

# The Spontaneous Order

“The problem is that the dynamic that defines capitalism, that of unforgiving market competition, clashes with the human desire for stability and certainty.”

**Alan Greenspan**

Economic visions are still torn by the partisanship of the two classical orders: the natural one and the constructed one; the order of the inherited tradition and the projected order. The political right and left (deriving from this dichotomist way of looking at things) have confiscated the manner of understanding and realizing the economy.

It is still vague the way out from the irreducible takes on the means used and the pursued goals. Against the evidence that another order is the functional one – the spontaneous order – Economics' path into policies is through leftist or rightist ideological channels. Even when exceptions occur, re-centering the economy on the guidelines of order through pluralism (or spontaneous order) is perverted by the rules of the natural or the artificial orders. The recent case of the US economy (marked by the concepts of the neoconservatives) or the case of the Chinese economy, both tempted to believe in the spontaneous order, reveal the conditioned reflex of the visions of the natural and artificial order respectively.

Paradoxically, a science wrought in the philosophy of progress is proven to be – at almost three centuries of existence – still dominated by the visions of Romanticism and Utopianism that the Rationalism of the Enlightenment, the source of economic theory, tried to dissolve.

The endurance of the options for the classical orders and the political stamping of economic concepts in their perspective has created adverse phenomenologies, permanently caught in a dispute for preeminence. In a situation where the societal systems separate, the economy has fallen ill with the malady of split personality, of parting into opposing regulating mechanisms – one belonging to the market, the other to the planning. The battle for preeminence has lasted centuries at the theoretical level and decades at the practical level.

Has the economy gotten to base itself on the spontaneous order? It seems credible when the ideology retreats at least in a marginal sense. The great expectation resides in the possibility of converting the culture based on the natural order to a culture erected on the spontaneous order. The key lies in the chance that the adepts of the natural order will emerge from the shackles of fundamentalist ideology and develop practices of the option for the order through plurality (or the spontaneous matrix of the order for the behaviors of self-regulating and self-organizing complex systems). There is no doubt that nature does not to leaps; self-regulation and self-organization are – to the human society – faces of the extremely slow and eminently linear learning process.

The empirically observed type of change is one of a mixture of options between the natural and spontaneous orders, on one side, and the artificial and spontaneous orders, on the other side. The goal is one of political adaptation to evolutions, though it cannot be spoken of as progress in the true sense of the word. The result of the first hybridization is an intermediary order torn between the idealized pattern of the past and the functional pattern of the present, while the expression of the second hybridization is an order caught between the utopian

pattern of the future and the functional one of the present. The results – unilateral capitalism and market socialism – invariably develop the same historic neuroses. History seems to repeat itself!

The eccentric take on accepting the value of the order through plurality (as a model for the coexistence of unidimensional capitalism with market socialism) resuscitates the assumption of the convergence of the opposing ideological systems. It is in essence a double refusal: that of coming out from the vicious circle of comfortable ideas and entering the virtuous circle and that of functional order specific to self-regulating and self-organizing complex systems (order whose behavioral principle lies in the propensity for spontaneous equilibrium).

In Economics, the concept of creative destruction applies most accurately to the spontaneous order. In society, political pluralism dictates the self-regulation and self-organization of the dynamic and complex system. The market economy (with the positive feedback of learning by trial and error) does not steer evolution toward the market society, just as the democratic society (built on political pluralism and the public testing of exercising the right to manage power) does not push the economy toward a human functions and non-individual formulas.

It should be evident the evolution toward the spontaneous order by shielding behaviors from the trappings of ideologized dichotomies of the private versus collective property type, capitalist economy versus socialist economy a.s.o. There should be a parting with the tension (sufficient to itself as in the end it is compensational) between the natural order and the artificial order of the last century and a half.

The spontaneous order opens up another horizon of positioning, such as the one marked by the options around the Wittgensteinian idea of private non-property in a dynamic correlation with private property. In this new field of meaning emerge solutions also to the complicated problems with which the economy and the society of the second modernity are confronted, and to the problems of defining the right to intellectual property in another manner than that of clear-cutting the preeminence among the natural order and the artificial order.

The spontaneous order is pluralistic both politically (the political being civically controlled, thus there are more centers of power which limit each others' propensities towards prevalence) as well as economically (the economic is the expression of performance tested by the market, the market is made functional through competition, competition is regulated by institutions in orders for it not to become Hobbesian, the institutions are fallible a.s.o.). Order through pluralism generates structures and rules of behavior through which power is being transacted on consensual criteria and which no actor can discretionally manipulate. Spontaneous order contradicts the meritocratic absolutism of the natural order and the millenarian fundamentalism of the constructed order.

The spontaneous order is the order which life constructs from the chaos of nature and which man subtracts from the future in the form of the continuous present.

Marin Dinu

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# Simultaneous Equations Models Used in the Study of Some Issues Related to the Corruption and Performance of Services in the Public Health System

■

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***Abstract.** This paper presents an analysis of some issues related to the corruption and performance of services in the public health. Reform of public health is a complex and lengthy process, which involves different types of institutions and individuals. In this paper, starting from a set of hypotheses, we define a simultaneous equations model to analyze some important issues related to the progress of the reform process in the public health system. This model contains equations regarding the quality of reform in the public health system, the role played by different factors in increasing of the transparency of decisions in the public health system, estimations of the influence of some factors from the public health system in increasing the health education of the population, factors related to corruption and nonacademic behavior in the public health system contributing to the implementation of the reform process in the system and improvement of the quality of the medical act. Parameters estimates have been done through procedures implemented in EViews. Applying Hausman test we compare the results for cases in which the parameters are estimated by the least squares method and the two stages least squares method.*

**Key words:** simultaneous equations models; public health system; reform.

■

**JEL Codes:** C30, C51, I18.

**REL Codes:** 10B, 10F, 13A.

## 1. Introduction

Reform of public health is a complex and lengthy process, which involves different types of institutions and individuals. During the transition, actions undertaken by all governments have pursued solving the current problems and not to define a new functioning philosophy of the public health system. Under these circumstances, public health system has become expensive and often unfunctional. Not a few times, inefficient solutions have been chosen for solving problems in the health system, both in terms of professional, but also economically. The networks of health services providers from Romania, currently do not respond to most needs to improve the health of the population.

In the past eighteen years, a series of measures have been undertaken to decentralize the system and to the privatization of medical services. However, currently we assist to a fragmentation of the system, which emphasize the inequality in the distribution of medical personnel and a reduction of it to certain types of medical services. We note that the number of doctors per capita in the rural area is now only 20% of those in urban areas. Another major shortcoming is related to the financing and linking it with the strategies of decentralization. Not a few times, decentralization appeared as a way of placement of the tasks from the central level to local administrations.

## 2. Model definition

### General presentation

In the economic literature there are a number of applications of the simultaneous equations models for the analysis of the phenomena in the social field, under the condition that estimates of the parameters are obtained using data series from the application of statistical surveys. We mention in this regard Kaufmann (2002), Bai and Wei (2000), Kaufmann et al. (1999), Andrei (2008) etc. For example, the last paper quoted defines a simultaneous equations model for the analysis of some phenomena at the level of public administration. By this model four important aspects of the functioning of public administration are analyzed: the performance of institutions of central and local administration, corruption, transparency of decisions and satisfaction of employees.

The major problem using simultaneous equations models, which use data from a sample, is related to the definition of the instrumental variables list used in estimating the model parameters by applying the two stages least squares method. We point out that in the economic literature there is no uniform approach in choosing the list of instrumental variables in the simultaneous equations models used to analyze certain aspects of public administration (Bai, Wei, 2000; Kaufmann et al., 1999).

In the following, starting from a set of assumptions, we define the equations of the simultaneous equations model used to analyze some important issues related to

the progress of the reform process in the public health system.

### **Model assumptions**

For the simultaneous equations model used to analyze the process of reform of the public health system will take into account of a series of working hypotheses, defined as follows.

*Hypothesis 1.* The perception of the reform by the medical staff with higher education in the public health system is viewed from the perspective of the following aspects: quality system of funding public health system, measures taken to reform the medical institutions, the quality of the decentralization of the health system, the characteristics of the medicines procurement system and the quality of employment and promotion of staff in the public health system.

*Hypothesis 2.* The reform process in the public health system will determine, in an average time horizon, changes in national policy of public health system viewed from the perspective of increasing the volume of public expenditure for health, the policy of national programs carried out by the health ministry and the increase of the transparency in the usage of public funds for compensate and free drugs in the primary medicine.

*Hypothesis 3.* The reform process should support measures increasing the public health education to prevent illness and aggravation of a disease.

*Hypothesis 4.* The results of the reform process are perceived by reducing the level of the corruption in the public health system.

*Hypothesis 5.* The process of reform should be transparent.

*Hypothesis 6.* Statistical data used to estimate the model parameters are obtained from the application of a questionnaire to statistical medical personnel sample.

### **Model equations**

The models equations are defined using the above assumptions and the structure of the questionnaire applied to medical personnel.

The first equation describes the quality of reform in the public health system (RSS) depending on various characteristics which are grouped as follows: characteristics of the functioning of the institutions, such as the quality of the factors affecting the achievement of a quality medical act (CF) and the assessment of the institution and employees (CSE); ministry transparency in making decisions related to the progress of the reform process (TMS); ministry politics in the field (PDS); health education of the population (ESP); personal characteristics of the person interviewed, including the gender, age and category of medical staff. Personal characteristics are defined on the basis of variable vector VP. We define the first equation as follows:

$$RSS = f_1(CF, CSE, TMS, PDS, ESP, VP) + \varepsilon_1 \quad (1)$$

The  $\varepsilon_1$  variable is uncorrelated with explanatory variables in the regression model, being homoscedastic. The  $f_1$  function is a linear combination of explanatory variables. Under these conditions the regression model used to analyze the quality of the process of reform in the public health system is defined as follows:

$$RSS_i = a_0 + a_1 \times CF_i + a_2 \times CSE_i + a_3 \times TMS_i + a_4 \times PDS + a_5 \times ESP_i + a_7 \times VP + \varepsilon_{ii} \quad (2)$$

where  $a_7$  is a line vector with the three elements, and VP is a column vector with three elements.

The second equation estimates the role played by different factors in increasing the transparency of decisions in the public health system (TMS). Moreover, the increase of the decisions transparency plays an important role in the progress of the reform process. The second equation of the model analyzes the influence of some factors in the public health decisions on transparency in the system. The following factors are taken into consideration: factors related to ministry policy in the field (PDS); the quality of the reform process (RSS); the level of corruption at the national level (COR); a series of personal characteristics of the person, such as the gender, age and category of staff (VP). The second equation is:

$$TMS = f_2(PDS, RSS, COR, VP) + \varepsilon_2 \quad (3)$$

The  $\varepsilon_2$  variable is uncorrelated with explanatory variables in the regression model, being homoscedastic. The  $f_2$  function is defined as a linear combination of explanatory variables. The regression model for the analysis of the quality of the reform process in the public health system is defined based on the relationship below:

$$TMS_i = b_0 + b_1 \times PDS_i + b_2 \times RSS_i + b_3 \times COR_i + b_4 \times VP + \varepsilon_{2i} \quad (4)$$

where  $b_4$  is a line vector with the three elements, and VP is a column vector column with three elements.

The third equation estimates the influence of some factors from the public health system in increasing health education of the population. In defining this equation we start from the fact that optimizing the costs of health is not possible without direct participation of the beneficiary who is the citizen. Under these conditions, to obtain positive results and a sustainable development a national strategy is necessary to ensure public health education to prevent illness and aggravation of a disease, to request a new medical check at the end of medical treatment, etc.

This equation examines the health education of the population (ESP) depending on various factors, such as factors related to direct the behavior of patients, including a number of variables, such as the frequency of the application of a new medical control at the end of a period of treatment (PCS) and the extent to which people give sufficient importance to their health (PAC); factors related to the accessibility of the citizens to the primary, secondary and tertiary health care (ACS); factors related to decisions of the management of the Ministry of Health regarding education programs for the health of the population: the contribution of institutions such as Ministry of Health, Ministry of Education, medical units, the mass-media, to the development of the health education and prevention of illnesses among the population (DPE); the usefulness of the development of health education and prevention programs among the population (UDP). The third equation is:

$$ESP = f_3(PCS, PAC, ACS, DPE, UDP) + \varepsilon_3 \quad (5)$$



The  $\varepsilon_3$  variable is uncorrelated with explanatory variables in the regression model, being homoscedastic. The  $f_3$  function is defined as a linear combination of explanatory variables. The regression model for the analysis of the quality of the reform process in the public health system is defined based on the relationship below:

$$\begin{aligned} ESP_i = & c_0 + c_1 \times PCS_i + c_2 \times PAC_i + \\ & + c_3 \times ACS_i + c_4 \times DPE + \\ & + c_5 \times UDP + \varepsilon_{3i} \end{aligned} \quad (6)$$

The fourth equation. The corruption and nonacademic behavior from the public system, in general, and in the public health system, in particular, have an important contribution in the implementation of the reform process in the system and in the improving the quality of the medical act. This equation estimates the contribution of some factors in reducing the corruption (COR), such as the features of the reform process (RSS); the system for evaluating the quality of services (CSE); the transparency of the decisions, the accessibility of citizens to health care (TMS); changing based on the political criteria of the management personnel (SCP); the satisfaction level of the medical personnel (GSM); personal characteristics of the interviewed person (VP). The fourth equation is:

$$\begin{aligned} COR = & f_4(RSS, CSE, TMS, SCP, GSM, VP) + \\ & + \varepsilon_4 \end{aligned} \quad (7)$$

The variable  $\varepsilon_4$  is uncorrelated with explanatory variables in the regression model, being homoscedastic. The  $f_3$  function is defined as a linear combination of explanatory variables. In these

circumstances, the regression model is defined as:

$$\begin{aligned} COR_i = & d_0 + d_1 \times RSS_i + d_2 \times CSE_i + \\ & + d_3 \times TMS_i + d_4 \times SCP + d_5 \times GSM + \\ & + d_6 \times VP + \varepsilon_{4i} \end{aligned} \quad (8)$$

$d_6$  is a line vector with three parameters and VP is a column vector for the three variables used to evaluate certain personal characteristics.

### 3. Simultaneous equations model for the reform process

#### The general form

The simultaneous equations model is defined in the structural form as follows:

$$B \times y_i + C \times x_i = \varepsilon_i \quad (9)$$

where residuum vector has a normal repartition  $\varepsilon_i \rightarrow N(0, \Omega), i = 1, \dots, G$ , and  $\Omega$  matrix is defined as:

$$\Omega = \begin{bmatrix} \sigma_{11} & \sigma_{12} & \dots & \sigma_{1G} \\ \sigma_{21} & \sigma_{22} & \dots & \sigma_{2G} \\ \dots & \dots & \dots & \dots \\ \sigma_{G1} & \sigma_{G2} & \dots & \sigma_{GG} \end{bmatrix}$$

The equations defined in our model rises a number of important issues from the public health system:

- quality of the reform of the system and its implications on the quality of medical services offered to citizens;
- the government policy in the health system and its implications on the development on medium and long term of the system;
- the level of the health education of the population in the prevention of illness and aggravation of a disease;

- the level of the nonacademic behavior in the public health system and its implications on the progress of the reform process and the quality of medical services offered to citizens.

For the estimates of the model parameters we used series of data form a statistical sample. The features of this sample are presented in the following.

**Data sample**

For data collection we used a two stage poll. The first stage was represented by public health units from Bucharest (hospitals, health centers, polyclinics) which were treated as primary sampling units. The second stage was represented by doctors in each primary sampling unit.

The representative sample from Bucharest consisted in 407 people, and the survey results are guaranteed with a 95% probability in circumstances where there is an error of representativeness of  $\pm 2.5\%$ .

The sample was divided in three categories of staff, as family doctors - 75,

doctors in hospitals - 279 and doctors in polyclinics - 53.

The period of recording the information in the sample was about two weeks, these weeks being in June 2007. Thus the comparability of such responses from the individuals included in the sample was ensured, meaning that during this period there were not taken any major decisions at the Ministry of Health to change the opinion of respondents, while most people were present at the workplace.

During the research we designed a questionnaire which was structured according to eight themes presentation in Table 1. For each theme of the analysis the number of primary variables is specified in the table below. Based on the 52 questions in the questionnaire, of which 49 have been closed, were set 177 primary variables. Using primary characteristics a series of aggregated characteristics have been defined to be used in the simultaneous equations model.

**Primary and aggregated variables grouped on themes**

Table 1

No.	The theme	The number of primary variables	The number of aggregated variables
1.	General issues concerning the reform of the public health system	41	14
2.	Ministry policy in this area	18	5
3.	Health education of the population	18	4
4.	The analysis of the nonacademic behavior	24	7
5.	The research capacity of the public health system	24	2
6.	Characteristics of current activities	6	2
7.	Personal aspects	32	1
8.	General data	14	-
9.	Total	177	35

For questions definition of the questionnaire we took into account to the following issues: the reform measures undertaken by the ministry on health reform, the European models used in the field of performance analysis for public health systems;

application of the questionnaire developed in a first form at a pilot stage; the definition of the responses to closed questions on the basis of scale of measurement correctly specified. Table 2 gives the variables used in the model.



## Synthetic description of the aggregated variables used for the simultaneous equations model

Table 2

No.	Code	Aggregated variable description	Primary variable number
1.	RSS	The variable is defined to measure the medical staff opinion on the quality of reform in the public health viewed from the perspective of six components: system funding, procurement of medicines, the process of decentralization, the employment and promotion of staff with medium and higher medical studies and reform measures applied to the units in which they are employed. Range of values: 1 - very poor, 2, 3, 4, 5-very good.	6
2.	CF	Measures the quality of the factors that contribute to a good quality medical act in the public health units. Range of values: 1-very poor, 2, 3, 4, 5 - very good.	5
3.	CSE	Estimates the quality of the assessment system of health services provided to beneficiaries. Range of values: 1 - unsatisfactory, 2, 3, 4 - very good.	3
4.	TMS	It is an aggregate variable used to estimate the ministry transparency in decision-making in the reform process. Range of values: 1 - unsatisfactory, 2, 3, 4 - very good.	2
5.	PDS	Aggregated variable used to assess the quality of government policy in the field of public health from the perspective of the volume of public expenditure health, the quality of national health programs run by the ministry and the transparency of funds usage for compensated and free medicines in primary medicine. Range of values: 1 - unsatisfactory, 2, 3, 4 - very good.	3
6.	ESP	Aggregated variable used to measure the level of public health education to prevent illness and aggravation of a disease. Range of values: 1 - most people do not give importance to prevent the occurrence or aggravation of a disease, 2, 3, 4, 5 - most of the people give importance to this.	2
7.	COR	Aggregated variable used to measure the level of corruption at the national level in the opinion of medical staff with higher education. Range of values: 1 - there is no corruption, 2, 3, 4, 5 - there is generalized corruption.	5
8.	PCS	Quantifies to what extent patients who have followed a treatment requires a new specialized consulting. Range of values: 1 - a small part of them, 2, 3, 4, 5 - with few exceptions, all patients.	2
9.	PAC	Variable used for an overall assessment of the extent to which people give sufficient importance to their health. Range of values: 1 - do not give sufficient importance to their health, 2, 3, 4, 5 - give great importance to health.	2
10.	ACS	Quantifies what is the degree of accessibility of the citizen primary, secondary and tertiary health care. Range of values: 1- reduced accessibility, 2, 3, 4, 5 – high degree of accessibility.	3
11.	DPE	Aggregated variable used for an overall assessment of the contribution of public institutions to develop programs of health education and prevention of illnesses among the population. Range of values: 1 - unsatisfactory, 2, 3, 4 - very good.	4
12.	UDP	Primary variable used to assess the usefulness of health education programs and prevention among the population. Range of values: 1 - are not useful, 2, 3, 4, 5 - are very useful.	1
13.	SCP	Primary variable used to assess to what extent the political change of management personnel on political criteria. Range of values: 1 – changes in the leadership have not been made based on political changes, 2, 3, 4 - changing the technical staff on political criteria of is a practice.	1
14.	GSM	Aggregated variable defined to assess the satisfaction degree of the medical personnel. Range of values: 1 - are not happy at all, 2, 3, 4, 5 - fully satisfied.	5

### The models' equations and variables

Taking into account the manner of the definition of each variable and the series

of data available we define the equations

of the simultaneous equations model as:

1. Regression models' equations:

$$\left\{ \begin{array}{l}
 \text{RSS}_i = c(1) + c(2) \times \text{CF}_i + c(3) \times \text{CSE}_i + c(4) \times \text{TMS}_i + c(5) \times \text{PDS} + c(6) \times \text{ESP}_i + \\
 \quad c(7) \times \text{GEN}_i + c(8) \times \text{ANI}_i + c(9) \times \text{PER}_i + \varepsilon_{1i} \\
 \text{TMS}_i = c(10) + c(11) \times \text{PDS}_i + c(12) \times \text{RSS}_i + c(13) \times \text{COR}_i + \\
 \quad c(14) \times \text{GEN}_i + c(15) \times \text{ANI}_i + C(16) \times \text{PER}_i + \varepsilon_{2i} \\
 \text{ESP}_i = c(17) + c(18) \times \text{PCS}_i + c(19) \times \text{PAC}_i + c(20) \times \text{ACS}_i + c(21) \times \text{DPE} + \\
 \quad c(22) \times \text{UDP} + \varepsilon_{3i} \\
 \text{COR}_i = c(23) + c(24) \times \text{RSS}_i + c(25) \times \text{CSE}_i + c(26) \times \text{TMS}_i + c(27) \times \text{SCP} + \\
 \quad c(28) \times \text{GSM} + c(29) \times \text{GEN}_i + c(30) \times \text{ANI}_i + c(31) \times \text{PER}_i + \varepsilon_{4i}
 \end{array} \right. \quad (10)$$

In the above model, GEN is a variable for the gender of the person, ANI for the age

of the person and PER for the category of staff.

All other variables are presented in Table 2.

2. The four residual variables satisfy the assumptions made for the structural form of simultaneous equations model.

3. The variables of the simultaneous equations model are divided into endogenous and exogenous, according to table 3.

**Endogenous and exogenous variables of the simultaneous equations model**

Table 3

Endogenous variables	Exogenous variables
RSS, TMS, ESP, COR	CF, CSE, PDS, GEN, ANI, PER, PCS, PAC, ACS, DPE, UDP, SCP, GSM, CSE

**Hausman test**

If the estimates of the models parameters is made using the two stage least squares method, the list of instrumental variables plays a unique role. In these circumstances the analysis of the exogenousness of the models' variables represents an important step. An important tool in this approach is the Hausman test (Hausman, 1978). The aim of this test is to verify the effectiveness and consistency of the estimators. In this sense there are defined the following two assumptions.

The first is the case when the list of instrumental variables is properly specified. The estimators for the parameter obtained by OLS, denoted by  $\hat{\beta}_0$ , is efficient and consistent. In this case the explanatory variables in the regression model  $y = X \times \beta + u$  are not correlated with residual variables, so that  $H_0: cov(u, X) = 0$ .

In the second case, the list of instrumental variables is not properly specified. The estimator for the parameter  $\beta$  obtained by OLS, denoted by  $\hat{\beta}_1$ , is effective and inconsistent. Residual variables are correlated with one or more explanatory variables, so that  $H_1: cov(u, X) \neq 0$ .

The difference between the two estimators is  $\hat{d} = \hat{\beta}_1 - \hat{\beta}_0$  and the Hausman test statistics is:

$$H = \hat{d}'(\text{var}(\hat{\beta}_1) - \text{var}(\hat{\beta}_0))^{-1} \hat{d} \rightarrow \chi^2(r) \quad (11)$$

where r is the number of the endogenous variables from the list of the explicative variables, thus of the variables  $X_i, i = 1, \dots, r$  that satisfies  $cov(u, X_i) \neq 0$ .

If the statistics is greater than a predefined value, then null hypothesis is rejected, considering that in this case the second estimator gives more appropriate results.

**4. Parameter estimates**

We present in the following parameters estimates for the above defined simultaneous equations model obtained by EVIEWS procedures. By applying Hausman test we compare the results for the simultaneous equations model for cases in which the parameters are estimated by the least squares method (OLS) and the two stages least square method (TSLS).

**RSS equation**

Any reform is a complex and lengthy process. At the system level there are a number of factors acting to carry out in good conditions, but there are a number of other factors that reduce the effectiveness of measures to reform the system. To analyze the characteristics of the reform process we

propose a regression model without free term, with eight-explanatory variables. Parameters estimates are achieved through the least squares method (the results are presented in Table 4), in which case it is considered that all explanatory variables are

exogenous, and the two stages least squares method, in which a series of explanatory variables are likely to be endogenous nature. To compare if the results are significant different between the two approaches we recourse to the Hausman test.

**Regression model (2) features**

Table 4

Dependant variable: RSS			
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the significance threshold
CF	0.309	0.035	8.784 (0.000)
CSE	0.017	0.042	0.406 (0.635)
TMS	0.041	0.040	1.010 (0.313)
PDS	0.393	0.058	6.746 (0.000)
ESP	0.141	0.035	4.024 (0.000)
GEN	- 0.027	0.050	0.539 (0.590)
ANI	0.047	0.023	2.074 (0.039)
PER	- 0.042	0.026	1.649 (0.100)

The results from the above table emphasize the existence of three categories of explanatory variables included in the model:

(1) First there are the variables that explain with certainty the quality of the process of reform in the public health system. Here there are included here are: the quality of the factors that compete to achieve a good quality medical act – CF, the quality of government policy in the public health system – PDS, the quality of the assessment system of the health services – ESP, the age of person interviewed – ANI.

(2) The second category includes a number of variables that are likely to explain

RSS. We include here the transparency of the decisions in the health system – TMS and the category of medical staff – PER.

(3) The third category is represented by variables that can not explain this structure of the RSS model. We include here the gender of the interviewed person – GEN and the quality of the evaluation system of health services provided to beneficiaries – CSE.

The results from the application of the two methods to the situation in which the RSS is explained in terms of explanatory variables CF, PDS, ESP, ANI and TMS are presented in Table 5.

**RSS regression model on the following variables: CF, PDS, ESP, TMS and ANI**

Table 5

Dependant variable: RSS			
Source model characteristics	Square sum	Degrees of freedom	Observations number 407
Regressors	1897.9	5	F 1296.9
Residuum	117.7	402	Prob>F 0.000
Total	2015.6	407	
Explanatory variables	Coefficient	Standard deviation	T-student statistics and level of significance
CF	0.336	0.029	11.490 (0.000)
PDS	0.407	0.058	7.051 (0.000)
ESP	0.170	0.033	5.208 (0.000)
ANI	0.055	0.022	2.470 (0.014)
TMS	0.045	0.040	1.112 (0.260)

After applying the method of the two parameters of regression model we stages least squares to estimate the obtained the results below.

**RSS regression model on the following variables: CF, PDS, ESP, TMS and ANI**

Table 6

Dependant variable: <i>RSS</i>				
Source model characteristics	Square sum	Degrees of freedom	Observations number	407
Regressors	1871.4	5	F	11120.5
Residuum	134.3	402	Prob>F	0.000
Total	2005.7	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
CF	0.463	0.136	3.408 (0.001)	
PDS	0.549	0.299	1.836 (0.067)	
ESP	0.178	0.070	2.536 (0.012)	
ANI	-0.094	0.128	-0.736 (0.462)	
TMS	-0.058	0.102	-0.572 (0.568)	
Instrumental variables list	CF. CSE. PDS. ANI. PER. PCS. PAC. ACS. DPE. UDP. SCP. GSM. CSE. COR. FLC. RCO. GSM. FMM			

To determine if there are significant differences between the two results we applied the Hausman statistics test based on equation (11). Hausman statistics test value equal to 25.8 shows that there are significant differences between the two categories of estimates. In these circumstances, the results presented in Table 6 are validated.

**TMS equation**

Ensuring transparency in carrying out decisions during the reform process in any

field of activity is an important factor for its success. To analyze the transparency of the health system we take into consideration factors related to characteristics of the reform process, the quality of government policy on health, the level of corruption and nonacademic behavior inside the system, and personal characteristics such as age, staff category, etc. We present in the table below the results from the OLS estimates of the parameters model used for analyzing TMS variable:

**Regression model (4) characteristics**

Table 7

Dependant variable: <i>TMS</i>			
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the significance threshold
PDS	0.758	0.067	11.359 (0.000)
RSS	0.131	0.053	2.468 (0.014)
COR	0.045	0.032	1.412 (0.159)
GEN	0.043	0.066	0.645 (0.520)
ANI	0.018	0.028	0.623 (0.533)
PER	0.013	0.033	0.396 (0.692)

These results shows three categories of factors:

(1) First there are the variables which certainly explain the transparency of decisions in the public health. We include

here the quality of government policy in health system – *PDS* and the quality of reform in the public health – *RSS*.

(2) The second category includes a variable *COR* – corruption in the system,

which is likely to be included in the model with a large extent.

(3) In the third category we include a number of variables which does not explain the transparency of decisions on the system. In this category there are personal characteristics of the medical staff included in the sample: the gender of the interviewed person – *GEN*, the age of the person –

*ANI* and the category of the staff – *PER*.

The second regression model is defined solely on the basis of the explanatory variables of the first and second categories of variables defined above. In the table below we show the characteristics of this model for the case when the parameters estimates are achieved through the least squares.

**TMS regression model depending on PDS, RSS and COR**

Table 8

Dependant variable: <i>TMS</i>				
Source model characteristics	Squares sum	Degrees of freedom	Observations number	407
Regressors	1131.4	3	F	563.86
Residuum	270.2	404	Prob>F	0.000
Total	1401.6	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
PDS	0.764	0.066	11.562 (0.002)	
RSS	0.160	0.047	3.395 (0.001)	
COR	0.068	0.024	2.896 (0.004)	

After applying the two stage least squares method to estimate the parameters

of regression model to obtain the results below.

**TMS regression model depending on PDS, RSS and COR**

Table 9

Dependant variable: <i>TMS</i>				
Source model characteristics	Squares sum	Degrees of freedom	Observations number	407
Regressors	1131.4	3	F	563.86
Residuum	270.2	404	Prob>F	0.000
Total	1401.6	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
PDS	1.672	0.537	3.111 (0.0020)	
RSS	-0.372	0.383	-0.971 (0.332)	
COR	0.024	0.072	0.332 (0.740)	
Variabile instrumentale				

Using the Hausman test, whose statistics is calculated on the basis of the relationship (11), we determined if the two estimates are significant differences. We mention that the results presented in the last two tables show a number of significant differences. If in the first case all the three variables are significant in defining the model, in the second case we

found out that the parameters that correspond to the variables *RSS* and *COR* are not significantly different from zero. Hausman statistics value equal to 5.28 indicates that between the two categories of estimates there are significant differences. These results confirm the endogenous character of the variables *RSS* and *COR*.

**ESP equation**

An important aspect of increasing the efficiency of using financial, material and human resources in the public health system is to improve the health education of the population. Therefore, in the reform process of the public health system an important issue should be the development of programs that increase health education of the population and illnesses prevention among the population. To analyze the variable used to measure the level of health education of the population we made use of a regression model with a series of explanatory variables that refer to attention given by population to the health (*PAC*),

the practice of patients to ask for a new medical investigation at the end a period of treatment (*PCS*), the extent to which different institutions or organizations are involved in developing programs for health education among the population (*DPE*), the accessibility of public healthcare services (*ACS*) and the usefulness of these types of programs (*UDP*).

The table below shows the results from the application of the least squares method to estimate the models' parameters defined above for the analysis of the variable used to measure the level of health education of the population (*ESP*).

**ESP regression model characteristics**

Table 10

Dependant variable: <i>ESP</i>			
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance
PCS	0.084	0.038	2.200 (0.028)
PAC	0.520	0.046	11.188 (0.000)
ACS	0.040	0.035	1.123 (0.262)
DPE	0.204	0.045	4.513 (0.000)
UDP	0.009	0.025	0.373 (0.709)

Results from the table 10 show three categories of explanatory variables included in the model:

(1) First there are the variables that certainly explain the level of health education of the population. Variables included here are *CAP*, *DPE* and *PCS*.

(2) The second category includes a variable that is likely to be included in the model - *ACS*.

(3) The third category includes the *UDP* variable that does not explain the health education of the population.

The results obtained by the application of the two methods to the situation in which the *ESP* is explained in terms of explanatory variables *CF*, *PDS*, *FSP*, *ANI* and *TMS* are presented in Table 11.



**ESP regression model depending on PCS, PAC, ACS and DPE**

Table 11

Dependant variable: <i>ESP</i>				
Source model characteristics	Squares sum	Degrees of freedom	Observations number	407
Regressors	1834.2	4	F	1106.3
Residuum	167.0	4032	Prob>F	0.000
Total	2001.2	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
PCS	0.086	0.038	2.288 (0.023)	
PAC	0.523	0.046	11.437 (0.000)	
ACS	0.046	0.031	15.467 (0.110)	
DPE	0.207	0.044	4.718 (0.000)	

After applying the two stages least squares method to estimate the parameters of regression model we obtained the results presented in Table 12.

**ESP regression model depending on PCS, PAC, ACS and DPE**

Table 12

Dependant variable: <i>ESP</i>				
Source model characteristics	Squares sum	Degrees of freedom	Observations number	407
Regressors	1871.4	5	F	11120.5
Residuum	134.3	402	Prob>F	0.000
Total	2005.7	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
PCS	-0.079	0.123	-0.648 (0.517)	
PAC	1.025	0.460	2.228 (0.026)	
ACS	-0.132	0.237	-0.557 (0.578)	
DPE	0.021	0.137	0.151 (0.880)	
Instrumental variables	CF. CSE. PDS. ANI. PER. UDP			

Table 12 shows inconclusive results for this model if the parameters were estimated by the two stages least square.

**COR equation**

The quality of the reform in the public health system directly affects the nonacademic behavior and the corruption in the system. The existence of mechanisms that generate corruption in the system is a brake on the progress of the reform process. The regression model without the free term presented here evidence a number of factors which directly influence corruption in the system. To define the model we envisaged results

from the descriptive analysis of the data series on corruption and intensity factors acting to reduce it. We took into account a number of factors, such as: the defective or incorrectly applied legal framework, the wages of medical personnel that encourage the nonacademic behavior, the pressure from the political and economic environment, the behavior of the patients, etc.

Table 13 shows the results from the application of the least squares method for the estimates of the parameters of the model used to analyze the COR variable which is defined by (8).

**Regression model (8) characteristics**

Table 13

Dependant variable: <i>COR</i>				
Source model characteristics	Squares sum	Degrees of freedom	Observations number	407
Regressors	43917.20	8	F	566.0
Residuum	386.96	399	Prob>F	0.000
Total	4778.16	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
<i>RSS</i>	-0.028	0.079	-0.354 (0.725)	
<i>CSE</i>	0.029	0.071	0.415 (0.679)	
<i>TMS</i>	0.125	0.064	1.939 (0.053)	
<i>SCP</i>	0.186	0.061	3.043 (0.002)	
<i>GSM</i>	0.758	0.091	8.357 (0.000)	
<i>GEN</i>	0.061	0.043	1.418 (0.157)	
<i>ANI</i>	0.155	0.049	3.195 (0.002)	
<i>PER</i>	0.320	0.040	8.021 (0.000)	

The results from Table 13 show three categories of explanatory variables included in the model:

(1) First are the variables TMS, SCP, GSM, ANI and PER whose parameters significantly differ from zero in the regression model defined above.

(2) The second category includes the variable GEN which is likely to be included in the model.

(3) The third category includes variables RSS and CSE whose parameters do not significantly differ from zero in the current regression model.

The results from the application of the two methods to the situation in which the RSS is explained in terms of explanatory variables TMS, SCP, GSM, GEN, ANI, PER are presented in tables 14 and 15.

**Regression model *COR* depending on TMS, SCP, GSM, GEN, ANI, PER**

Table 14

Dependant variable: <i>COR</i>				
Source model characteristics	Squares sum	Degrees of freedom	Observations number	407
Regressors	4390.9	6	F	747.9
Residuum	387.2	401	Prob>F	0.000
Total	4778.1	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
<i>TMS</i>	0.123	0.060	2.040 (0.042)	
<i>SCP</i>	0.320	0.040	8.043 (0.000)	
<i>GSM</i>	0.187	0.053	3.556 (0.000)	
<i>GEN</i>	0.761	0.088	8.615 (0.014)	
<i>ANI</i>	0.060	0.042	1.413 (0.150)	
<i>PER</i>	0.154	0.048	3.188 (0.002)	

After applying the two stages least squares method to estimate the parameters

of regression model we obtained the results presented in Table 15.

## Regression model COR depending on TMS, SCP, GSM, GEN, ANI, PER

Table 15

Dependant variable: COR				
Source model characteristics	Squares sum	Degrees of freedom	Observations number	407
Regressors	4365.8	6	F	243.0
Residuum	1200.7	401	Prob>F	0.000
Total	5566.5	407		
Explanatory variables	Coefficient	Standard deviation	T-student statistics and the level of significance	
TMS	0.369	0.253	1.459 (0.001)	
SCP	0.612	0.235	2.607 (0.009)	
GSM	0.384	0.313	1.226 (0.221)	
GEN	1.802	1.037	1.738 (0.083)	
ANI	-1.085	0.477	-2.272 (0.024)	
PER	0.062	0.469	-0.132 (0.895)	
Instrumental variables list	RSS. CF. CSE. PDS. ESP. PCS. DPE. FMM. ACS			

To determine if the two results are significant different we calculated the Hausman statistics test on the basis of the relation (11). Hausman statistics value equal to 9.86 indicates that between the two categories of estimates there are significant differences.

### 5. Conclusions

Starting from a set of assumptions, we define the equations of the simultaneous equations model used to analyze some important issues related to the progress of the reform process in the public health system.

The equations defined in our model rises a number of important issues from the public health system:

- quality of the reform of the system and its implications on the quality of medical services offered to citizens;
- the government policy in the health system and its implications on the development on medium and long term of the system;
- the level of the health education of the population in the prevention of

illness and aggravation of a disease;

- the level of the nonacademic behavior in the public health system and its implications on the progress of the reform process and the quality of medical services offered to citizens.

By applying Hausman test we compare the results for the simultaneous equations model for cases in which the parameters are estimated by the least squares method (OLS) and the two stages least square method (TSLS).

For the first equation, that describes the quality of the reform process, the Hausman statistics test value equal to 25.8 shows that there are significant differences between the two categories of estimates. In these circumstances, the results presented in Table 6 are validated.

For the second equation, the one that describes the transparency of the decisions in the reform process, after we estimated the parameters using OLS and TSLS we computed the Hausman statistics test value which is equal to 5.28. The results indicate that between the two categories of estimates there are significant differences.

These results confirm the endogenous character of the variables *RSS* and *COR*.

To analyze the variable used to measure the level of health education of the population we made use of a regression model with a series of explanatory variables that refer to attention given by population to the health (*PAC*), the practice of patients to ask for a new medical investigation at the end a period of treatment (*PCS*), the extent to which different institutions or organizations are involved in developing programs for health education among the population (*DPE*), the accessibility of public healthcare services (*ACS*) and the usefulness of these

types of programs (*UDP*). The results obtained in this case shows inconclusive results for this model if the parameters were estimated by the two stages least square.

To define the equation describing corruption and nonacademic behavior influence we envisaged results from a descriptive analysis of data series on corruption and intensity factors acting to reduce it. In this case too, we estimated the parameters by OLS and TSLS methods and Hausman test statistics calculated on the basis relation (11). Hausman statistics value equal to 9.86, indicates that between the two categories of estimates there are significant differences.

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# Conceptual and Technical Study Regarding Future Accounting Regulation for SMEs in Europe

■

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***Abstract.** The economic theories and the accounting regulations deriving from them should be reconsidered for SMEs. At global level, there are accomplishments in this respect – IASB IFRS for SMEs – or intentions – European Commission proposals for certain simplifications of the European directives. However, for these actions to be successful, further investigations concerning the theoretical and technical implications are necessary. In this study, we present our opinion concerning the theoretic influences (reconsideration of the conceptual framework) and the technical influences (change in the disclosure requirements and change in the content of the standards, namely recognition and valuation) implied by a standard for SMEs.*

**Key words:** SMEs accounting standard; agency theory; shareholder-manager; stakeholders; IFRS for SMEs.

■

**JEL Codes:** M48.

**REL Codes:** 13H, 14K.

## 1. Introduction

The need for a unique and simplified standard for SMEs was expressed with a higher and higher voice in recent years.

First of all, it is IASB which felt this need, as a consequence of the complexity of the full IFRS and of the different reporting requirements in the other countries than the US, whose accounting standards had inspired the international standards.

In June 2004, IASB published a discussion paper containing its proposals to develop a separate set of standards for SMEs. (Pacter, 2007). The project is expected to end in the fourth quarter of 2008.

At *conceptual level*, there are reserves on the capacity of the IASB conceptual framework to reflect the different objectives of the stakeholders of the proposed SME standard (SMES) and which is based on the same principles as the full IFRS. The skeptics about the usefulness of an international standard for SMEs show that IASB should have paid more attention to the needs of the stakeholders and should have had a „more conceptual” approach in order to take into consideration the different objectives of a „differentiate accountancy” (Epstein, Jermakowicz, 2007).

At *technical level*, IASB proposes a change in the publication requirements, as well as a change in the content of the standards, more precisely, acceptance and assessment. Moreover, the wording of the project was reformulated in English in order to simplify the expression and to facilitate the translation.

As far as Europe is concerned, the European Commission, through its

Committee for Accounting Regulation, launched a topic of discussion on the simplification of the accounting rules for SMEs and possible amendments to the IVth and VIIth European Directives during its meeting in November 2006 (European Commission, 2006). The solution aimed was introducing new rules, more relevant, which should replace the old ones, more complex and heavy.

The European specialists are not willing to take over the IASB standard for SMEs (IFRS for SMEs) as such for the Members States and their accounting systems (Deaconu et al., 2007). The European simplification process was based on a questionnaire addressed to the standard setters from the Member States. On the basis of this questionnaire, the European Commission launched a communication regarding its vision on the simplification of the Community company law, accounting and auditing (July 2007).

In the end, the opinions expressed in the European literature on the reasons for a standard dedicated to SMEs coincide with the declared intentions of the European Commission. However, the analysis in the literature are deeper and recommend a better justification, based on studies on how IASB or the European Commission should conceive such a standard (Evans, 2005). Moreover, the academic world and the professional associations recommend the launch of studies concerning a precise knowledge of the stakeholders and of their needs related to the reporting of a SME, since such studies are not sufficient at present.

Other studies performed in certain European countries mention the fact that a



potential standard for SMEs, either international or European, should also take into consideration a changement of the accounting conceptual framework.

At a technical level, the progress of the European process of simplifying the accounting standards for SMEs has raised problems related to the identification of the accounting information important for the SMEs, to the opportunity of increasing the size threshold for qualifying an entity as a SME, to expand the exceptions from application of present directives for SMEs, to the amendment and elimination of certain options, to the simplification of the accounting rules for SMEs, to the reduction of disclosure obligations.

## **2. Related studies and research methodology**

In order to develop the topic, we have opted at the same time for an external approach (by studying specialized literature and regulations) and for an internal approach that consists in presenting the point of view of an EU Member State.

The studies we have used are, first of all, of technical nature, represented by the provisions on SMEs from the Fourth European Directive and other European legislative acts defining the EU policy for SMEs, namely the investigation launched by the European Commission on November 2006 by consulting the Member States on simplifying the Fourth Directive or even establishing a separate set of standards for SMEs. Secondly, we have used a study on the financial reporting standards launched by the EAA Committee presenting the

conclusions of a revision of the literature concerning the implications of a standard for SMEs in Europe (Evans, 2005), as well as other studies from the specific literature directly consulted.

To the conclusions resulted from the analysis of the documents, we have added the conclusions reached through a case study on the Romanian market, and which was based on a questionnaire-based survey technique.

Our research is a theoretic study with technical aspects, using the archival research and a field study as a method of data collection. The data collected through the questionnaire-based study were treated with SPSS software, version 16 for Windows, which allowed us to apply descriptive statistics techniques, statistics significance testing techniques, and correlation analysis techniques (Chi-square, Contingency Coefficient).

## **3. Conceptual aspects implied by a standard for SMEs**

In order to develop technical aspects related to a standard for SMEs, it is first necessary to make clear the conceptual aspects. By conceptual aspects we understand the manner in which the objectives and users of the accounting information produced by a SME should be defined.

Usually, the accounting standards are the resultant of the accounting theory (1), the accounting objectives (2), and the interests of the main groups of stakeholders (3). As far as the accounting needs of a SME are concerned, we think that the accounting

theory (1) is the same for all entities, namely the definition of the accounting concepts and the basic accounting principles. But, it is necessary to have a different look on the accounting objectives (2) and on the current normative principles deriving from them (e.g., substance over form, materiality), as well as on the main groups of stakeholders and their interests (3).

We consider that SMEs rather seek to survive and to be stable than to maximize their profit, and, maybe, to register the increase necessary to one shareholder. Moreover, the stakeholders of SME information are not represented by the mass population, but by the shareholder-manager, the State, and, maybe, one or two creditors.

As far as the stakeholders of SME information are concerned, the opinions expressed in the specialized literature converge. Thus, it is stated that in the case of SMEs, the agency role played by the accounts is limited to the relationship shareholder-manager and bank, and the management function is usually absent in the case of small companies (Collis, Jarvis, 2000, Hamilton, Lawrence, 2001, quoted by Evans et al., 2005).

In exchange, there are differences in approaching the accounting conceptual framework appropriate for SMEs. Certain authors support the development of a conceptual framework specific to SMEs (Collis, Jarvis, 2000, Hamilton, Lawrence, 2001, quoted by Evans et al., 2005). According to other opinions, it would be sufficient to have only one conceptual framework, and, consequently, only one set of financial statements that should answer all needs, with differences only in the

reporting methods according to sector, tax requirements and size of the company (Zappa, 1950, Amodeo, 1970, Ferrero, 1991 quoted by Evans et al., 2005). However, there is an almost overall consensus that it is unlikely for the IASB conceptual framework, on which its project for SMEs is based, to have universal (European) validity.

In our opinion, an accounting conceptual framework should contain, first of all, elements specific to the accounting theory, and, then, accounting objectives and normative principles developed on the basis of these elements. Starting from this, we consider that there should exist, with no doubt, differences related to the accounting objective and principles of SME accountancy (a). It would be good to perform this through an unique conceptual framework addressed to big companies as well as to SMEs, but that should contain differences related to the latter. In geographical terms, we are not for an unique conceptual framework, but for several conceptual frameworks, because of cultural diversity (b).

(a) There should be a standard specific to SMEs or the existent standards for big companies should be simplified, because the accounting objective and the information stakeholders are different. We argue for this by using the classical theory of the firm, of the entrepreneur or of the shareholder-manager, supported by Jensen and Meckling (1976) and by Alchian and Demsetz (1972), quoted by Foss et al. (1999). This type of firm has a contractual structure that includes joint input production, several input owners, one party which is common to all the contracts of the joint inputs, who has the right to renegotiate any input's contract

independently of contracts with other input owners, which holds the residual claims and who has the right to sell his central contractual residual status (Fama, 1980). All this has been demonstrated by the partial results of the questionnaire-based investigation presented in this study (Deaconu et al., 2008).

(b) we do not recommend an unique standard for SMEs for all accounting systems (e.g. IASB) because of the cultural diversity that has stronger impact within the SMEs that usually have no international links and no strong need for a common language (we have a different opinion when talking about big multinational companies). We also support this by the results obtained from the questionnaire processing in the case of Romania (point 4.2.).

Various studies have proven the impact of the cultural diversity at economic (and hence accounting) level. For instance, Palich and Gomez-Mejia (1999) show that culturally related international firms will enjoy greater efficiencies than culturally diverse multinationals.

#### **4. Technical aspects implied by a standard for SMEs**

##### **4.1. Technical aspects identified in international and European regulations**

On the basis of our analysis, we have synthesized the following conclusions related to the IASB standard for SMEs (Deaconu, 2006):

a) There are two approaches concerning the content of the standards for SMEs, out of which a reduced version of IFRS was chosen.

Consideration was given to a series of simplifications concerning the recognition and assessment, as well as the simplification of the presentations and descriptions according to the needs of the stakeholders and to the consideration of the cost efficiency level, according to the IASB general framework.

b) Full IFRS simplification was materialized in: eliminating topics not relevant, eliminating certain choices of accounting treatments and simplifying methods for recognition and measurement.

Among the elements eliminated from the full IFRS set, there are (Epstein, Jermakowicz, 2007): general price-level-adjusted reporting in a hyperinflationary environment, equity-settled, share-based payment or interim reporting. Here are some examples of elimination of certain options: the direct method for reporting operating cash-flow, capitalization of borrowing costs or the fair value model for investment property. As far as recognition and measurement are concerned, the simplifications were made for: financial instruments, derecognizing, goodwill impairment and other 10 elements.

On the other hand, in the discussion paper launched by the European Commission in July 2007, there are the conclusions of the preliminary analysis performed in several Member States which demonstrate that in the field of company, including SME, accounting and auditing, the administrative costs determined according to the Community legislation are rather high. The communication presents as main measures proposed by the Commission (European Commission, 2007c): either the

repeal of the directives on company law concerning essentially the national situations, or the repeal of certain mandatory information requirements; a simplification of the requirements related to information applied for companies and their subsidiaries; a new reduction in requirements related to financial information and auditing of accounts for SMEs. In concrete terms, it is proposed to perform a differentiation of the European entities according to sub-criteria related to size, and according to the type of stakeholders. In the first case, there are micro-companies and small entities within the SMEs which are suggested to be excluded from the application of the accounting directives, and, respectively, from the obligation to disclose accounting information. In the second case, there is a distinction between the SMEs with a small number of external stakeholders, for which there are proposals of simplifications that were specific to small entities. Eventually, there are proposals of simplifications of the directives applicable to all SMEs, relating to: consolidation, deferred tax, and elimination of disclosure obligations.

#### **4.2. Case study management**

The case study was performed using the questionnaire technique. The sample consists of 72 entities performing an economic activity. The management period lasted from October 200 to January 2008. The structure according to field activity is 30% production, 30% trade, 20% building, and 20% services. The respondents were the accounting professionals, usually employees of the entity, who know the issue of our study as well as the information needs of the entity.

The answers were collected directly by a team coordinated by the authors of this study. The geographic distribution was not taken into consideration, and the subjects were not selected randomly, but following observations concerning the fulfillment of the criteria related to size, and according to data accessibility.

Before drafting the questionnaire, a preliminary survey was performed, consisting of discussions with certain SMEs. Following the preliminary survey, the interviewees were offered for consultation an explanatory document concerning the intentions of the research, and the current situation of the issue under study, his definition of certain concepts, and the presentation of certain explicit classification criteria. This approach was meant to assure preciseness and relevance of the answers.

The structure of the questionnaire consists of the presentation of the objective of the action, of the international context concerning the issue, of the situation in Romania concerning the SMEs in relation to the international accounting standards and to the European directives, of the adopted classification criteria for SMEs.

A first set of questions meant to define the profile of the respondents; 6 questions refer to the explanatory variables of the respondents' attitude concerning the opportunity and way of designing a standard specific for the SMEs, namely the average number of employees, annual turnover, total amount of assets, ownership structure (privat or public), number of shareholders with mention made if the shareholders or one shareholder are/is also manager(s) of the entity, main financing resource.

A second set of questions made it clear, on the one hand, the practical aspects concerning a standard for SMEs, and which are not developed in this study. On the other hand, there are questions meant to clarify the technical aspects related to the classification as SME, and the content of a specific standard. In concrete terms, these questions dealt with the opportunity to increase the thresholds for classifying an entity as SME, the method of applying in Romania the simplifications proposed to the entities by the regulations in force, the existence of new possibilities for simplification, the possible application by SME of IFRS or of treatments recommended by IFRS, the statement of SMEs objectives, the optimum structure for SMEs.

#### **4.3. Results of the research on the Romanian market**

Among the questions in the questionnaire, this study is interested in the technical questions, specifically dealing with concrete solutions/proposals for simplification. These questions have been correlated and statistically tested with the explanatory variables from the first set of questions of the questionnaire. In some of the tests, statistical relevance was found, as well as more or less strong dependency, demonstrated for our sample, of the opinions concerning the SMEs on the characteristics of the interviewees. Beside the demonstrated correlations, our interpretation is based on descriptive statistics elements. All these led us to the following statements, presented in groups, according to sets of questions (elements) having the same objective. Thus, we have:

##### *4.3.1. Questions testing the opportunity to adopt the standard for SMEs suggested by IASB*

The general opinion is that a standard for SMEs or, at least, the simplification of the current accounting regulations would be appropriate. However, the IASB solution of such a standard is rejected, which is another argument in favor of our idea expressed in this study, namely the cultural and accounting system differences, which imposes prudence when adopting IFRS for SME in Europe.

One of the instruments that support the idea to reject the IFRS for SME is the question concerning its structure, for which we suggested three options, i.e. according to the chart of accounts, to the nature of the elements in the financial statements, and to the IFRS structure. After analyzing all the correlations of this variable with all the explanatory variables, it is found that the structure according to IFRS is generally rejected. The other two classifications were preferred, with a relatively equal number of opinions. Thus, the older SMEs, which know better the evolution of the accounting standards (Figure 1), whose main financing resources are their own capitals, and which have less than 5 shareholders, have opted in favor of the classification according to the nature of elements. Then, the classification according to the chart of accounts, namely turnover (Table 1), total assets, and number of employees, was the option of the smallest SMEs, differentiated according to quantitative criteria, present also in Romania, and which represent the European mentality, also traditional in Romania.

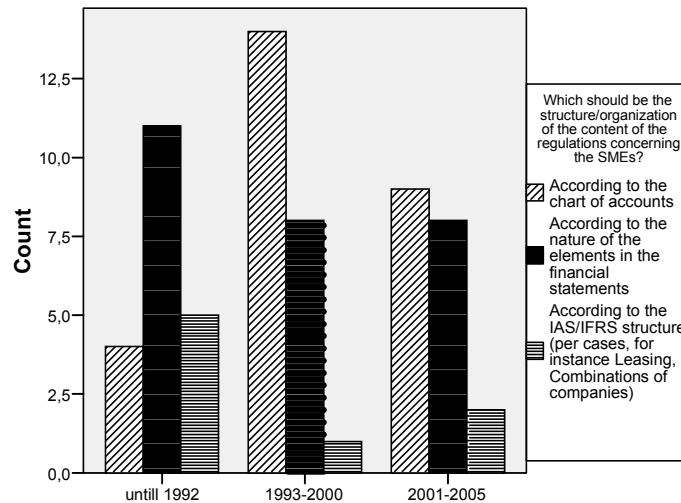


Figure 1. Options concerning the SMEs standard structure in correlation with the age of the entity

Between the two variables there is a statistical relation (sig = 0.054, which is close to the theoretical value of 0.05), but of lesser intensity, with a contingency coefficient C of 0.333.

**Options concerning the SMEs standard structure in correlation with their size measured according to turnover**

Table 1

		Which should be the structure/organization of the content of the regulations concerning the SMEs?			Total
		According to the chart of accounts	According to the nature of the elements in the financial statements	According to the IAS/IFRS structure (per cases, for instance leasing, combinations of companies)	
Annual turnover	<2000000 EUR	30.2%	27.0%	4.8%	61.9%
	2000000-5000000 EUR	9.5%	6.3%	7.9%	23.8%
	5000001-7300000 EUR		4.8%		4.8%
	>7300000 EUR	3.2%	6.3%		9.5%
Total		42.9%	44.4%	12.7%	100.0%

The correlation has a statistical significance (as in the case of one of the other quantitative criteria, i.e. the average number of employees), where  $\chi^2 = 13.043$ , and sig = 0.042. The intensity of the relation is given by the value of C, i. e. 0.407.

Another instrument that supports the idea to reject IFRS for SME is related to the implementation of IFRS in parallel with the national accounting regulations, which

comply with the European directives (Order of the Minister of Public Finances no. 1752/2005). IFRS implementation in Romania is optional, and it is mandatory only for the financial institutes and listed companies. The answer of 99% of the SMEs to the question concerning the implementation of IFRS was negative. This proves the fact that SMEs are not familiar with IFRS, hence the difficulty to adopt IFRS for SME.



#### *4.3.2. Questions testing the objectives and the structure (content organization) of a SME*

The purpose of the first question was to receive free answers concerning the objectives of a SME. Out of the valid answers, 62% are explicit answers, while the other interviewees have not given an answer. The most frequent reason for that was their lack of information on the subject. The classification of the answers in homogenous classes determined the following findings: 90% of the answers present the objectives of a SME in close relation with the simplification of the current regulations in order to make them really useful for their direct addressees. The other answers focus on the accounting simplification in correlation with the separation from taxation and legal regulations. The answers that declare simplification as a main objective take into consideration the unitary understanding of terms and, hence, business development, decrease of bureaucracy, better image of patrimony and performance. In these answers, the beneficiaries of simplification are either the shareholders, or the state, as direct stakeholders, or the accounting profession. There are answers concerning the method of simplification: disclosure (25%), content (25%), disclosure and content of the financial statements (10%).

The second question is the one analyzed under point 4.3.1. above, concerning the structure of the content of a SME. Thus, it was opted for the classification according to the nature of the elements in the financial statements. The structure according to the chart of accounts was also preferred. It can be seen that there is a mixture of traditional

mentality (according to the chart of accounts) and modern mentality, according to the nature of elements, which shows, in our opinion, a better professional ability of the interviewees (accounting experts).

#### *4.3.3. Questions testing the simplification method of the current accounting regulations in Romania*

These questions were further grouped according to their message into three subcategories, i.e. questions related to the simplification of standards in general, questions related to exemptions concerning certain accounting treatments, and, eventually, questions referring to actions on the requirements in current regulations. Thus, we have:

##### *A. Questions concerning the simplification of standards in general*

We have included here the opinion of the interviewees concerning the opportunity to increase the threshold for classifying an entity as SME, so that as many entities as possible should use simplified accounting. If we analyze the treatments concerning the correlation between this question and the characteristics of the interviewed entities, we can find a predominant positive answer (see for example Table 2). Thus, the option for an increase in the number of entities that should benefit from simplifications is unanimous, with one exception concerning the “financing resource” explanatory variable. In this case, the SMEs financed from own capitals are in favor of increase, while the entities whose main financing resource is the financial credit are against it (only 30% as compared to 70% represented

by the entities financed from own capitals). This fact proves the separation from the prudence judgment, which is based on as

many and as explicit accounting rules as possible for the SME financed from own resources (Figure 2).

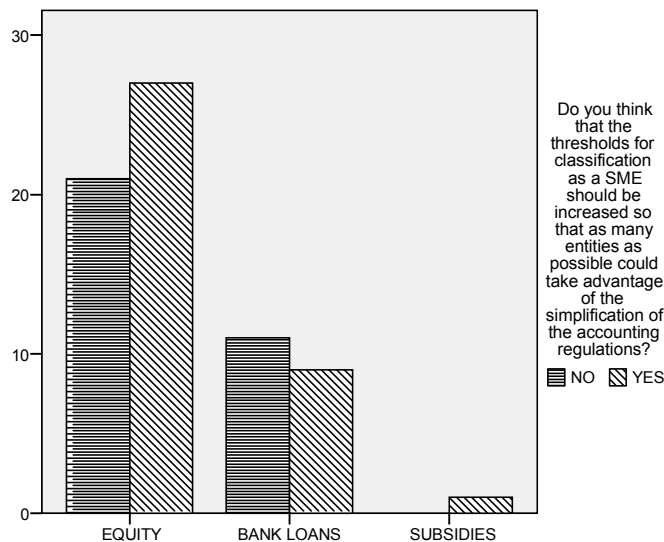
**Correlation between the option to increase the number of entities that should use simplified regulations and the size of the entity expressed as average number of employees**

Table 2

		Do you think that the thresholds for classification as a SME should be increased so that as many entities as possible could take advantage of the simplification of the accounting regulations?		
		NO	YES	Total
Ave-rage employ-ye number	0-49	26.1%	36.2%	62.3%
	50-99	8.7%	7.2%	15.9%
	100-149	4.3%	1.4%	5.8%
	150-199	4.3%		4.3%
	>200	2.9%	8.7%	11.6%
Total		46.4%	53.6%	100.0%

If we consider a risk level of 10%, we can state that there is a statistical relationship between the variables ( $\chi^2 = 8.17$  and

$\text{sig} = 0.085 < 0.1$ , which means below the maximum accepted amount).



**Figure 2.** Correlation between the option to increase the number of entities that should use simplified regulations and the main financing resource

*B. Questions concerning exemptions related to the accounting treatments*

One of the first questions of the questionnaire referred to 5 types of exemptions provided for in the Romanian regulations, i.e. the possibility to produce simplified financial

statements (a), application of the principle of substance over form in the case of these entities only for their consolidated accounts (b), the possibility to report less information in the explanatory notes (c), lack of obligation to apply the materiality principle (d), lack of obligation

to audit the financial statements (e). (Table 3). The statistical treatment analysis shows that all existent exemptions have been used, but, generally, (a), (c) and (e) were preferred. A deeper analysis on the basis of the explanatory variables leads us to further remarks:

- The smallest entities (according to the total assets), i.e. the SME with public capital (only 8% of the total analyzed entities) have preferred the exemption from the application of the materiality principle;
- SMEs with more than 15 shareholders have considerably used the exemption concerning the lack of application of the principle of substance over form, which might indicate that the entities with more shareholders give more attention to accounting.

A second question related to exemptions concerning accounting treatments refers to new exemptions wanted by the interviewees beside the existing ones. The answers were free and indicated a generalized affirmative answer for all explanatory variables. Among these answers, the strongest one is the answer concerning the correlation according to the age of the entities (Table 4).

**Options for SMEs concerning the exemptions offered by current regulations**

Table 3

	Responses	
	N	Percent
a. The possibility to produce simplified financial statements	47	29.6
b. The principle of substance over form that is applied to these entities only for their consolidated accounts	19	11.9
c. The possibility to report more limited information than the information required from big entities within the explanatory notes	42	26.4
d. Lack of obligation to apply the materiality principle	17	10.7
e. Lack of obligation to audit the financial statements	34	21.4
Total	159	100.0

**Options for SMEs concerning new exemptions applicable beside the current regulations, considering the age of the entities**

Table 4

	Would there also be other exemptions that the regulations should foresee?		Total
	NO	YES	
until 1992	3	17	20
1993-2000	10	11	21
2001-2005	9	10	19
Total	22	38	60

The correlation has a statistical significance with  $\chi^2 = 6.599$  and  $\text{sig} = 0.037$ . The intensity of the relation is given by the contingency coefficient  $C = 0.303$ .

**C. Questions concerning actions on current accounting requirements**

We have included here the question concerning the exemptions from certain accounting treatments referring to the opportunity to provide for other exemptions in the future. We have suggested the interviewees the following possibilities: alternative treatment concerning changes in the accounting policies and correction of fundamental mistakes (1), more permissive activation of the development expenditure (2), extended capitalization of interest expenditure (3), inapplication of the fair value concept (4). The interviewees declared themselves in favour of new exemptions, mainly the ones we suggested. The answer is suggestive within the correlation of the variable with the age of the entities (Table 5). Besides, we give other findings:

- Usually, the order of preference is (2), (3), and (4);
- inapplication of the fair value is preferred by older SMEs, with better

- accounting experience, and it is situated on the second place after a higher permissivity for the activation of the development expenditure;
- Medium-size SMEs also support the simplification concerning the treatment of the change in the accounting policies and in the correction of errors;
  - SMEs with private capital and the ones with less than 5 shareholders are the strongest supporters of inapplication of the fair value.

**Options of SMEs concerning future simplifications of the accounting regulations**

Table 5

			until 1992	1993-2000	2001-2005	Total
(1)	Changes in the accounting policies and correction of fundamental mistakes, which should be treated in such a way as to avoid their contradiction with the principle of intangibility of the opening balance sheet;	Count	4	8	8	20
		% within variables	12.9%	20.5%	22.9%	
(2)	The development expenditure, for which the activation conditions should be more permissive than in the case of big companies, in order to facilitate their development;	Count	10	12	8	30
		% within variables	32.3%	30.8%	22.9%	
(3)	The interest expenditure, for which capitalization should be allowed not only for fixed assets obtained within a long production cycle, but also for the other fixed assets;	Count	8	9	11	28
		% within variables	25.8%	23.1%	31.4%	
(4)	The fair value, a very complex concept, with multiple time - and financial effort consuming practical solutions, should not be required in the case of SMEs;	Count	9	10	8	27
		% within variables	29.0%	25.6%	22.9%	
<b>Total</b>		<b>Count</b>	<b>31</b>	<b>39</b>	<b>35</b>	<b>105</b>

Percentages and totals are based on responses.

- a. Dichotomy group tabulated at value 1.
- b. There is not enough (less than 2) multiple response groups for pairing. Percentages are based on responses, but no pairing is performed.

### 5. Conclusions

This study debates and concludes on a standard specific for SMEs. It is focused on conceptual and technical aspects.

On the basis of our analysis of theory, accounting standards and literature dedicated to SME accounting – which is very limited at present – we show that, within the existent

conceptual framework, it is necessary to interpret normative objectives and principles specific to SMEs. They require a simplified accounting system due to the specific stakeholders and their needs.

The technical aspects are clarified through analysis of documents (IASB project for SME, European Commission and Member States documents concerning the European project for the simplification of rules applicable to SMEs), and through a questionnaire-based survey launched on the Romanian market. The conclusions of the research can be summarized as follows: it is not appropriate to adopt IFRS for SME in Europe because of the cultural diversity and of the variety of accounting systems;

it is necessary to perform content and reporting simplifications of SME accounting and to increase the threshold for those to which they are addressed; the Romanian market presents other technical options as well, i.e. structuring of SME specific regulations according to the nature of elements rather than according to the chart of accounts, the increase of the number of exemptions and simplifications of certain accounting treatments as compared to the existing ones.

The limits of the case study are as follows:

- we cannot state that the results of the enquiry can be generalized at the level of Romania; many of the respondents' answers are very balanced without determining a quantifiable statistical significance, which is due, in our opinion, to the topicality of the subject for the Romanian practice. The Romanian accounting standards are in line with the European directives since 1 January 2006, and the simplifications for SMEs proposed by the directives have been taken over only 10.4% (European Commission, 2007d);

- The respondents are accounting professionals and we started from the prerequisite that they represent all the stakeholders and their needs, but we have not tested this assumption previously.

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# Developing a Rating Model on a Statistical Basis

■

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***Abstract.** We consider that, starting from 2007, in order to deal with the competition, the banks from Romania will have to be prepared to take and effectively manage higher risks, both on their own behalf, and on the behalf of their clients, since the transition to the calculation methodology set up by the new Capital Accord (Basel II) is bound to determine the artificial decrease of the solvency indicator.*

*The very conception of this article has been triggered by two significant phenomenons. First, the banks from Romania have become increasingly interested in developing and enhancing methods and procedures of risk assessment. Second, the Basel Committee on Banking Supervision, followed by the European Commission, has imposed a series of standards referring to the estimation of some crucial indicators on a banking level, under the title of „Basel II”: PD (Probability of default), LGD (Loss given default) și EAD (Exposure at default).*

*In this respect, in 2006, the Romanian government enacted the Decree no. 99 (sanctioned and modified by the Law no. 227/04.07.2007), together with a series of regulations. The decree contains new banking regulatory provisions applicable to credit companies starting with the 1st of January, 2007, the date of Romania’s adherence to the European Union.*

**Key words:** credit risk; internal rating models; stress-testing.

■

**JEL Codes:** D14, D53, F36, G21, G32.

**REL Codes:** 10B, 11C.



In conformity with the new regulations in force since the 1st of January, 2007, the rating systems are defined as „the complex of models, processes, control systems, data collection systems and IT systems which allow credit risk assessment, exposure assignment to different rating classes or risk groups, as well as estimation quantifying concerning the non-reimbursement situations and losses for a specific type of exposure”<sup>(1)</sup>.

Throughout the years, the specialized works (Ganguin, Bilardello, 2005, p. 17) have focused on analyzing two components of credit risk:

- the risk of non-reimbursement, which is measured by assessing the capacity and willingness of the debtor to reimburse its debts within the established terms;
- the perspectives of retrieval, evaluating in terms of percentage the possibility to retrieve the money in case the debtor stops paying its dues.

Under the new regulations referring to credit institutions, a special focus is placed on the credit risk, as its assessment substantially influences the capital requirements that the respective institutions must meet.

Thus, when calculating the minimum capital requirements to cover the credit risk, the credit institutions may choose between the standardized approach or, with the explicit approval of the National Bank of Romania, the Internal Rating-Based Approach<sup>(2)</sup>, in order to determine the risk weight of bank exposures.

In the standardized approach, the quality of credit is determined by means of

assessments made by external credit assessment institutions or export credit agencies, recognized as eligible by the National Bank of Romania on the basis of specific criteria stipulated in the NBR’s regulations<sup>(3)</sup>.

The methodology of determining the risk weight of bank exposures by using the internal rating-based approach, as well as the minimum conditions under which the use of this method can be approved are specified in the NBR’s regulations<sup>(4)</sup>.

The present article is practically following the above-mentioned regulations, while putting forward a credit risk assessment mechanism using internal rating models.

The credit risk scoring, as many other ways of evaluating credit applications, represents a useful tool in determining the risk level for the credit institution’s clients. Its aim is to evaluate applications on a statistical basis, not an individual one, so as to be able to classify clients into solvents and insolvents.

The scoring stands for „an external diagnosis tool consisting in measuring and interpreting the risk to which the investor, the creditor and the company as a system in the future activity are exposed” (Anghel, 2002, p. 36).

In the past, the financial institutions would buy the scorecards from companies specialized in their production. These were provided with information from the financial institutions and used expensive mathematical models and technologies to produce the respective scorecards.

Gradually, as the IT technologies evolved, allowing the collection, storing and analysis of prodigious amounts of information with minimum costs, the

financial institutions found it more profitable to produce on their own the models necessary in the classification of credit applications (Siddiqi, 2006, p. 2).

The first step that we propose in developing a credit scoring model would be setting up priorities and objectives. Among the organizational objectives envisaged by the authors of this thesis, we can include:

- Reducing losses, frauds and the risk of non-reimbursement;
- Increasing the rate of credit application approval and of market share, where the presence of a reduced risk creates an opportunity of expansion;
- Increasing the profit;
- Reducing expenses by implementing an automated credit application processing system.

In its simplest form, a scorecard consists of a group of features, statistically determined and aggregated in order to separate clients into the two above-mentioned categories: solvents and insolvents.

In the same respect, the presence of more and more substantial amounts of money on the financial market, inclusively on the Romanian one, as well as the necessity to place them as credits impose a more nuanced classification of debtors. Not all the clients considered as insolvents will fall into this category; also, not all the clients initially credited as solvent by a certain model will completely reimburse the contracted amounts of money.

An example of scorecard applied to individuals is presented in Table 1:

Table 1

<b>1.1. OCCUPATION (CONTINUITY)</b>	
Uninterrupted activity with the present employer for more than 5 years	4
Uninterrupted activity with the present employer for more than 3 years	3
Uninterrupted activity with the present employer for more than 2 years	2
Uninterrupted activity with the present employer for less than 2 years, but more than 3 years with the former employer	3
Uninterrupted activity for less than 2 years, both with the present, and with the former employer	0
<b>1.2. MARITAL STATUS</b>	
Married, widow/widower	1
Other	0
<b>1.3. AGE (PROPENSION TO RISK)</b>	
Under 25 years old	0
Between 26 and 35 years old	1
Between 36 and 57 years old	2
Between 57 and 70 years old	0
<b>1.4. LIVING CONDITIONS</b>	
Personal property (apartment/house)	2
Living with the parents/work residence	1
Rent	0
<b>1.5. PROFESSION</b>	
Higher education	5
Highschool education	4
Sales representative/Specialized worker	3
Retired	2
Worker	1
Seasonal employee (waiter, cook, sailor)	0
<b>1.6. NUMBER OF PERSONS UNDER SUPPORT</b>	
0 – 1 person	3
2 persons	2
3 or more persons	0

2.1. AVAILABLE NET INCOME	
VND < 3.33 times the credit instalment	0
VND = 3.33 – 3.99 times the credit instalment	2
VND > 4 times the credit instalment	3
2.2. DOWNPAYMENT	
Downpayment < 25%	0
Downpayment 25-29%	1
Downpayment 30-35%	2
Downpayment > 35%	4

The features used to analyze the individual can be selected from the information placed at the disposal of the credit institution. We can use demographic features (age, years of service or present residence), history of relations with the bank (the length of the relation, the range of used products, the debt service), properties, etc.

To each attribute (age is a feature, the 26-35 year interval is an attribute) we can assign a certain number of points after a statistical analysis and taking into account various factors, such as the discriminative force of the analyzed features and of the relations between them. The total score obtained by an applicant is the sum of the points assigned to the used features.

We must notice the fact that in Romania we are facing a major problem as to the collection and analysis of the above information. There are no databases storing positive facts concerning the life and activity of persons and companies. We are only interested in the delays in repaying our debts in due time, a highly unsatisfactory situation.

However, we must appreciate the preoccupation shown by the Credit Office in the direction of offering positive information on the banks' clients in the future, as well as of developing a scoring system which creates the risk profile of an individual debtor.

The next table is an example of a management report issued while developing a scorecard.

Table 2

Interval	Clients	Cumulated clients	Solvent clients	Cumulated Solvent clients	Insolvent clients	Cumulated Insolvent clients	Marginal badrate (%)	Cumulative badrate (%)	Approval rate (%)
24-26	120	120	119	119	1	1	0.833	0.83	1.40
22-24	140	260	139	258	1	2	0.714	0.77	3.03
20-22	230	490	229	487	1	3	0.43	0.61	5.70
18-20	400	890	396	883	4	7	1	0.79	10.36
16-18	450	1340	445	1328	5	12	1.11	0.90	15.60
14-16	700	2040	690	2018	10	22	1.428	1.08	23.75
12-14	1020	3060	1005	3023	15	37	1.47	1.21	35.62
10-12	1130	4190	1108	4131	22	59	1.946	1.41	48.78
8-10	1400	5590	1372	5503	28	87	2	1.56	65.08
6-8	1100	6690	1074	6577	26	113	2.363	1.69	77.88
4-6	940	7630	908	7485	32	145	3.404	1.90	88.82
2-4	640	8270	614	8099	26	171	4.062	2.07	96.27
0-2	320	8590	304	8403	16	187	5	2.18	100.00

■ The row in bolded characters can be interpreted as it follows:

- for a score between 14 and 16 points, the expected rate of non-reimbursement is  $1.428\% \times \left(\frac{10}{700} \times 100\right)$ ,

which means that 1.428% of the credit applications with a score between 14 and 16 points are expected to be insolvent;

- also,  $1.08\% \times \left(\frac{22}{2040} \times 100\right)$  of all the

applications scoring over 14 points are supposed to be insolvent;

- the approval rate for a score of over 14 points shows that  $23.75\% \times \left(\frac{2040}{8590} \times 100\right)$  of the credit applica-

tions are placed above the minimum threshold of 14 points.

Following the presented factors, a bank can decide to reject all the credit applications scoring a certain number of points, lower than 14, for example, or to give credits to such clients for a higher interest rate, in order to cover the assumed risks.

The risk information resulting from a scorecard, combined with other factors, such as the approval rate and the profit/loss potential corresponding to every risk category, can be used to develop new strategies to maximize revenues and minimize losses.

Based on this sort of analysis, the bank could decide that the applications scoring between 12 and 14 points receive a positive result, however at a higher interest rate.

Thus, in case of high risk clients, we propose the development of the following strategies:

- rejecting applications if the risk level is too high;
- approving a lower credit limit in case of a credit card or credit line;
- imposing a higher interest rate;
- introducing a higher evaluation for the solicited risk insurance;
- placing the applicant on a supervision list for potential fraudulent activity.

On the contrary, the clients scoring a superior number of points will enjoy preferential lower rates, will receive bonus products (credit cards), will get higher credit lines, etc.

In this article, we have proposed ourselves to present an initiation, development and enhancement mechanism of an evaluation model of the clients of a commercial bank. Under the present development circumstances of the Romanian economy, the creation within every bank of specialized departments in designing and supervising the rating systems is becoming more and more necessary.

We consider that the process must include the following stages:

1. Identifying data and designing parameters;
2. Creating and using the database;
3. Developing the model;
4. Implementing the rating model;
5. Calibrating the rating model;
6. Validating the rating model.

Data identifying and parameter designing suppose an extended period of time and consistent human resources. This

stage is meant to justify the necessity of producing a new and improved crediting model, as well as the necessity of identifying the most representative parameters for the segment to which the credit product is addressed.

In cases of exposure towards companies, institutions, central administration or banks, the credit institutions must collect and keep<sup>(5)</sup>:

a) the complete history or ratings assigned to acknowledged debtors and guarantors;

b) the dates when the ratings have been assigned;

c) the methodology and main dates when the ratings have been assigned;

d) the identity of the person in charge with rating assignment;

e) the identity of debtors in the situation of non-reimbursement, as well as the exposures in the situation of non-reimbursement;

f) the date and circumstances of the occurrence of situations of non-reimbursement and

g) information referring the probability of non-reimbursement and the non-reimbursement rate associated to each rating class; information referring to the rating migration.

For the retail exposures, the credit institutions must collect and keep<sup>(6)</sup>:

a) data used in the process of assigning exposures on rating classes and risk groups;

b) information referring to the estimation of non-reimbursement probabilities (PD), non-reimbursement-related losses (LGD) and conversion factors associated to rating classes or risk groups;

c) the identity of debtors in the situation of non-reimbursement, as well as the exposures in the situation of non-reimbursement;

d) in the case of exposures in the situation of non-reimbursement, the data referring the rating classes or risk groups to which the exposure was assigned prior to the occurrence of the non-reimbursement situation, as well as the actual value of the non-reimbursement – related losses and of the conversion factor and

e) information referring to the rate of losses for the eligible renewable retail exposures.

The NBR's Regulation no. 15/20/2006 defines the situation of non-reimbursement as being the moment in which the following events take place, either simultaneously or consecutively<sup>(7)</sup>:

a) the credit institution considers that, without taking measures to execute the guarantee, if it exists, it is improbable that the debtor should fully reimburse the credit financial obligations towards the credit institution;

b) the debtor has been late for over 90 days with the reimbursement of any significant obligation resulting from credits at the credit institution.

In certain situations, using multiple scorecards for a portfolio might produce a more adequate risk identification than using a single scorecard for all the clients.

This situation occurs when the analyzed population is composed of several sub-populations, presenting different features. The identification process of these sub-populations is known as „segmentation”.

We have emphasized two ways to determine the segmentation:

- based on expertise, the validation being realized through analytical methods;
- generating individual segments by means of statistical methods.

Whatever the method chosen, each selected segment must be large enough to correctly develop the desired model.

The Basel II Accord embraces a pragmatic approach, by defining segments as homogenous groups from the risk perspective.

We consider that a way to confirm the necessity of a segmentation is to take into account the non-reimbursement rates for different sub-populations. The method consists in analyzing these rates for different attributes of the selected features, thus being able to identify different segments based on these performances.

Table 3

Age	Rate of non-reimbursement (%)
<b>Attributes</b>	
Over 40 years old	2.1
Between 30 and 40 years old	4.3
Under 30 years old	8.8

By following the parameters defined in the prior stage, we can initiate the creation of the database needed to develop the scorecard. This database contains a set of features (predictive elements) and a target variable for each case, all this information being subsequently used to properly develop the model.

This stage is mentioned in the NBR's regulations accompanying the Emergency Government Decree no 99/2006, therefore

the credit institutions must be able to provide a detailed history of losses, in function of the factors considered to be decisive in the evolution of the risk parameters<sup>(8)</sup>.

Once the database necessary to develop the model is built, we must draw up a list of features and a target variable. The model will have as main objective establishing and quantifying the relation between the features and the client performance.

We have based ourselves on a series of features chosen according to their discriminative force, each having several expression attributes, as well as on their logistic regression. We have taken into account two major aspects: the necessity of a strong statistical basis and a realistic economic approach.

The feature selection reduces the complexity of the multivariate analysis of the totality of these elements.

The first step refers to the development of a comprehensive catalogue of indicators, based on the quantitative information collected during the prior stages. This catalogue must include economic and financial indicators by means of which we must be able to evaluate the debtor's situation in terms of assets, finances and revenues.

In this way, a large list of indicators is formed, some of them similar, fact which allows us to select the ones relevant to the next stages.

The analysis of the relations between characteristics must be performed before using the regression. By studying the existent connections, we can eliminate some of the features, thus avoiding using some carrying the same information, which can affect the model relevancy.

Once forming the list of indicators, eliminating those which do not observe the work hypothesis, verifying the relations between the remaining ones, reducing once again the ones mutually influencing, we calculate the IV (Information Value) for each feature.

The initial analysis of each feature involves two main aspects:

First of all, we must evaluate the power of discrimination of each feature as a

measure of performance.

The strongest features are then grouped, so as to form in the end a group of information, preferably independent, which can be used in the regression stage.

In order to establish the predictive power of each attribute, we have chosen using the WOE indicator (weight of evidence), while selecting the IV (Information Value) indicator for determining the power of discrimination (Siddiqi, 2006, p. 81).

Table 4

Value of solvency (%)	No. of companies	Company distribution (%)	Solvent clients	Solvent client distribution (SCD) (%)	Insolvent clients	Insolvent client distribution (ICD) (%)	Bad rate (%)	WOE	IV
>100	1500	6.98	1480	7.66	20	0.92	1.33	2.117134	0.142585
85.01 – 100	4500	20.93	4350	22.50	150	6.91	3.33	1.180365	0.184036
79.01 – 85	8000	37.21	7100	36.73	900	41.47	11.25	-0.12148	0.005763
50.01 – 70	5500	25.58	4800	24.83	700	32.26	12.73	-0.26164	0.01943
<50	2000	9.30	1600	8.28	400	18.43	20.00	-0.80064	0.081312
<b>TOTAL</b>	<b>21500</b>	<b>100</b>	<b>19330</b>	<b>100</b>	<b>2170</b>	<b>100</b>	<b>10.09</b>		<b>0.433126</b>

We consider that Table 4 is representative for the way in which the analysis of each attribute or feature should be made. The example presents the feature “value of solvency” used to analyze companies in order to determine their patrimonial value. The columns “Company distribution”, “Solvent client distribution (SCD)” and “Insolvent client distribution (DCI)” refer to the distribution of the total number of companies, solvent or insolvent clients reported to each attribute. For instance,  $20.93\% \times (\frac{4500}{21500} \times 100)$  of all companies,  $22.5\% \times (\frac{4350}{19330} \times 100)$  of the

solvent clients and  $6.91\% \times (\frac{150}{2170} \times 100)$  of the insolvent ones have a value of solvency ranging between 85.01% and 100%.

While accepting this feature in the final scoring, it is extremely important to take into account the logical distribution, that is to start from a positive value of the WOE indicator and then gradually decrease it.

The WOE indicator measures the power of each attribute in separating the solvent clients from the insolvent ones (the probability with which a client belonging to a certain attribute is considered solvent or insolvent).

An effective method to calculate this probability, which we used in the Table 4, is the following:



$$WOE = [\ln(\frac{DCS}{DCI})]$$

For example, for the interval 85.01% – 100%, the value of this indicator is  $\ln(\frac{0.225}{0.0691}) = 1.180365$ .

The IV (Information Value) indicator, which expresses the power of determination of each feature, derives from the Information Theory (Kulback, 1959, p. 205) and is measured using the following formula:

$$\sum_{i=1}^n (DCS_i - DCI_i) \times \ln(\frac{DCS_i}{DCI_i})$$

Based on this methodology, the interpretation of results is the following:

- a value lower than 0.02 shows an irrelevant feature, which cannot predict anything;
- a value between 0.02 and 0.1 shows a weak feature;
- a value between 0.1 and 0.3 indicates a feature with a medium discrimination power;
- $IV > 0.3$  expresses a strong feature, with a higher power of prediction.

We must specify that, up to this point, we have presented different types of individual analysis of each feature, but it is essential to take into consideration the later analysis of the relations between them.

*The logical trend of the WOE indicator for all the attributes of a feature*

The statistical power, measured by means of the WOE and IV indicators, is not the only element we must take into account in our analysis. The power of the attributes must follow a logical and operational trend.

It is obvious that we could have distributed the companies for the value of solvency into a different group of attributes, which would have led to a higher power of discrimination.

After drawing up the list of indicators, we have eliminated the ones that did not fit into the work hypothesis, we have checked up the relations between the remaining ones, excluding those showing a mutual influence, and we have calculated the IV for each feature.

In order to maintain a limited number of indicators, we have chosen only the ones showing an IV value over a predetermined minimal threshold.

After calculating the IV (Information Value) for each feature, the following step is to assign a certain number of points to the calculated measurement.

We have started from assigning 10 points and then went on decreasing to 0. We have used the distribution of each feature.

Thus, we go back to the value of solvency:

Table 5

Value of solvency (%)	Expected weight (%)	Number of points	Expected percentage × number of points
>100	11	10	1.1
85.01 – 100	15	8	1.2
79.01 – 85	32	5	1.6
50.01 – 70	21	2	0.42
<50	21	0	0
			4.32

Supposing we have chosen 5 features, we shall draw up the following table

Table 6

Feature	IV	IV distribution (%)
Feature 1	0.3121	26.70
Feature 2	0.2467	21.10
Feature 3	0.2112	18.07
Feature 4	0.2008	17.18
Feature 5	0.1982	16.95
	1.169	

By means of the column „IV distribution”, we shall obtain a rating model.

Therefore, let's sum up:

- we have selected a series of features with a higher power of discrimination for the representative group;
- we have double-checked, so that there are no relevant relations between the indicators;
- we have assigned points to each and every attribute of the selected features;
- we have calculated quotas by means of which we shall be able to quantify the results of the indicators for each applicant, while using an automated system.

We have envisaged the rating implementation stage as a distinct phase, following the development of the rating-based model.

We have proposed to develop a better understanding of the economic considerations applied in the process of using a newly-conceived model, of the reports to be drawn up during the process, as well as of the strategies set up and put into practice at the level of the respective creditor.

The objective of the calibration resides in assigning a certain degree of probability referring to the incapacity of payment to every general score obtained by a certain client. The probability of non-reimbursement can be classified in its turn in over 20 categories of rating.

Establishing the probabilities of non-reimbursement for every rating represents

one of the fundamental conditions related to the Internal Rating-Based Approach regulated by the Basel II Accord and imposed by the European guidelines.

In order to observe these regulations, the rating scale used during the process must comprise at least seven classes for the solvent clients and one for the insolvent ones, excepting the retail segment.

We have emphasized the fact that the validation of internal models by the authorized supervisor represents an essential condition if a credit institution intends to use another approach than the standardized one in determining the capital requirements.

The effective use of stress-testing methodologies is extended nowadays not only to the commercial banks, but also to the regulatory authorities and to the Central Banks. At present, all these institutions are combining stress-testing with their own macro-economic models.

Stress-testing is implemented at country level in order to assess the strength of the financial system to unfavorable economic evolutions. This type of analysis is set up in conformity with the Financial System Assessment Programme (FSAP) deployed by the International Monetary Fund (IMF). According to the Central-European Bank, the FSAP is implemented in the following countries: Ireland (2000), Finland (2001), Luxembourg (2002), Germany (2003), Austria and Netherlands (2004), Belgium, Greece, Italy, Portugal, Spain and again Ireland (2006).

In our opinion, stress-testing should be extended to a larger geographical area.

We appreciate this direction to be important in the context of the increasingly powerful integration of the EU members, both on the economic and the financial level. We can only guess that such testing is essential in order to assess as accurately as possible the

effects of changes the Basel II has brought to the EU credit institutions since January 2007. We mainly have in view the banks adopting the Internal Rating-Based approach.

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## Notes

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- <sup>(1)</sup> According to Regulation of the National Bank of Romania no. 15/20/14.12.2006 concerning the treatment of credit risk by the credit institutions and investment companies following the Internal Rating-Based Approach, Chapter V, Section 1, Art. 113.
- <sup>(2)</sup> See Emergency Government Decree no. 99/6.12.2006 concerning credit institutions and capital adequacy, Chapter III, Section III, Art. 127.
- <sup>(3)</sup> In accordance with Regulation of the National Bank of Romania no. 14/19/14.12.2006 concerning the treatment of credit risk by the credit institutions and investment companies following the standard approach
- <sup>(4)</sup> In accordance with Regulation of the National Bank of Romania no. 15/20/14.12.2006 concerning the treatment of credit risk by the credit institutions and investment companies following the Internal Rating-Based Approach.
- <sup>(5)</sup> In accordance with Regulation of the National Bank of Romania no. 15/20/14.12.2006 concerning the treatment of credit risk by the credit institutions and investment companies following the Internal Rating-Based Approach, Capitolul V, Secțiunea 1, 1.7.1, Art. 153.
- <sup>(6)</sup> See Regulation of the National Bank of Romania no. 15/20/14.12.2006 concerning the treatment of credit risk by the credit institutions and investment companies following the Internal Rating-Based Approach, Capitolul V, Secțiunea 1, 1.7.2, Art. 155.
- <sup>(7)</sup> See Regulation of the National Bank of Romania no. 15/20/14.12.2006 concerning the treatment of credit risk by the credit institutions and investment companies following the Internal Rating-Based Approach, Capitolul V, Secțiunea 2, 2.1., Art. 160.
- <sup>(8)</sup> See Regulation of the National Bank of Romania no. 15/20/14.12.2006 concerning the treatment of credit risk by the credit institutions and investment companies following the Internal Rating-Based Approach, Capitolul V, Secțiunea 2, 2.2, Art. 165.

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- Regulament nr. 13/18/14.12.2006 privind determinarea cerințelor minime de capital pentru instituțiile de credit și firmele de investiții
- Regulament nr. 14/19/14.12.2006 privind tratamentul riscului de credit pentru instituțiile de credit și firmele de investiții potrivit abordării standard
- Regulament nr. 15/20/14.12.2006 privind tratamentul riscului de credit pentru instituțiile de credit și firmele de investiții potrivit abordării bazate pe modele interne de rating

# Drafting Multiannual Local Budgets by Economic-Mathematical Modelling of the Evolution of Revenues

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***Abstract.** Although seen as a sector with a high degree of inertia and conservatism the public administration system determines the public institutions to record a set of influences both from the internal and external environment. The public administration system is influenced by the frequent legislative changes and recently by the requirements claimed by the European Union. Given the complexity and dynamics of the competitive environment the approach of strategic management tools at the level of public administration becomes more and more important and necessary. One of the main types of exercise of strategic management is represented by financial planning moulded into policies, strategies, plans and programmes whose generation is based on multiannual budgets.*

**Key words:** economic-mathematical modelling; multiannual budgeting; regression; income sources for the local budget; determinants.

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**JEL Codes:** H71, H72.

**REL Codes:** 10C, 10E, 10G.

## 1. Strategic management and multiannual budgeting

The character of the public administration sector consists in a high level of structural and functional rigidity, as well as in a static and conservatory organisational culture, as compared to the private sector. The forecast management models used in the public administration are most often static and linear, which hampers the process of strategy generation and implementation process, especially if this implies also the reshaping of the management system of the public institution. Moreover, if we admit that public administration is a continuous balance between power and responsibility, then we have to highlight the fact that the Romanian public administration pitched for the power and took too easy the responsibility issue.

Practising strategic management in public institutions becomes more and more a necessity and a success factor that ensures management and economic performances to public administration authorities. Within the specific coordinates of strategic management the approach of the public institution as a complex system requires that both the long-term strategies and strategic options they set forward are not the result of a simple extrapolation of the present but also the consideration of the changes and factors that will influence the future. Basically, “strategic management is the art of controlling the destiny rather than accepting it as such” (Gelinier, 1986).

The strategic dimension of management is ensured by the existence of a strategic way of thinking and the organisational culture open to changes and performance in an

external competitive environment as main forms of applying the strategic management, the experience in the field shows:

1. *The management based on financial planning* whose objective is the identification of the “good practice” and new possibilities which allow the improvement of the budgeting processes at local level. To this end, generating annual and multiannual budget as well as their analysis in dynamics constitutes a practice that could ensure an efficient administration to the local community.

2. *Forecast management* assumes medium and long-term forecasts related to the interaction between the organisation and the external environment. In performing the forecasts, we analyse the external environment, its impact on the activity of the public institution, the determinants, which affect the dynamics of the main economic-financial key indicators and we create strategies to rectify the threats and to take advantage of the opportunities.

One of the limits of the present budget practices refers to the fact that the annual time horizon taken into account when drafting the budget for revenues and expenses impairs the decision-making process in a public institution related to the possibility to establish possible budget alternatives. A recent report of the Organisation for Economic Co-operation and Development (OECD, 2003) states that “annual budgeting can improve the short-term strategic option of decisional factors, but at the same time, the main negative effect consists in the fact that local authorities ignore the cost of the future decisions related to the identification of the best options of mixing budget

allocations with the proper moments to expend”.

Within the annual budgeting procedure common to public institutions it can often be noticed that the end of the budget exercise coincides with an explosion of expenses, as the institution is forced to have expenses at least equal to those planned, in order not to lose the grants coming from the state budget for different projects. Also, observing the annual budget based on the financial levels of previous budget exercises poses problems at the level of the public organisation at the moment when this tries to make important investments, which cannot supported by an annual budget.

Starting from these facts, the European Council drafted a set of regulations in the field of budgeting procedures, to be differently applied by each state. Most of the OECD countries have adopted a medium-term budget policy, whose purpose is to integrate the loans for the annual expenses within medium-term projections (OECD, 2007). In such a way, public authorities are obliged to be aware of the consequences of the present budgeting decisions over the future public finances and to take into consideration the changes of the structural and demographic factors that influence their level and evolution.

Considered as an useful and flexible budgeting practice (both at the level of central and local administration), the multiannual budgeting makes possible the transfer of the grants from a budget exercise to the next one and at the same time allows the annual loans slip within the next budget exercise. The multiannual approach of the budget of revenues and expenses creates

certain flexibility at the level of financial planning in the public institution, which is reflected by:

- the prolongation of the time horizon, ensuring the transfer of various projects (especially investment projects) from one budget exercise to another;
- the budget objectives exceed the operational framework and enter the strategic scope, allowing to highlight the trend of increasing expenses which, in the annual budgeting option, were not perceived;
- anticipating some problems related to a possible reduction of revenues (for instance, in case of a structural reduction of the basis for taxation) or increase in expenses.

Multiannual budget drafting uses financial forecasting as a main tool. In this way, the public institution generates projections of the evolution of revenues and expenses for the next period, starting from a set of economic, political, legal and social hypotheses. Practically, multiannual budgets connect annual budgets to the financial policy of the public institution on the medium-term.

## 2. Multiannual budgeting features

Through its own mechanisms, the multiannual budgeting process has to fulfil a set of objectives and constraints specific to the organisation. The literature of the field (Diamond, 2002, 2003) reveals a set of possible solutions for drafting and using the multiannual budgets. Their features related to the performed stages and the end of the



financial planning process can be estimated by the following elements:

a. unlike annual budgets, which are generally balanced, the multiannual budgets have as main characteristic a difference between the expenses and revenues, because the forecast methodology used relies on current economic programmes and hypotheses. So, revenues and expenses elements from the budget structure have different rates of increase.

b. Mainly, multiannual forecasts represent extensions of the present investment programmes or estimations of the planned ones. This means that if the real conditions are different from the hypotheses used in the forecast, then both real revenues and expenses will be different from the estimated ones.

c. Multiannual budgeting relies on two main types of analysis: impact analysis, which quantifies the future impact of the present programmes and policies and the variation analysis, which concerns the identification of the possibilities regarding the adjustment of revenues and expenses to the purpose of decreasing the differences between them.

d. The financial planning process corresponding to the multiannual budgeting includes a set of *general activities*:

D1. the analysis of the historic revenues from previous years and formulation of hypotheses on which the revenues estimation relies;

D2. the projection of revenues and expenses over a period between 3 and 5 years starting with the next financial year;

D3. the analysis of data series with the effective expenses from previous years

correlating these levels with the events and economic, social, political or legal conditions;

D4. the estimation of expenses proposed for the next period of time, split into departments and investment projects underway or planned.

Multiannual forecasts represent a strong strategic management tool, which must be used just after an objective analysis of the inherent limits in financial planning and forecast, such as:

1. the lack of historical data regarding past evolutions of revenues and expenses from the local budget structure and of determinants, which makes it impossible to use extrapolation techniques.

2. the low qualifications degree of the specialised personnel as compared to the requirements of the multiannual budget practices, because these imply the usage of complex economic-mathematical models.

3. the long time span of strategic planning, especially for those public institutions that use the tools of financial planning for the first time. A large time span is necessary in order to collect the necessary data for forecasts and to develop and test the forecast methodology.

4. the limits of the forecast techniques due to the large number of variables they use, which reduces the probability to estimate with a sufficient degree of accuracy.

5. problems related to data consolidation and hypothesis formulation. The forecasts may need historical data series over large time periods between 10 and 15 years, in order to obtain relevant results through the regression analysis. For this reason, there

are at least two problems associated with collecting and using historical data: changes in the definition of data and in the rates or computation bases of revenues sources.

6. wrong evaluation and usage of the results of the forecasts. Often, after a forecast is ended and presented in front of the management team the interest to take advantage of it in business decreases considerably. Unfortunately, this approach ignores the importance and necessity of correlating the forecasts with the annual budget process. In this way, the proposed revenue forecasts for the present year are compared with the multiannual forecast, explaining and justifying the existing variations.

### **3. The necessity of implementing multiannual budgets in local administration. Local public institutions features**

At the level of a local public institution the implementation of a multiannual investment programme assumes the usage of new methods, techniques and financial management tools. We project a medium-term horizon in which projects are distributed by years and prioritised by community needs. Drafting the multiannual budget including the investment projects assumes the identification of financing sources, as a result of a financial forecast. Thus, we consider that in case of a city hall, the implementation of multiannual budgets is sustained by a set of *legal, economic, financial and management* arguments, such as:

1. from a legal point of view, this action answers to the rationality requests of financial and nonfinancial information regarding the

investment programmes from the Government Decree no. 45/2003.

2. multiannual budgets ensure the premises of a high degree of coherence in using resources to reach the main objectives, establishing the relation between the development strategy and the annual budgets, as well as between the financial planning and the execution of investment objectives.

3. we harmonise the investment programmes of the city hall with those of other public institutions or business environment.

4. there are conditions to implement the good practices from the EU countries, where there are used budget projections for time periods of 5-6 years.

5. multiannual budgets fulfil the requests of the international financial institutes (IMF, World Bank), related to the development of tools that ensure the acceleration of the access to structural and cohesion funds.

6. the hierarchy of investment programmes is ensured according to the degree to which they fulfil the priorities of the local community.

7. the increase of the credibility of the city hall institution in front of financing institutions and potential investors, which are ensured to be supported by the community for their projects.

8. the high flexibility of annual budgets due to the fact that the necessary fund for co-financing projects are regularly stipulated at the moment of drafting the budget programme.

9. aligning local investment procedures and processes to European and international standards.

10. the increasing budget transparency at the level of transparency in view of ensuring the public character of the decision-

making process entailing financial costs for the community. The budget transparency is one of the best guarantees related to the fact that the actions of the public institutions correspond to the community's interests and "public money" is used just in its interest.

#### 4. Economic-mathematical modeling of the evolution of revenues within a city hall. Case study

##### 4.1. Identification of financial sources for the local budget

After having identified general sources of financing for the local budget it resulted that there are 6 categories of main sources for the city hall under study. These sources ensure over 90% of the revenues in the local budgets. We consider that the detailed analysis by determinants only for these categories is justified. In this respect, there are representative data series collected from the Regional Unit of Statistics, Bucharest. In order to determine the weight of each revenue source in the total revenues of the local public institution under analysis year 2006 was taken as reference (Table 1).

**Main sources of revenues to the local budget**

Table 1

No.	Revenue source	Weight in the total revenues in local budget (%)
1	Tax on buildings from natural persons	3
2	Tax on buildings from legal persons	11
3	Stamp tax on notary activity	6
4	Rates from the income tax	46
5	Amounts allocated for balancing local budgets	6
6	Amounts from the VAT for local budgets	19

1. Tax on buildings from natural persons – the level of this revenue source is

influenced from a legal point of view by the tax rate on buildings and the tax value on sq.m., both established by decisions of the competent authorities.

2. Tax on buildings from legal persons – it is influenced by the decision of Local Council, which sets the tax rate applied on the balance sheet value of buildings used by legal persons.

3. Stamp taxes on notary activity – they are established by Government Decree no. 12/1998, amended with the subsequent provisions regarding the adjusted levels.

4. Rates from the income tax – income tax collected at the city hall level is influenced by the economic development of the area reflected inter alia by regional GDP, the number of firms in the area, the volume of gross investments, the average number of employees and the monthly net average salary.

5. Amounts allocated for balancing local budgets – they are influenced both by the development of the economic sector and by the increase of the percentage of income tax collected and allocated for balancing local budgets, from 8.5% to 11%, starting with 2005, as a measure of decentralisation of the local public administration system.

6. Amounts from the VAT for local budgets – these amounts are established on an annual basis by the Local Council according to the priorities of the geographic area and the amounts from the VAT from the state budget for the local budget under study.

To sum up, the extrapolation of revenues sources to the local budget and of the determinants will be achieved at two levels:

a. The extrapolation of the revenues sources in the local budget, using multiple nonlinear regression on the basis of the

identification of the functions that describe the evolution of each revenue source.

b. The extrapolation of determinants of the revenue sources to the local budget using the simple linear or nonlinear regression according to the specificities of each determinant, according to the time factor.

#### **4.2. The variables of the forecast model**

The economic-mathematical forecast model for the local budget revenues will operate with the following variables:

1. T-the reference year.
2. INF-inflation rate.
3. IMPCPF-tax on buildings from natural persons.
4. IMPCP-tax on buildings from legal persons.
5. TTMB-stamp tax on notary activity.
6. CDEF-rates from the income tax.
7. ECHLB-amounts allocated for balancing local budgets.
8. DEFTVA-amounts from the VAT for local budgets.
9. COTAPF-tax rate on buildings for natural persons (%).
10. VIMPF-value for taxation of buildings on sq.m for natural persons.
11. COTAPJ- tax rate on buildings for legal persons (%).
12. VTMBR-rate of increase of the stamp tax value on notary activity as compared to the previous year; decree no. 12/1998, amended with the subsequent provisions (%).
13. VALOC-percentage of collected income tax allocated to local budgets according to the Law of Local Public Finances (%).
14. VECHILB-percentage of collected income tax allocated for balancing local budgets (%).

15. PSTVA-weight of amounts from VAT in the city hall budget (%).

16. PIBR-GDP of the geographic area where the city hall is situated (mil. lei).

17. NRF-number of firms registered in the area.

18. INVB-volume of gross investments in the geographic area under study (mil. lei).

19. POPS1-population from the geographic area under study.

20. SMNL-monthly average net salary earned by employees in the area.

21. SUPLOC-the inhabited area per person/sq.m. in the area.

22. TVAPMB-amounts from the VAT from the Country Council budget (thousand lei).

23. POPMB-total population in the geographic area where the city hall is situated.

#### **2.3. The forecast of the evolution of determinants**

Based on the study of the Pearson correlation coefficient and the results of the statistical analysis of the evolution of determinants between 2002 and 2006 we draw the conclusion that the significant determinants for which the determination of the regression function is justified are the following:

1. INF-inflation rate.
2. PIBR-regional GDP (the geographical-administrative area where the city hall is situated (mil. lei).
3. INVB-the volume of gross investment in the geographic area (mil. lei).
4. TVAPMB- amounts from the VAT from the County Council budget (thousand lei).

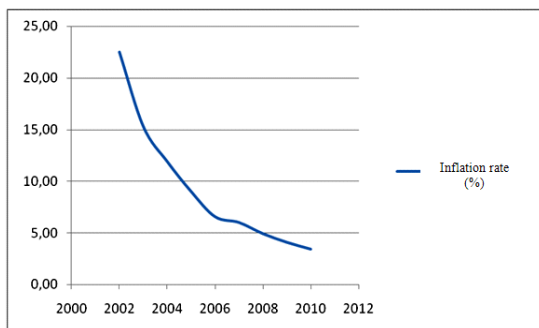
We still have to say that we have started from the premises that most of the legal determinants would not be modified during the forecast time span and, accordingly, would not be considered in the analysis process.

In order to identify the relations that define the evolution of each determinant analysed we used the forecast programmes CurveExpert 1.3. This programme allows us to identify the single-variable regression function. Next, we present the results processed by this software and the regression functions that describe the evolution of the determinants, their graphs as well as the values of standard deviations and correlation coefficients.

**Characteristics of the regression function used for the forecast of the evolution of the inflation rate**

Table 2

Indicator	Inflation rate
Abbreviation	INF
Regression models analysed	Bleasdale, Rational, Cuadratic, Polinomial, Logaritmico, Hipebolic, Linear, Richards, MMF
Regression models used	Bleasdale
Formula	$INF = (-72.481 + 0.0364 \times t)^{-1/0.3099}$
Number of iterations	16
Standard deviation	0.567
Correlation coefficient	0.997

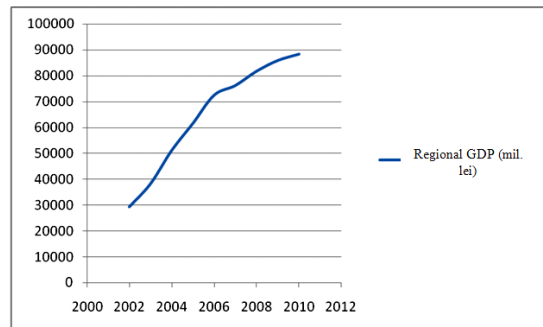


**Figure 1.** Graph of the regression function used for the forecast of the evolution of the inflation rate

**Characteristics of the regression function used for the forecast of the evolution of “regional GDP”**

Table 3

Indicator	Regional GDP in Sector 1
Abbreviation	PIBR
Regression models analysed	Gaussian, Linear, Logaritmico, Cuadratic, Polinomial, Bleasdale, MMF, Richards
Regression models used	Gaussian
Formula	$PIBR = 88953.94 \times e^{\frac{-(t-2010.84)^2}{2 \times 6.89^2}}$
Number of iterations	12
Standard deviation	884.441
Correlation coefficient	0.999

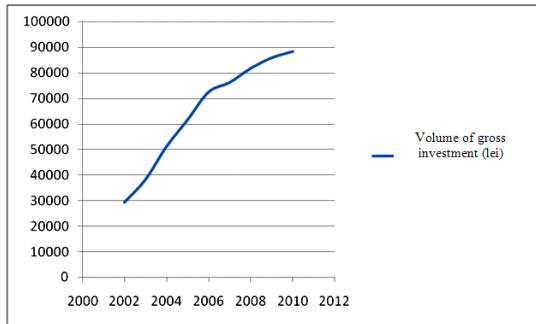


**Figure 2.** Graph of the regression function used for the forecast of the evolution of the regional GDP

**Characteristics of the regression function used for the forecast of the evolution of “volume of gross investment in the geographic area”**

Table 4

Indicator	Volume of gross investment in the geographic area in Sector 1
Abbreviation	INVB
Regression models analysed	Gaussian, Cuadratic, Polinomial, Bleasdale, Richards, MMF, Logaritmico
Regression models used	Gaussian
Formula	$INVB = 56166.538 \times e^{\frac{-(t-2010.912)^2}{2 \times 4.56^2}}$
Number of iterations	15
Standard deviation	501.74
Correlation coefficient	0.999

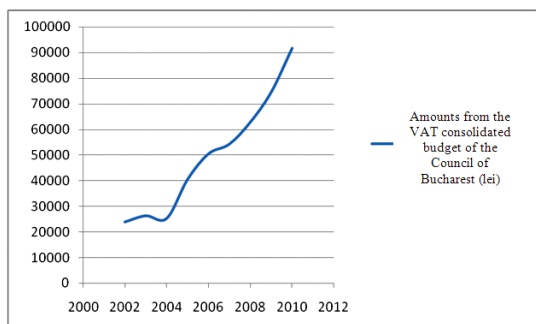


**Figure 3.** Graph of the regression function used for the forecast of the evolution of the “volume of gross investment in the geographic area”

**Characteristics of the regression function used for the forecast of the evolution of “amounts from the VAT from the County Council budget”**

Table 5

Indicator	Amounts from the VAT consolidated budget of the Council of Bucharest
Abbreviation	TVAPMB
Regression models analysed	Saturation rate, Cuadratic, Exponential, Geometric, Linear, Logaritmnic, Polinomial, Richards, MMF
Regression models used	Saturation rate
Formula	$TVAPMB = \frac{202.701 \times t}{t - 2014.357}$
Number of iterations	6
Standard deviation	2102.57
Correlation coefficient	0.958



**Figure 4.** Graph of the regression function used for the forecast of the evolution of the “amounts from the VAT from the County Council budget”

**4.4. The forecast of revenues collected in the local budget of the city hall during the period 2007-2010**

Next, we present the results of the forecast of the evolution of the main revenue sources to the local budget based on the significant determinants. The extrapolation process was conducted in two phases, starting from the forecast evolutions of determinants:

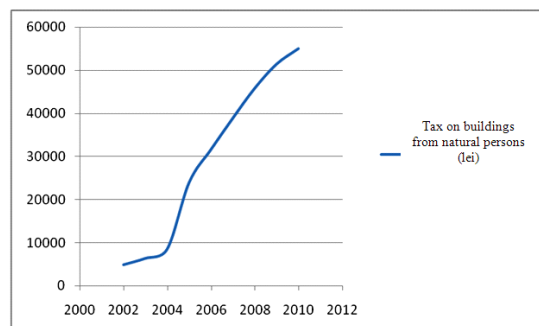
1. determining the regression function of each revenue source according to each determinant.
2. identifying the forecast values of revenue sources as results of the functions defined previously.

**4.4.1. The forecast of tax on buildings from natural persons**

**Regression of the revenue source of “tax on buildings from natural persons” according to the determinant “inflation rate”**

Table 6

Indicator	Tax on buildings from natural persons
Abbreviation	IMPCPF
Regression models analysed	Polinomial, Cuadratic, Weibull, MMF, Linear
Regression models used	Polinomial
Formula	$IMPCPF = 2669.131 \times INF^3 - 75544.835 \times INF^2 + 155922.11 \times INF + 15312796$
Number of iterations	31
Standard deviation	5937.703
Correlation coefficient	0.999



**Figure 5.** Graph of the regression of the revenue source “tax on buildings from natural persons” according to the determinant “inflation rate”

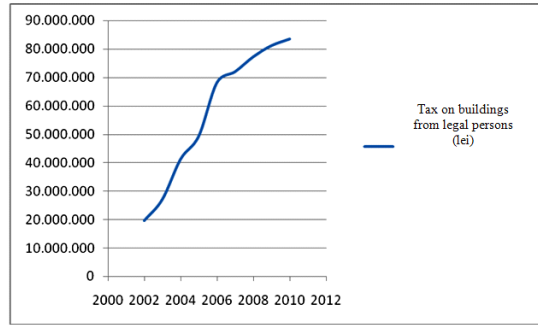


4.4.2. Forecast of the tax on buildings from legal persons

**Regression of the revenue source of “tax on buildings from legal persons” according to the determinant “inflation rate”**

Table 7

Indicator	Tax on buildings from legal persons
Abbreviation	IMPCPJ
Regression models analysed	Rational, Hiperbolic, Hoerl, Cuadratic, Logistic, MMF, Polinomial, Weibull, Logaritmico, Sinusoidal, Richards, MMF
Regression models used	Hoerl
Formula	$IMPCPJ = 339894112 \times 0.981^{INF} \times INF^{-0.789}$
Number of iterations	15
Standard deviation	2795.069
Correlation coefficient	0.994

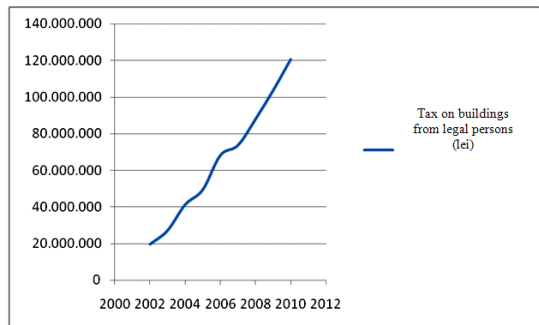


**Figure 7.** Graph of the regression of the revenue source “tax on buildings from legal persons” according to the determinant “regional GDP”

**Regression of the revenue source of “tax on buildings from legal persons” according to the determinant “volume of gross investments in the geographic area”**

Table 9

Indicator	Tax on buildings from legal persons
Abbreviation	IMPCPJ
Regression models analysed	Power, Exponential, Hoerl, Gaussian, Cuadratic, Geometric, Polinomial, Logaritmico, Liniar, MMF
Regression models used	Power
Formula	$IMPCPJ = 305826,953 \times INV B^{0.521}$
Number of iterations	9
Standard deviation	7137,57
Correlation coefficient	0.946

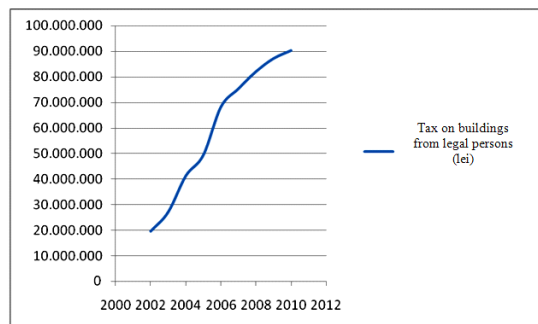


**Figure 6.** Graph of the regression of the revenue source “tax on buildings from legal persons” according to the determinant “inflation rate”

**Regression of the revenue source of “tax on buildings from legal persons” according to the determinant “regional GDP”**

Table 8

Indicator	Tax on buildings from legal persons
Abbreviation	IMPCPJ
Regression models analysed	Power, Exponential, Hoerl, Gaussian, Cuadratic, Geometric, Polinomial, Logaritmico, Liniar, Hiperbolic, MMF
Regression models used	Power
Formula	$IMPCPJ = 905.399 \times PIBR^{1.0038}$
Number of iterations	92
Standard deviation	2287.99
Correlation coefficient	0.994



**Figure 8.** Graph of the regression of the revenue source “tax on buildings from legal persons” according to the determinant “volume of gross investments in the geographic area”



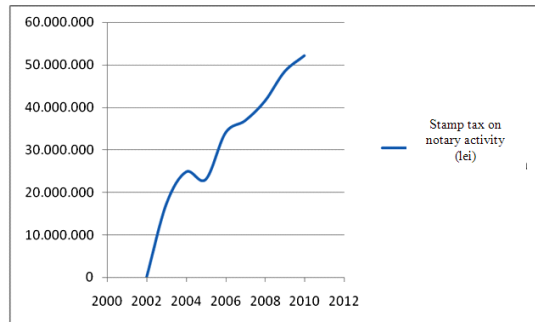
4.4.3. The forecast of stamp tax on notary activity

Due to the fact that for any of the stamp tax on notary activity no proper Pearson correlation coefficient was obtained, we determined the forecast values using the Forecast function related to the time factor. The results are presented in Table 10.

**Regression of the revenue source of “stamp tax on notary activity” related to the time factor**

Table 10

Year	Stamp tax on notary activity (thousand lei)
2002	17.231.344
2003	24.785.599
2004	23.020.679
2005	33.985.435
2006	36.880.102
2007	41.480.020
2008	48.409.731
2009	52.157.023
2010	57.231.344



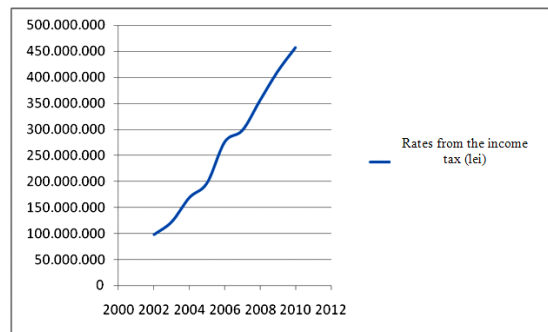
**Figure 9.** Graph of the regression of the revenue source “Stamp tax on notary activity” related to the time factor

4.4.4. The forecast of rates from the income tax

**Regression of the revenue source of “rates from the income tax” according to the determinant “inflation rate”**

Table 11

Indicator	Rates from the income tax
Abbreviation	CDEF
Regression models analysed	Geometric, Hiperbolic, Hoerl, Logistic, Cuadratic, Weibull, Logaritmico, Liniar, Sinusoidal
Regression models used	Geometric
Formula	$CDEF = 36725103.112 \times INF^{\frac{7.0104}{INF}}$
Number of iterations	9
Standard deviation	8082.288
Correlation coefficient	0.994

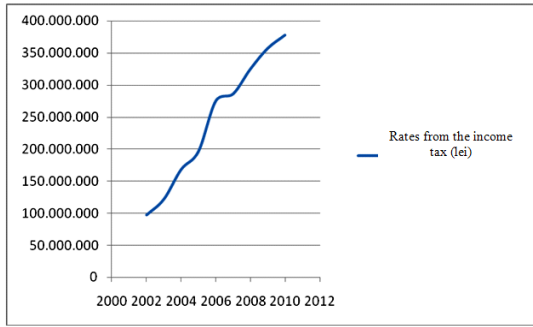


**Figure 10.** Graph of the regression of the revenue source “rates from the income tax” related to the “inflation rate”

**Regression of the revenue source of “rates from the income tax” according to the determinant “regional GDP”**

Table 12

Indicator	Rates from the income tax
Abbreviation	CDEF
Regression models analysed	Power, Exponential, Gaussian, Hoerl, Logaritmico, Polinomial, Cuadratic, Logistic, MMF
Regression models used	Power
Formula	$CDEF = 49651055 \times 1.000023^{PIBR}$
Number of iterations	96
Standard deviation	8409.281
Correlation coefficient	0.994

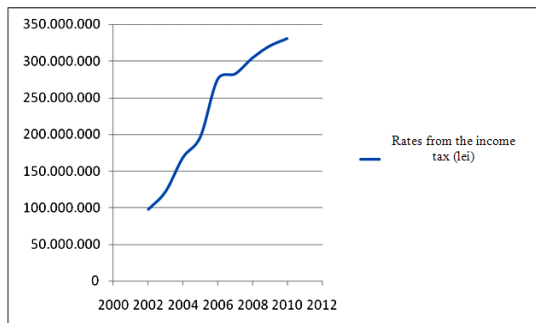


**Figure 11.** Graph of the regression of the revenue source “rates from the income tax” related to the “regional GDP”

**Regression of the revenue source of “rates from the income tax” according to the determinant “volume of gross investments in the area”**

Table 13

Indicator	Rates from the income tax
Abbreviation	CDEF
Regression models analysed	Polinomial, Cuadratic, Logaritmico, Power, Weibull, Gaussian, MMF, Hoerl, Richards
Regression models used	Power
Formula	$CDEF = 2304235 \times INVB^{0.455}$
Number of iterations	7
Standard deviation	26541.077
Correlation coefficient	0.943



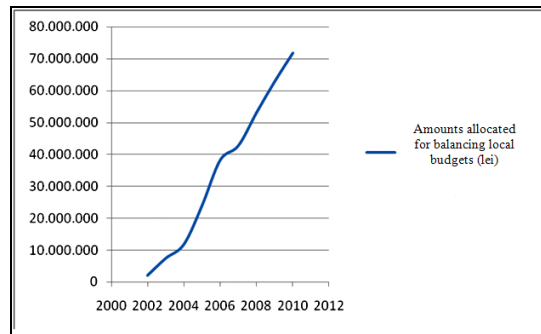
**Figure 12.** Graph of the regression of the revenue source “rates from the income tax” related to the “volume of gross investments in the area”

**4.4.5 The forecast of amounts allocated for balancing local budgets**

**Regression of the revenue source of “amounts allocated for balancing local budgets” according to the determinant “inflation rate”**

Table 14

Indicator	Amounts allocated for balancing local budgets
Abbreviation	VECHILB
Regression models analysed	Power, Exponential, Hoerl, Cuadratic, Polinomial, Gaussian, Richards, MMF, Bleasdale
Regression models used	Power
Formula	$VECHILB = 142882760 \times 0.818^{INF}$
Number of iterations	13
Standard deviation	975.906
Correlation coefficient	0.998

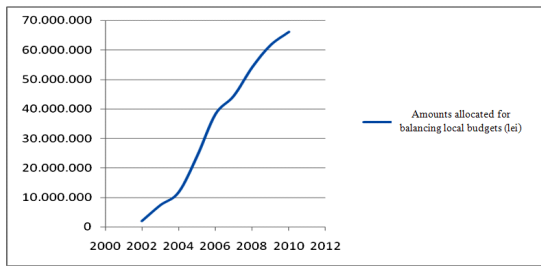


**Figure 13.** Graph of the regression of the revenue source “amounts allocated for balancing local budgets” related to the “inflation rate”

**Regression of the revenue source of “amounts allocated for balancing local budgets” according to the determinant “regional GDP”**

Table 15

Indicator	Amounts allocated for balancing local budgets
Abbreviation	VECHILB
Regression models analysed	Exponential, Linear, Cuadratic, Polinomial, Harris, Sinusoidal, Richards, Gaussian, Hoerl, Bleasdale
Regression models used	Gaussian
Formula	$VECHILB = 104315122 \times e^{\frac{-(x-121209.57)^2}{2 \times 34440.634^2}}$
Number of iterations	17
Standard deviation	1730.232
Correlation coefficient	0.996



**Figure 14.** Graph of the regression of the revenue source “amounts allocated for balancing local budgets” related to the “regional GDP”

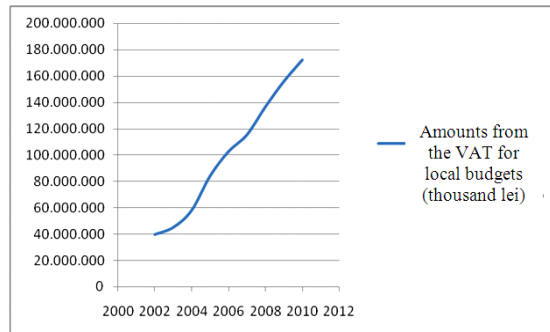
**4.4.6. The forecast of amounts from the VAT for local budgets**

We determined the forecast values using the function Forecast related to the time factor. The results are presented in Table 16.

**The regression of the revenue source “amounts from the VAT for local budgets” related to the time factor**

Table 16

Year	Amounts from the VAT for local budgets (thousand lei)
2002	39.854.657
2003	45.201.456
2004	58.169.884
2005	84.164.452
2006	102.635.000
2007	115.362.194
2008	136.542.574
2009	155.757.757
2010	172.020.650



**Figure 15.** Graph of the regression of the revenue source “amounts from the VAT for local budgets” related to the “regional GDP” related to the time factor

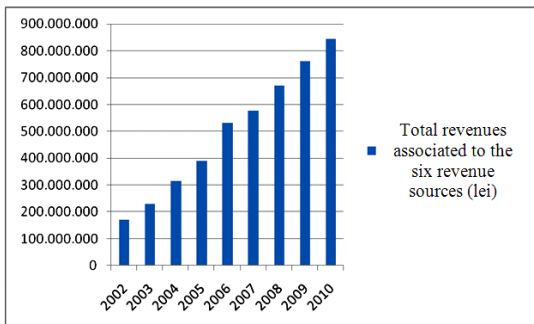
As a result of the forecast process, we determined the future evolution of the six main revenue sources to the local budget for a time period of four years (2007-2010). The results of the forecast are presented in Table 17.

**The consolidated situation of the forecast evolution for the six main revenue sources to the local budget of the city hall**

Table 17

Year	Tax on buildings from natural persons (lei)	Tax on buildings from legal persons (lei)	Stamp tax on notary activity (lei)	Rates from the income tax (lei)	Amounts allocated for balancing local budgets (lei)	Amounts from the VAT for local budgets (lei)	Total (lei)
2002	10.978.162	19.634.670	-	97.523.021	2.075.496	39.854.657	170.066.006
2003	9.590.670	27.150.680	17.231.344	122.140.772	7.430.294	45.201.456	228.745.216
2004	10.927.564	41.253.856	24.785.599	168.616.999	11.813.373	58.169.884	315.567.275
2005	12.580.515	49.390.074	23.020.679	196.724.946	23.975.340	84.164.452	389.856.006
2006	13.825.658	68.171.137	33.985.435	275.519.959	38.230.536	102.635.000	532.367.725
2007	14.804.825	74.996.253	36.880.102	290.292.368	43.615.106	115.362.194	575.950.848
2008	15.132.160	83.329.519	41.480.020	340.217.417	53.637.915	136.542.574	670.339.605
2009	15.870.069	89.213.915	48.409.731	388.833.717	62.267.251	155.757.757	760.352.440
2010	16.529.477	95.199.611	52.157.023	440.110.069	68.985.097	172.020.650	845.001.927

The graph of the evolution of the revenues to the local budget of the city hall under analysis as a result of the change in revenue sources is illustrated in Figure 16.



**Figure 16.** The forecast evolution of the total revenues drawn to the local budget of the city hall from the six revenue sources included into the analysis.

### 5. Conclusions

Given the estimations obtained and the methodology used we can state the following conclusions:

1. in order to conduct the forecast, the six main revenue sources to the local budget

of a city were considered; they were selected according to their weight in the total budget of the city hall.

2. due to the low relevance of the revenue sources that were not considered in this study, we recommend that the extrapolation of their values should be done either by linear simple regression or nonlinear simple regression as related to the time factor in order to achieve as precise forecasts as possible.

3. as a result of the descriptive statistical study conducted on data series that describe the evolution of the determinants during 2002-2006, as well as a result of the computation of the Pearson correlation coefficients, we selected four representative determinants for which significant values of the correlation coefficient were obtained.

4. in order to forecast the determinants we use the simple nonlinear regression related to the time factor using the software CurveFinder.

5. the forecast of the evolution of the six main revenue sources was conducted

based on the identification of the regression functions for each revenue source related to each of the determinants. Next, we established the extrapolated values as results of the previously defined functions.

6. the forecast horizon is four years. This is actually the maximum time span for which we can get data with a sufficient accuracy level, given the small dimension of the available statistical data.

7. in view of drafting annual budgets based on multiannual budgets it is required that the annual values be split on calendar time periods (months or quarters) according to the seasonality coefficient. This coefficient is determined for each revenue source and each calendar time period based on the analysis of the budget execution from the last four years - monthly or at least once in a quarter.

Obviously, the implementation of the multiannual budgeting practices in the public administration should not be just optional at the decision-making level, but an extremely necessary tool for a good strategic management focused on efficiency and effectiveness of administrative processes. Unfortunately, in Romania there are few public administration institutions that have defined long-term strategic plans and, as a consequence, are able to exceed the limits of traditional annual budgeting. Nevertheless, we argue that as the planning process becomes more important higher interest will be paid to strategic planning as an instrument of drawing financial resources, which are necessary to support investment projects. This arises first of all due to the necessity of correlating this activity with the formal financial forecast and planning.

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\* \* \* Legea nr. 466/2006 privind Finanțele Publice Locale

\* \* \* Ordinul Ministrului Administrației și Internelor nr. 1539/12.12.2006 pentru aprobarea normelor de aplicare a formulei de alocare a sumelor defalcate din unele venituri ale bugetului de stat și a cotelor defalcate din impozitul pe venit pentru echilibrarea bugetelor locale

\* \* \* Ordonanța Guvernului nr. 45/2003 privind finanțele publice locale, publicată în Monitorul Oficial nr. 431/2003

\* \* \* OG nr. 12/1998 privind taxele de timbru pentru activitatea notarială, publicată în Monitorul Oficial nr. 586/2002

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# The EMU is Done. How about the Fiscal Union and the Next Future of the United Europe?

■

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***Abstract.** The economic and monetary union was actually compulsory, despite that the Maastricht Treaty does not express as such. Moreover, specialists argue that the monetary union is equally required to be fiscal as well. And what is this? Of course, strengthening central governance, once more against the national one in the member states. Will this go well in the aftermath of the “No” for the new European constitutional project by several nations and for the Lisboa Treaty by the Irish people? Not easy to say, but actually the fiscal union is as much supposed to have started, as the monetary union had some decades ago, much earlier than the current common currency.*

**Key words:** economic integration; taxation; fiscal union; monetary union; public spending; governance.

■

**JEL Codes:** E00, E52, E62, F15.

**REL Codes:** 8M, 20G, 20H.



When one notices that “some clouds are gathering above the EU”, one can notice that this is common place already. Only the communist ideologists of the past would take this as the “general crisis of contemporary capitalism”. On the contrary, serious observers of the EU history are able to understand that a so genuine construction of the economic and monetary union would not be ever achieved off several historical deep crisis and challenge representative moments that will be described below in a large context.

### 1. Is the “European taxation” an appropriate term of debate?

So, let me put this issue in another way, meaning another debate. The today scholars argue that the *monetary union* could not last in the absence of the *fiscal union*, and that such a debate is not new at all (Vaknin, 2000). Or, the taxation activity in the United Europe yet stays out of the Community authority (still belongs to individual member states) even in the EMU area, whereas other scholars – the ones of the basic integration theory and practice. Viner (1950) and Balassa (1961) had stayed silent about this aspect.

So, this is not only about a vacuum of theory to talk about, but much more than what makes the fiscal aspect different than the monetary one. First, there comes the politicians’ “nostralgia” about what was once the *exchange rate* policy, as an available “key” – instrument of many problems to solve: from exports-imports, foreign direct investments and external

balance of payments to home private and public investments, consumption-output ratios, business cycle and anty-recession policies. It is really amazing when reading or hearing from politicians and even analysts expressing like this – do they forget so quickly which is the world that they have accepted to live in, or that the things have been settled to become as such just on purpose, and that because now the macro-troubles and deadlocks are expected to be faced throughout coopertion in a larger area?! Actually, politicians hide their fear that their persons arising from Bucharest, Berlin, Paris or Dublin will step down into the “province” of politics, whereas, first, their electorates will point on old political tools that they will be missing in order to achieve programmes presented, and second, the real decision-making and makers will concomitantly promote to the Union level.

But this aspect, as well as the whole area of politics, is only apparently a minor one. In reality, the *political class*’ reaction is supposed to be complex as much as politicians are fighters by their own definition. Individual charismas might certainly come up in their favour, as well<sup>(1)</sup>. Plus, this less significant aspect, in its meaning, is not, unfortunately, the lonely one, not even the lonely one involved in politics. The *fiscal “inertia”* is mainly worked out by the weight of the State (Government) in the economy (here including, of course, the public sector), and here there is a real diversity in the today developed world (see the OECD member countries), and not even less within the

European Union map, in the internal context of what is already called the “*European Model*”<sup>(2)</sup>. The northern countries, especially Sweden, Denmark and Norway (who has rejected the EU membership a long time ago) founded their economical and political systems on strong and generous Government sectors, based in their turn on high progressive taxations. On the other hand, the *anglo-saxon* systems of countries, like the UK’s one, and the *continental* ones, like the Germany’s case, in a certain extension, prefer a more liberal foundation, basing on a more adjusted weight of the Government sector; and taxations move correspondingly down to those states.

The importance in such a context departs from the appearance that both the post-keynesian social democrat and newly adapted liberalism thinkings make a genuine difference among individual member-states within the Union. But more deeply, the same context includes taxpayers of all sides, with their mentalities building up the taxation “inertia”, plus the fact that the State – Government ratio in the economy is supposed to keep a certain stability – welfare of large masses of people very depends on. Plus, even the people’s vote is changing its context.

**Let us figure out**

*For instance, a basic social-democrat Swedish or Danish types state, in which voters get angry, in a certain electoral moment, with their governors for certain peculiar reasons, and they vote for an opposition liberal type party. The last*

*comes to power, let us assume, as well intended with a liberal view, for which there will be supposed both to restructure the Government sector and destruct the generous system of public spending, social aids and so on. Or, there are two questions here arising. The one is how much time, efficiency and social support and patience will be available to all of these during just a four years mandate interval. The other is whether the people really is ready for such a change in taxation, finally meaning habits and mentalities. Or, this imaginary exercise is supposed to be a lesson for the electorate on both short and medium-long terms, plus, its meaning touches on the real “freedom” of political option, in the election process. Let us also mention that this would be supposed to be at least similar on the converse political landscape, meaning the liberal one: instead of a generous public spending system, the local people might dispose of a facttly and traditionally large option to spend and invest their incomes<sup>(3)</sup> and of a higher propensity for free business and be supposed to pay lower taxes. Or, this might be as stable as the other system, so replacing it by a change or restructuring might cause similar social problems.*

Overall, the *fiscal system*, whichever this is, is always supposed to be stable. A Romanian politician, but also professor of economics, argued that the “*fiscal code*” of every state is a kind of a consitution translated in different terms. Moreover, although politicaly based, *taxation* becomes a serious aspect, once its political

perception extends from political interests and even ideologies to ordinary people, habits and their welfare. So, this might be a way of winning the political power and keeping it for good by a political party (or coalition), and, as another serious consequence, the “political bone” would be so able to reach more genuine forms than the small and vulgar welfare and interests of individuals, in politics. That is to recall from above: politics might be more complex than it appears to be.

#### **Taxation in Romania: the “unique tax rate”**

*Besides, let us consider the current Romanian example, despite that it is less representative inside the EU and even less for the EMU. There are also other examples of transitional economy countries joining the EU and preferring the “unique tax rate” for the direct taxation, meaning the lowest rate. But the Romanian specific in such a concern is its high political nature, meaning the harmful political debate around it, as replacing any scholar and genuine debate. On the one hand, the liberal party, who, despite its permanent minority in the Romanian political landscape, succeeded to be in power at least three times since 1990, recently imposed this system basing on several arguments. They argue that the former progressive taxation system had stiffen business, made the “black” economic activities flourish and so started diminishing the Government’s fiscal incomes, in the past. On the contrary, lower taxes might be even able to increase the State budget incomes.*

*That the low taxation could equally fight unemployment, stimulate jobs and careers and support investments of all kinds. That, finally, the “new” unique rate could bring maximum of transparency in, would be much easier to implement and be calculated by anyone, plus it wouldn’t favour neither labour, nor capital, as being retributed, against each other. Though, the “liberal” conceptual problem of this undertaking then came up: the budget incomes went down, together with the low tax rate, here proving the “shock therapy” characteristic of this measure. As striking on budget incomes, the visible consequences of the “unique tax rate” were, at least: increasing the indirect taxation and a new debate on the issues of this; so, delaying the new “fiscal code” project elaboration and coming into force. Plus, stories like the old “tax on seat”, in the pubs, or like the more recent “car registration tax”, involving basic legal and constitutional aspects, as contradictory, demonstrate at least that all these are about a real “fiscal revolution”, for which not all parts of the economic system (see the institutions’ funding, as for instance) are likely to be ready to face. On the contrary, the social-democrat part of politics and society now argue that the liberals have done nothing, but replaced the former progressive taxation on incomes (see, the direct taxation) by their progressive taxation on welfare (see, the indirect taxation) and have stucken into this one and in the basic legal terms of taxation. As the result, the social-democrats promiss to restore the old progressive direct taxation, once coming back to power.*

*Nevertheless, the most important here will be, certainly, the electorate's real perception of what happened in the economy and people's welfare during the recent political cycle period – we mean that there might equally arise other diverse effects of the new taxation in the social and economic areas. This is like a film to be seen or book to be read up to their end.*

So, wherever one says politics, one sees divergence in the taxation terms, as on the opposite side of a presumable optimum ratio of the State and public sector in the total economy and GDP. However, there is not only politics – here considering all levels that we referred to above – engendering divergence and diversity in this area. As for other instances, Peacock and Wisemann argue about “social trouble cycles” – resulting into upward pressures on the taxation and public spending levels – and Buchmann and Tullock about the “social illusion” – of “low level” taxes, whenever high supplies of public goods and utilities (Hardwick, 1991). Other studies in EU and OECD member countries argue about a presumed compulsory trend to strong Government in small and open economies, or about “automatic fiscal stabilisers”, especially in the high-progressive taxation environments<sup>(4)</sup>.

So, taxation is a complex issue world-wide and this fact becomes obvious when dealing with different and non-convergent fiscal systems among different States and economies. Whereas here, in this paper, the issue stays on an *expectable unique taxation in the European monetary union.*

But the new EU context is not less complex and complicated. On the contrary, the same issue might include at least one more aspect on the *economic integration* side. There is to be mentioned that this Union of nations, as a conceptual model (Dinu et al., 2004), will not be supposed to be liberal either, but the old politics looks equally like thrown off this new landscape.

And let us explain some more about this aspect. All macroeconomic models in the literature, since the first and simplest one on François Quesnay<sup>(5)</sup>, at the end of the eighteenth century, inspiring and continuing with the one of John Maynard Keynes, in his capital paper (known as “*The General Theory...*”) later on, in thirties, and even not ending with the Wassili Leontief's macromodel (the “*input-output model*”), in seventies, regard individual markets, meaning national-wide level ones. Since the eighteenth and nineteenth centuries, market is structured on both autonomous national-wide and international-worldwide levels. Here comes the integration process in way, which have so far created some intermediary, meaning regional multi-country markets, but yet unautonomous and just interfering with the old national – and world-wide markets. The *free-market areas* declared among some nations and even the *customs unions* are here supposed to be mentioned as integration forms. On the other hand, the EU project claims a newly created autonomous market, so a more *advanced economic integration*, with *supra-national* institutional components.

There are many scholar voices here accusing a yet unachieved and imperfect

„*unique common market*” of the EU, and even within the *Euroland*, but this is a different story. Let us consider, on the contrary, that this is the EU construction in way and just an issue of time, since the *economic and monetary union* is actively working on. In such conditions, our Union will be supposed to become a *macroeconomic area*, taking over corresponding characteristics from the national-wide markets, whereas the last will remain just internal regions. Macromodels known so far will apply their scientific rules to the Union, instead of to the old countries.

But here there remains also the fact that the Union is gathering individual nation-states and stays far from what an individual country ever represents, even on its single economic dimension: an old individual country feels free to contain not only a single market of her own, but inside regional economic differences as well – actually, this is the *market economy*. In other words, there are regions inside all country areas of higher and lower levels of economic activities and welfare. Or, this is what the integration process could not afford, just because the Union’s regions are supposed to be individual nations, with their free option for integration. On the contrary, the higher the integration level, the higher the expectations for a high and unique level of welfare. Once the Union would produce welfare differences among its national components, it is supposed to be in danger of internal ruptures.

Or, this is the entire *double integrational mechanism* on both shorter and longer terms: on the one hand, the

*unique common market* is always declared as a main objective to be achieved by the programme – and concepts like *free market*, *competition* and *liberalism* look the most appropriate –; on the other one, there is another economy to be here claimed, the one not liberal at all, even opposite to liberalism, as regarding *interventions* and corresponding *budgeting* for inside activities, nations, regions and areas in need. In such a logic of facts, the current integration in Europe is not even supposed to wait for the unique market achievement. On the contrary, it is forced to manage a *mixed economy* with a vivid regional development and especially with high budgetings.

The contradictory substance of the integration process – the contradiction between the *liberal* and *mixed economies* – produce, in our view, corresponding effects on all plans of the economic (and not only economic) activities, and even since its earlier stages mentioned above<sup>(6)</sup> – and these might also be the basic cause of not surviving for other integration projects developed out of Europe.

So, which are the *integration influences on taxation*, and even on the EMU achieved? There are two aspects to further discuss about, of which one results from the approach developed so far. So, the first aspect is that the Union requires high budgets for its regional and structural policies, here including the agricultural and industrial ones, and thus its taxation on all individuals and member States remains high by definition and non liberal model. Or, this is, on the other hand, the European



(EU) way of “solving the problem” of the *optimal Government’s weight in the economy*, over all member States’ differences in the area: just *biasing on high taxes and public spending levels*, instead of searching for a new convergency.

As for the second and last aspect to be here debated, let us first remind that since the old times of all States, *taxation* was firstly founded and essential. *Money*, on the other hand, has a long and more than interesting history description, but it came later on, the way that there were ancient famous and civilised States, at their times, without currency issued. Then, when money came up, it helped taxation and public spending, but these latter also supported money, meaning the State’s distinct currency. So, in those ancient times the fiscal system preceeded money, as conversely than in the current EU case. Besides, in those times economy, money and even taxation were certainly different than in the later modern world, except for presence and *cooperation between fiscal and monetary policies*. The monetary policy helped taxation essentially on collecting taxes and State revenues and expence evaluation – on the contrary, taxation was adjusting the ratio between the money issued and the one re-collected by the central authority; and, certainly, it was not an easy task at that time. Much later on, in the modern post-World War II economies, the fiscal policy roughly belongs to *Government* (its ministry of finance), whereas the monetary policy belongs to the *central bank*<sup>(7)</sup>. Today, all the State authorities know and apply the

“*maximum 3% of GDP*” budget deficit ratio in GDP rule, as supporting *money stability* and/or *admissible inflation rates*, but this is an *institutional* issue as well – the relationship between *Government* and the *central bank*.

Or, let us remind the corresponding institutional structure of the EMU: the highest centrally positioned of her policies is the *monetary policy*, managed by the *European Central Bank (ECB)*. As for the budget side, *the Union’s budget is yet additional* and no deficit by definition. As much as the European Commission (EC) legally corresponds to the State Governments, its weak relationships with the ECB reveal a reality in which the really strong actor of the EMU governance stays on the member States’ side. Roughly speaking, the ECB mostly works with the member States’ Governments on legally equal positions, as reproducing what happens in individual State institutional landscapes. But, as much as the high degree of the ECB athonomy, as a central bank, is also noticed and largely recognised as a reality, the EMU political and institutional context remains enough complicated, in its turn. Consequently, the ECB-member States’ Governments relationships currently base on the “*Convergency Criteria*” and “*Pact of Stability and Growth*”. Or, this is the real difficulty in the monetary policy, in the current and next future life of the Euro currency and in the one of the EU herself. The Union’s position bases on the ECB only, as dealing with every member State in part, and these ones are so diverse, as contribution to the common budget and

influence inside the Union. Plus, the EC and other EU central organisms rather stay out of question.

This is why specialists claim the fiscal union, as reinforcing the economic and monetary one. This hypothesis would remake the simple and much stronger relationship between the monetary and fiscal policies, as well as the inter-institutional relationship, as correspondingly. In other words, there is not too much space for innovation in this economic, political and institutional area.

## **2. Out of theory: what does it mean a “fiscal union” and which is the current situation about it, in the EU?**

The above debate already results into two determinant characteristics of the expected *fiscal union*, and they are just the fiscal aspect of the Union, as an integrated economies unit. Taxes will be paid “to Brussels”, instead of Bucharest, Berlin or Paris, except for local taxation. Our home politicians will become “provincial”, as well as their referred citizens. This “new kind” of union expects a *reinforced central governance*, probably as a *federative* political system, see a federation of member States. Second, the reinforcing governance in the united Europe will go even further than this: the liberalism of the here assumed *unique market area* will be supposed to give up – probably, step by step and/or stage after stage – to a high taxation level and central budget funding intense activities and flows to regions and

member states, as for concrete and casual conditions.

On the contrary, the member-states and regional districts will still receive *local taxes*, as on the other part of the common fiscal system. Individuals and organisations will be supposed to pay either direct and indirect taxes, or *central* (to Brussels) and *local taxes* (to Berlin, Dublin, Paris, Bucharest and so on). Plus, there are serious limits faced by any supposable change in taxation Europe – and EU – wide.

And let us here consider the recent and harmful event, as a serious challenge for the presumable project of the expectable fiscal union. The “central” EU member States have faced negative votes for the project of the Unions’s Constitution from their citizens. And this in circumstances of a timid enough approach of the EU Government structure. According to the Media, the electorates, in their turn, seemed sensitive just to a perspective of overwhelming immigration from the Eastern part of the Union.

Or, there is supposed to be not a quite simple answer to the question how would be supposed to react the same electorates to another constitutional project including an essential change in governing the EU-4? But what is known is another picture of facts. As for instance, that the Union has enlarged against all these negative reactions of their electorates, and despite an increasing regional economic, political and cultural heterogeneity riched. The same played even against a not too good economic developing of the “EU-15” on the short term, whereas the rest of the world



– China, Russia and regions around, here including the new EU member countries, but also Africa, Latin America and the US; the UK’s concomitant recovery seems also due to the outside EMU environment – meat a real growth at least in 2002 and 2003.

The fiscal union seems a true “ghost” crossing the united Europe and encountering serious obstacles.

### **Taxation in the EU: a synthesis**

*(1) taxation belongs to the member states and there is no “European fiscality”, except for some terms and rules imposed by the Union to member-states(see below);*

*(2) as consequently, the EU budget is an additional one to the member-states’ budgets, as for an 4% weight in the cumulated budget revenues of all member-states and being formed by direct contributions of the same member-states;*

*(3) the EU’s main policies, as for a keynesian view – the fiscal-budgetary and monetary ones, respectively –, are working in a complex picture. Only the monetary policy is central, whereas the fiscal-budgetary policy stays on the member-states side;*

*(4) a context in which the relationship between the two policies is ruled mainly by the Convergency Criteria of the Maastricht Treaty and the Pact of Stability and Growth;*

*(5) a context in which, concomitantly, the EC governing position sees itself enough weaken.*

We rather believe that there still are conceptual problems to solve on, or at least

to consider, as in detail. One of these is the unique market achievement, which is still in way, as a parallel objective to the other ones, on the mixed economy side. This way, liberalism should remain strong, as on both conceptual and directly working terms. Only once the unique market achieved, all taxes and their corresponding budget repayments will regard the same area, produce effects for and meet feed-backs from.

Or, in the ancient States taxation was previous to the currency issued. Much later on, the States federations of the US and Canada meat a genesys different than the EU case either. Then, in the aftermath of the World War Two the State and federal banking systems were formed throughout a new status of central banks (Patat, 1991). In such a concern, the EU alone did come up with its both *money*, previous to the *unique taxation* and *central bank*, versus several individual and component to the Union Governments.

Another aspect is that the current *EU budget* system contains contributions from individual member-States, as all additional, not influential upon the euro currency state and *mostly resulted from negotiations* between the Union and member-States, from which a common law and behaviour stay far away. On the other hand, such an imperfection isn’t, but the “peak of the aisberg”, meaning that it hides many other hard aspects. Shortly, there are different contribution capacities to the EU on the member-States side. There is a diversity of individual member-States, as regarding every individual member-State’s

contribution to the EU budget and internal ratio between this contribution and, conversely, the latter's repayments through fundings. Moreover, the EU extension increases such an adverse diversity of cases.

And, as above related to, there is to clarify whether the expected fiscal union will restrict to the current EMU (the "*Euro area*"), in which case the other member-States will still stay out and be involved in a "*parallel*" budgeting system; and so whether the Union could be ready to work with two alternative budget systems.

The ratio between the central and local taxations, as for the authorities' revenue, will come further on. And here, there are supposed to negotiate on specific taxes applied by every member-state in part, and these taxes, as kept in force, will be included in the *local taxation* lists. Back on the central budget side, the direct and especially the indirect taxes lists will be supposed to be drawn, and here the *value-added tax (VAT)* is in top position.

One of the important and currently pressing questions to be asked is whether the centralised taxation and the supposable newly transformed EU budget into a non-additional one – as currently – would mean an effective tax rise, or on the contrary: such a strategy might be able to reinforce the liberal dimension of the Union? In theory, the Union might equally centralise its political power and re-create liberalism region-wide, so play for lowering the tax level. Nonetheless, in our view the expected unique taxation will strengthen, on the contrary, the non-liberal part of the

so called *European economy*, the one of *sustainable development, regional and structural policies* and *structural funds*, as against the one of *market integration, unique market, competition and economic and monetary union*.

The bottom line recalls the above remark that the economically integrated States formation cannot afford what an individual country can: inside territories of different developments and life standards, as an externality of the market economy working. So, the Union requires high budgets for funding the less developed inside areas, as one of its top priorities. So, as answering the question, taxes might be expected to rise, but such an argument comes together with a double reservation: (1) a not too high tax rise and (2) a behavioural diversity of such a consequence within the region. Here recall especially the northern EU member countries for a much higher than average tax level situation.

One of the both current and long-term issues of this system will regard taxation, on its both sides: the one on the individuals' and organisations' side, as for resenting the actual *fiscal pressure* and its dynamic; the other one the Union's and local authorities' side, as accounting for results, so as factly evaluating the basic efficiency of implementing the new taxation system. Some adverse results are supposed to arise from creating parallel markets, new fiscal deficits and all items accusing the unavoidable increasing distance between the central authority and the real economy and social aspects.

The capacity of the *fiscal system* to permanently adapt to the changing economic reality inside the Union's territory is supposed to be the other pillar of the efficiency of the system, and so on.

But, facing all these above, which is the current reality of the Union, as for her fiscal and budget terms? The central governance of the Union yet stays in theoretical terms. Let us remind that Norway refused to join the Union, as well as two other northern and well to do nations (Sweden and Denmark) refused later on the EMU, at the same. The project of the EU constitution has also been refused by Denmark and France, so the current French president called it a "dead project" in his recent electoral campaign; other politicians call it a "missed train" for a "new Europe". Or, the problem here arising might be the one of a real rupture between the Union's populations: ones of them peripheral and poor, ready for migration, benefiting and expecting benefits from the Union; the others, on the contrary, well to do, far from any propensity to migration and understanding that they will be supposed to give up some welfare to others, and firstly to real and potential immigrants.

### **The "Irish case"**

*Even more recently, Ireland rejected the Lisboa Treaty (2000), and a lot of comments and analyses are here expected about, because Ireland is a real case inside the EU and EMU. This is partly because Ireland is a small country, and her blocking the step further and progress procedures of the Union reminds the*

*ridiculous episodes with other small states in the Council of Europe, in the past, while the East-West "cold war" was still in place. But the most significant "Irish aspect", in our view, is that Ireland really is the country having achieved all her expectable economic objectives by joining the EU and EMU, and becoming a real inventory example in such a sense. So, why...? Should we consider a too fast changing reality in Europe today? Or, on the contrary: the economic changes went too fast in a country who's people conserved most of their native mentalities? Or, alternatively, the answer to such a question might not be quite simple.*

Finally, let us not only suggest (and not fill) a complex picture for a supposable *fiscal union*, but also consider and develop below the reference of a comparable experience recently concluded by the Union. This is the *monetary union* achieved, once more. This has been the performance of the 20th century end, whereas the expected fiscal union might belong to the next further 21st century decades.

### **3. The other EU project, the monetary one, which is finally done**

The subject of this paper is not supposed to be changed, when talking about the *monetary approach of the EU*. These two approaches – the fiscal and the monetary ones – stay linked to each other and such a link might even be deepen for some important conclusions. The difference between the fiscal and monetary

approaches, for the same Union, is the one between something in way and the other thing already done, so between present and past. Plus, past means experience to learn from. So, how was, briefly, the monetary project of the Union? Balassa (1961) was seeing the integration strategy as a succession of *stages*<sup>(8)</sup>. We believe that this Hungarian by origin scholar's genius was proven when debating about the *monetary union* when there was no political thinking about monetary disorders world-wide; on the contrary, the IMS was very well in place<sup>(9)</sup>. On the other hand, Balassa was wrong, as considering the *monetary* stage of integration just the ending one, strongly basing on the precedent stages accomplished.

In reality, the monetary stage was the ending one so far and it started in 1971 and ended in the 1999-2002 last period of implementing the European common currency<sup>(10)</sup>. Overall, there are to be noticed at least two aspects. The one is that, as reduced to the Euro implementing, the monetary stage might look similar to the Balassa's theory (1961). The other aspect considers, on the contrary, that the monetary approach should be treated as extended to the first approaches, but even thisway, since the *Treaty of Rome* (1957), the same monetary approach of the integration strategy had to wait for two and a half decades for its start. The author was also wrong as considering the earlier integration stages – see the *common market* and the *economic union*, respectively – as achieved when the monetary approach was started working. Authors of the next

generations see the monetary strategy as implemented together with the *common market* and *economic union* approaching (Pelkmans, 2003).

Exactly four decades earlier than the 1971 monetary events, in 1931, the gold convertibility of the pound sterling had been once more suspended. And this was the last one and forever, meaning that the *international gold standard* (the precedent of the Breton Woods international Agreement) destruction. Then, in 1971, there was the turn of the next *international monetary system* to get bankrupted. As against this reality developed, can we imagine what would be happening whether the international monetary order had been keeping up its forthcoming reality? What would be and become, in other words, the present monetary union?

But, what about 1971, for the today EMU? First, it demonstrates that the monetary strategy could wait for a moment in which the international monetary relations dropped in their first postwar serious crisis. Plus, whereas the Union – or Community, at that time – could wait for two and a half decades<sup>(11)</sup>, it acted the same year of the IMS destruction and as a retort of. But there are also other significances of the moment already called by the name of Pierre Werner<sup>(12)</sup>. This monetary approach, called the “*Monetary Snake*”, was just an “emergency” (and less strategical) movement. Some states (see Italy and the UK) participated to the Agreement, but further on left it at least temporarily. In a word, there were no ambition in this initiative and so it partly

has been a failure. But the real significance of the “Snake” was that Europeans saw themselves dependent on the American currency not only while the last was acting in a healthy IMS, but even out of this, when it was largely floating and re-creating the international money disorder of the interwar interval.

As a consequence, the next strategical step, as monetary, was proceeding to eliminate such a passive and loser relationship. This was, of course, the *European Monetary System (EMS)*, in 1979 (Roy Jenkins<sup>(13)</sup>). Despite some problems of dynamic – as similar to those belonging to the previous “Snake” –, the EMS was more “strategical”, as compared to the “Snake”<sup>(14)</sup>, and so more ambitious and successful. In other words, this *System* has performed at least two „inovations” in the area (Andrei 2007a). The one was the *fixed exchange rate without any metal base* – see the precedents of the *international gold standard (1818-1931)* and the *Bretton Woods System (1944-1971)*, basing on the gold-metal value for their units of currency. The other was even the way that the EMS finished its proper stage, meaning not through crises, shocks or any system bankruptcy, but by the Maastricht Treaty (1992) and stage of the Union proclaiming the *new common currency*, meaning the next and final stage of the strategy (Jaques Delors<sup>(15)</sup>). Do not forget, in the same time, that unlike the former IMS’ ends in crises, the EMS (1979-1999) was functioning in a period of exchange rates stabilising trends all over – see the “*La Plaza-Louvre*” event of 1985 (Andrei, 2000).

Nevertheless, McKinnon (1993) argues that the EMS was not qualitatively superior (in 1979) to the Breton Woods IMS, settled three and a half decades earlier, in the most severe economic crisis following the last world war, and so ranges the IMS basic components on two columns (Andrei, 2007a)<sup>(16)</sup>. In the McKinnon’s view, the EMS running into an inevitable crisis was basing on the *optimum currency area* theory (Mundell, 1961, 1973), including the perspective of the nominal anchor bankruptcy. The Union succeeded to avoid this by *replacing the EMS by the common currency*, and this was the winning strategy of the Europeans.

The fact is that *the EMU is now achieved* in the context of a long succession of stages and strategic measures taken, for which the management of the Union did apply the Duke of Levis’ wisdom of: “*le passé est soldé, le présent vous échappe...soyez à l’avenir!*”<sup>(17)</sup> The early steps (see the “Snake”, once more) were timid, less ambitious and not looking like strategical, whereas the strategy was increasingly energetic (see the EMS and and so on) and the final stage, the one of the *unique currency* implemented, was something of exception, as scientifically outlined, as management and results (Andrei, 2007b)<sup>(18)</sup>. It is also true that the EMU done is not able to solve all problems. But even polemics about whether the Union could rather postpone the Euro about that this implementation might be able to end the cooperation in the area, or that the region might not be enough integrated for the monetary union achieved base on an obvious fact: the *EMU is done*.

Plus, there also comes the essential difference between Europe and other integration areas world-wide, together with the one between *advanced* and *incipient integration* contexts. The literature mentions that more than hundred states of the world are or at least were once involved in economic integration processes, but most of them given it up<sup>(19)</sup>. Europe is currently the lonely one of advanced integration (common market and so on), as representative in specialty. It is the lonely States formation resenting an interior “*force built*” for new stages and an accelerating advance, as unlike the early integration stages, in which integration was alternatively able to freeze or be given up. Our finding is that, on the one hand, the *monetary union* stage had resented such kind of acceleration process and so became compulsory at its time, as called by the *common (unique) market* and its deepness; on the other hand, there appears to be the same force calling for the *fiscal unification*, as just completing the picture of the *monetary union*. In other words, arguments that the integration process would end and fears that the internal cooperation in the area would do the same are false, in our view: the same “*force built*” seems to continuously call probably for achieving the structural unity and homogeneity of this area.

#### **4. But, the “fiscal union” strategy has already started**

The *fiscal union* belongs to present and next future, as much as the *monetary union* belongs to the immediate past. They are

different from one another, as for distinct moments, in which the Union itself was different descriptions, as for details, relationships among the member-states and implications of facts. But they are similar to each other, as well. First, they are two *policies* of the *same decision level* and so of comparable areas of exercise. Second, this similarity of space ought correspond to the one of times, as for strategies implemented – there is to conclude from describing above the multiple aspects of both strategies that they are for couples of decades times, on both sides.

Third, the above descriptions are for two kinds of lessons about the united Europe development. The first one is indicating that the Union has encountered problems of existence to solve in every moment and step taken – so, it has now. These problems were and are particular and unprecedented each of them. The other lesson is arising especially from the *monetary strategy* and so displays, as face to the range of problems encountered, a similarly real experience and set of performances.

That is to say, the *monetary strategy* is able to “serve” as a model for the next *fiscal strategy* through all its time of development, comparative degrees of problems encountered and solved, and a specific events approach starting from “little steps” to the increasing dynamic of measures taken and facts. Let us explain this. The 1971 moment (“*Monetary Snake*”) was, besides the first monetary strategy step taken, a timid and a rather no strategic in its appearance one, as already described



above. Only now, about four decades time later, it is obvious that this weakness of the Community's attitude was related to the fact that least of its decision making was aware of a possible long-term effective and finally successful strategy of the European money. There was a large complexity of facts and international conditions in early seventies, meaning a very adverse landscape. Nevertheless, there were people (decision makers) with a strategy perspective at the time, so this has not been an uphazard development eversince. So it is at present for a presumable *fiscal strategy* in the EU: the world and facts within the region are complex, contradictory and many of them adverse. Plus, the higher the adversity of these facts, the lower the courage to talk about a new taxation and/or a new governance for the Union.

Four, there come facts proving our view for the fiscal approach in the EU, instead of debatable terms or speculation in the area. Let us take facts like (once again) the Maastricht *convergence criteria* and *Pact of Stability and Growth*. Of course, they serve the EMU, but it becomes increasingly obvious that a *fiscal union strategy* might also be feeded by – see their targets and involvement in the *member-states' budget* terms. And this might not be just a supposition when here considering a larger rule of the whole EU project applied: all distinct EU development stages worked equally concomitantly in time and through *common instruments* – so was, at least, between the *monetary union*, on the one hand, and the *common market* and *economic union*, on the other. Moreover,

there come the EC's *approaches of the VAT* within the Union – and this is only fiscal matter, this time.

Recall from above the argument that, despite appearances, the trend towards a fiscal unification within the EU looks like compulsory. Plus, the achieved monetary union of the „EU-15” goes on producing effects on several scales and in several ways. Here I mean at least that the EMU will directly get enlarged (by Slovenia, Slovakia and so on), on the one hand, and that it will deepen its effects of the *euro-nominal anchor* for national currencies of the region around the *Euroland*, in the *optimum currency area* context of Mundell (1961, 1972) and McKinnon (1993). Or, this is about both the rest of the EU and Russia and countries around.

Moreover, joining the EMU was never compulsory in law (EU agreements) terms, whereas or due to its compulsory terms on the real economy side. So might be the fiscal union condition.

## 5. A moderate optimism: what can we remain afraid of?

Let us make it clear: we dare to assert that the fiscal union is a strategy, so a fact already, much more than a debate. But this is also obvious that – similarly to the EMU developed in its early stage of seventies, once again – performancies stay much backwards, as compared to intentions. Plus, the last remain still untold by a Commission that we see this way remaking something of her governing position in the Community.



The central and eastern (CEE) countries – here including current EU member and candidate countries –, in their turn, have quite recently faced a precedent experience. This is the one of their economic transition from the former communist economic system. It has been similarly long and harmful, plus as unprecedented as the current EU experience. There were, during that strategy time, many facts and events developed able to disturb and distort the process as a whole. So might be the current EU strategy. However, the difference between the economic transition and the EU past and present developments is essential either: the first did develop in a national isolation context, whereas the last assumes the union of States cooperation one.

From another viewpoint, the “*increasing dynamic*” of this kind of *strategies* might base, not only on a diversity of opinions inside the EU’s management, but equally on a large imprevisible matter of facts. And, as for the time of these lines, let us have a quite *adverse inventory of situations*:

(1) all facts explained above as for blocking this strategy approach;

(2) the adverse effects of the EU extension;

(3) the adverse effects of a presumable federalisation – meaning those feeding separatism and anty-European political movements;

(4) influent politicians inside their own nations fearing their presumable “provincial” (new) status;

(5) the gap recently demonstrated between the “center” and “periphery” of the Union, as for different levels of welfare;

(6) beyond so many reticences from Denmark, Sweden, UK, and, more recently, even from France and Ireland, versus the EU extension, any imaginable “leaving the Union” event, as a beginning of a large rupture;

(7) keeping in mind the McKinnon (1993)’s theory of: *the nominal anchor in bankruptcy* – as part of the author’s theory of the *optimum currency area* – the Euro keeps its *larger area* around the so called “*Euro Area*” or “*Euroland*”.

Euro is certainly expected as a strong currency in the world, but its extension and influence might also meet adverse effects rising once more the question about its validity.

But beyond all the above descriptions and analysis keeping position for the Union, let us no forget facts and principles rather keeping on rational terms, than ever turning into Euro-skepticism. Europe is a culture, as much as it is a phisical continent. But the EU creation was an economic and political project basing on an *international deep crisis* which favoured a contemporary *regionalism*. Can we ever think about remaking a worl-wide harmony?!

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## Notes

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- (1) There are just political interests making Moldavians deny the largely available fact that they speak Romanian, Romanian not to reconsider the constitutional monarchy as constitutional alternative and Turkish deny the one century old Armenian genocide, as for some instances of how strong the politicians' cultural influence can be.
- (2) Let us remind that this concept includes, on the one hand, a series of unanimously accepted principles, as the free market economy coexisting with democracy and human rights, and on the other one at least four "sub-models" – (1) Northern, (2) Anglo-Saxon, (3) Continental and (4) Mediterranean– as distinguished by cumulative criteria like: taxation level and Government ratio in the economy, social security and policies on employment and unemployment and so on.
- (3) Similarity to the American model society and way of living.
- (4) Here there are studies in way at the Institute of Finance and Money, as part of the Romanian Academy of Sciences.
- (5) A "stocks and flows" type model.
- (6) See, for instance, the "trade creation and perversion" in the customs union case (Viner 1950).
- (7) As the lonely macro-policy conveyed by governments to other institutions in all modern economies (Patat, 1991).
- (8) They were: (1) the free trade area; (2) the customs union; (3) the common market; (4) the economic union; (5) the economic and monetary union.
- (9) A new IMS, as replacing the formerly existing "international gold standard" – bankrupted in the 1931-1933 interval by the gold convertibility suspended for the Pound Sterling, French Franc and US Dollar – was founded in 1944, at Bretton Woods (USA). It functioned up to 1971, when the terms of the Bretton Woods agreement fallen down. The US Dollar beard three successive devaluations during less than one year time and then its gold convertibility was suspended forever.
- (10) The Euro was born in 1999, but in accounts and financial terms only; 2002 was the year of the effective Euro currency.
- (11) Actually, the Europeans have waited for one more decade, as considering the importance of the end of the war and the start of the George Marshall's plan to help the Europe's reconstruction. The Marshall Plan went hand in hand with the postwar IMS and OECD foundation, and that ensured political and economic order on the old continent.
- (12) The EC president at that moment.
- (13) The EC leader at the time.
- (14) This rather had been and acted like an emergency measure taken.
- (15) The EC leader at the time.
- (16) Meaning: (1) the nominal anchors (the US\$ and the EUR); (2) the financial Institutions of management (the IMF and the EMI); (3) the account currencies among member-States (the SDR and the ECU); (4) the exchange rates which were fixed on both sides.
- (17) "When the past is passed and the present is likely to skip, in its turn, let us go to face the future!"
- (18) See also Soto (1999), Yves-Thibault de Silguy (1999) and Andrei (2001).
- (19) See Arab and other Near East states, as well as Northern African and Central and Latin America regions.

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## Abreviations

EC	European Commission
ECB	European Central Bank
EMI	European Monetary Institute
EMS	European Monetary System
EMU	Economic and monetary union; see the Euro area
EU	European Union
GDP	Gross domestic product
GNP	Gross national product
IMS	International monetary system
OECD	Organization for Economic Cooperation and Development
USA	United States of America
VAT	Value-added tax

# The Prospects of the Corporate Taxation Agreement in the European Union

■

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***Abstract.** In all the countries of the world, the fiscal policy is a tool used by the governments in order to get the public incomes and to stimulate the economic development, to reduce the fluctuations and the economic instability. Income taxation causes great difficulties within an open economy, like EU economy, since there is a competition of attracting investments. The tax rate agreement on the European companies' profits is subject of dispute and discussion. The European Committee's proposal to adopt measures to charge the capital companies' incomes according to a consolidated fiscal base for activities performed within the European Union has many supporters, attracted by the possibilities provided by a more concise taxation system and a better business planning that may result when applying such formula. This measures will be a very important step in the process of improving the business environment, by consolidating the Unique Market and increasing the competition. The opponents of the idea of corporate taxation agreement are, as a rule, countries which are currently favored by the reduced level of the taxation of the companies' incomes in their relations to their European neighbors (Ireland, Great Britain, Slovenia and the Baltic Countries). According to these countries' representatives, fiscal agreement will determine the migration of the investments to the more stable economies of the Central Europe, which have an infrastructure and benefit from the competitive advantages in different branches of the economy and it will limit the positive effects of the fiscal competition within the European Union.*

**Key words:** fiscal policy; tax harmonization; income taxation; Common Consolidated Corporate Base.

■

**JEL Codes:** M 41, M42.

**REL Codes:** 14I, 14J.

## Introduction

The elaboration of the fiscal policy of a state is a very complex decisional act which shall be based on the efficiency criterion. The taxes and the other extractions going to the state budget change the initial distribution of the income, influencing the economic activity, the investments and the expenditure. The policy in the tax field is essential for all the member states and the actions of a country may have an impact not only on the country itself, but also on the neighboring countries.

Along the time, the fiscal policy has remained for the UE countries one of the tools that the governments may use in order to influence the national economies. By the Stability and Growing Agreement, the fiscal policy was somehow constrained as by this agreement, the member states shall assure the increasing of the coherence on a long term of the public finance in order to limit the excessive deficits. Respecting the discipline rules in the fiscal and budgetary field will determine the general improvement of the quality of the public finance and to free the necessary budgetary resources in order to encourage innovation, investments, education and the creation of new work places.

Taking into account the above mentioned issues, it is not surprising that the taxation matter of the corporate incomes should be, at present, the topic of some heated disputes not only among scientists, but also among politicians. Mainly, one is trying to find an answer to the following question: “Which of the two possible systems would be more favorable for the economy

of the European Union: the one based on fiscal agreement or the one based on fiscal competition?”.

The points of view existing at present are moving between two extreme points: the ones promoting the whole fiscal agreement and the ones promoting the pure competition.

### 1. The pros and cons of the fiscal agreement

The competition in the taxation field may lead, at a certain moment, to a diminution of the tax cashing, which might question the possibility of the authorities of being able to satisfy the service and public goods demand. Introducing some overstate rules by which one should precise the minimum level of the taxation rates would guarantee the providing, under appropriate circumstances of public services and goods. This idea may be noticed in Zodrow’s and Mieszkowski’s (1986) works who supported, firmly, the need of some common taxation rules for all the member states by which one assures the collecting of enough fiscal incomes in order to guarantee the continuity of providing public goods and services. According to John D. Wilson (1987), the mobility of the capital and the liberality of the trade will lead to a competition in the field of the taxation of the mobile production factors, having damaging effects upon the public goods offer, the fiscal agreement being necessary, up to the end. The recent evolutions of the public financial resources in the UE countries may show the veridicity of the ideas rendered above. The European Commission even warns that the European

Union countries will face real crises of the public funds unless the governments cease the race for reducing the business taxation.

The budgetary deficits recorded in some of the countries which have chosen in the latest year for relaxing the companies' incomes taxation (see table 1) is a reason of worrying for the European Commission which see the goals of economic policy of the European Union threatened.

**Financial indicators (as a percentage of GDP)**

Table 1

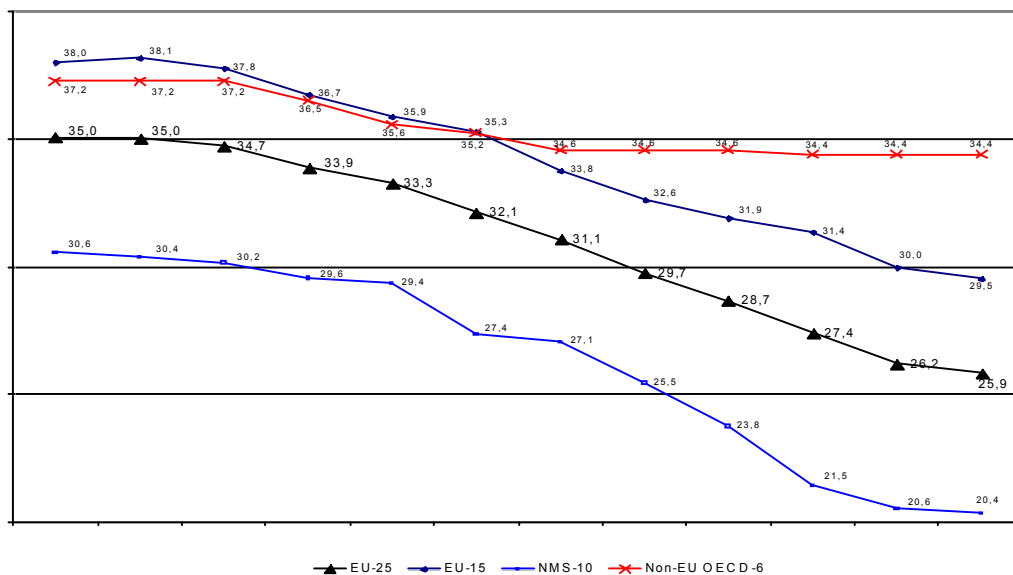
Country	2005			2006		
	Government revenue	Government expenditure	Government deficit	Government revenue	Government expenditure	Government deficit
Slovakia	35.3	38.1	-2.8	33.5	37.2	-3.7
Poland	39.0	43.3	-4.3	40.0	43.8	-3.8
Malta	42.0	45.1	-3.1	41.5	44.1	-2.5
Slovenia	44.5	46	-1.5	44.1	45.3	-1.2
Hungary	42.1	49.9	-7.8	42.6	51.9	-9.2
Romania	32.4	33.8	-1.4	33.2	35.0	-1.8

**Source:** European Commission, Economic forecast autumn 2007.

Krugman and Baldwin (2000) noticed that in between 1975-1995, in the member states of the UE, there were not significant

decreases of the taxation quotas of the companies' incomes, in spite of an important increase of the capital mobility. Moreover, during the above mentioned period, the incomes from the taxation on the companies' incomes increased not only as a percentage of the GDP, but also as a percentage of the total incomes. This evolution was explained by the so-called phenomenon of the „force crowd”, according to which the localization of the industrial companies is important for the economic environment, as the investors prefer the regions where the economy development level is raised; thus a mobile production factor may become a half-fix one, whose mobility is influenced to a less extent, by the taxation level. As a consequence, the two economists denied the existence of a competition in the taxation field.

The evolution of the medium level of the taxation rate level of the companies' incomes in the UE state members in between 1995-2006 shows the reverse of the trend described by Krugman and Baldwin.



**Figure 1.** Evolution of corporate income tax rate

**Source:** Taxation trends in the European Union, European Commission, 2008.

Under the circumstances of the of deleting the barriers in the way of the free movements of the capitals and of the work labor, the governments were encouraged to diminish the fiscal tasks in order to attract direct foreign investments, of the financial investments or in order to achieve other goals of their economic policy. Out of the above mentioned data, one notices that the pressures have been even greater for the member states of the European Union. Thus, under the circumstances of suppressing the fiscal advantages for the foreign investors, the new member states were forced to reduce the taxation quotas in order to keep their economies attractive. These steps of fiscal policy did not remain without echo from the old member states. The medium taxation level of the incomes of the capital companies decreased from 38.0% in 1995 up to 29.5% in 2006 in the UE-15 states, but this reduction was compensated by some steps increasing the calculation basis. This trend has continued in 2008 as it is shown by the diminution with 0.9 percentage of the average in the EU-27 countries. The reduction was even greater in the Euro area (1.2 points), whose taxation has remained however high (at a percentage of 26.5% the average of the Euro area is almost 3 points above the average of the whole Union). Seven member countries have reduced the taxation quotas in 2008, the most important reductions taking place in Germany (-8.9 points) and Italy (-5.9 points).

The reducing of the taxation quotas of the companies' incomes has caused a migration of the investments to the areas with a lower taxation, causing thus a decreasing

of the cashing from the incomes in countries such as: Germany, Greece, Cyprus, Luxemburg, the Netherlands, Finland, Sweden (see table 2).

**Evolution of corporate income taxation as GDP percent**

Table 2

	2000	2001	2002	2003	2004	2005	2006
Belgium	3.2	3.1	3.0	2.9	3.2	3.4	3.7
Bulgaria	2.8	3.6	3.4	3.4	3.0	2.9	3.6
Czech Republic	3.5	4.1	4.3	4.6	4.8	4.5	4.5
Denmark	3.3	2.8	2.9	2.9	3.2	3.8	4.3
Germany	1.7	0.6	0.6	0.7	0.9	1.1	1.4
Estonia	0.9	0.7	1.1	1.6	1.7	1.4	1.5
Ireland	3.7	3.5	3.7	3.7	3.6	3.4	3.8
Greece	4.5	3.7	3.7	3.2	3.3	3.6	2.7
Spain	3.1	2.9	3.3	3.1	3.5	3.9	4.2
France	2.8	3.1	2.5	2.1	2.4	2.4	2.9
Italy	2.3	2.9	2.5	2.2	2.2	2.3	3.0
Cyprus	6.2	6.2	6.0	4.3	3.7	5.4	5.5
Latvia	1.6	1.9	1.9	1.5	1.7	2.0	2.3
Lithuania	0.7	0.5	0.6	1.4	1.9	2.1	2.8
Luxembourg	7.0	7.3	8.0	7.4	5.8	6.0	5.0
Hungary	2.2	2.3	2.3	2.2	2.1	2.1	2.3
Malta	2.9	3.2	3.9	4.5	4.2	4.0	4.5
Netherlands	4.3	4.2	3.6	3.0	3.3	3.7	3.7
Austria	2.2	3.3	2.4	2.4	2.4	2.4	2.4
Poland	2.4	1.9	2.0	1.8	2.2	2.5	2.4
Portugal	3.9	3.4	3.4	2.9	3.0	2.8	3.0
Romania	-	2.5	2.5	2.6	3.1	2.7	2.8
Slovenia	1.2	1.3	1.6	1.8	2.0	2.8	3.0
Slovakia	2.8	2.7	2.6	2.8	2.5	2.7	2.8
Finland	5.9	4.2	4.2	3.4	3.5	3.3	3.4
Sweden	3.8	2.7	2.1	2.3	3.0	3.8	3.6
United Kingdom	3.4	3.3	2.8	2.7	2.8	3.3	3.9

**Source:** Eurostat Statistical Books, Taxation trends in the European Union, 2008 Edition.

Taking into account all this, there are less and less economists who deny the existence of the fiscal in the European Union. But there are a lot of economists who consider the common taxation rules for the companies inefficient. For Fourçans and Thierry (2001), under the circumstances of a „federalized” money policy and of a fiscal policy forced by the Stability and Growing Agreement, the fiscal agreement, by introducing a minimum taxation level, seems farmost exaggerated. As a consequence of the fiscal the taxation, as a macroeconomic



tool, that the governments use in order to reduce the asymmetric shocks, will lose its efficiency. From the point of view of the two economists, the fiscal competition will lead to the reduction of the public incomes, forcing the governments to reduce the useless and inefficient expenses. This point of view is supported by the supporters of the theory of the “public choice”, who assert that the competition, in general, and the competition between governments, especially, is beneficial as it reduces the waste of the public financial resources and makes the politicians disciplined (Janeba, Schjeldrup, 2002), being able to generate the increase of the living standard within society.

The issue of the competition and the fiscal agreement in the European Union has not been a debate topic only for scientists. Among the politicians, there are lots of views generated in most of the cases, by the national economic interests. Thus, the representatives of the countries where the taxation level is high and which have the status of clear tax payers to the European Union budget (Germany, France, Italy) are the supporters of the fiscal agreement and of adopting a minimum taxation rate, especially in the case of an increased capital mobility. Unlike these, the representatives of the states having adopted a more relaxed fiscal policy in order to stimulate the investments and the work, assert against restrictive fiscal steps. These states are based on a sustained economic growth, having as a concrete example of success in attracting the investments by reducing the medium taxation level of the companies’ incomes among the countries with a well established status within the European Union, as instance of Ireland.

It was the poorest country in the Community when it adhered in 1972, but it became one of the richest within three decades. Obviously one of the main factors that contributed to this development was the affiliation to the European Union and the sizable support it received in time. Unlike other states (Greece, Portugal, Spain) that did not show the same levels of prosperity during the same period and on similar conditions (see table 3), Ireland chose a friendly fiscal policy with the lowest income taxes for the European Union’s companies, attracting an important volume of foreign investments, while the infrastructure needs were financed from European funds.

**Ireland’s economic development, compared to the four poorest countries of the European Union (depending on the gross domestic product – 100% represents the average value for the EU)**

Table 3

	1983	1993	1995	1997
Ireland	64%	80%	90%	100%
Portugal	55%	69%	70%	70,7%
Spain	71%	78%	76%	77%
Greece	62%	65%	64%	64%

**Source:** Department of the Taoiseach, Ireland and the European Union, Dublin, 2006.

The intention of the European officials of establishing a set of rules common to all the member states for the taxes on the companies’ incomes is motivated by the existence of some significant differences among the quotas of the taxes on the companies’ incomes in the European Union (see table 4) encouraging the multi-national companies to use a complete set of fiscal optimization (the profit transfer to the areas with low taxes, or setting some financial departments in fiscal paradises to finance the

investments by credit lines within the group) which will generate income losses for the countries with a high fiscal level and

disadvantages to little and medium size companies which take part in the competition on the same market.

Corporate income tax rates in some Member States

Table 4

Countries	Italy	Ireland	Spain	Greece Austria Portugal	Germany	Cyprus Bulgaria	Slovak Republic	Romania	Malta
Tax rates	27.5	12.5	32.5	25	29.8	10	19	16	35

Source: European Comission, Taxes in Europa database, 2008.

The nominal taxation quotas are not more than an incomplete marker of the fiscal task. The effective fiscal task has to take into account the way of calculating the taxable income and the different technical procedures used to calculate the taxation quota. That is why to refer also to the implicit taxation quotas of the capital, which compare the collected tax from the companies to the exploitation gross budget excess of the companies.

One may use a difference about the investors' taxation among the very low taxation quotas used by the new member states compared to the average of European Union, as well as the existence of a very restrictive taxation (such for Estonia) which has been partly enlarged in the same time with the economic fiscal policy on the European level. The countries which have recently joined benefit from a very low effective taxation level of the investments compared to that used in the Union. In some countries (the Czech Republic, Hungary, Poland and the Slovakia) the index tax/GDP decreased in between 1999-2002, except for the Czech Republic, where it increased 38.9 to 39.2. Concerning Hungary, the same index decreased from 39.1 to 37.7, in

Poland from 35.5 to 34.3 and from 34.4 to 33.8 in Slovakia.

## 2. The prospects of the corporate taxation agreement in the European Union

In 1997, there was adopted asset of steps about direct taxation, having the purpose of fighting against the damaging taxation, with the intention of supporting the fiscal coordination within the European Union. The new European fiscal strategy (called "the Monty Strategy") was published by the European Commission in October of the same year. Its purpose is to reduce the differences in direct taxation, according to the goals of the action plan for an unique market, so that these ones should lead to a better occupancy of the labor force.

This goal of the corporate taxation agreement can be achieved by:

a) Home State Taxation - HST: the taxation basis could be calculated according to the rules of the fiscal jurisdiction where the main social headquarters is. This will not influence pan-UE consolidation of the taxation basis; there remain separate taxation bases in each member state where taxable

activities take place, but all go according to the same rules;

b) Common Consolidated Corporate Tax Base - CCCTB: a new system of calculating the taxation basis according to which the companies would calculate in consolidated way the volume of the taxable incomes. The incomes would be taxed according to the rates of every fiscal jurisdiction, and the taxation basis attached to every fiscal jurisdiction would be set according to some distribution rules of the consolidated basis;

c) European Corporate Income Tax-EUCIT: led by a new fiscal authority, using the same taxation rates on the whole territory of the EU upon a pan-European taxation basis calculated according to a single set of rules valid all over EU. The fiscal product due to this tax would be going to be sent to the EU budget;

d) The traditional approach: the taxation agreement of the rules by setting a single system of calculating the taxation basis compulsory valid in all the fiscal jurisdiction and replacing the national systems.

There are advanced discussions in the case of the system known as the Common Consolidated Corporate Tax Base which is to be applied in parallel with the existing calculation methods in every member state, the companies having the possibility of choosing to adopt the pan-European system or to put into practice the national rules. The companies which will use the unique formula will calculate the total of the profits obtained on the whole territory of the European Union, then, they will reassign them to the countries in which the companies have economic activity, in order to be taxed with

the quota of benefit tax valid in the respective countries. The simplification of the income taxation system would allow to the investors operating in more countries of the European Union to use the same principles for the calculation of the tax on the benefit as in other countries which would mean that they would use less time to the fiscal management.

A European Commission policy of achieving a common consolidated corporate basis is motivated only as a first step to a standardized corporatist taxation level. The corporations using the European structure, the public services and the qualified employees will not be able to avoid the contribution to financing these.

The goals of the fiscal reformation go from the general objective, that of simplifying and making more efficient the taxation systems on the companies' incomes in order to assure a better functioning of the home market and reach specific and operational goals such as: conforming/managing cost cuts attached to the taxation of the companies paid by fiscal companies and administrations, the making easy of new trans-border activities, the promotion of the fiscal neutrality between the home investments and the EU ones and the reduction to a minimum of the distortions caused by the differences between the countries about the investments repartition and the taxation bases.

Concerning the technical aspects of the Common Consolidated Corporate Tax Base project, one shall mention the following:

■ *The fix assets and the depreciation.* The assets fulfilling the necessary conditions may be paid off either individually, which needs an estimation of the life-time of every asset

when purchased (according to the common EU regulations) and an individual paying-off along the life-time, either in one or more groups, having a commonly established life-time. The commission considers that the development of the grouping method within the CCCTB implies important advantages;

- *Deductions for provisions.* The deductions may generally be not fiscally deductible, completed by a list of fiscally deductible exceptions, or they may generally be fiscally deductible completed by a list of not fiscally deductible exceptions. The Commission considers that the commissions fiscally deductible shall be defined and completed by a list of exceptions not fiscally deductible;

- *General methodology.* The start point for calculating the taxation basis of a company may be set by taking into account the opening and closing balance sheets or the benefit and loss account of the company. In the first case, one shall prepare a fiscal balance sheet according to some norms commonly defined which should also include the benefit and loss account. In the second case, it is necessary to have only the benefit and loss account defined commonly in the CCCTB laws; the information related to the balance sheet can be checked by comparing them with the financial accounts. The Commission considers that a fiscal balance sheet is not necessary, this one representing an extra administrative burden;

- *Local taxes.* In some of the member states, there are high enough local taxes. These ones can be deductible from the consolidated basis and thus included in the repartition mechanism or nationally retained

and deducted only from that part of the consolidated basis which is due to the respective member state. The Commission considers that generally it is preferable to a set of norms as large as possible in order to avoid as much as possible the national derogations or the extra taxes. In spite of all of these, one needs an extra analysis of all the consequences, as the repartition of the deductions for the local taxes in EU, but the non-repartition of the national taxes at the level of the common basis might generate a lack of coherence;

- *Foreign incomes.* The foreign incomes may be completely excluded from the CCCTB or they can be included in CCCTB; in this situation, one needs a method of including these ones in the mechanism of consolidation and repartition. One raises this issue as one shall take into account different methods to avoid the double taxation used at present by the member-states according to the national legislation, as well as the bilateral agreements with third countries. The Commission considers that it is preferable to set a method to include the foreign incomes in CCCTB and which should be completed, if there is the case, by a form of exemption in order to avoid the double taxation;

- *Defining the group notion.* One will need a detailed definition of the notion of group of companies, having in view the consolidation. Apart from setting a commonly acceptable ownership level, the multitude of ownership structures is questionable. For instance, if a foreign company owns more companies in EU and it is, in its turn, owned by a company in EU, it seems preferable that all the companies in EU of the group should be consolidated;

- *The transactions within the groups.* Avoiding the problems related to the transfer prices represents an important advantage of the consolidation. In spite of all of these, there are more methods of eliminating the transactions within the groups in the same time with the basis consolidation. These may be ignored, acknowledged at the cost level or acknowledged at the set price under circumstances of true competition. Every method presents advantages and disadvantages, reason for which the Commission shall decide which of them is preferable or if it is possible that every group should have the possibility to choose;

- *The repartition mechanism.* Except for the fundamental matter about adopting a macroeconomic approach, one based on the added value, of a formula or combined type, one raises some problems related to defining certain aspects. For instance, within the approaching of the formula type the importance of every possible factor and the precise elements to be included in every factor shall be carefully examined before tacking a decision.

The European Commission Project is supported by most of the EU states, by the European Parliament, by the Economic and Social Council, and by the European Business Community. The opponents of the project are, as a rule, countries which are currently advantaged by the low level of taxation of the companies' income taxation in their relation with their Europeans neighbors, Ireland, Great Britain, Slovenia and the Baltic Countries. Their reasons are:

- the rate of taxation of the companies' income is only a part of the effective taxation rate equation, and the

standardized fiscal bases represent fiscal agreement which embarrasses the fiscal competition;

- this fiscal agreement will determine the migration of the investments to the more stable economies of the Central Europe, which have an infrastructure and benefit from the competitive advantages in different branches of the economy;
- the project hides the true financial problems of the EU generated by the lack of the internal reforms in the Euro area economies.

## Conclusions

In our opinion, the fiscal competition is a real matter which the economies of the member states of the European Union face as a consequence of the free circulation of goods, service, work labor and capital inside the UE. Taking into account the point of view of the developing European economies, the fiscal competition may generate some benefits as attracting direct foreign investments (as Romania has proved by reducing the taxation quota for the companies' incomes from 25% to 16% in 2005) and it may encourage the process of becoming efficient in the countries collecting incomes in an inappropriate way. The negative impact of the fiscal competitions is more powerful, especially in the context of the even more accentuated financial instability which the world economy is facing. In the EU countries, one shall take steps by which the fiscal system should gain in efficiency, transparenance and simplification. From this point of view the

fiscal agreement is the best solution to avoid some disturbances in the system of the public finance and to assure a good functioning of the internal market. We also consider that the corporate incomes agreement is a compulsory part in continuing the process of fiscal agreement. The fiscal agreement has become an important part of the European integration, significantly contributing to the increasing

of the interdependences among states, so that limiting the national sovereignty considerably loses its importance. According to declarations of the European Commission, since the present mandate of European Parliament is drawing to a close, the adoption of the CCCTB project will be postponed for the next years, for certain will not renounce to the idea of the corporate taxation common rules setting up.

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