45.3%	32.1%	46.0%	34.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Fuel prices	SE	2.4%	3.0%	1.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	VAR	1.6%	3.7%	1.4%	2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FDI	SE	51.4%	41.0%	51.9%	33.8%	0.0%	2.1%	14.4%	7.7%	15.8%	0.0%	17.6%	0.0%	0.0%	0.0%	0.0%	0.0%
	VAR	5.3%	13.0%	5.7%	13.3%	6.1%	1.7%	1.3%	2.5%	18.5%	4.1%	7.3%	0.7%	0.0%	0.0%	0.0%	0.0%
Export	SE	0.0%	0.0%	0.0%	0.0%	20.2%	6.1%	11.4%	6.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	VAR	0.0%	0.0%	0.0%	0.0%	12.1%	8.9%	0.9%	28.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Monetary conditions																	
Interest rate for RON loans	SE	51.4%	47.0%	52.9%	44.8%	16.2%	26.1%	3.4%	10.7%	18.8%	5.0%	14.6%	3.3%	0.0%	0.0%	0.0%	0.0%
	VAR	11.4%	13.5%	20.7%	35.3%	11.0%	19.9%	8.6%	18.1%	33.9%	55.8%	40.3%	67.3%	0.0%	0.0%	0.0%	0.0%
EU loans interest margin	SE	0.0%	0.0%	0.0%	0.0%	9.2%	20.1%	36.4%	46.7%	0.0%	0.0%	0.0%	0.0%	14.8%	5.6%	0.0%	0.0%
	VAR	0.0%	0.0%	0.0%	0.0%	5.2%	9.9%	5.4%	8.8%	0.0%	0.0%	0.0%	0.0%	27.5%	29.9%	30.3%	14.2%
EURRON exchange rate	SE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	7.0%	0.0%	5.3%	6.8%	0.4%	5.5%	29.3%
	VAR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.6%	5.9%	9.5%	7.4%
Mortgage loans	SE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.8%	4.6%	23.5%	35.3%
	VAR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.4%	10.6%	11.0%	24.4%
Real economy factors																	
	Average	80.3%	81.5%	73.7%	66.3%	36.3%	25.7%	30.8%	37.4%	39.1%	23.2%	42.5%	24.1%	16.2%	21.2%	21.0%	35.1%
Monetary conditions factors																	
	Average	31.4%	30.2%	36.8%	40.1%	20.8%	38.0%	26.9%	42.2%	26.3%	34.0%	27.4%	38.0%	46.4%	28.5%	39.9%	55.3%

Among the real economy variables it is worth mentioning especially the gross income; the added value for the construction sector having only a minor impact. The results are not surprising taking into account the likely modest representation in the official data of the actual level of new created value in this sector than the other sectors of the economy.

## 5. Conclusions

Econometric results shows that the dynamics of the real economy is the main driver of the evolution of the rates of default for nonfinancial companies; the financial pressure induced by the monetary conditions, except for the constructions sector, being a secondary factor.

The impact time frames are generally low, the maximum effects being registered until the first year. Exception is the FDI and exports volume, which negatively impact the rate of default in industry after six quarters and also the exchange rate that have impact on rates of default in services and constructions sectors after five or six quarters.

Factorial decomposition confirms the assumption of a strong link between the dynamics of the mortgage loans and the dynamics of rate of default in constructions sector.

The linear models seems to be the preferred solution except for the industry sector and the way to express the added value seems not to be of great importance for agriculture and services sectors, but for industry the real value (in constant prices) is relevant and for constructions the nominal value (current prices) is more important.

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## Globalism and Corporate Identity in the Post-crisis Economy

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**Abstract.** *The globalism of the post-crisis economy accentuates more and more the present risk and uncertainty condition. The normal corporate reactions in this situation can only arise starting from an “exploration” and understanding of the turbulence and chaos that manifest themselves increasingly clearly nowadays. The shift of the business environment towards what we could designate by the syntagm “the new normality” cannot marginalize the “communicational paradigm”. The latter is called to support the corporate identity and to assure the necessary framework for the construction of certain business scenarios and strategies meant to make the most of the capabilities of the modern organization.*

**Keywords:** globalism; corporate identity; communicational paradigm; turbulence; chaos.

**JEL Codes:** A1, D23, L2, M14.

**REL Code:** 10B.

The interconnection and the interdependence of the contemporary society lead us more and more towards the question: “*What kind of socio-economic structure or model are we going to?*” At the same time, we cannot help noticing that the global aspect of its specifics, the informational-communicational system, can be highlighted as the main “motor force” of what is considered to be the “chaotics model”. The latter has drawn our attention because of its resonance in the present economic phenomenology and processuality, despite its old roots in the economic theory.

An eloquent example is that of the “new Keynesians” according to whom the state’s intervention is all the more necessary as it is requested by the “chaotic” behavior of the macroeconomic subsystems specific for the period under analysis. At the same time, the need to find a remedy for the economic chaos starting from the hypotheses of the “theory of the reasonable expectations” becomes a need just in order to demonstrate that the chaotic economic cycles are generated by the economic endogeneity. Finally, such a situation leads to the destructuring of the entire economic system unless the necessary corrections are implemented.

Today, more than ever before, we notice that chaos is omnipresent in the economic systems. The “chaotics” model developed by Kotler and Caslione concerning the so-called “new uncertainty” that manifests itself in the actual world economies approaches chaos from the perspective of the mutations on the level of corporate management and marketing.

So, what has been foreseen in theory can be seen manifesting itself in practice nowadays. If we simply carry out a brief “radiography” of the present situation of the world economies, we can notice the following things.

The world economic crisis is the result of the United States’ financial crisis, a crisis that destabilized the dollar’s central position in the world’s finances. To the latter can be added, and we think we should highlight this aspect, the subprime mortgage crisis, where the relaxing financial regulations and the continual deregulations have come together with a series of extra-accounting operations and a financial intermediation with an extremely high risk both in the short and long run.

At the opposite pole, the BRIC countries – Brazil, Russia, India and China – can interact, generating challenges and/or opportunities in the business environment. So, we notice that the globalism of today’s world, characterized by a synchronized fragility and the “chaos effect”, can be disseminated via global communication just like a virus. At the same time, the report *Global Trends 2025...* brings to light a series of “relative certainties”. So, it is forecasted that the conflict potential in the Middle East area will increase, and it is also considered that China’s and India’s ascension will finally lead to the

creation of a multipolar global system. Under these circumstances, we will witness a shift of the economic wealth and power balance from the Occident to the Orient, while the position of the United States will be preserved, yet to a lesser extent (National Intelligence Council, 2008).

### Globalism and corporate identity – towards a new model

The projection of a perceptive business environment, able to withstand the pressures of the economic turbulences, leads towards a series of significant modifications.

Today we can speak about chaos not only on a macroeconomic level, but especially on a microeconomic level. This is the “economy of the new normality”, according to the so metaphorical denomination given to it by Kotler and Caslione. Within it, the economic chaos relies on the so-called “economic turbulence”. “*Yet what is economic turbulence and how does it affect us?*” According to the definition used in this domain, the economic turbulence represents nothing else but the “trajectory” of the rapid changes from an organization’s internal and external environment, impossible to predict, which affect the corporate performances (BNET, 2009).

The “chaotics” model imagined by Kotler and Caslione tends to become increasingly more, in our opinion, the actual model of the corporate practice. The central idea of the “chaotics” model seduces us by the simplicity and originality of its message – namely that of determining the organizations to think, function and evolve within the coordinates of some new parameters.

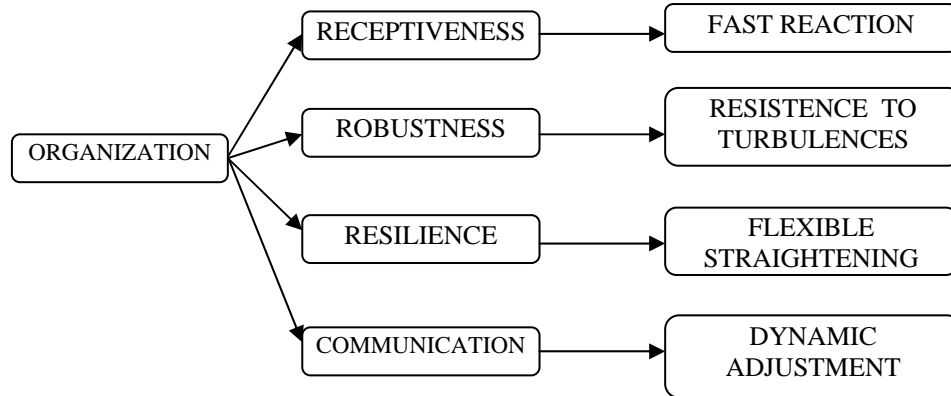
Here, “...turbulence is the *new normality*, punctuated by periodic and intermittent spurs of prosperity and downturn – including extended downturns amounting to recession or even depression. And turbulence has two major effects. One is vulnerability, against which companies need defensive armor. The other is opportunity, which needs to be exploited (...) and which occurs when a strong company can take away a competitor’s business or even acquire a weakened competitor at a bargain price. (...) If we are correct, companies need a chaotics system for dealing with uncertainty” (Kotler, Caslione, 2009, p. 12).

Globalism and corporate identity influence each other. We are witnessing the development of certain scenarios on the basis of which the “condition of normality” is nothing else but the manifestation of the “turbulence”. Consequently, business management requires a conceptual framework and a managerial system able to withstand this chaos and, at the same time, a stimulation of the strategic thinking concerning the planning of the business evolution tendencies in the long run.

At the basis of the corporate strategic thinking should lay the principle of business uncertainty and risk. At the same time, the fact of drawing near the turbulence, according to the Kotler-Caslioni model, requires the introduction of new strategic alternatives springing from the corporate management. These strategic alternatives are meant to realize the “protective shield” of the organization’s basic activity, and also to develop the organization, if possible, at the expense of its direct competitors.

The adoption of such an organizational attitude that defies conventional theory – namely that of corporate expectation before passing to structural changes – is beneficial. It results in the fact that from the economic turbulence there will emerge much more mature organizations, prepared to get and to keep their competitive advantage on the market and in the business environment.

So, the modeling of an adequate corporate behavior involves, according to the specialists’ opinion, three essential features that have to try their strength against the new “adjustments” in the business environment. These features are: receptivity, robustness and resilience (Hermann, 2009). To these, we think one should add the “activation” of the communicational component, aiming to attain a “dynamic adjustment” of the organizational behavior (Figure 1).



**Source:** Adapted from Kotler Ph., Caslione J.A., *Chaotics: The Business of Managing and Marketing in the Age of Turbulence*, AMAZON books, New York, 2009, p. 136.

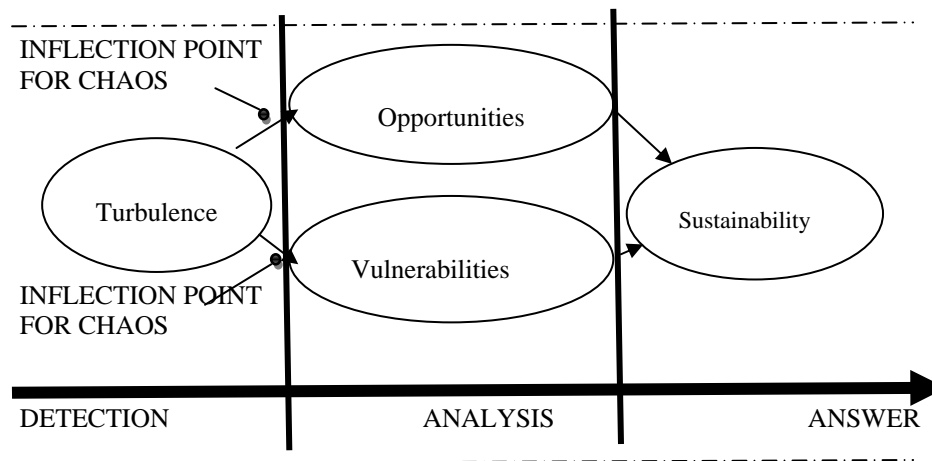
**Figure 1.** Corporate behavior projection

The projection of a reactive and at the same time synergic organizational behavior, keeping the pace with the disturbing “events” that can affect the business environment any time and any way, involves a reconfiguration of today’s corporate strategy and communication model. The adoption of certain new corporate procedures and behaviors can become unilateral, difficult and

monodirectional, from the viewpoint of the communicational message, unless they are accompanied by adequate tools, conceived in such a way as to be able to permanently adapt to environmental changes and at the same time to generate feed-back. The novelty of a so-called corporate “identity model” is, in our view, the fact that it will be permanently shaped by the influence of a series of factors, such as: technological progress, disruptive innovations, hyper-concurrence, targeted public’s skills, environment etc.

The adaptation of the corporate identity in the situational case of the Kotler-Castlione “chaotics model” will acquire new meanings. We are referring, on the one hand, to the relation established by the organization with its public, where its values in agreement to the market reality will acquire an increased significance and importance. On the other hand, the corporate identity will be built on the permanent and more often than not hardly perceptible “adjustment” of the corporate image shaped by the public, out of the wish to attain a new level – that of the “image desired and targeted” by the organization at that moment.

Corporate activity should focus on the development of a viable communication plan, as this is the first step towards starting a viable corporate strategy. The latter should focus, even during times of economic turbulence, on finding and exploiting business opportunities, so as to finally set off the activation of the sustainable business component (Figure 2).



**Source:** Kotler Ph., Caslione J.A., *Chaotics: The Business of Managing and Marketing in the Age of Turbulence*, AMAZON books, New York, 2009, p. 103.

**Figure 2.** From turbulence to sustainability

Corporate “sustainability”, as final message of the feedback established between the organization and its targeted publics in the framework shaped by the inflection points of the economic chaos will lead to the minimization of the prejudices that can be brought by the corporate-specific strategic and communicational vulnerabilities, which are to be brought to light by this context. So, we consider that the “sensitivity” of the corporate identity can be highlighted to the maximum by this situation.

Even though it represents a very dangerous state of affairs, we consider the economic turbulence to be beneficial, too. It can turn into a veritable strategic, managerial and communicational adjustment tool, measuring the organization’s capacity to support itself and to react like a “living organism” to the shocks that may appear.

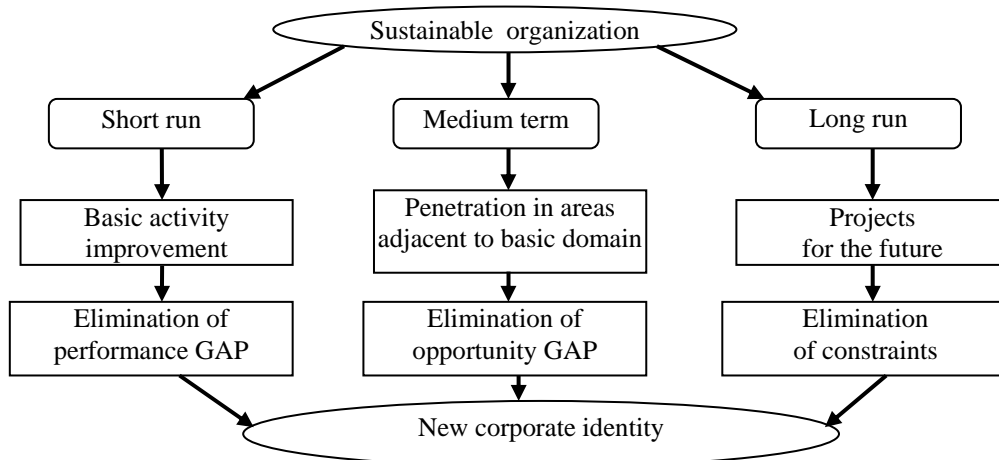
Failure on the business level may appear when the organization will not be able to overcome the period of passage through an inflection point of the chaos. Such is the situation, for instance, of General Motors, Ford and Chrysler. Here, the overcoming of the strategic inflection points has not brought about, according to the specialists’ opinion, the remodeling of the organizational activity and, implicitly, the necessary adjustments for the corporate identity. On the contrary, we are witnessing an “obstinate” conservatism, with quite disastrous consequences for the business: the struggle to stay alive (Hamel, Välikangas, 2003) So, it would be necessary to adopt a new mentality, in the center of the change being required the development of a true “communicational culture”. “*Why are we in favor of such an approach?*” We support it because the creation of a sustainable – but also extremely dynamic and flexible – organization, an organization able to respond to market signals, can bring to light the hidden corporate vulnerabilities much more easily.

At the same time, the corporate change has consequences on the corporate identity as well. The adoption of a new behavior by the organizations submitted to economic turbulences automatically implies the development of their communicational culture because “...the way in which an organization conceives and manages its communication speaks more about its culture than any other element involved in this process” (Sanchez, 2006, pp. 40-41). At the same time, the communicational feedback comes to create the so needed framework of the corporate success by involving the organization’s own employees and by motivating them not only as far as the development of the external communication with the targeted publics is concerned, but also regarding the development of the internal communication. In this context, the corporate managerial and functional capabilities will be able to go through a mutual interconditioning with what we usually call “communicational capability”. By means of the latter, in the organization, an intrinsic connection will be created between its communicational component and its social capital.

So, "...the social capital is defined (our note) as the organization's capacity to create, maintain and use relationships in order to attain corporate goals" (Kennan, Hazleton, 2006, p. 322). So, the communicational capability is all the more important, as it develops and activates the public relations system, characterized by a high degree of trust, regardless of the targeted public categories that the company turns to.

The activation of a sustainable corporate relationship actually pursues the conception of a strategy or of a set of strategies meant to maximize the companies' value in the long run, concomitantly to the optimization of the corporate performance and value in the short and medium run. Starting from this last aspect, our attention has been drawn by the model of the "triple planning", as we have called it, proposed by Vijay Govindarajan. According to his opinion, the corporate "normality" is built in the short, average and long run, and the corporate projects and initiatives should be sorted out according to the three cases identified pertaining to the three temporal horizons: short, average and long run (Govindarajan, 2008).

Based on the ideas presented by Govindarajan in 2008, we consider that the corporate "present" can only be understood in inter-relation with the corporate identity (Figure 3).



Source: Authors' processing.

**Figure 3.** Corporate identity "readjustment"

Everything we have highlighted so far does nothing else except to reinforce our statements concerning the need to build a new corporate identity. This is a major problem as the organizations have to survive, to develop and to prosper, whether they like it or not, in this world of the "communicational paradigm", characterized by change and turbulence.

## Conclusions

In order to withstand the chaos and uncertainty dominating today's economy, organizations need a new architectural model: *the chaotic model*. The essential ideas on the "new normality" taking becoming visible in the actual business environment are indissolubly related to the advantages brought within the organization by the activation of its communicational capabilities.

The corporate evolution, performance and prosperity in the new era that we have just entered, namely the turbulence era, require the use of a non-conformist approach of the corporate management and communication, an approach in which the system has to be extremely dynamic, flexible and reactive, in order to manage and overcome with minimum risks and losses the possible crises that the organizations may face at a certain point.

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## New Approaches for Monetary Policy

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**Abstract.** *As a result of the economic turmoil started in 2007, there is a dispute if the monetary policy implies radical changes or just a rethinking of details regarding the main framework of the monetary policy strategy. Therefore, the actual debates that I have analyzed in the article take into account, among others, the relationship of monetary policy with the one of financial stability, the analyze if the monetary policy should lean against credit bubbles or just clean after their explosion (Lean vs. Clean debate), the presence of nonlinearities in economy. Thus, monetary economy becomes more interesting and the economists need to think about a wider range of monetary policy problems than existed before.*

**Keywords:** monetary policy; financial stability; macroprudential regulation; credit bubbles; linear quadratic framework.

**JEL Codes:** E50, E52, E58.

**REL Code:** 8J.

In this article I have analyzed if, as a result of these economic turmoil, the conduct of the monetary policy implies radical changes or just a rethinking of details regarding the main framework of the monetary policy strategy.

Therefore, the actual debates take into account, among others, *the future of the monetary policy and its relationship with the financial stability*. Many have claimed that excessively easy monetary policy by the Federal Reserve after 2001 helped cause a bubble in house prices in the US, a bubble whose inevitable bursting proved to be a major source of the financial crisis. However, the crisis was mainly caused by factors that had very little to do with monetary policy and were mostly due to background macro conditions, distorted incentives in financial markets, regulatory and supervisory failures (also when central banks have been responsible for regulation and supervision), information problems, and some specific circumstances, including the US housing policy to support home ownership for low-income households.

Thus, flexible inflation targeting, applied in the right way and using all the information about financial factors that is relevant for the forecast of inflation and resource utilization at any horizon, remains the monetary policy before, during, and after the financial crisis that has the best chance to stabilize both inflation and the real economy. But a better theoretical, empirical, and operational understanding of the role of financial factors in the transmission mechanism is urgently required and needs much work, work that is already underway in academia and in central banks.

Even though they have different instruments and objectives, the monetary policy and the financial stability policy are intrinsically linked one to another, such as the dichotomy between them is a false one.

Monetary policy can affect financial stability, while macroprudential policies to promote financial stability will have an impact on monetary policy. If macroprudential policies are implemented to restrain a credit bubble, they will slow credit growth and will slow the growth of aggregate demand. In this case, monetary policy may need to be easier in order to offset weaker aggregate demand. Alternatively, if policy rates are kept low to stimulate the economy, as is true currently, there is a greater risk that a credit bubble might occur. This may require tighter macroprudential policies to ensure that a credit bubble does not get started (Svensson, 2010).

Coordination of monetary and macroprudential policies becomes of greater value when all three objectives of price stability, output stability and financial stability are to be pursued. Taking into account that financial factors may have a very strong and deteriorating effect on the transmission mechanism, making standard interest rate policy much less effective, the question is if the

financial factors will be incorporated as target variables in standard models of the transmission mechanism, used by the central banks, or they will only remain some reference points in decision making?

This thing depends, firstly, on the capacity of financial stability policy instruments (such as supervision, legalization, reports on financial stability) to provide early warning of some possible threats. Whilst these regulation and supervision policies (e.g.: disclosure and capital requirements, liquidity requirements, prompt corrective actions, careful monitoring of risk management procedures of an institution, careful supervision of financial institutions to enforce compliance with regulations) have been traditionally based on assurance of the “health” of some individual financial institutions and market infrastructure and market integrity, recently a greater emphasis has been put on system-level approach, which could focus on the stability of the entire financial system. This type of regulation that focuses on what is happening on credit markets is named *macroprudential regulation and supervision* (Mishkin, 2011). Through this approach, the supervision and the regulation tend to make the financial system more robust and to support on financial cycle.

In the aftermath of the recent crisis, promising initiatives have been launched to develop a framework for system-wide supervision and regulation and to upgrade this toolkit. If these initiatives are successful, *they could obviate, or substantially reduce, the need for monetary policy to counteract financial imbalances.*

Since imbalances can potentially arise in many areas of the financial system, not one, but a whole array of prudential tools may be required to target them. The effectiveness of such tools can change over time: given the ability of financial markets to adapt quickly to a changing environment (including by circumventing existing regulation), the tools would themselves need to adapt. Moreover, the authorities responsible for supervision and regulation would require the scope to adjust the parameters of their policies to target emerging financial imbalances. In practice, such use of prudential policies may be constrained by the need to maintain a stable regulatory environment for financial institutions and markets.

It has thus been argued that system-wide supervision should be the first line of defense against financial instability (Carney, 2009, Bernanke, 2010, Kohn, 2010). But designing and implementing this new toolkit is a formidable challenge, and there is considerable uncertainty about what will realistically be feasible. While there are many promising proposals on the table (Basel Committee on Banking Supervision 2009) – indeed, this is at the core of the G-20’s agenda – much remains to be done. Granted that appropriate supervision

and regulation are the first line of defense against financial imbalances, *the key question is whether they should be the only one.*

Yet, although prudential tools will be always helpful to prevent and address financial imbalances, they might not be sufficient in every case

The effectiveness of monetary policy in countering financial imbalances depend on the nature of the shocks, the influence of monetary policy and prudential tools on these imbalances, and the interactions between them. In particular, where financial imbalances reflect specific market failures and regulatory policies can be targeted directly to such failures, monetary policy is less likely to play a useful role. Monetary policy will more likely have a role to play when financial imbalances stem from economy-wide factors. Of course, in practice, financial imbalances in the economy may well be associated with a combination of factors, and exuberance that is initially contained within specific sectors could spread more broadly through the economy. That was almost certainly the case in the run-up to the 2007–09 crisis, which reflected the complex interplay of imbalances among mortgage markets in the United States and other countries, securitized lending markets, credit default swaps and other derivatives markets, and the banking systems of the United States and some other countries.

*The extent to which monetary policy will play a role in mitigating financial imbalances is not clear yet, but it should be an important part of the discussions concerning potential improvements to monetary policy frameworks.*

The macro conditions preceding the crisis included low world real interest rates associated with global imbalances, as well as the Great Moderation, with a long period of very stable growth and stable low inflation, which led to a systematic underestimation of risk and very low risk premia in financial markets (based on the idea that more predictable monetary policy may reduce the uncertainty and encourages assets managers to underestimate the risk (Gambacota, 2009)). And due to this fact, the explosion of microeconomic research, both theoretical and empirical, suggests that there is a case for monetary policy to play a role in creating credit bubbles. Borio and Zhu (2008) have called this mechanism the “risk taking channel of monetary policy”. Also, this channel may arise from compartmental considerations such as money illusion in which they consider that the low nominal rates indicate the fact that real profits are low, encouraging them to purchase riskier assets in order to obtain a bigger profit regarding the objective.

The monetary policy may encourage risk taking in the following way: monetary policy which cleans up after financial disruptions, by lowering interest rates, may lead to a form of moral hazard in which the financial institutions expect the monetary policy to help them recover from bad

investments. This method may increase the systemic risk because it is exerted only when many financial firms have problems in the same time such that these can be encouraged to follow similar investment strategies, thus increasing the profit correlation.

Given the support for the risk-taking channel, does this mean that once with the increasing of supply of assets, monetary policy should be used to lean against credit bubbles by increasing the interest rates in order to prevent the bubbles to get out of control (“lean” vs. “clean” debate)? Through this action it is sustained the fact that raising interest rates to slow a bubble’s growth would produce better outcomes because it would either prevent the bubble or would result in a less severe bursting of the bubble, with far less damage to the economy.

There are some objections regarding this action, translated by the “Greenspan” doctrine, because he sustained the fact that the monetary policy should not fight against asset price bubbles, but rather it should clean after their explosion (Greenspan, 2002).

The arguments of this latest vision are the following:

- *Bubbles are hard to detect.* In order to justify leaning against a bubble, a central bank must assume that it can identify a bubble in progress. That assumption was viewed as highly dubious because it is hard to believe that the central bank has such an informational advantage over private markets. If the central bank has no informational advantage, and if it knows that a bubble has developed, the market will almost surely know this too, and the bubble will burst. Thus, any bubble that could be identified with certainty by the central bank would be unlikely ever to develop much further.
- *Raising interest rates may be very ineffective in restraining the bubble,* because market participants expect such high rates of return from buying bubble-driven assets. By definition, bubbles are departures from the behavior that is normally incorporated within models, and so *the tools of monetary policy are unlikely to work normally in abnormal conditions.*
- There are many asset prices, and at any one time *a bubble may be present in only a fraction of assets.* Monetary policy actions are a very blunt instrument in such a case, as such actions would be likely to affect asset prices in general, rather than solely those in a bubble. Another way of saying this is that bubbles are departures from normal behavior, and it is unrealistic to expect that the usual tools of monetary policy will be effective in abnormal conditions.

- Giving monetary policy another objective might lead to *confusions* about the central bank's commitment to price stability, thereby weakening the nominal anchor, with potentially adverse effects on economic outcomes.
- If the monetary policy aims to promote stability could lead to *decisions of consolidation of the monetary policy when it is not necessary to constrain the credit bubbles*. A situation of low interest rates does not necessarily indicate that monetary policy is promoting excessive risk taking. Then, the monetary policy may become a blunt instrument, given that financial imbalances appear in certain sections and do not have a significant economic impact, generating a material decrease of production and inflation (because the entire economy is affected by the monetary policy decisions).

One lesson from the analysis here is that policymakers, and especially monetary policymakers, will want tools to assess whether credit bubbles are developing. Research is currently underway to find measures that will signal if credit bubbles are likely to be forming. But even so there is a stronger case for monetary policy to lean against credit bubbles, rather than just cleaning up after the bubble has burst. Using monetary policy to pursue financial stability goals is not an easy task, however, and research on how to monitor credit conditions so that to take decisions to use monetary policy to restrict excessive risk are based on the correct information will be a high priority for research in the future.

Also in this article I pointed out *the presence of nonlinearities in economy*. The role of nonlinearities in the macro economy when there is a financial disruption implies an important flaw in the theory of optimal monetary policy that was in general use prior to the crisis: the theory of optimal monetary policy was based on the assumption that the macro economy can be described by linear dynamic equations. The financial crisis of 2007-2009 demonstrates that although the linear-quadratic framework may provide a reasonable approximation to how optimal monetary policy operates under fairly normal circumstances, this approach will not be adequate for thinking about monetary policy when financial disruptions hit the economy.

Although the linear-quadratic framework might be reasonable during normal times, we have learned that financial disruptions can produce large deviations from these assumptions, indicating that the linear-quadratic framework may provide misleading answers for monetary policy strategy when financial crises occur. The important role of nonlinearities in the economy arising from financial disruption suggests that policymakers will not only focus on the modal outcomes, as they would in a certainty equivalent world which is

a feature of the linear-quadratic framework, but will also tailor their policies to cope with uncertainty and the possible existence of tail risks in which there is a low probability of extremely adverse outcomes.

Most of the quantitative studies of optimal monetary policy have also assumed that the shocks hitting the economy have a time-invariant Gaussian distribution, that is, a classical bell curve with symmetric and well-behaved tails. In reality, however, the distribution of shocks hitting the economy is more complex. In some instances, the uncertainty facing the economy is clearly skewed in one direction or another; again, this is likely when there are significant financial disruptions. In addition, as we have seen in the recent crisis, the shocks hitting the economy may exhibit excess kurtosis, that is, tail risk, because the probability of relatively large negative disturbances is higher than would be implied by a Gaussian distribution.

*Therefore*, there is a need of a major rethinking of details regarding the main framework of the monetary policy strategy. We now recognize that the financial sector plays a prominent role in the macroeconomy and makes it sometimes nonlinear. This requires abandoning the linear quadratic framework for thinking about ways of conducting monetary policy when there is a financial disruption. Another lesson is that there is a stronger case for monetary policy to lean against credit bubbles rather than to clean after their explosion. Using monetary policy to pursue the objectives of financial stability is not an easy task and research on how to monitor credit conditions in order to use monetary policy to restrict excessive risk taking is based on accurate information and will be of a high priority for the future research.

Finally, the financial crisis has shown that interactions between the financial sector and the aggregate economy imply that monetary policy and the one of financial stability are interconnected. There is one good news that came out of this crisis. Macro-monetary economics became much more interesting. We are now faced with a whole new agenda for research that should keep people in the field very busy for a very long time. It has also made the work of central bankers more exciting as well. They now have to think about a much wider range of policy issues than they had to previously. This will surely be exhausting, but central banking will be a far more stimulating profession.

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## The Need of a New Economic Model

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**Abstract.** *The current global economic crisis has proven to be unpredictable for most decision-makers worldwide. Moreover, beliefs deeply embedded in the minds of economists about economics, about the virtues of capitalism and free market began to falter. Sooner or later the current crisis will end. The problem that arises and to which the economic science must answer is whether anything should be changed in the current world economic order and especially what exactly. It is quite vital to ask ourselves today in what kind of society we want to live and whether the current economic model, a model mainly based on monetarist ideas, is helping us to achieve those wishes. In addition to analyzing the root causes that led to the current economic crisis, this article aims to analyze whether the current economic model must change and to outline the features of a possible new model.*

**Keywords:** economic crisis; economic model; globalization; economic theory; economic cycle.

**JEL Codes:** E02, E44, F02.

**REL Codes:** 6B, 6E.

## Introduction

In the autumn of 2008 the world economy was in deep crisis. Although the crisis started in the US economy it became global very quickly proving once more that we are all in the same boat.

Over the last two decades there have been several successive crises in emerging countries. But their extent was not very high and they finished out relatively quickly the developed countries had the necessary resources to support the ones in trouble. The major difference is that the current crisis has not originated in emerging behavior but appeared right in the center of the global economy (due to the US subprime lending) and contaminated world.

The crisis has brought up some old issues related to global imbalances (in the form that one part of the world produces and consumes more than the other, a thing which threatens the global stability) and to the American model of weak social cohesion and lack of morality of the participants to the stock market.

This article is divided into four parts. The first part presents a comparative analysis of the American model with the two sub-models of the economy proposed by the Bush and Obama administrations, sub-models that have failed to prevent the crisis (Bush sub-model) and to overcome them at a low cost to taxpayers (Obama sub-model) . The current global economic crisis originated in the US and this is why it is important to analyze the real causes which led to the emergence of this crisis and how the authorities reacted. The second part analyses the crisis in which the economy as a science is caught between two visions: the morality of individual interests and the unique interests of the collective. The third part is devoted to the issues of morality and common sense, two important things which seem to be minimized, if not downright ignored, by many key players, both from the political sphere and the economic sphere. The last part tries to answer a question of utmost importance to human society, respectively how a new economic model could look.

### 1. The American model

When we talk about economic models is important to correctly understand the concepts that we use. Thus the concept of economic systems and models covers a vision, a well-defined structure and purpose, together with methods and procedures to achieve economic performance. A model of economy refers to the vision of the regulators and how to manage economic functions and solve “the equation” of economy as a whole. The link between economic systems and economic models is the following: systems represent the commune sides and models the specific differences. The system is functioning

as a hole while the models define the procedures and tools which make the system to function (Dinu, 2011).

In the following part I will present the main measures adopted by the two American administrations which were at the lead during the crisis, respectively the Bush administration and the Obama administration.

Bush administration reaction to the financial crisis has been to help banks through a massive 700 billion dollars suggestively called "Troubled Asset Relief Program or TARP". The US treasury TARP allowed the government to buy assets that were very difficult to evaluate or were very little liquid, belonging to banks and other financial institutions. The assets in questions were the CDOs (Collateralized Debt Obligations), which represented an investment instrument particularly popular until 2007, when they were affected by the growing number of cases of non-payment of mortgage loans on which they were built.

But the problem in the US was not just about banks facing debt default by borrowers. Soon the financial crisis became full scale economic crisis. Two of the three major US auto industry giants found themselves on the verge of bankruptcy. They were General Motors and Chrysler. President Bush has postponed the matter until his successor will be installed in office, helping businesses just to keep afloat. These financiers who had requested the help of government were of the opinion that the auto companies should not receive the same treatment from moral hazard considerations. It has been a battle of opinions between Main Street (represented by the non-financial corporations) and Wall Street (represented by the financial corporations) from which emerged the winner – Wall Street. It is obvious that a double standard was applied, financial companies benefiting from a more gentle treatment from the state.

Another measure taken by the Bush administration was to reduce the taxes imposed in February 2008, a measure that has not produced the desired results because much of it was saved by the beneficiaries and its objective was to encourage spending.

Regarding the financial regulation Bush administration really didn't do anything although it was clear that this area of regulation of financial markets is the main culprit. Nor in terms of social cohesion the Bush administration has not taken action, although the main beneficiaries of tax cuts were on the top. An more intense progressive taxation would have been much more useful because it would have led directly to an increase in consumption not in the savings and we all know that in times of crisis it is important to encourage consumption.

Following the failure of Paulson plan (which failed to revive lending) Obama administration announced a new program in March 2009 – PPIP (Public Private Investment Program). The US Treasury and the Federal Deposit

Guarantee Authority (FDIC) launched a program through which they wanted to solve the problem of toxic assets in the custody banks. PPIP involved the auctioning of these assets and investors who agree to buy some of them would have received collateral which worth about one trillion dollars from the FDIC.

The Obama administration has not really come up with a new approach but with a strategy based on trust and continuity. The stimulation package consisted of 800 billion dollars which were to be spent over a period of approximately two years. This sum of money is not big at all if we take into account the US GDP of about 14 – 15 billion US dollars. Thus, in 2009, the resulting stimulus package was almost zero (Stiglitz, 2010, p. 127).

Congress approved three extensions of the period of unemployment paid from the federal budget to a maximum of 73 weeks. Also the stimulus package proposed by Obama included the covering of 65 percent of the cost of health insurance as part of extended unemployment help (only if the who have lost his/her job after September 2008 and before the end of 2009).

Obama administration may be accused that it did nothing to help out the Americans who have lost their jobs to pay their rates on mortgage loans. So many of those left unemployed have lost their houses shortly after the dismissal although they were not guilty of anything. The Nobel prize winner for economics Joseph Stiglitz propose that the authorities should provide a new type of "insurance risk", which in the present circumstances would take over the mortgage payments – allowing most to be postponed until the owner will find a new job (Stiglitz, 2010, p. 135).

Obama administration stimulus program had many positive effects, but would have been more effective if it was bigger and better designed. Thus, because it was too small, one-third to tax cuts passed on, and some little aid has been allocated to states, to localities and to those who were falling from the social safety nets.

The measures taken by the Obama administration were partially correct but insufficient to offset the shock of financial crisis.

The Bush administration proposed sub-model and that proposed by the Obama administration are characterized by political freedom and economic growth. Both models are based on competitive market mechanisms for allocating resources. If the model supported by Bush is characterized by exclusion, the model supported by Obama is a partially inclusive. The Bush model is a typical American model which is characterized by the exclusion of social cohesion and the solely long-term objective to achieve bigger yields. From this point of view neither the model proposed by the Obama administration is not too different but we must admit that this administration, by some of the measures adopted, has taken important steps towards a social

purpose, getting a little closer to the European model of economic growth. The Bush model is based only on the market economy and laissez-faire. Obama administration tried to change this even if not very successful. Perhaps Obama has tried to follow a pragmatic approach making a realistic compromise between existing political forces. However the greatest risk in life is to risk nothing and that is just what Obama has done. On the other hand the Bush model fails by risking too much, playing everything on one hand, the invisible hand.

“The financial sector had its own vision on solving the economic crisis, a more profit-centered vision which calls for the returning to how things were before 2007, to the best extent possible” (Stiglitz, 2010, p. 90). The problem is that US financial companies have come to regard their activity as an end in but the role of the financial sector in an economy is represented by the means to an reach an end, not an end in itself. Thus the US financial sector should be reduced.

## 2. The crisis of the economic theory

The main problem of economics and economists is that the basic task to deliver accurate predictions and forecasts was not fulfilled. Currently there is a considerable gap between the capacity of the economic science and the reality of the everyday functioning economy.

The current crisis has highlighted the weaknesses of economics, weakness due largely to the fact that economics is a relatively young science when comparing to other more mature sciences like physics or chemistry.

It is obvious that the symbolic economy, represented by the financial markets, doesn't correctly reflect the real economy. This is the main source of the current problems. Any theory that tries to cause a different reality than the one that exists will always lead to a failure.

Any science must be able to challenge its own assumptions. At this time of deep economic crisis challenging the basic assumptions of economics is necessary. It would be fatal to the science of economics to maintain the fundamental assumptions of today. The problem is that the current mainstream theory, established by the classical economists, tells us to wait for the market forces to make their magic and solve the crisis. But the neoclassical theory, which claimed that the markets are perfect, failed. Markets are never perfect and a theory that is based on false assumptions can only lead to some false conclusions. This is exactly what happened and should therefore the economics must be redefined in new terms.

Another problem of the classical and neoclassical economic theory is that wealth is not an end but a means of individual interest. Power can be defined as the possibility to control other people freedoms. Thus came the tendency to identify wealth and power to transform freedom into a something that can be sold. It is necessary to redefine the concept of power. "Hierarchical control of power failed as a wealth generator, hierarchical control of wealth shows signs of failing as long as the access to power is conditioned by wealth" (Dinu, 2011, pp. 1-2). Order in the corporate model is a vertical one with few leading many. It is an oligarchic model. Virtually all the US policies in recent decades have been derived from these concepts.

I think we should return the famous aphorism of Francis Bacon that "knowledge is power". The new society needs to identify power with the term knowledge rather than the wealth. This defines the knowledge society a society based on creating new ideas, innovation, research and development and their application in the economy. The gain comes from the profits that are obtained from the sale of products and technologies when there are placed on the market for a certain period of time. These things are known to all but the innovation did not work properly in the US. At least in the last two or three decades because much of it was directed to financial innovation. They created such complex products that led ultimately to the current economic crisis. The main reason was the flawed incentives, represented by high wages in the financial sector which led to the orientation of human capital, represented by the best students to the field. This is an important slippage that could be corrected by the state, in the short term, by introducing progressive rates of taxation and in the long term by investing in various areas such as research, health and infrastructure.

"The crisis could be interpreted as the result of insecurity and helplessness of the global governance. It is a crisis of behavior in the use of specific means of an economy which becomes global" (Dinu, 2008, pp. 1-2).

We must resume the discussions on the evaluation of the functional relevance of the fundamental principles of global economy, the effectiveness of behavior management system based on confidence in economic policies and reform that cannot longer be without global coordination (Dinu, 2010, p. 344).

Like all markets, the ideas market is not perfect. Not always the best ideas win. Good ideas can be found at the economists who have sought to understand how markets actually work. It remains to see whether these ideas will prevail now in the context of the asymmetric information on this market and the materialistic nature of the various interests represented in the US by large lobbying corporations.

### 3. The lack of common sense and morality

The promoted model, characterized by the pursuit of profit at any cost, has not created prosperity but instead supported the deficit of morality that we all feel today. When science supports the idea that money is the supreme goal of life the threat of justification the lacking of morality by the actors of the market is born.

Paradoxically, even the economic theory has provided arguments supporting this lack of morality. After all if the pursuit of self-interest leads to society through intermediate invisible hand, that Adam Smith speaks of, everything that an individual must make is to ensure that he/she is following his/her interest. But greed has not led to society good in the latter case of the recent economic crisis, nor in many other cases.

Morality is one of the most valuable human virtues. Morality separation from economics took place when we attempted the orientation of this science to the status of physics. I think this conclusion adopted by economists must be reassessed. Sciences like physics or chemistry study natural phenomena and economics studies human behavior, being defined, by the Austrian School, as the very logic of human action.

The new economy must support and promote morality above individual interests.

### 4. The new model of economy

Designing a new model of economy is a task as difficult as it is necessary for economists. I think one of the main questions that we must answer is what would be the state's role in this model. The state socialist economics have promoted the total control by not allowing the free pricing mechanism in these economies. Obviously, this model has failed miserably. The opposite of this is the corporate capitalist model, that although it seemed to many that would have won in recent years has started to show more and more signs of weakens.

In the past, the economists have tried and largely succeeded to understand when the markets work well and when not. Mainly this is a question of incentives and motivations. The main situations where markets fail because of the fact that social and private incentives are not well aligned are the cases of monopoly, externalities and informational imperfections.

Thus it was attempted the intervention of the state by adopting antitrust laws to ensure competition, the law on free access to public information and other laws aimed at reducing pollution.

There are many aspects that could be improved. For example, regarding the information imperfections that characterize global financial markets and given the high level of IT technology today, I do not think it would be too hard to find a solution to implement a computer program that enables the potential investors to have more information on what exactly is at the basis of some of these assets. This solution was proposed by author Kamran Dadkhah in his book "The Evolution of Macroeconomic Theory and Policy". The lack of transparency in financial markets is one of the main causes of the current crisis.

Regarding the regulation of financial markets, we can observe that it was not uniform. The credit market, where the players are banks and financial leasing companies, has been heavily regulated (maybe even too much). The rest of the financial markets, especially the stock markets, were far less regulated.

The problem of a too strong regulation is that a strategic mistake of the central administration creates negative effects on the entire system. This happened in the US in the early 2000s, when authorities at that time chose to encourage subprime lending (everyone should be able to buy a house).

The stock market was not regulated at all and therefore various financial instruments have been created so that banks be able to insure themselves against the risk of default. The risk was transferred from one part to another, and those who took it ultimately had no idea of how much is the risk. Financial derivatives should be reviewed and be kept only those that contribute to the smooth running of the economy (eg. those involving insurance against currency risk).

Other roles that a state has in any economy is to ensure property rights and security as well as the necessary infrastructure. On these roles all economists agree. The question is whether it is sufficient and the recent crisis seems to prove that it is not.

Appropriate role of the state varies from country to country and from one era to another. Globalization and new technologies have opened the way for new global monopolies, which have huge financial and political power. Problems created by the separation between ownership and control and the fact that the wealth of many people is managed by other people, allegedly on behalf and for their benefit, proves the need for more effective regulation. In the knowledge based economy of the twenty-first century, the state should assume an extended role in providing fundamental research, that is so important for a healthy and long lasting economic growth, and in achieving social cohesion (which has suffered greatly in the recent decades).



## Conclusions

The current crisis has put in difficulty all the economic theories not just to the mainstream ones. Expression of the failure of current theories is given by the hesitation of the current economists and politicians when trying to answer the question: "When and how we will overcome the crisis?"

Today the world ask herself if economics really represents a science.

The successful management of this crisis and the preventions of future problems are related both to the politics and economics.

The science of economics should provide a new model of society in order to rehabilitate. It is deeply irrational to believe that the only solution to stop this crisis is to wait for it to pass. This crisis is the result of ideologies that have failed. This shows that no one has absolute truth and the middle path must always be sought and followed.

A very wrong approach would be to say: we are in this crisis and we have no time to waste by seeking long term solutions to prevent another crisis like because we must focus on the short-term problems and after the crisis to say: if it ain't broke don't fix it.

We ask ourselves if this crisis will really change anything. Of course there are many whose interests are to not change anything essential. But there are increasingly many supporters of the idea that something has to be changed. Change must be a consequence of this economic crisis. The promise of change made Barak Obama win the elections in the US in 2009. Things are beginning to move in the right direction but the question is to what extent the moving speed is sufficiently high to prevent a new crisis. It would be a catastrophe if a new crisis occur in the next 10-15 years because, in my opinion, the world has exhausted the resources for such an unwanted situation and new crisis would lead to very serious social conflicts.

It should be noted that it would be foolish to abandon the current economic model based on market and on laissez-faire and go back to one strictly based on the economic control by the state. We have to invent a new model, more efficient, which combines the advantages of the free market, the entrepreneurship and the defending of property rights at all costs whit maintaining an environment that allows and even promotes social cohesion and social justice worldwide.

We are at the end of a cycle which represents both a great opportunity for the humanity to enter a new era of progress and also very high risk. To do nothing and leave things to chance is not a solution. The future belongs to those who dare challenge it.

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