

The Natural Median

*“Those who hold a return ticket of intelligence
are declared enemies of class.”*

What occurs in the area of Economics is not different from what can be observed in the behaviors which configure the economic reality. The irrational characteristic of intellectual reactions has a natural dimension in the emotional state and an artificial one in impulsive ideological actions.

In the economy, the alignments of emotion and passion combine, describing the dynamic of factorial choices at the individual and social levels, respectively. The prevalent trajectory of the reactions is – obviously – a question of critical mass, over-determined by situational logic and inter-subjective contexts restructuring. The trajectory's territory remains in the house of the random, with emotion not knowing the legitimacy of the argument, and ideology indulging in parsimony. Incertitude is reproduced, thus, from the double source of the death of complexity: non-communication and adversity. The tendency towards maximization holds a sense of generalized anomie while the tendency towards minimization holds a sense of eminently non-rational communication (which makes revealing the state of economic rationality impossible) and of substituting the truth with assumptions (substituting science with faith).

The theatre of economic ideas in the conditions of the crisis of trust which has engulfed the world plays the drama of Economics. The main actors no longer wear the mask of reason because they cannot save the substrate of falseness with appearances anymore. In fact, the faces of ideologies are shown, increasingly devastated by the panic of losing their audience, shouting their right to glory.

The tannoys compete in propagating the culture of monologue, from which the extinct species of class-struggle will be cloned into the world of ideas. The subliminal proclamation tells how it was good when things were bad. Good and evil are the heroes and antiheroes of ideological perspectives from which social relativism was learned.

Ideological identity has become the supreme method in whose spectrum functionalism has dissolved. How to make things good – as a result of the negotiation for the access to resources – doesn't count; adopting the pernicious solution of mainstream ideology does. The truth is, thus, decreed and not legitimized by way of acumen. The result is pre-formed, therefore there's only need for the offer to be accepted, the ideology's horn of abundance basking in the pleasure of choosing the advantages.

The ideology eliminates both the risk of losing as well as the incertitude of being. Wealth is inviting us to come out of the illusion, while ideology repays us with the belief that there is no way of turning back. Those who hold a return ticket of intelligence are declared enemies of class. Those who return to the natural state in which common sense dwells are burned on the pyre of partisan justice.

There is no middle-way for the adverse ideologies. You are either on the side of the goat or on the side of the cabbage, it is not politically correct to make cabbage rolls with goat meat. "Plan, ever more plan" (a one-way ticket) does not allow for the market in any way. Just as "market, ever more market" excludes the plan as a crime of lèse majesté (another one-way ticket).

In the ideological visions, there is a chasm of absolute evil between the two opposing directions. A territory uninhabited by any being and condemned to never reach intelligent life. But, strikingly, it is the very zone in which all that constitutes the elements of life occurs. Even though life is also possible at the extremes, it always prefers choosing the median. The experience of extremes is intense, but it is not normal. When it lasts for too long, the experience of the extreme forgets its human purpose.

Man is not compatible with the ambitions of the extremes. Only the hierarchical systems, one of oligarchic control of power and the other of oligarchic control of wealth, enliven the extremes, man being invariably at the heart of the makeup of the universe.

That is to say he is always equidistant from the heroes and antiheroes of adverse ideologies.

Marin Dinu

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The Evolution of Early-Stage Entrepreneurial Activity Influencing Factors in Romania

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Abstract. *The aim of the article is to analyze the main influencing factors of the probability of becoming an early-stage entrepreneur in Romania. The analyzed factors are: gender, age, education, household income, work status, network, opportunity perception, perception regarding the trust in own entrepreneurial skills, perception on the society's appreciation regarding the principle of equality in life standard, perception on the society's appreciation regarding the entrepreneurial career, perception on the proper promotion of entrepreneurial successes by mass media. We estimate a logit model for each year of the 2007-2009 period and we study the main influencing perceptual and socio-demographic factors, based on the Global Entrepreneurship Monitor (GEM) Adult Population Survey database for Romania.*

Keywords: entrepreneurship; early-stage entrepreneurs; influencing factors; perceptual factors; socio-demographic factors; logit model; Global Entrepreneurship Monitor.

JEL Codes: M13, J24.

REL Codes: 10E, 14D.

Introduction

The concept of the entrepreneur is not clearly defined, its definition and its attributed role in the economic literature changed frequently along its evolution. The unending debate persists also today, researchers having the duty to define the terms they use (Bygrave, Hofer, 1991). Casson (1982) argues that the essence of entrepreneurship consist in different perceptions about the environment.

We consider that birth of a business can be considered a phase of the entrepreneurial activity, but not its starting point or its final result. The existence, the discovery of the entrepreneurial opportunity and the decision to exploit it are considered the starting point of any entrepreneurial activity (Shane, Venkataraman, 2000). Taking all this in consideration, the definition of Global Entrepreneurship Monitor on the entrepreneur's person and the phases of the entrepreneurial process have been accepted.

According to Ellsberg (1961) and Tversky, Kahneman (1992) knowing other entrepreneurs may increase the propensity of an individual to start a business. Perceptions are a mediator between preferences and behavior, affecting perceptions of both probabilities and outcomes (Tversky, Kahneman, 1992).

Among the demographic variables, age and gender have been shown to play some role in entrepreneurial decisions. According to Koellinger, P. et al. (2007), Levesque, Minniti (2006), the probability of starting a business has been shown to increase with age up to a threshold point and to decrease thereafter. Blanchflower (2004) pointed out that men have been shown to be more likely to start a business than women.

In our article we used the Global Entrepreneurship Monitor (GEM) 2007, 2008 and 2009 Adult Population Survey database for Romania. GEM is a large scale research program launched in 1997 by leading researchers in the field of entrepreneurship at London Business School and Babson College. The first research was published in 1999 and it included 10 countries. Since then the project has been extended to include 42 countries in 2007, 43 in 2008 and 54 countries in 2009. The main aim of GEM research is to study the complex relationship between entrepreneurship and economic growth, to measure the level of entrepreneurial activity between countries, to uncover factors determining the levels of entrepreneurial activity and to identify policies which may stimulate the level of entrepreneurial activity. GEM, as a research program that focuses on a major driver of economic growth, on entrepreneurship, admits the widely acknowledged phenomena that entrepreneurship is one of the most important forces shaping the changes in the economic landscape.

In each country, a survey company conducts a telephone survey or face to face interview of the adult population. ⁽¹⁾ In Romania in 2007 a representative sample of 1739 adults, in 2008 1667 adults, in 2009 1639 adults was interviewed using the standard GEM questionnaire. This survey was carried out to measure the entrepreneurial behaviour and the attitudes of adult population in Romania. The survey data are used to calculate the Total Entrepreneurial Activity Index (TEA), a comparable measure of entrepreneurial activity across countries.

GEM used the following terms in assessing the entrepreneurial activity of the adult population:

- *Nascent Entrepreneurs* are those who are actively planning a new venture. These entrepreneurs have done something during the previous 12 months to help start a new business, that he or she will at least partly own. Activities such as organizing the start-up team, looking for equipment, saving money for the start-up or writing a business plan would all be considered as active commitments to starting a business. This business has not paid salaries, wages or any other payments to the owners for more than three months.
- *Young Business Entrepreneurs* are those entrepreneurs who at least partly own and manage a new business that is between 4 and 42 months old and have not paid salaries for longer than this period. These new ventures are in the first 42 month after the new venture has been set up.
- *Early-Stage Entrepreneurs* refers to the early stage entrepreneurial activity among the adult population aged between 18-64 years, identified as nascent or young business entrepreneurs. In those cases when the respondent is involved both as nascent and young business entrepreneur then the respondent is counted only once as a nascent entrepreneur.
- *Established Business Owners* are those entrepreneurs who have set up businesses that they have continued to own and manage and which had paid wages and salaries for more than 42 months (Bosma et al., 2008, p. 11).

The paper, accepting Arenius and Minniti's (2005) recommendations, focuses on the characteristics of the population, i.e. the demographic composition, the resources, the abilities of individuals and their attitudes towards entrepreneurship, taking in account Arenius and Minniti's (2005) classification of those factors as socio-demographic factors and perceptual variables. Many factors influence an individual's decision to set a business: a perception of opportunities within their environment, whether they have

sufficient knowledge and skills, if they know other people who are engaged in entrepreneurial activity and a reduced reluctance to become involved in entrepreneurial activity through fear of failure.

The studied factors were grouped in demographic variables (such as age, gender, household income, education level and work status) and perceptual variables (such as fear of failure, alertness to opportunities, self-confidence). We studied the effect of individual perceptions and demographic variables on the probability of becoming an early-stage entrepreneur in 2007-2009.

1. Overview on the Romanian entrepreneurship

GEM reports demonstrated a relationship between a country's economic development level and its early-stage entrepreneurial activity rate (Bosma et al., 2010, Bosma et al., 2009, Bosma et al., 2008). The GEM 2009 results confirm that institutional characteristics, demography, entrepreneurial culture and the degree of economic welfare shape a country's entrepreneurial landscape (Bosma et al., 2010, p. 23).

Overall, in 2009 Romania's early-stage entrepreneurial activity rate measures 5.02%, which rate is higher than the rate measured in 2008 (3.98%). Table 1 presents the most important entrepreneurial activity rates measured in 2007-2009 in Romania. These figures are one of the lowest among the efficiency-driven economies.

Table 1

Entrepreneurial activity rates in Romania (%)

Entrepreneurial activity rates	2007	2008	2009
Nascent entrepreneurs	2.90	2.54	2.79
Young business entrepreneurs	1.30	1.56	2.30
Established business owners	2.50	2.07	3.38
Early-stage entrepreneurs	4.02	3.98	5.02

Source: GEM, Adult Population Survey, Romania, 2007, 2008, 2009.

The individual perceptions regarding the entrepreneurial activity describe a changed situation in the analyzed period. The percentage of those who considers that the fear of failure would prevent them from starting a business increased (from 28.3% in 2007 to 50.40% in 2009), meanwhile the share of those who see good opportunities for starting a business in the area where they live in the next six months (from 26.20% in 2007 to 13.80% in 2009) decreased during the global financial and economic crisis. Table 2 presents the individual perceptions in the analyzed period.

Table 2

Individual perceptions regarding entrepreneurial activity in Romania (%)

Perceptions	2007	2008	2009
Fear of failure	28.3	41.5	50.4
Has the required knowledge and skills to start a business	29.4	23.8	27.3
Knows a person who started a business in the past 2 years	41.6	37.9	35.5
Prefers that everyone had a uniform standard of living	46.6	48.8	49.3
Sees good opportunity for starting a business in the next 6 month	26.2	25.8	13.8
Thinks that those who are successful at starting a new business have a high level of status and respect	62.5	68.5	67.2
Considers that successful new businesses are properly promoted by the media	50.4	56.2	47.4

Source: GEM, Adult Population Survey, Romania, 2007, 2008, 2009.

According to Bosma et al. (2010, p. 39) in Romania the relative share of necessity entrepreneurship increased, meanwhile the job expectations for the next 5 years decreased.

2. Influencing factors of the early-stage entrepreneurial activity in Romania

Using the GEM Adult Population Survey data for 2007-2009 period, we estimated logistic regression models in order to determine the main influencing factors of early-stage entrepreneurial activity for each year in Romania using the following set of explanatory variables:

Table 3

Variables used in the model

Notation	Name	Description	Values
P_TEA (dependent variable)	Probability of being an early-stage entrepreneur	Actively involved in starting a business or owner/manager of a business which is active and younger than 3.5 years	[0,1]
GEND	Gender	The gender of the questioned person	Male/Female
AGE9c	Age categories	The age of the questioned person classified in nine categories	Age
EDUC	Education	The education of the questioned person	None/ Primary / Secondary / Post-Secondary/ Superior
HHINC	Household income	The questioned persons were categorized in one of the 3 categories on basis of how they appreciating their own financial situation.	In the upper 33%/ Average. 33-66%/ In the lower 33%
OCCUP	Work status	The work status of the questioned person	Full time / Part time / Unemployed / Retired or disabled / Student / Homemaker

KNOWEN	Knowing other entrepreneurs	The questioned persons answered if they know personally somebody who started a business in the last 24 months	No/Yes
OPPORT	Opportunity perception	The questioned persons answered if they see good business opportunities for the next 6 months	No/Yes
SUSKILL	Perception regarding the trust in own entrepreneurial skills	The questioned persons answered if they consider that they have all the necessary knowledge to set and manage an own business	No/Yes
FEARFAIL	Perception of fear of failure	The questioned persons answered if they consider that fear of failure stops them in starting a business	No/Yes
EQUALI	Perception on the appreciation of the society regarding the principle of equality in life standard	Respondents were asked if they consider that people generally think that everybody should have a similar life standard	No/Yes
NBGOOD	Perception on the appreciation of the society regarding the entrepreneurial career 1.	Respondents were asked if they consider that people generally think that being an entrepreneur is a good career choice	No/Yes
NBSTAT	Perception on the appreciation of the society regarding the entrepreneurial career 2.	Respondents were asked if they consider that people generally think that successful entrepreneurs are appreciated by the society	No/Yes
NBMEDI	Perception on the proper promotion of entrepreneurial successes by the mass media	Respondents were asked if they consider that successful entrepreneurial initiatives are properly promoted by the mass media	No/Yes

The logistic models were estimated using the STATA program.

According to the univariate tests done, the following variables were maintained as influencing factors of the early-stage entrepreneurial status in 2007:

- household income (HHINC);
- knowing other entrepreneurs (KNOWEN);
- perception regarding the trust in own entrepreneurial skills (SUSKILL);
- perception on the proper promotion of entrepreneurial successes by the mass media (NBMedI).

The statistical analyses emphasized that the other variables have an insignificant influence in explaining the phenomena of being an early stage entrepreneur in Romania in 2007.

Table 4

The results of the logistic regression on the estimation sample for the early stage entrepreneur, 2007 (Number of observations: 1739)

Explanatory variable	Coefficient	Standard error	z statistics	p value
Constant	-4.5082560	0.2976152	-15.15	0.000
HHINC _i	6.94E-06	3.50E-06	1.98	0.048
KNOWEN _i	0.2113727	0.0657148	3.22	0.001
SUSKILL _i	0.1360408	0.0577667	2.36	0.019
NBMEDI _i	-0.13061730	0.2976152	-1.95	0.051
McFadden pseudo R ² = 0.1197 Likelihood Ratio $\chi^2(12)$ = 55.12 (p value 0.0000) Log likelihood = -202.67749				

Source: Own calculations in STATA on basis of GEM Adult Population Survey for Romania, 2007.

The logistic function has the following form:

$$\ln \left[\frac{P_TEA_i}{1 - P_TEA_i} \right] = -4.508 + 0.00006 \times HHINC_i + 0.21137 \times KNOWEN_i + 0.13604 \times SUSKILL_i - 4.50825 \times NBMEDI_i + \varepsilon_i,$$

where:

- $HHINC_i$ is the household income;
- $KNOWEN_i$ is knowing other entrepreneurs;
- $SUSKILL_i$ is the perception regarding the trust in own entrepreneurial skills;
- $NBMEDI_i$ is the perception on the proper promotion of entrepreneurial successes by the mass media;
- $i = \overline{1, 1739}$ is the code of the respondent.

The values of the statistic tests indicate that the obtained model respects the exigencies of good econometrical standards. The variables are statistically significant ⁽²⁾. The variables HHINC, KNOWEN, SUSKILL have the expected sign. NBMEDI indicates that Romanian early-stage entrepreneurs were unsatisfied in 2007 by how entrepreneurial successes were promoted by the mass media, feeling a need for a better promotion, starting from their own situation. The general explanatory level of the model is acceptable, taking in account the value of the McFadden pseudo R² 0.1197 ⁽³⁾.

We can observe that in 2008 the variables with significant effect on early-stage entrepreneurial activity had changed.

Table 5

The results of the logistic regression on the estimation sample for the early stage entrepreneur, 2008 (Number of observations: 1667)

Explanatory variable	Coefficient	Standard error	z statistics	p value
Constant	-0.8332619	0.497	-1.68	0.094
GENDER _i	-0.7964308	0.285	-2.80	0.005
AGE _i	-0.2153204	0.104	-2.07	0.039
FEARFAIL _i	-0.1779668	0.088	-2.02	0.044
OCCUP _i	-0.2111083	0.078	-2.71	0.007
McFadden pseudo R ² = 0.0612 Likelihood Ratio $\chi^2(4)$ = 32.02 (p value 0.0000) Log likelihood = -245.64138				

Source: Own calculations in STATA on basis of GEM Adult Population Survey for Romania, 2008.

The influencing factors of the early-stage entrepreneurial activity in 2008 are:

- gender (GENDER);
- age (AGE);
- fear of failure (FEARFAIL);
- work status (OCCUP).

The logistic function has the following form:

$$\ln \left[\frac{P_TEA_i}{1 - P_TEA_i} \right] = -0.833 - 0.796 \times GENDER_i - 0.215 \times AGE_i - 0.178 \times FEARFAIL_i - 0.211 \times OCCUP_i + \varepsilon_i.$$

Our results correspond to literature findings. The significant variables have the expected signs. Each variable has a negative effect upon the probability of becoming an early-stage entrepreneur. According to our results, in 2008 the younger adult male people being full time employed, without fear of failure, were more likely to initiate entrepreneurial activities.

In 2009 the estimated function has similar explanatory variables to 2008, the additional influencing variable is the household income. This is the only variable which has a positive effect upon the probability of becoming an early-stage entrepreneur.

Table 6

The results of the logistic regression on the estimation sample for the early stage entrepreneur, 2009

Explanatory variable	Coefficient	Standard error	z statistics	p value
GENDER _i	-0.6428076	0.317026	-2.03	0.043
AGE _i	-0.5305872	0.1281428	-4.14	0.000
FEARFAIL _i	-0.3851601	0.1544658	-2.49	0.013
OCCUP _i	-0.1284756	0.0741976	-1.73	0.083
HHINC _i	0.0239996	0.0066256	3.62	0.000
McFadden pseudo R ² = 0.1714 Likelihood Ratio $\chi^2(5)$ = 65.64 (p value 0.0000) Log likelihood = -158.65653				

Source: Own calculations in STATA on basis of GEM Adult Population Survey for Romania, 2009.

The logistic function has the following form:

$$\ln \left[\frac{P_TEA_i}{1 - P_TEA_i} \right] = -0.643 \times GENDER_i - 0.531 \times AGE_i - 0.385 \times FEARFAIL_i - 0.128 \times OCCUP_i + 0.024 \times HHINC_i + \varepsilon_i.$$

The results of the estimation in case of each model indicate acceptable values of the area under ROC curve ⁽⁴⁾, 78.92% for the first model (2007), 70.27% for the second model (2008), 80.63% for the third model (2009). The concavity of these curves emphasize that the variables chosen in the models have sufficiently high explanatory powers in order to allow a proper ranking of the Romanian people by the probability of being an early-stage entrepreneur.

Conclusions

The paper aimed to emphasize the factors which influence the status of early stage entrepreneurship in Romania in 2007-2009 period. In 2009 Romania's early-stage entrepreneurial activity rate measures 5.02%, which rate is higher than the rate measured in 2008 (3.98%). Despite this increase the measured entrepreneurial activity rates are one of the lowest among the efficiency-driven economies.

The significant variables maintained in the logistic regression models were: the household income, knowing other entrepreneurs, age, gender, fear of failure, perception regarding the trust in own entrepreneurial skills, perception on the proper promotion of entrepreneurial successes by the mass media in case of the early-stage entrepreneurs and the work status.

Our results show that between 2007 and 2008 the set of influencing variables had an important change, gender, age, fear of failure and work status became the influencing factors of the probability of becoming an early-stage entrepreneur in the period of global financial and economic crisis.

Notes

- ⁽¹⁾ Aged between 18-64 years.
- ⁽²⁾ The statistical relevance of the selected criteria is emphasized by the good values of the z statistics coefficients of the estimated function.
- ⁽³⁾ A value between 0.2 and 0.4 is preferred.
- ⁽⁴⁾ Receiver Operating Characteristic: a graphical plot of the sensitivity for binary classifier system as its discrimination threshold is varied.

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Quantitative Methods for Evaluating the Informal Economy. Case Study at the Level of Romania

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Abstract. *The evaluation of the hidden economy involves major difficulties related to the use of an adequate methodology and to ensuring the necessary database for estimating some econometric models and some economic variables. The studies conducted showed that the size and forms of the informal economy differ from one country to another. The transition from the economies of the former socialist countries led to an increase in the size of the hidden economy. The highest levels are recorded in some former Soviet republics and in some South American countries. The evaluations made at the level of Romania estimated that the hidden economy accounts for approximately 30% of the Gross Domestic Product. This paper evaluates the size of the hidden economy on the basis of an econometric approach which assesses the cash outside the banking system according to various factors and to its use in official and hidden economy transactions.*

Keywords: informal economy; econometric model; cash outside the banking system; monetary method; regression models.

JEL Codes: C50, E26.

REL Codes: 10B, 13I.

1. Introduction

The disintegration of the state planned economies and the emergence of the first elements of the market economy led to a new attitude on the part of some people or economic operators, who transferred some activities from the official to the unofficial economy. Thus, by eluding the legal framework and accepting certain risks, the economic operators are “exempted” from the payment of some taxes or duties to the state or avoid a series of bureaucratic barriers. Under these circumstances, the analysis of the informal economy in Romania has become an important topic for economic theory and practice. In recent years, a series of studies measuring the informal economy and its effects on the economic and social environment were published. Among the most important ones are Albu (2002, 2001), Anghelache (2008), French (1999), Andrei (2009) etc.

The studies conducted by national institutions or international organisations showed that taking measures for reducing the financial crimes and implicitly the informal economy is fundamental for the improvement of the economic environment of a country undergoing transition. After a while, these measures will stimulate the arrival of high-potential foreign investors that will boost Romania’s economic development in the medium and long run. In the EU accession process, the Justice and Internal Affairs chapter was the most difficult to close. Special challenges in the accession process were posed by the implementation of efficient and quantifiable measures for “combating tax evasion” and ensuring the “reform of the tax system and of tax policy”. The high level of taxes led to ineffective tax collection and implicitly to an increase in the size of the informal economy.

In economic theory there is a large variety of methods that can be used to estimate the size and dynamics of the informal economy. Among the most important ones we mention: the monetary approach to the informal economy, the implicit labour supply method which is applied in our country on the basis of the data obtained through AMIGO, the energy consumption method etc.

The results obtained by applying the various methods are often different, particularly when evaluating the size of the informal economy at the level of transition countries. For instance, in Romania’s case, the size of the informal economy, measured as a share of GDP, is 20% if evaluated through the energy consumption method (Enste, Schneider, 2000) and over 45% if the evaluation is made using the monetary approach (French, Balaita, Ticsa, 1999). The National Institute of Statistics evaluates the informal economy through the national accounts methodology, and its value usually accounts for 25-28% of the official economy calculated on the basis of the GDP.

In this paper, the size of the informal economy is estimated based on the monetary approach using the methodology presented in Cagan (1958) and Ahumada (2008). Part II contains a presentation of the data series employed to estimate the econometric models used for estimating the size of the informal economy. Part III describes the methodology applied and the results obtained based on the quarterly data series for the 2000-2009 period. The last part presents the conclusions and the possible developments of the model dealt with in this article.

2. Data series used

In order to analyse aspects related to the estimation of the hidden economy at the level of Romania during the 2000-2009 period, we used quarterly data for a series of economic indicators. The table below contains information on the series of data employed for this purpose. For all the data series expressed in monetary units the values were given using the 2005 prices.

Table 1

Description of the variables used

No.	Variable	Data series	Data source
1	NASBR	Cash outside the banking system	NBR
2	CGTR	Total government expenses	NIS
3	PIBR	Gross Domestic Product	NIS
4	DR	Short-term interest rate	Bucharest Interbank
5	RI2	Inflation rate, calculated based on the rate of increase of the consumer price index as compared to the previous year	NIS
6	TAXR	Taxes on products	NIS

For the data series presented above, a series of statistical indicators at the level of the periods of government were calculated: for the year 2000; for the period in which Romania was led by a left government; for the 2005-2008 period, when the government was led by a representative of the right; for the year 2009 different statistics were calculated considering that this was the year when the effects of the crisis were deeply felt. The results obtained are presented in Table 2 and in the graph in Figure 1.

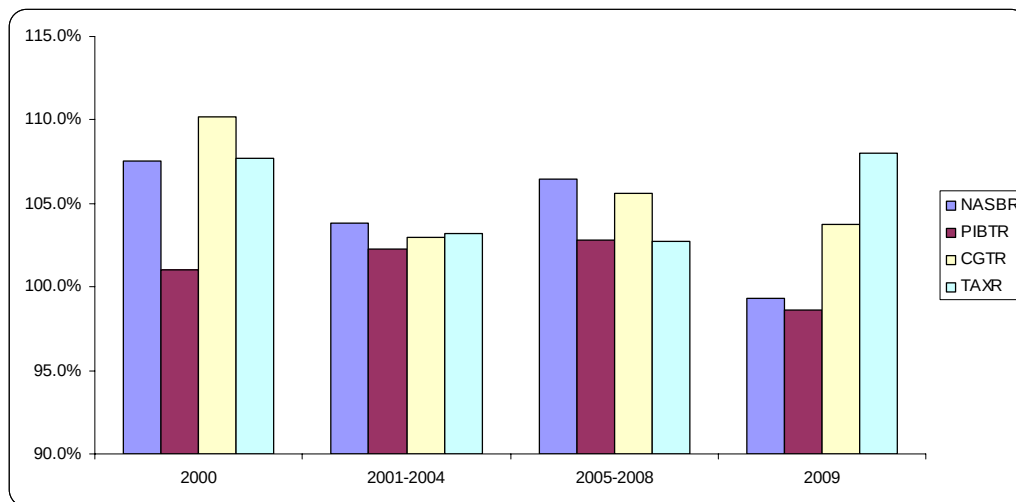


Figure 1. Quarterly average indices for 2000, 2001-2004, 2005-2008 and 2009

Table 2

Quarterly average indices for 2000, 2001-2004, 2005-2008 and 2009 (%)

	2000	2001-2004	2005-2008	2009
NASBR	107.5	103.8	106.5	99.3
PIBTR	101.0	102.3	102.8	98.6
CGTR	110.2	103.0	105.6	103.7
TAXR	107.7	103.2	102.7	108.0

Based on the above results we make the following observations:

- During all the periods, the cash outside the banking system increased more rapidly than the GDP. The evolution corresponding to 2000 and to the 2005-2008 period can be mentioned here;
- In 2000, 2005-2008 and 2009 we saw a much more rapid increase in government expenses in relation to the GDP;
- The taxes on products increased much more than the GDP in 2000 and 2009.

The graph in Figure 2 shows the evolution of the share of government expenses in the Gross Domestic Product for the 2000-2009 period. Some of the most important characteristics of this data series are the following:

- In the 2000 q1-2006 q3 period, excepting the fourth quarter of the first year, the share of government expenses in the GDP ranged between 30% and 40%;
- The share of government expenses in the GDP in the fourth quarter of 2006 exceeded 50%; in 2006 and 2007 this share was around 50%;

- In 2009 we saw an increase in the value of this indicator, with the values for the last three quarters exceeding 40%.

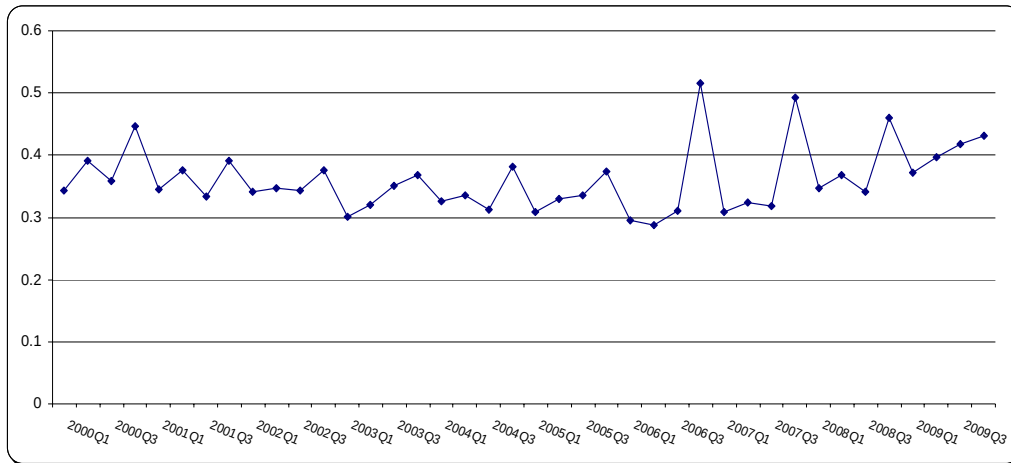


Figure 2. *Share of government expenses in the GDP in the 2000-2009 period*

The statistical analysis of the data series shows a significant influence of the seasonal factors on their evolution during the time period considered. For instance, government expenses had much higher values in the fourth quarter. The very high shares of government expenses in the GDP (around 50%) recorded in the fourth quarter of 2006, 2007 and 2008 can be mentioned here.

3. Estimation of the size of the hidden economy

In order to estimate the hidden economy, a model presented by Cagan (1958) and adopted by Ahumada (2008) was used. The undertaking is based on assessing the cash outside the banking system that was used in the economy recorded through the GDP and in the hidden economy. Our purpose is to determine the share of the cash outside the banking system used in the hidden economy in the total cash outside the banking system. To this end, three important variables are estimated:

- NASBR – Cash outside the banking system, on the basis of an econometric model. This variable is estimated based on regression equation 1;
- NASBR_R – Cash outside the banking system used in the transactions performed in the economy recorded through the GDP, i.e. the official economy;
- NEA – Cash outside the banking system used to support the hidden economy transactions.

Equation 1. The parameters of the equation used to describe the cash outside the banking system are estimated.

The “cash outside the banking system” variable is used as a dependent variable. The behaviour of this variable is explained in relation to the behaviour of three categories of factors:

- the size of the economic activity measured through the Gross Domestic Product (GDP);
- the pressure exercised by the government on economic operators and individuals through the taxes that must be paid by them. For the evaluation of this factor, one of the following variables can be used: the share of government expenses in the GDP or the share of taxes on products in the GDP;
- the opportunity cost of possessing cash. For the evaluation of this factor, the inflation rate or the real interest within the banking system can be used.

The equation analysing the cash outside the banking system is:

$$\log(NASBR_t) = a_0 + a_1 \times \log(1 + PCG_PIB_t) + a_2 \times \log(PIB_t) + a_3 \times DR_t + u_t \quad (1)$$

where $NASBR_t$ is cash outside the banking system, PIB_t – Gross Domestic Product, PCG_PIB_t – share of government expenses in the GDP, DR_t – real interest rate expressed as a coefficient. The variable u_t is normally distributed, with a zero mean and variance σ_u^2 . The parameters a_1 and a_2 are positive, and a_0 and a_3 are negative.

In order to estimate the parameters, quarterly data series for the 2000-2009 period and the two-stage least squares method were used. The results obtained from the estimation of the parameters are presented in Table 3.

Table 3

Characteristics of equation (1)

Dependent variable	LOG(NASBR)	
Independent variables		
	Parameter value	Standard deviation
C	-11.334*	0.5157
LOG(1+CGTRC/PIBTR)	1.896*	0.5943
LOG(PIBTR)	1.795*	0.0438
(DCNB-RI2)/100	-111.249*	45.3002
R ²	0.98	
DW	1.33	

* significance threshold $\alpha = 0.00$

Equation 2. Estimation of official economy transactions. For this estimation, the equation proposed by Ahumada (2008) starting from the formula suggested by Cagan (1958) is used. In order to make this estimate, it is considered that the size of the hidden economy is zero if in equation (1) it is considered that $\text{LOG}(1+\text{PCG_PIB}_t) = 0$. Under these circumstances, by using the value of the parameters estimated in the previous stage, we obtain a size of official economy cash transactions calculated on the basis of the following equation:

$$\text{NASBR_}R_t = \exp(\hat{a}_0 + \hat{a}_2 \times \log(\text{PIB}_t) + \hat{a}_3 \times \text{DR}_t) \quad (2)$$

Equation 3. In order to estimate the underground economy transactions, we start from the premise that the total cash transactions performed in the economy (NASBR_t) are made up of official economy transactions ($\text{NASBR_}R_t$) and hidden economy transactions (NEA_t):

$$\text{NASBR}_t = \text{NASBR_}R_t + \text{NEA}_t \quad (3)$$

Based on equations (2) and (3), the size of the hidden economy is determined as follows:

$$\text{NEA}_t = \text{NASBR} - \exp(\hat{a}_0 + \hat{a}_2 \times \log(\text{PIB}_t) + \hat{a}_3 \times \text{DR}_t) \quad (4)$$

The graph in Figure 3 shows the evolution of the values of the variables NASBR_t and NEA_t for the 2000-2009 period (quarterly data).

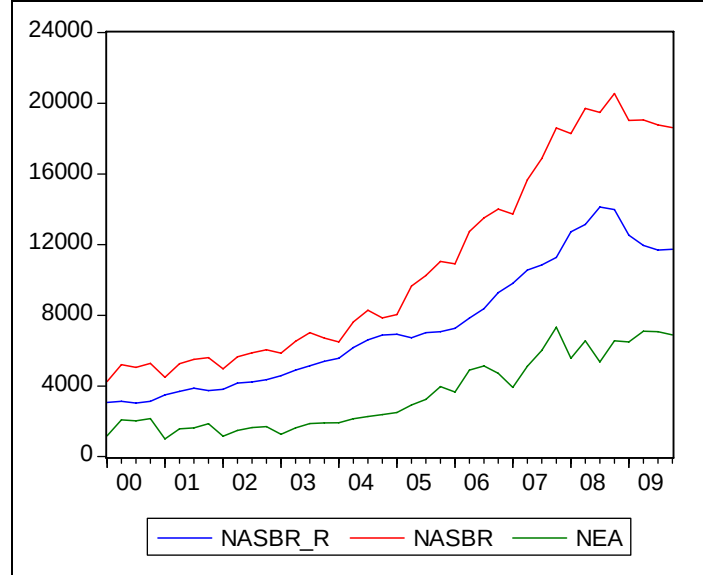


Figure 3. *Evolution of the cash outside the banking system overall, in the official economy and in the hidden economy*

The share of the hidden economy cash transactions in the total cash transactions performed in the economy is calculated based on the formula:

$$PEH_t = \frac{NEA_t}{NASBR_t} \times 100 \quad (5)$$

Figure 4 shows the evolution of the value of this indicator during the 2000-2009 period. For the filtration of the long-term component, a Hodrick-Prescott filter was used.

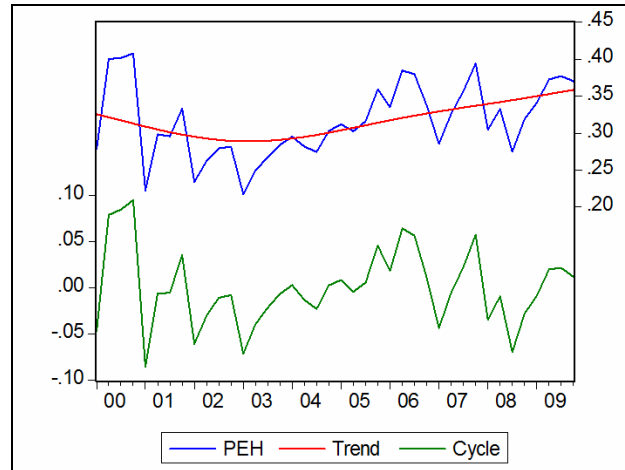


Figure 4. Evolution of the share of hidden economy cash transactions in the total cash transactions performed in the economy

4. Conclusions

The results obtained above show that a high proportion of the cash outside the banking system is used in the unrecorded economy. With few exceptions, the share of the cash used in unrecorded transactions in the total cash circulating in the economy is high, ranging between 25% and 35%. During the 2000-2004 period we see a decreasing trend in this share (down to 30%), while in the 2005-2009 period the trend was upward. The saturation threshold for the last period was 35%.

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SMEs Financing: the Extent of Need and the Responses of Different Credit Structures

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Abstract. *Small and medium enterprises (SMEs) have a key role in developing national economies, but are often limited by lack of development support in financing business for reasons of information asymmetry, high risks, lack of collateral, unfavorable regulatory environment. The statistics show managers given constant importance of SMEs financing opportunities, bank credit pre-eminence over other forms of financing, the lack of viable alternatives for start-up and innovative companies, etc. Market concentration, alternative between transactional or relational lending, various types of banks; state owned, private owned, foreign, large or small, are analyzed to identify the availability for SME financing. Finally, it is recognized the importance of a diversified banking markets both in terms of supply, lending technologies, but also as bank institutions itself.*

Keywords: SME; financing; transactions lending; relationship lending; banks.

JEL Codes: G32, M13.

REL Codes: 11C, 14K.

Introduction

Small and medium enterprises (SMEs) play an essential role in the development of any country. They can be assimilated as the engines of growth in developing economies, and the importance and future of SMEs tend to be a major policy concern, with strategic importance in reshaping the productive sectors, employment and innovation. But, in order to accomplish all this expectations, we have to admit that one of the biggest problem the SMEs faces is the non-availability of adequate financing facilities, the lack of availability of financial institutions or private equity investors to meet the SMEs financing requirements.

Banks, like other businesses, concentrate on creating value under a controlled risk (OECD, 2006, Pathrose, 2005). Analyzing a loan application, a bank has to focus on the risks involved and the methods to mitigate those risks. The banks are reluctant to lend to SMEs for a number of reasons, including the following:

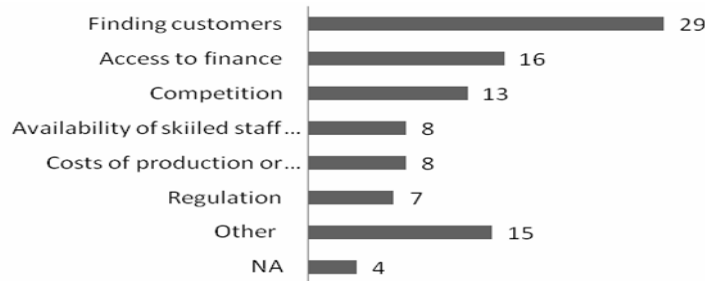
- The information asymmetry that arises from small businesses' lack of financial information and standardized financial statements, in addition to the bank's limited knowledge about the borrower company (Badulescu, Badulescu, 2010). The quantity and quality of the information hold by the entrepreneur regarding their business cannot be accessed in the same measure and efficiency by the prospective creditor. Thus, the lenders is unable to separate between good (bankable) projects and doubtful projects, and the price (for example, the interest of the loan) doesn't make an efficient selection; rather it will increase the bank credit portfolio with risky loans: some of them with interesting perspective, others failures for sure (this phenomenon is the adverse selection). The second issue created by informational asymmetry is the moral hazard: once the loan granted, the control of its use according to the original application (and the risk and opportunity analysis) could face serious difficulties and the loan could be used – even part of it – for other purpose. In order to reduce this risk, the financier will ask as guarantee collateral: assets, receivables, personal goods, immovable, or will pretend the early repayment of the loan, or, if it is possible, will restrict the access on the rest of unused loan.
- The high risks involved in lending to the SMEs as a result of limited assets that can be used as collateral, high failure rates, low capitalization and vulnerability to market risks. The finance institutions consider the environment of SMEs being competitive and very uncertain (compared to large companies), implying a high variability

of return of similar SMEs in the same sector, and finally high failure rate. The limited power in market, considerable share of intangible assets, lack of relevant financial and commercial track records, insufficient circulating assets or tangible fixed assets tends to create a higher risk profile of SMEs for potential investors (OECD, 2004, Lin, Sun, 2006, Toivanen, Cresy 2000, OECD, 2000). Insufficient collaterals compared to the lenders' request in order to overcome the risks associated to moral hazard is probably the most claimed cause of the difficulties in accessing a credit by a SME. The collaterals' insufficiency can be the expression of an incipient stage of the business, unconsolidated yet, up to an exaggerated sizing of the credit request, upon the firm real capacity to sustain the project.

- As small businesses cannot offer adequate collateral, the banks are unable to determine whether the borrower possesses the technical, managerial and marketing skills to generate adequate cash flows and service the loan. The SMEs are characterized by unsatisfactory technical endowment, difficulties in assuring qualified technical staff and experimented management (human capital) in order to adapt to the multiple and rapid changes of present-day economy. At least, the reports accuracy, business protection under contractual basis is precarious, even for internal or external reasons; make barriers for the financial institution in order to compute the real profitability of the company, the repayment capacity, even the reliability of some collateral. In developing countries, the risk profile is supplementary marked by the unstable legislative and competitive environment, with negative consequences on the transactions security.

1. The size of financing needs and the prevalence of bank loans

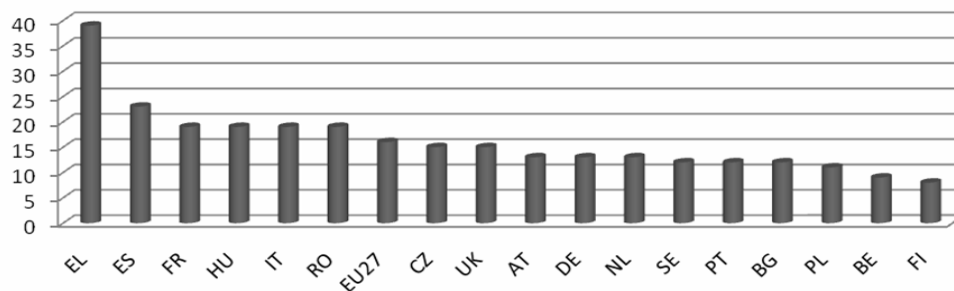
Based on a recent research - Flash Euro barometer Access to finance (No. 271), commissioned by the European Commission's DG Enterprise and Industry, in cooperation with the European Central Bank (ECB), to measure EU companies' use of various sources of finance, the difficulties in accessing finance, we notice that one of the most pressing concern of SME managers from EU is access to financing, adding more than 16% from answers (after *finding customers* but far away of *the competition* or *availability of skilled staff*) (European Central Bank, 2009, Gallup Organization, 2009).



Source: ECB (2009).

Figure 1. Companies' most pressing problem

As expected, inside de EU there are significant differences between countries, for example very important for SME in Greece (39%) and Spain (23%) or Romania (19%) but moderate for Poland, Belgium SMEs (see Figure 2).



Source: ECB (2009).

Figure 2. Companies identifying acces to finance as the most pressing problems

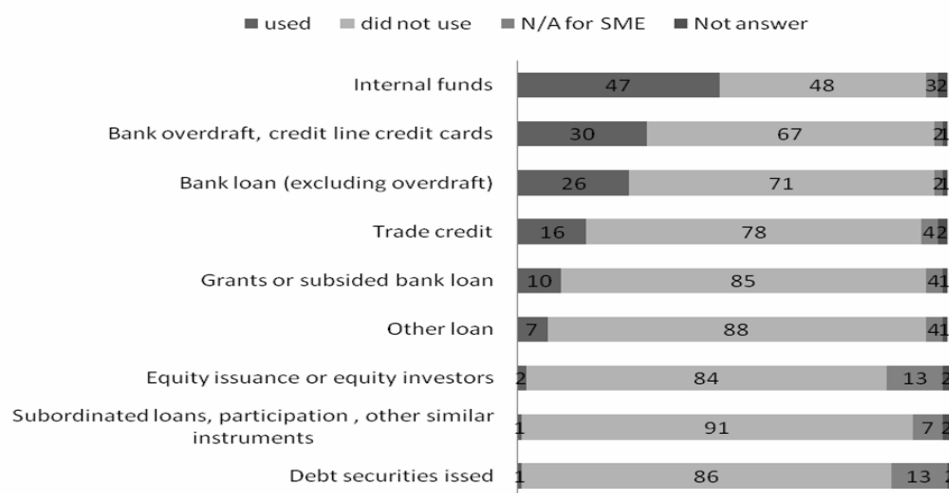
Regarding the profile of companies we notice that the “access to finance” was more often selected as the most pressing problem by managers of companies with a turnover of less than €10 million (16%-17% vs. 8%-10% for companies with a turnover above €10 million), established between two and nine years ago (20%-21% vs. 12% in companies established less than two years ago and 14% in companies existing for 10 years or more), in the construction sector (20% vs. 14% in the services sector and 17% in trade and industry or that have introduced innovation in at least one area – products or services, marketing, production and management (18% vs. 14% in non-innovative companies).

Almost half (47%) of managers in the EU answered that they had used internal funds in the past six months to finance their operations (as seen above – some had only used internal funds, while others had used these in combination with external financing).

The most popular source of debt financing was a bank: 30% of companies had used bank overdraft facilities or a credit line and 26% had received a bank loan. Debt can also be issued by a public source or even a friend or family member: 10% of interviewees referred to grants or subsidized bank loans and 7% mentioned “other loans”. A few (1%) managers said they had used a subordinated loan, participation loan or similar financing structures.

Other financing forms as leasing, factoring or hire-purchasing were preferred by 23% from managers and 16% said they had used trade credit as a source of short-term financing. Regarding debt securities issuing, in the past six months, the majority of managers considered this type of financing not to be relevant for their needs.

Equity issuance or external equity investments were mentioned by 2% of managers as one of the sources of external financing they had used in the past six months (European Central Bank, 2009, Gallup Organization, 2009).



Source: ECB (2009).

Figure 3. Internal and external sources of financing for EU SMEs (2009)

The chart above shows the importance for the companies of the bank lending products (as debt financing, overdrafts, working capital line or other credit loans) in the past six months, as another source of external financing – i.e. equity issuance, equity investors, debt securities are very low utilization. Looking at company characteristics, we can see that micro-companies (with less than 10 employees) were the most likely to

use only internal funds in the past six months but, while, increasing the staff, a company is determined to use an external financing instruments.

Regarding the sector of activity, we can notice that businesses in the industry sector were more interested to use both internal funds and external sources of finance in the past six months. Also, innovative companies were more active to seek and combine internal and external financing sources comparing with non-innovative ones (37% vs. 31%). On the other hand, the new-established companies (active for less than two years) were the most likely to have only used internal funds to finance their operations (22% compared to 14%-17% for longer-established companies) (European Central Bank, 2009, Gallup Organization, 2009).

2. Financial institutions structure and lending to SMEs

While SMEs trust regularly on bank financing is important to know what kind of market structure is more suitable for SME financing. The analysis of SME financing, various theoretical studies or empirical evidence provides a considerable quantity of information regarding relationship between structures of the financial institution, technologies, management. Moreover, recent researches (Berger, Udell, 2004, Beck et al., 2010) try to show some distinction between lending technologies versus relationship lending to understand the very different transactions technologies, focusing on the comparative advantages of different types of financial institutions in using transactions lending technologies versus relationship lending (Berger, Udell, 1996, Miller, 2003, Berger, Udell, 2004).

For our purpose, briefly we can define *transactions lending* as a banking technologies primarily based on “hard” quantitative data that may be observed and verified at about the time of the credit origination. This hard information may include: financial indicators computed from financial statements; credit scoring based on historical data provided by bank database, or SME itself, credit bureaus records; collateral registrations, or other information about solicitors from transparent sources (suppliers, payment incidents, external ratings, etc.). The main characteristic of this type of information is that it is relatively easily observed, verified, and transmitted through the communications channels within the financial institution.

On the other hand, *the relationship lending* technology is based mostly on “soft” qualitative information provided by certain specialized persons, through a long, continuous, often discrete but intuitive contact over time with the SME owner, manager or company’s staff, or with members of the local community. The soft information may include the character and reliability of the SME’s owner based on direct contact over time by the institution’s loan officer; the

payment and behavioral history of the SME regarding loans, cheques, deposits, other services to the SME by the institution; or the future prospects of the SME based of various data from SME's suppliers, customers, or neighboring businesses, local authorities or community. The soft information is given both by to the loan officer or other banking staff, but in general it may not be easily observed or verified by others risk managers, or inside bank deciders, especially when they received this information through communications channels within the financial institution (Berger, Udell, 2004).

2.1. Does market concentration affect SME's lending efficiency?

Several studies generally showed that a greater market concentration often result in a diminishing of credit access through any lending technology (Berger, Demirgüç-Kunt, Levine, Carlson, Haubrich, 2003). This comes about no mater of size, owner or country origin of parent bank but simply because the main financial actors in more concentrated markets may exercise greater market power. These institutions will choose to preserve or even increase their profit not only by an efficient activity or more flexible approach of SME requirements but through rising interest rates or fees on loans to SMEs. These institutions can be less interested innovation or in quality of service to the clients, based mainly on their sure position and power on the market. The banks can reduce the risk or implication in portfolio monitoring simply through tightening credit standards for SMEs. Some studies (Sharpe, 1990, Petersen, Rajan, 1995) show that this market power encourages the bank institution to press on a long-term implicit contract in which the borrower receives a lower interest rate in the short-term, but after a period the bank uses by its discretionary right to rise the costs of the loan (variable interests, advance repayment fee, administration fee etc) forcing the borrower to pay a higher-than-competitive rate in a later period.

2.2. What kind of bank for SME's lending?

2.2.1. Are domestically-owned banks more interested in SMEs financing compared to foreign owned banks?

On the first sight, foreign-owned institutions may have comparative advantages in SME technologies lending and domestically-owned institutions may have comparative advantages in relationship lending (de Haas, Naaborg, 2005, Berger, Udell, 2004). This assumption can be explained by following reasons:

- Foreign-owned institutions are part of large organizations, and these behavior can be assimilated with specific typologies of big banks actions on the market;
- Foreign bank has often difficulties in processing and transmitting soft information over greater distances, through more managerial layers. Furthermore, they have to deal with multiple and different economic, cultural, language, and regulatory conditions environments which affect the relationship lending aspects;
- Small and domestic banks are more suitable to finance SMEs because they are better engaged in “relationship lending”, a type of financing based on “soft” information collected by the loan officer having continuous, personalized, direct contacts with SMEs, with their owners and managers, and the local community;
- On the other hand foreign-owned institutions settled in developing economies may have additional advantages in transactions lending to some SMEs because they have a better access at information technologies for collecting and assessing hard information, cheap funds or greater expertise, even training for loan officer and risk managers in their headquarters.

Some recent researches (Beck, Demirgüç-Kunt, Martinez, 2010), for a better understanding of the SME financing, tackle from the supply side using cross-country data, instead of large literature based of demand supply position. Based on an impressive collection of analyzed data⁽¹⁾ the results show significant differences across ownership types in lending technologies and organizational structures:

- Foreign banks are more likely to use hard information relative to private domestic banks. The share of secured SME loans is higher among foreign banks than domestic banks.
- Compared to domestic banks, foreign banks tend to be least likely to decentralize loan decision making and risk management, confirming the assertion that foreign banks use different lending techniques and organizational structures to reach out to SMEs.

In spite of all these different approaches, the results show that different lending techniques and organizational structures lead at similar results in terms of SME lending. Most notably, the researches find no evidence that foreign banks tend to lend less to SMEs than other banks. The conclusion of these studies is that different bank types, applying different lending technologies and organizational structures, can play an important role in financing SMEs, in developing economies.

2.2.2. What kind of banks are more efficient in the relationship with SMEs: state-owned banks versus private-owned banks?

State-owned institutions may have comparative advantages in transactions lending comparing with privately-owned institutions which try to obtain comparative advantages in relationship lending, but these cannot always transform in an advantage. The explanation came from various evidence as:

- In general, state-owned institutions are larger than private local banks (excepting private foreign banks), but this dimension often prolongs/extends communication channels and negative affects network efficiency;
- State owned- banks generally operate with government subsidies and often have mandates to supply additional credit to SMEs or specific industries, sectors, or regions. Apparently, this can be an advantage, both for banks or SME, but, in reality, the effects on SME lending are unclear or even an opposite effect. For example, some fund goes to SME unable to repay the amount at maturity or are not creditworthy, but are supported by different political or local power. In other case, these funds, instead to finance new, profitable business, based on strong cash flow, positive net present value projects are designated to repaid former credit, some of them in difficulty;
- State-owned institutions may also perform inconsistent credits monitoring and avoid a firm, steady policy of collection (or forced execution) procedures, because of lack of market discipline.

2.2.3. Large banks or small banks?

In the first stage we can admit that large bank institutions may have comparative advantages transactions lending technologies which are based on hard information and small institutions may have comparative advantages in using the relationship lending technology which is based on soft information.

Referring on scale economies the large bank could take advantage from hard information processing, but disadvantaged in processing soft information because the difficulties to quantify and transmit this kind of data through the long communication channels. This may give comparative advantages in relationship lending to small institutions with lower administration costs, a less distinctive separation between ownership and management and fewer levels of management (Stein, 2002, Berger, Udell, 2002).

Finally, it is often argued that large institutions are relatively disadvantaged at relationship lending to SMEs because of organizational

diseconomies, so this large bank prefer to enter in loan transaction and other wholesale services with large corporate customers. The empirical literature on this topic usually based the conclusions from the characteristics of the SME borrowers and contract terms on credits contract between SMEs and banks of different sizes (Berger, Rosen, Udell, 2003):

- Large bank institutions are found to lend to larger, older, more financially secure SMEs, often argued that large institutions lending prefer borrowers with a clear implemented corporative governance,
- Large banks are found to promote lower interest rates and obtain lower yields on SME loan contracts comparing with small institution which explained this differential through flexible, non bureaucratic and rapid procedures in credit assessment (Berger, Rosen, Udell, 2003, Berger, 2004);
- Small banks are found to have more longer, privileged and personal relationships with their SME loan customers, comparing with larger banks, based on long distance, impersonal and short terms of their relation with customers, appreciated as weaker (Berger, Miller, Petersen, Rajan, Stein) and often unsatisfactory for a better loan decision;
- Large banks institution appear to base their SME credit decisions more on strong financial ratios than on relationships.

3. Conclusions

The present paper try to offer an analysis of the role of different types of financial institution, their availability for SME lending , removing the opaque characteristic of this sectors on risk assessment, and a better acknowledgment of reasons and particularities, both from principal actors but from regulation and legislative framework, infrastructure etc.

First, financial institution structure – the presence in the market of different types of institutions and the competition among them – may have important effects on SME credit availability because institutions of different types may have comparative advantages in different lending technologies. The lending infrastructure – the information environment, the legal, judicial and bankruptcy environment, and the tax and regulatory environments – may directly affect SME credit availability.

Second, the presence of foreign-owned and state owned institutions, as well the presence of large and small institutions and the measure of financial institution concentration are elements that may affect SME credit availability through comparative advantages in the different lending technologies. In particular, a greater presence of foreign-owned institutions and a lesser presence of state-owned institutions are likely to be associated with significantly higher

SME credit availability in developing nations because foreign-owned institutions appear to have advantages in some of the lending technologies, and state-owned institutions appear to be generally disadvantaged.

Third, the result of our research strongly suggests that “better” lending infrastructures may make significant differences in SME credit availability directly through facilitating the use of the various lending technologies. A careful and restrictive regulatory environment may influence the financial institution structure, preventing some types of financial institutions to gain sufficient market shares in order to capitalize their comparative advantages in specific lending technologies and use in their interest the relative market power. It is the case of many developing countries in last decades that trying to reduce the considerable market share of state banks in favor of more efficient privately-owned institutions has to face now with particular problems generate by a very large presence of foreign owned bank in their banking sector.

Finally, we consider that a well balanced structure of banking sector, with important state banks, involved in large national projects, dynamic and flexible small private banks, closed to relationship lending, and a provocative foreign bank presence can exploit all opportunities on the economies, creating a large base for meeting SME financing requirements.

Note

⁽¹⁾ Survey data from 91 large banks of different ownership types across 45 countries.

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Input-Output Analysis and Demographic Accounting: A Tool for Educational Planning

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Abstract. *Accounting concept induces usually the idea of transactions expressible in terms of money in a system of interlocking statements in each of which total incomings are equal to total outgoings. It is known that, in a close system, the entries are not unrelated but are connected by a number of independent accounting identities. Thus, within an accounting framework we can build models in the certain knowledge that these connections will be respected, input-output analysis being the most obvious example of this kind of model-building.*

The application of elementary accounting ideas is not restricted to the concepts expressible in terms of money, but, for example, it can be applied to demography, with its obvious unit the individual human being, and to education, with its obvious unit the student. Such analysis can be applied in order to plan the educational system in a rational manner, based on demographic information that allows us to determine the flows of individuals with various characteristics into various activities, to show in detail the structure of the population at any time, and to design in the future how this structure may change under the impact of individual decisions or of those underwritten to economic and social aims.

Keywords: input-output analysis; accounting; demographic accounting; planning; educational planning.

JEL Code: J11.

REL Codes: 4C, 12C, 13J.

1. Economic input-output model

In economic input-output analysis the economic system is divided into a number of branches or industries, each being defined as producing a particular product or group of products, which constitutes its output. Within a given time-period, this output has two main destinations: as an intermediate input, to be used in fabrication of some other products; or as a final product of the system. Final product, in its turn, has three destinations: to satisfy the demands of consumers; to replace and extend the capital equipment of industries; and a small part to form a stock of products, some unfinished, which will flow back into production for intermediate use in the future. Producing goods and services for final use is the principal/main function of the industries. In order to perform this function, each industry, beside the materials, fuels and business services (which constitute its intermediate inputs) flow into production from outside the productive system.

The purpose of this type of analysis is to study the interdependence of the industries and their connections with other parts of the economy. The whole set of input-output flows and their totals can be arranged in a table or matrix (with outputs in the rows and inputs in the columns). The entries can be expressed in terms of money, in which case each row and column pair can be regarded as an account which balances: the revenues realised from the sale of the outputs are equal to the cost of the inputs. Reduced to its simplest terms, such a table can be represented as follows (Table 1):

Table 1

A simple economic accounting matrix

	Production	Non-production	Total
Production	W	f	q
Non-production	y'	O	$y'i$
Total	q'	$i'f$	

The row and column for production are to be thought of as divided into many rows and columns, equal in number to the industries we wish to distinguish, and symbol W denotes a submatrix of intermediate product-flows between the industries (for example, the element at the intersection of row j , say, and column k , say, of this submatrix shows the amount of the product of industry j absorbed by industry k during the period to which the analysis tables refers relates). The symbol f denotes a column vector of final products (for example, the j^{th} element of f shows the amount of final products made by industry j). The symbol q denotes a column vector of total outputs (the j^{th} element of q shows the total output of industry j).

The static, open input-output model for a closed economy is based on two premises:

- Total output of a period is absorbed either in intermediate or in final uses, that is:

$$q \equiv W i + f \quad (1)$$

- The inputs of intermediate products are related in fixed proportion to the output into which they enter, that is:

$$W = A \times \hat{q} \quad (2)$$

where $\hat{q}$ form a diagonal matrix and where A denotes a matrix of input-output coefficients in which the element at the intersection of row j and column k measures the amount of input j needed to make one unit of output k .

Substituting for W from (2) into (1) it results:

$$q = (I - A)^{-1} f \quad (3)$$

Since each industry needs primary inputs in addition to intermediate inputs, the column sums of A are less than one and A^θ approaches the null matrix as θ increases, with the result that $(I - A)^{-1} \equiv (I + A + A^2 + A^3 + \dots)$ has finite elements.

The given model is termed “open” because it does not generate all its variables but depends for its solution on a variable, f , which must be estimated exogenously. Its purpose is to enable us to calculate the amount of total output, q , which must be produced in order to satisfy a given level of final demand, f , and hence to work out what would happen to q if f were to change.

But this model is much too simple because it implies that all the intermediate product used this year is made in the course of the year. However, a part of the final product of any period goes to form a stock of intermediate products for use in the succeeding period; in other words, f includes additions to stocks and work in progress. It results that some of the intermediate product used this year must have been made last year.

If we consider a productive system in which all the intermediate product used this year was made last year and in which all the intermediate product made this year will be used next year, so that provision must be made in advance for any expected change in final demand (Table 2).

Table 2

An economic accounting system with simple time-lags						
		Production			Non-production	Total
		Last year	This year	Next year		
Production	Last year		W			
	This year			ΔW	e	q
	Next year					
Non-production			y'			
Total			q'			

In this case production is divided into three periods, last year, this year and next year, but the table is filled in only for this year. The intermediate product absorbed this year, W , comes from last year, and intermediate product made this year, $\Lambda \times W$, is carried forward to next year. In a growing economy any difference between $\Lambda \times W$ and W represents an excess of products made over products used, that is to say represents stockbuildings, and the symbol e denotes the final product redefined to exclude stockbuilding.

In this case the equation (3) can be written as:

$$q = \sum_{\theta=0}^{\infty} A^{\theta} \times A^{\theta} \times e \quad (4)$$

This year's output, q , is no longer given simply in terms of this year's final demand but in terms of a weighted sum of present and future demands, the weights tending to zero with time.

It can also be written:

$$q \equiv A \times q + A \times \Delta \times q + e \quad (5)$$

where $\Delta \equiv \Lambda - 1$. Here the productive system is explicitly represented as:

- replacing, for use next year, the intermediate product, $A \times q$, which it is using up for current production and which was carried forward from last year;
- adding to stock a supplementary amount, $A \times \Delta \times q$, needed to sustain the increment of output from this year to next year;
- satisfying this year's final demand for consumption goods and capital equipment, e .

In the real world, a system gets this year's supplies of intermediate product partly from last year's production and partly from this year's, and produces intermediate product partly for this year and partly for the next (Table 3).

Table 3

An economic accounting system with partial time-lags

		Production			Non-production	Total
		Last year	This year	Next year		
Production	Last year		W^{**}			
	This year		W^*	ΛW^{**}	e	q
	Next year					
Non-production			y'			
Total			q'			

In this case, the intermediate product absorbed this year is divided into two parts, W^{**} , which was made last year, and W^* , which was made this year.

Also, the intermediate product made this year is partly absorbed this year, W^* , and partly carried forward for use next year, $\Lambda \times W^{**}$.

The model of this situation is built up the following elements:

$$q \equiv W^*i + \Lambda \times W^{**}i + e \quad (6)$$

$$W^* = A^* \times \hat{q} \quad (7)$$

$$W^{**} = A^{**} \times \hat{q} \quad (8)$$

where $A^* + A^{**} = A$.

In this case:

$$q = (1 - A^*)^{-1} \sum_{\theta=0}^{\infty} \left[A^{**} (I - A^*)^{-1} \right]^{\theta} A^{\theta} \times e \quad (9)$$

This situation express the fact that in each year the amount of intermediate product made but not used is precisely equal to the need of the succeeding year which cannot be met form that year's production.

2. Demographic input-output model

For applying input-output model to the analysis of demographic flows, it is necessary to define the terms regarding the social system. In this case the unit will be the human individual and the main categories, within which these units will be grouped, instead of being industries and products, will be age-groups, and within age-groups, activities and occupations. We shall say more about these categories in the next section, but first let us be clear about flow equations of the system and their solution.

Reinterpreting the symbols from Table 2 as follows:

- total output, q , represents the total population of a country during a given period;
- intermediate product, W , represents the surviving part of this population;
- final output, e , represents the deaths and emigrations;
- primary inputs, y , represents the births and immigrations.

we can rewrite the table more appropriately as Table 4.

In this table the sources of p' , the population vector, are partly the survivors from last year, the elements of $\Lambda^{-1} \times S$, and partly the births and immigrations of this year, the elements of b' . Correspondingly, the destinations of p are partly the survivors into next year, the elements of S , and partly the deaths and emigrations of this year, the elements of d . The vector of the living population at the end of the year is $Si \equiv p - d$.

Table 4

A demographic accounting matrix						
		Our country			Elsewhere	Total
		Last year	This year	Next year		
Our country	Last year		$\Lambda^{-1} S$			
	This year			S	d	p
	Next year					
Elsewhere			b'			
Total			p'			

In order to build, based on Table 4, a demographic model analogous to the economic model as shown in Table 2, we must reverse the roles of inputs and outputs. In the economic model it was assumed that while output patterns change with changes in final demand, the input pattern in the different industries are fixed.

In the demographic case it seems more reasonable to make the opposite assumption, namely that input patterns may change with changes in the number of births and immigrations, but that the output patterns (or transition probabilities) for the different age-groups and activities are fixed.

For example, if out of 1,000 graduates aged 18, say, 500 go on to further training, 400 get jobs in industry, 50 become civil servants and 50 emigrate or die, we assume that if the number of graduates aged 18 were 1,200, then 600 of them would go on to further training, 480 would get jobs in industry, 60 would become civil servants and 60 would emigrate or die.

This assumption means that instead of fixing the coefficients by columns, as we did in the economic model, we must fix them by rows. Also, since the determining variable is no longer the vector of final demands but the vector of primary inputs, we must take the building blocks for this model not from this year's row, as in the case of production, but from this year's columns; in other words, we must ignore S and d and concentrate on $\Lambda^{-1} \times S$, b' and p' . In manipulating these variables, however, it is convenient to transpose them, that is turn b' and p' into columns vectors so that they become b and p , and interchange the rows and columns of S so that it becomes S' .

In this case we can obtain the following equations:

$$p \equiv \Lambda^{-1} \times S' i + b \quad (10)$$

$$\Lambda^{-1} S' = C \times \Lambda^{-1} \times p \quad (11)$$

where $\Lambda^{-1} S'$ represents the column sums of $\Lambda^{-1} \times S$ written as a column vector, and C denotes a matrix of transition probabilities.

From these equations we obtain:

$$p = C \times \Lambda^{-1} \times p + b \quad (12)$$

Then we can determine what the composition of p is likely to be in τ year's time. If we apply the operator Λ to (12), substitute for p into the new equation, carry out this operation $\tau - 1$ times and apply Λ to the final equation of the series, we obtain:

$$\Lambda^\tau \times p = \sum_{\theta=0}^{\tau-1} C^\theta \times \Lambda^{\tau-\theta} \times b + C^\tau \times p \quad (13)$$

Comparing the two models, the equation of economic model shows that the present output depends on present and future demand, while, by contrast, demographic model shows the future output (future population) depends on present and future supply. The solution of the economic model is based on the assumption that input patterns, the elements of A , remain constant over time; by contrast, the solution of the demographic model is based on the assumption that the transition probabilities, or output patterns, the elements of C , remain constant over time.

The two points of contrast raise two important practical questions:

- a) how are we estimate the future values of e , and of b ?
- b) how can we introduce the changes in the coefficients within the two models?

In the demographic case, if we ignore the highly erratic element of immigration and concentrate on births, we can express the future values of p simply in terms of its present values, as follows.

Since it is possible to relate the number of births of either sex to the age composition of the female population, consider a vector of the female population grouped by year of age, f^* , ranging from birth to the end of the female reproductive span. Then consider a matrix, H , whose rows and columns are equal in number to the elements of f^* : the first row of H contains the rates at which females are born to females of different ages; the diagonal below the leading diagonal contains the survival rates of females at the different ages; all the other elements of H are zero. Thus we can write:

$$\Lambda^\theta \times f^* = H^\theta \times f^* \quad (14)$$

If we consider another matrix, J , whose rows are equal in number to the elements of p and whose columns are equal in number to the elements of f^* : the top left-hand corner of J contains a one; the rest of the first row contains the rates at which males are born to females of different ages; all the other elements of J are zero, and in this case:

$$\Lambda^{\tau-\theta} \times b = J \times H^{\tau-\theta} \times f^* \quad (15)$$

where the first element of J picks out the first element of $H^{\tau-\theta} \times f^*$, that is, the female births in year $\tau - \theta$, and the age-specific male birthrates is the rest of

the first row of J calculate and add together the male births in respective year. If we substitute for $\Lambda^{\tau-\theta}$ from (15) into (13), we obtain

$$\Lambda^\tau \times p = \sum_{\theta=0}^{\tau-1} C^\theta \times J \times H^{\tau-\theta} f^* + C^\tau \times p \quad (16)$$

It is noticed that the demographic model, from an open model with one exogenous variable, b , has become a closed model, that is a model which generates all its variables endogenously from given initial conditions.

With regards to the second question, for the demographic model, if C changes with successive values of Λ^τ , then we can rewrite (13) as:

$$\Lambda^\tau \times p = \Lambda^\tau \times b + \sum_{\theta=0}^{\tau-1} \left(\prod_{\lambda=\tau-1}^{\tau-\theta} \Lambda^\lambda \times C \right) \Lambda^{\tau-\theta} b + \left(\prod_{\theta=\tau-1}^0 \Lambda^\theta \times C \right) p \quad (17)$$

where Π denotes the operation of forming a product.

In the demographic case, Table 4 can be filled in because in the population case it might want to account for changes of activity within the year (for example, a person who flows in from the preceding year as a schoolboy may go to a university in the course of the year and thus flow out into the succeeding year as an undergraduated). Therefore, we must introduce a new matrix, S^* , at the intersection of the row and column for this year, and replace S by S^{**} , and the model can be depict according to Table 5.

Table 5

A demographic accounting model with intra-year transitions

		Our country			Elsewhere	Total
		Last year	This year	Next year		
Our country	Last year		$\Lambda^{-1} \times S^{**}$			
	This year		S^*	S^{**}	d^*	p^*
	Next year					
Elsewhere			b'			
Total			p^{**}			

The function of the new matrix, S^* , can best be explained by an example: when an individual moves from category j to category k in the course of the year, this movement is represented in S^* by a -1 at the intersection of row j and column j , balanced by a 1 at the intersection of row j and column k . Thus the sum of the elements of S^* is zero, since in the aggregate all the transfers cancel out. From this it follows that the matrices $\Lambda^{-1} \times S^{**}$ and S^{**} do not differ in the sum of their elements from $\Lambda^{-1} \times S$ and S ; they do differ from them in the arrangement of their elements, however, because each survivor now enters next year from the activity in which he leaves this year and not from the activity in

which he had entered this year. For the same reason the vectors d and p now become d^* and p^* ; the vector of primary inputs, b , is not affected.

Similar to its economic counterpart, the model of this situation is built from three elements:

$$p \equiv A^{-1} \times S^{**'} i + S^{*'} i + b \quad (18)$$

$$S^{*'} = C^* \times p^* \quad (19)$$

$$S^{**'} = C^{**} \times p^* \quad (20)$$

from which we obtain:

$$p^* = C^{**} \times A^{-1} \times p^* + C^* \times p^* + b \quad (21)$$

whose solution for year τ is:

$$A^\tau p = \sum_{\theta=0}^{\tau-1} \left\{ \left[(I - C^*)^{-1} C^{**} \right]^* (I - C^*)^{-1} A^{\tau-\theta} \times b \right\} + \left[(I - C^*)^{-1} C^{**} \right]^\tau p^* \quad (22)$$

3. Applying of demographic matrix

Applying of demographic model, where there is statistical data, it is no more difficult than the construction of their economic counterpart. However, it is necessary to clarify the way in which we are going to define the categories and to find a means of reconciling the classifications used in the different statistical sources with each other and with our classifications.

In a demographic matrix the primary classification should be by age and the secondary classification should be by activity. Dividing all information into uniform age-groups is not quite so simple; for example, we may take into consideration the age at the end of the calendar year, but in other cases flows are recorded by the age at which they take place (first employment is recorded by age on entry, death by age at death etc.) asking for endless adjustments.

As concerns the classification by activities, it should be drawn up on the following considerations. With minor exceptions, the newly born enter the home of their parents and remain there until, at age two, a few of them begin to go to nursery school. Accordingly, at this age we must establish a new category, requiring a separate row and column in the matrix, so as to distinguish between two-year olds who go to nursery school and two-year olds who stay at home. All two-year olds come from the one-year olds of the year before. At the age three the supply comes from two sources: two-year olds who went to nursery school and two-year olds who stayed at home. With the statistical data available, it is not possible to tell how many children return to the category

“home” after first year at nursery school nor how many go to school for the first time when they are three; therefore, it is necessary to make assumption that all children who were at nursery school at age two continue in it at age three, and that only the additional three-year old school-goers come directly from “home”. With increasing age more and more children go to school until, when the age of compulsory school attendance is reached, the category “home” becomes virtually empty. Even at this early age it would be possible to distinguish different administrative types of school (for example, public or private), but from an educational point of view this thing is not representative. An argument for making such distinctions would be only if there were significant differences in the economic inputs (personnel expenditure, material, and investments) used in the different types of school.

Around the age of 10 or 11 most children pass from primary education to some form of secondary education. Here again, a purely administrative classification of schools is of only minor interest, being more useful to group schools by types accordingly to curricula applied (for example, theoretical education or vocational education and training).

At the age of 16 or 17 compulsory education comes to an end and the majority of children leave school and seek employment. Even when employed, however, they may continue to receive education, mainly continuous professional training. Those who remain at school are going to continue their education for two years more, usually a specialised kind of education. So, from the age of 16 on, it becomes important to distinguish among those who have left the educational system (some of which participate in continuous professional training and some do not participate), and among those who remain in the educational system, between those who focus on the real profile (mathematics and science), those who focus on the human profile (humanities), those who continue in vocational education or those who continue in technical education.

Also, those who remain at school after the age of 18 gradually drop out of school either into employment or into some other institution of advanced education, such as post high-school education or a university. By the age of 23 to 30 even the longest type of formal education, such as medical training or postgraduate work at university, is over and virtually the whole population is engaged in gainful occupation. From this point we can follow them throughout their working life, at retiring age, their home or some institution becomes the centre of such activity. At age 100 or so the accounts close.

The structure described relates to a cross-section of the existing human population in a given year. In economic terms, it provides a basis for cross-section analysis of the category described above “demographic input-output”.

If we could compile a set of tables as Table 5 stretching over 100 years, we could select the information relating to successive ages in each table and thus obtain the elements for a time-series analysis of a particular human population. However, it is difficult to carry out a classification of the population after completion of initial training but the model can be applied to educational planning for which data on the flow of students are available.

Conclusions

In the usual, static accounting system all entries relate to a single time-period and the set of accounts is completely closed. In the dynamic system the inputs for a given period come, either in whole or in part, from the preceding period and the outputs go, either in whole or in part, to the succeeding period.

Two types of model can be build within the framework of this dynamic accounting structure: the conventional input-output model (appropriate to the analysis of production flows), in which the input coefficients are fixed, and allocation model (appropriate to the analysis of demographic flows), in which the outputs coefficients are fixed.

These two models provide us with the main building blocks for an educational model, because the human inputs on the educational system are simply a partition of the demographic system, while economic inputs are a partition of the productive system.

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Old Wine in New Bottles: Saving – Growth Nexus: Innovative Accounting Technique in Pakistan

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Abstract. *The paper re-investigates the relationship between economic growth and domestic savings by applying new approaches rather than old techniques. The cointegration and causality approaches have been applied for economic growth and domestic savings. In doing so, ARDL Bounds Testing, Johanson cointegration approaches are employed to examine for long run association while Innovative Accounting Techniques and Toda and Yamamoto (1995) for causal relationship has been applied. Ng-Perron de-trended test is used for order of integration of running actors. Results reveal that there exists a long run relationship between economic growth and domestic savings and their association is robust at least in long span of time. Causal results through innovative accounting technique assert that there is one-way causality running from economic growth to domestic savings while very weak from opposite side. Results by Toda and Yamamoto's technique also confirm that economic growth leads domestic savings in Pakistan.*

Keywords: economic growth; savings; causality; ARDL.

JEL Codes: O0, E22, C32.

REL Code: 8E.

1. Introduction

According to Lewis's (1955) conventional development theory "savings stimulate the economic growth through investment activities" while saving behavior also encourages the economic growth (Kaldor, 1956, Samuelson, Modigliani, 1966). In 1990s, contrary to conventional theory, a new aspect emerged, i.e. "savings contribute to accelerate investment which enhances Gross Domestic Product (GDP) in short span of time" (Bacha, 1990, DeGregorio, 1992, Jappelli, Pagano, 1994). A number of studies showed that economic growth encourages the savings (see, for instance, Sinha, Sinha, 1996, Sinha, Sinha, 1998, Salz, 1999, Anoruo, Ahmad, 2001, Ramesh, 2006, Sinha, Sinha, 2007). Edwards (1995) has argued that economic growth is one of the most important determinants of not only private savings but also for public savings⁽¹⁾.

In economic literature researchers have utilized different econometric techniques and probed the issue but are inconclusive. For example, Bacha (1990), Otani and Villanueva (1990), DeGregorio (1992), and Jappelli and Pagano (1994) have employed Ordinary Least Squares (OLS) regression using cross-sectional data and concluded that higher savings leads to higher economic growth. Recently, Krieckhaus (2002) argues that high level of national savings lead to higher investment and hence contribute to higher economic growth. The concept of Granger-causation in this area appeared by Carroll and Weil (1994). They have concluded that economic growth causes high savings. Using five-year averages of the economic growth rate and savings for OECD countries, Attanasio et al. (2000) notes that using annual data rather than the five-year average increases exactness and significance of empirical estimation as well as direction of causal relation.

Sinha and Sinha (1996) conclude that economic growth leads to higher savings in the case of transition economy like Pakistan. Sinha and Sinha (1998) have also investigated the causal relationship between economic growth and savings for Mexico and found that it runs from economic growth to domestic savings⁽²⁾. Furthermore, Sinha and Sinha (2007) have investigated the same relationship for Philippines and concluded that economic growth leads to higher domestic savings. On the other hand, causality is also found from gross domestic savings to economic growth for Sri-Lanka (Sinha, Sinha, 1999). Saltz (1999) investigates the causal relationship between the same variables by employing Vector Error Correction (VEC) and VAR (Vector Auto Regressive) model. The study concludes that higher growth rate of real GDP contributes to a higher growth of savings. Anoruo and Ahmad (2001) seem to employ VEC to find out direction of causality between domestic savings and economic growth

in seven African countries. They posit that there is bi-directional causality for Cote d'Ivoire and South Africa. Only for Congo, growth rate of domestic savings lead economic growth.

Mavrotas and Kelly (2001) investigate direction of causal relationship among gross domestic product, gross domestic savings, and private savings through employing Toda and Yamamoto (1995) technique for India and Sri Lanka. They conclude that for India no causality between GDP growth and private savings exists while for Sri-Lanka bi-directional causality prevails. Agrawal (2001) examines the causality between GDP and saving for a number of Asian countries and concluded that for most of countries causality flows from GDP to saving. The study is also conducted to find the direction of causality for Singapore, South Korea, Malaysia, Thailand, and the Philippines by Baharumshah et al. (2003). The study has employed VECM on time series data from 1960-1997 and found that there is no causality between gross domestic savings and economic growth except for Singapore. Ramesh (2006) determines the direction of same type of causality for high income countries, lower middle countries, upper middle countries and lower income countries and supports the hypothesis that economic growth leads to higher gross domestic savings. The relationship between saving and growth differs for economies due to their economic structure and, possibly, due to different data spans and econometric techniques. To entangle the relationship of Pakistan, it is attempted by new techniques and fresh data.

The present study is an innovative addition in the literature due to its difference from existing literature. It is different from the previous ones in the following aspects: the long-run association and its robustness is examined through ARDL Bounds Testing and Johansen Cointegration techniques; for direction of causality Innovative Accounting Technique and Toda and Yamamoto (1995) is employed; and to check the order of integration of variables Ng-Perron (2001) is applied.

2. Methodology

Vector Auto Regression (VAR) approach is commonly used to investigate the dynamics of the relationship between two macroeconomic variables, also for the variables like gross domestic savings and economic growth. VAR is usually applied to avoid shortfalls of endogeneity and integrating order of variables. The present endeavor is different as it would employ Innovative Accounting Technique (Impulse Response Function and Variance Decomposition) to investigate causal relationship. It is based on the property that forecast error variance decomposition allows inferences to be concluded

with reference to the proportion of movements in particular time periods due to its own shocks and shocks arising from other variables in the VAR. By using VAR, impact of a shock can be checked in a particular variable traced through the system of equations that determine the impact on other variable and also variables that includes future values of shocked variables⁽³⁾.

This approach breaks down the variance of the forecast error for each variable following a shock to particular variable that makes possible to identify which variable affects strongly and vis-à-vis impact. For example, a shock in economic growth leads subsequently to a change in gross domestic savings in the estimated VAR approach, but shock in gross domestic savings has only minor or small effect on economic growth. From this exercise, we can infer and conclude that economic growth leads gross domestic savings or causality runs from economic growth to gross domestic savings.

On the other hand, impulse response function investigates the time path of the effects of shocks of independent variables. This approach also determines how each actor responds over time to the first shocks in other variables. So these two methods are named as Innovative Accounting that allows an intuitive insight into the dynamic relationship between gross domestic savings and economic growth. They are applied on the annual time series data starts from 1971-2007 for Pakistan.

According to variance decomposition, it breaks down the forecast error for gross domestic savings and economic growth, if gross domestic savings explain more of the variance. Under the discussion above a VAR system is established that makes following model:

$$V_t = \sum_{i=1}^k \delta_i \times V_{t-i} + \eta_t \quad (1)$$

Where, $V_t = (LEG, LGDS)$, and $\eta_t = \langle \eta_{LEG}, \eta_{LGDS} \rangle$, $\delta_1 - \delta_k$ are two by two matrices of coefficients and η is a vector of error terms. LEG = log of economic growth proxied by income per capita and LGDS = log of gross domestic savings as share of GDP.

3. Results and discussion

Ng-Perron (2001) test is employed to investigate the order of integration for the said actors. The results of unit root test at level and at 1st difference with constant and trend are shown in Table 1. The values of MZa , MZt , MSB & MPT are greater than critical values indicating non-stationary at level. Results at the 1st difference show that both variables are stationary. It concludes that

economic growth and gross domestic savings are having $I(1)$ order of integration.

Table 1

Variable's order of integration*				
Ng-Perron at level				
Variables	MZa	MZt	MSB	MPT
LEG	-9.1833	-2.0172	0.2196	10.3964
LGDS	-10.624	-2.2484	0.2116	8.84327
Ng-Perron at 1 st difference				
LEG	-16.9357	-2.9052	0.1715	5.4087
LGDS	-31.4951	-3.8847	0.1233	3.3594

*Ng-Perron (2001, Table 1)

Table 2

ARDL estimation with parsimonious model results			
ARDL with Constant & Trend			
Dependent Variable	F-Statistics	Wald- Statistics	Chi-square
LEG	11.284	8.889 (0.0013)	17.778 (0.0001)
LGDS	5.798	3.349 (0.0522)	6.698 (0.0351)
Critical Bounds	Instability Level	Lower Bound	Upper Bound
Pesaran et al. (2001)	1% 5% 10%	8.74 6.56 5.59	9.63 7.30 6.26

Table 3

Johansen first information maximum likelihood test for co-integration							
Hypotheses	Trace-Test	5 percent critical value	Prob-value**	Hypotheses	Max-Eigen Statistic	5 percent critical value	Prob-value
$R = 0$	35.4882	18.3977	0.0001	$R = 0$	33.5729	17.1476	0.0001
$R \leq 1$	1.91531	3.8415	0.1664	$R = 1$	1.91531	3.8415	0.1664

**MacKinnon, et al. (1999) p-values.

After obtaining the order of integration of running actors, Tables 2 and 3 show evidences of the existence of long-run relationship between gross domestic savings and economic growth in Pakistan⁽⁴⁾. ARDL bounds testing approach is intimating the one cointegrating vector between variables like Johansen First Information Maximum Likelihood test for cointegration.

Table 4 shows that how the forecast error variance of the variables can be broken down into components that can be attributed to each of our variables in VAR. It shows the exact explanations about their relationship through innovative shocks while forecast error variance decomposition of unrestricted VAR (3) models are estimated over a 10-year forecast time horizon.

From the test it may be concluded that each time series describes the prevalence of its own values. Economic growth explains more than 97 percent of its forecast error variances that is explained through its own innovative shocks. The gross domestic savings show innovative impact through its own shocks which is nearly 58 percent. It shows that economic growth is predominantly explained by its past values or innovative shocks and mildly through gross domestic savings. It is concluded that current economic growth influences future growth trends. Gross domestic savings lead economic growth not more than 3 percent through its innovative shocks while economic growth leads gross domestic savings by more than 42 percent through their innovative shocks on each. The phenomenon explains that there is one-way causality running from economic growth to gross domestic savings. It is supported by Sinha and Sinha's (1996) arguments for Pakistan based on simple Granger causality approach.

Table 4

Variance decomposition percentages of 35-year error variance		
Percentage of forecast error variation in	Typical shocks in	
	LEG	LGDS
LEG	97.30	2.70
LGDS	42.11	57.89
Toda and Yamamoto for Granger causality		
variables	LGNPC	LGDS
LEG	-	0.058
LGDS	8.065*	-

To test the robustness of the causality between economic growth and domestic savings Toda and Yamamoto (1995) technique has also been employed⁽⁵⁾. The results of Table 4 show that only economic growth leads the gross domestic savings but gross domestic savings has not causal relation with economic growth. The results are matching with the results by Innovative Accounting Techniques.

Finally, impulse response function is used to investigate the time paths of log of economic growth (LEG) in response to one-unit shock to log of gross domestic savings (LGDS) and vice versa. A graphical representation of impulse response function provides a spontaneous insight into dynamic relationships as

it shows that how economic growth responds over time to a shock in gross domestic savings and vice versa.

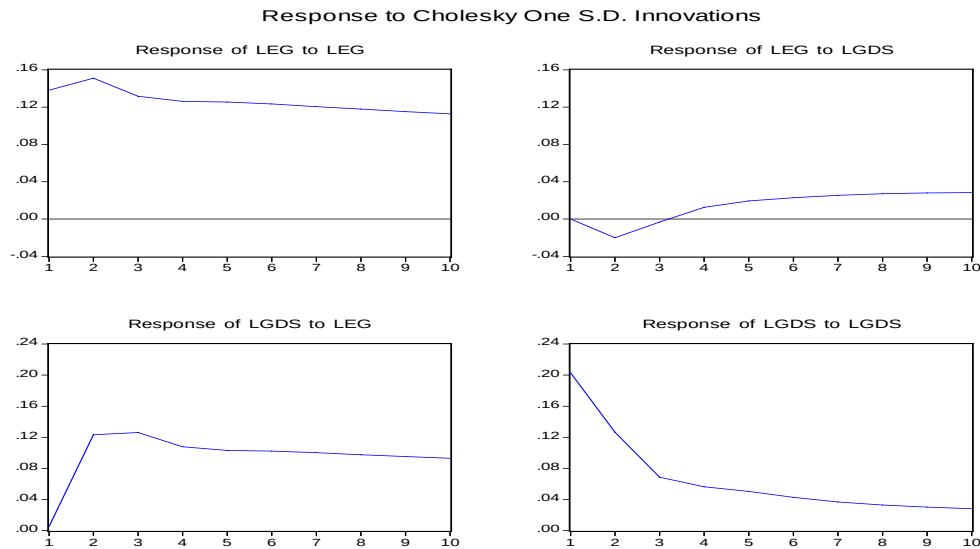


Figure 1. *Impulse response function*

4. Conclusion

The objective of the study is to reinvestigate the long-run relationship between economic growth and savings in Pakistan. For the purpose ARDL Bounds and Cointegration techniques were applied. The results explain that there exists long run relationship between economic growth and gross domestic savings. To find out the direction of causality, Innovative Accounting Approach and Granger-causality by Toda and Yamamoto (1995) are applied. Both results suggest that economic growth leads to the gross domestic savings that means the direction of causality is from economic growth to domestic savings but there is no response from opposite side. This shows that Pakistan is a consumption pattern country and less focuses to save money for investment projects both at macro and micro level.

Notes

- (1) Carroll et al. (2000) demonstrated that “if utility depends partly on how consumption compares to a *habit stock* determined by past consumption, an otherwise-standard growth model can imply that increase in growth can cause increased saving.”
- (2) Triantis (1997) questioned the validity of the life cycle model.
- (3) The methodology of Innovative Accounting technique is based on Shahbaz.
- (4) Methodological Framework of both ARDL and Johansen Co-integration approaches is given in Appendix-A.
- (5) One of the shortcomings of the Granger causality test procedure is that the variables used in the test must be stationary. While the main advantage of Toda and Yamamoto (1995) is that it allows for the variables in the VAR to be non-stationary or even co-integrated. It therefore allows us to test for causality between the levels of economic growth with domestic savings even though if both actors are known to be non-stationary.
- (6) The second advantage of using the bounds testing approach to Co-integration is that it performs better than Engle and Granger (1987), Johansen (1988) and Philips and Hansen (1990) Co-integration test in small samples (see e.g. Haug, 2002). The third advantage of this approach is that the model takes sufficient number of lags to capture the data generating process in a general-to-specific modeling framework (Laurenceson, Chai, 2003). However, Pesaran and Shin (1999) contended that, “appropriate modification of the orders of the ARDL model is sufficient to simultaneously correct for residual serial correlation and the problem of endogenous variables”.

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Appendix-A

A1. ARDL bounds testing procedure

The ARDL approach to cointegration is selected as it performs better in small sample sizes than other cointegration techniques. Besides, it is applicable irrespective of whether the underlying regressors are purely $I(0)$, purely $I(1)$ or mutually cointegrated⁽¹⁾. The statistic underlying this procedure is similar to Wald or F-statistic in a generalized Dickey-Fuller type regression, which is used to test the significance of lagged levels of the variables under consideration in a conditional unrestricted equilibrium error correction model (ECM) (Pesaran et al., 2001). The ARDL approach involves estimating the following unrestricted error correction model (UECM):

$$\Delta Y_t = a_0 + \sum_{i=1}^p \alpha_1 \times \Delta Y_{t-i} + \sum_{i=1}^p \alpha_2 \times \Delta X_{t-i} + \beta_1 \times Y_{t-1} + \beta_2 \times X_{t-1} + \varepsilon_{1t} \quad \dots \quad (2)$$

⁽¹⁾ The second advantage of using the bounds testing approach to Co-integration is that it performs better than Engle and Granger (1987), Johansen (1988) and Philips and Hansen (1990) Co-integration test in small samples (see e.g. Haug, 2002). The third advantage of this approach is that the model takes sufficient number of lags to capture the data generating process in a general-to-specific modeling framework (Laurenceson, Chai, 2003). However, Pesaran and Shin (1999) contended that, "appropriate modification of the orders of the ARDL model is sufficient to simultaneously correct for residual serial correlation and the problem of endogenous variables".

Where Δ is the difference operator, p represents the lag structure, Y_t and X_t are the underlying variables, and ε_{1t} and ε_{2t} are serially independent random errors with mean zero and finite covariance matrix. The null hypothesis is $H_0: \beta_1 = \beta_2 = 0$, i.e. there exists no long-run equilibrium relationship, and the alternative hypothesis is $H_1: \beta_1 \neq \beta_2 \neq 0$ (Pesaran et al., 2001). These hypotheses are tested using the F -test. However, this test has non-standard distributions depending on the sample size, the inclusion of intercept and trend variable in the equation, and the number of regressors. The estimated ARDL test statistics are compared to two asymptotic critical values reported in Pesaran et al. (2001, pp. 300-304) rather than to conventional critical values. If the test statistic is above an upper critical value, the null hypothesis of no long-run relationship can be rejected regardless of the orders of integration of the underlying variables. The opposite is the case if the test statistic falls below a lower critical value. If the sample test statistic falls between these two bounds, the result is inconclusive.

A2. Johansen Co-integration

In order to test the robustness of the results, we also applied the traditional Johansen cointegration procedure. The Johansen (1991, 1995) Cointegration involves investigation of the p -dimensional vector Autoregressive procedure of k^{th} order:

$$\Delta X_t = \alpha + \sum_{i=1}^{k-1} \Gamma_i \times \Delta X_{t-i} + \Pi \times X_{t-k} + \eta_t \quad (3)$$

where Δ is the first difference lag operator, X_t is a $(p \times 1)$ random vector of time series actors with order of integration equal to $I(1)$, α is a $(p \times 1)$ vector of constant, Γ_i are $(p \times p)$ matrices of parameters, η_t is a sequence of zero-mean p -dimensional white noise vectors, Π is a $(p \times p)$ matrix of parameters, the rank of which contains information about long-run link between the underlying variables. Vector error-correction model (VECM) expressed in equation reduces to an orthodox vector autoregressive (VAR) model in first differences if the rank (r) of Π is zero, while if Π has full rank $p=r$, all elements in X_t are stationary. Further more, $0 < r < p$ suggests the prevalence of r cointegrating

vectors, such that there exists $(p \times r)$ matrices, δ and β each of the rank r such that $\Pi = \delta \times \beta'$, where the columns of the matrix, δ is adjustment factors and rows of the matrix β is the cointegrating vectors with property that $\beta' \times X_t$ is stationary even though X_t may comprise of individually $I(1)$ process. Test of the hypotheses that the number of Cointegration vectors is at most r ($r = 1, \dots, 2, p$) are conducted utilizing the likelihood ration (trace) test for reduced rank in the context of restrictions forced by Cointegration on the unrestricted VAR involving series X_t .

Some Socio-Economic Effects of Labor Migration on Sending Countries. Evidence from Romania

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Abstract. *The paper presents the recent labor migration flows and trends and the impacts of theme on Romanian economic and social life. After Romania joined the EU, the travel of Romanians inside the EU is totally free and they fructified this opportunity. There are important economic consequences of this movement. In the paper we analyze the demographic consequences, since category that emigrated for economic reasons in the last years is composed of youngsters (around 30). There are also important economic consequences on financial aspects and life quality of Romanians, since the volume of money transfers was about seven billion Euros in 2007. There is also a social impact particularly on the life of migrant families. The most problematic issue is the temporary abandonment of minors by their labor migrant parents, and that, forced authorities to get policies to monitor the situation.*

Keywords: labor migration; sending countries; migration trends; migration impacts; Romanian economy; European Union.

JEL Codes: H26, J61, P25, R23.

REL Codes: 10G, 12E.

Introduction

After 1989, when the border barriers had fallen, migration reaches a peak in Romania. It is well known that Romania rapidly becomes a country of net emigration and this fact implies severe consequences at different levels: economic, social and demographic. It is crucial to point out that the statistical data on migration captures only the regular emigrants who change their permanent residence. Labor migration is hard to quantify, although in the late years it becomes the most important component of Romanian migration.

Migration is usually defined as the movement of a person or group of persons from one geographical unit to another across an administrative or political border, wishing to settle permanently or temporarily in a place other than the place of origin. Since the movement between two geographical units does not have to occur directly, one further differentiates between the place of origin or sending region, transit regions, and the place of destination or receiving region (OIM, 2003, p. 8). Movements within a country are usually defined as internal migration and, accordingly, movements across international borders are called international migration. In this paper we exclusively focus on international migration. Taking this into account we will focus only on international migration.

The objective of the paper is to present and explain some of the effects of labor migration at microeconomic level (individuals, families) and macroeconomic level in Romania. In this respect, we consider Romania as being a sending country and one of the important labor resources for European labor market.

The paper is structured as follows. In the first part we briefly present the most relevant findings in the research focused on migration impacts on sending countries. The literature on East European countries is affected by the lack of statistical data on labor migration in most of the countries.

To better understand migration and its specificity in Romania, in the second part there are presented the most important trends in permanent migration after 1989. There were identified five phases of migration in Romania. The most significant component of Romanian migration is temporary labor migration, presented in section four. We present in the fourth part the most important impacts of labor migration, both positive and negative, at individual and social level. Some relevant conclusions are drawn in the final part.

1. Literature review

Theoretical literature is rich in analyzing the connection between economic growth and migration, from the perspective of receiving countries. Besides this, there are only a few empirical studies in this respect. The results of

these empirical studies on the link between immigration and growth come to conflicting results. Barro, Sala-i-Martin (1992), for example, finds for the US and Japan that migration has a positive, though small effect on growth. Concluding that migration is negatively related to the convergence between regions, the empirical results of Blanchard/Katz (1992), however, are diverging with those of Barro, Sala-i-Martin (1992). The lack of evidence and the conflicting results indicate that much more research is needed on this important issue, fact that is convenient for our research.

As mentioned above, the overarching theme of the current migration debate is the nature of the economic effects for the receiving economies. Yet, neither are the causes and consequences of migration well understood, nor is it obvious how to predict its development into the future. Most importantly, immigration has become a more variegated phenomenon, making a shift of research particularly to the receiving region Europe indispensable. Within Europe the free movement agreement of the EU, in principle, smoothes the way for labor migration across national borders.

The main approach of migration impacts on receiving countries is to estimate the impact of immigration on the labor market outcomes of natives. Several studies estimate a production function to calculate the elasticity of substitution between immigrants and natives. Most existing studies, however, look at the labor market effects of immigration on natives by estimating a reduced-form wage or unemployment equation, where the share of immigrants in a region or an industry is the main explanatory variable of interest.

Reviewing the European literature (Bauer, Zimmermann, 2002) come to the conclusion that there is no evidence of economically significant reductions in native employment. So far it has not been possible to quantify any of the presumably positive demand side effects working via goods markets, let alone indirect (positive) effects of increasing variety of goods and services, or (negative) effects of excessive crowding on the housing market.

The economic impact on the sending country received a few decades a limited attention from the research community, but recent years have witnessed an intense debate on the extent and the consequences of so-called brain drain migration. This is put into a demographic context. Europe's societies are aging, placing their pay-as-you-go social security systems under considerable demographic pressure. It becomes increasingly well understood that a regulation of future immigration that is tailored to attract young and economically successful migrants can alleviate some of the demographic burden associated with an aging population (Bonin et al. 2003).

The increasing interest in analyzing the migration effects on sending countries is proven by the report *Effects Of Migration On Sending Countries*:

What Do We Know?, (Louka T. Katseli, Robert E.B. Lucas and Theodora Xenogiani, 2006), which devotes a special attention to remittances. Remittance flows do benefit both the migrants' households and the non recipient ones through multiplier effects of spending. Temporary migration tends to be more conducive to higher remittance flows than permanent settlement to the host country, especially when it involves low-skilled migrants, not accompanied by family members, who expect to return to their country of origin. León-Ledesma and Piracha (2004) look at the case of eleven transition economies in Eastern Europe between 1990 and 1999. In this context, they also find a significant positive association between remittances and aggregate investments, after controlling for GDP per capita, the real rate of interest and inflation.

There are a few studies devoted to Romanian migration and its economic effects. Nicolae (2007) concludes that if the EU countries will continue to attract human capital from Romania, then their economies will evolve faster, and the Romanian economy will lag behind and on long term the EU's and the Romania's economic growth will have different configuration. Silasi and Simina (2008) analyze migration and mobility issues in the context of an enlarged European Union (EU-27). They consider that Romania, a country with a labour market that faces distortions, will benefit from migration on short term, but will need to import labour force in order to maintain the development trend. Constantin (2004) analyze migration from a regional perspective and in connection with European Union integration. Gosschin, Constantin and Roman (2009) approach some collateral effects of migration, such as human trafficking.

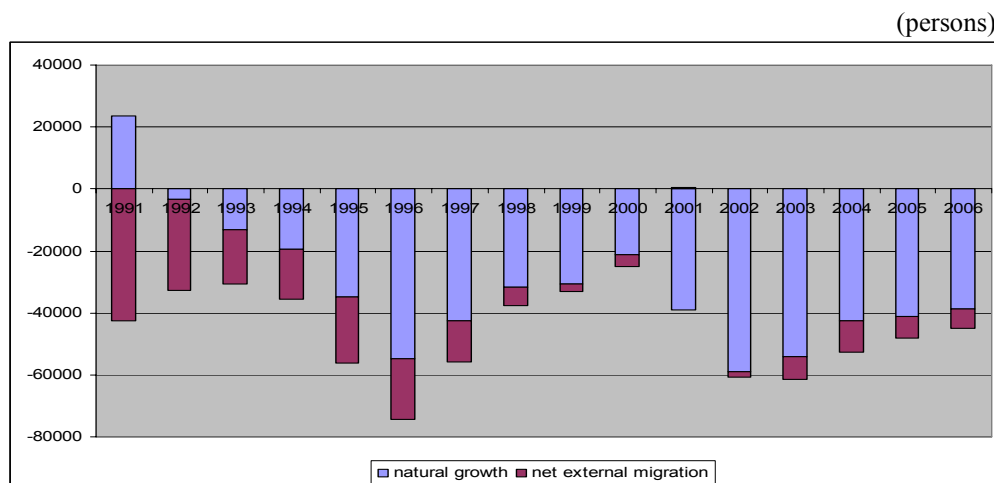
2. Trends of permanent migration

The demographic trends and population structural changes occurred after 1989, as consequences of the political and economic transition crossed by Romania, are characterized by a severe population decline.

A decrease of population number may be the distinct or cumulative result of three factors:

- negative net external migration higher than the natural growth;
- increase of death rate and exceeding the level of birth rate;
- recoil of birth rate under the level of death rate.

All these changes occurred in Romania after 1989. More than that, in 1990 and 1991 the emigration was very high and outbalanced the moderate natural increase. Starting with 1992, the natural decrease of population was added to the negative external migration, as a result of a sharp and deep drop in the birth rate and an upswing in the death rate.



Source: Demographic Yearbook of Romania 2006 and Statistical Yearbook 2007.

Figure 1. *Natural growth of Romanian population and net external migration (1991-2005. Romanian case)*

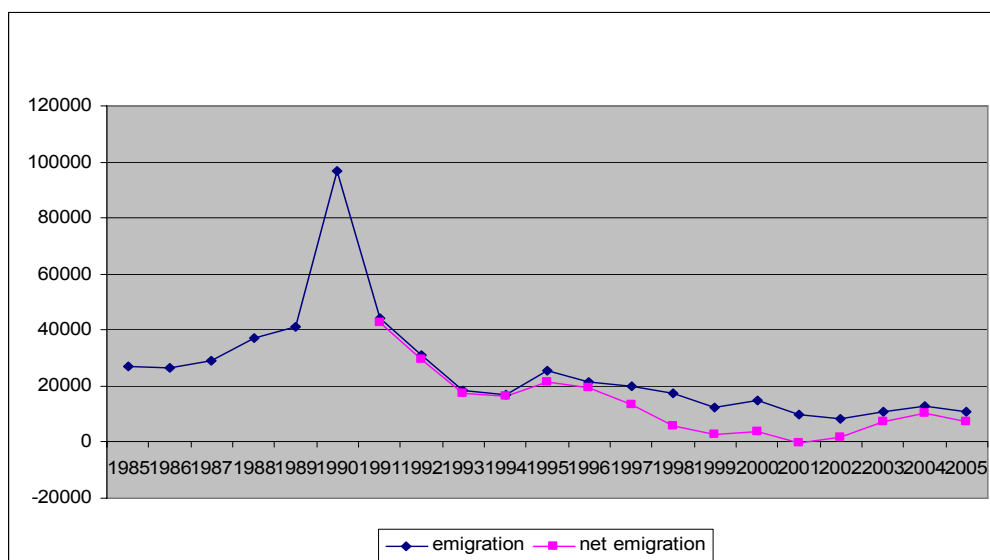
It is easy to observe that demographic evolution during the last 10 years was influenced by a complex of factors, among which it has to be mentioned: freedom of couples to decide upon the desired number and spacing their children, high economic and social costs supported by population during the transition period, the housing crisis and the low access of young people to an own dwelling, the changes in population behavior with respect to family formation and dissolution, the social unstableness and unemployment. External migration, stimulated by the political factors, has an important contribution to population decline (Figure 1).

Romania is subscribing to the worldwide migration phenomenon, having a history of migrations marked by booms and declines, based mainly on internal political, social and economic conditions. It is in human nature to try to find better living conditions, and therefore more developed regions are attracting people from poorer parts of the world. The process of migration involves a subject (emigrant or immigrant), at least two countries (the origin and the destination country, but also the transitory countries) and an intention to get settled or to find a job in the destination country.

The Romanian external migration has two faces: the legal one, statistically recorded emigration & immigration, and the migration for work. The first component is not very important as size: 10 to 15 thousands emigrants and a few thousands of immigrants by year. One can notice the high proportion

of emigrants having university level education – around 25%. The main destination countries are Germany, Italy, USA, and Canada.

The immigration flow has two components: a returning migration and a moderate number of immigrants from the Republic of Moldova. This is the country of origin for most of the Romanian immigrants; some of these are interested in obtaining Romanian citizenship in order to find opportunities for a better life in European Union.



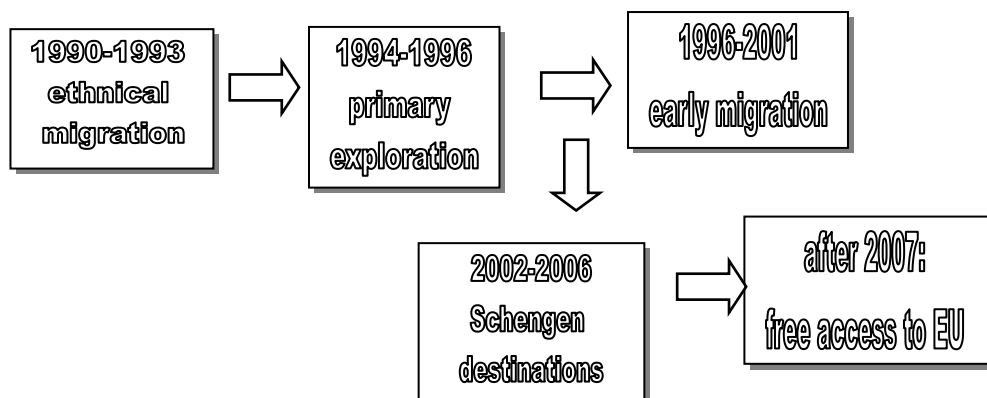
Source: Demographic Yearbook of Romania 2006 and Statistical Yearbook 2007.

Figure 2. *Emigration and net emigration flows (1985-2005). Romanian case*

In Figure 2 there is possible to identify several phases in migration history in Romania after 1989, presented bellow.

- *1990-1993*: mass permanent emigration of ethnic minorities (German, Hungarian) plus Romanians fleeing political turmoil and poverty. The latter tended to apply for political asylum in the West, peaking at 116.000 applications in 1992 (Ethnobarometer, 2004);
- *1994-1996*: low levels of Romanian economic migration to Western Europe -mainly for seasonal or illegal work-along with continued very low levels of ethnic migrations and asylum-seeking;
- *1996-2001*: the development of several parallel trends and increases in emigration, making this a complex phenomenon to analyze:
 - (a) permanent migration increasingly to the USA and Canada, rather than legal migration to European countries.

- (b) the emergence, especially since 1999, of illegal “incomplete” or circular migration to European countries, for illegal work⁽¹⁾.
- (c) growth of trafficking in migrants, a phenomenon overlapping illegal migration but distinguished by violence and abuse by traffickers/employers. This type of migration is thought to be predominantly of females.
- (d) from 1999, a small usage of labor recruitment agreements with various European countries (Germany, Spain, Portugal, Italy);
- (e) some return migration of Romanians, notably from Moldova, as well as a developing circular migration of Romanians between Germany and Romania;
- **2002- 2007:** elimination of the Schengen visa requirement promoted a rapid growth in circular migration, even to the extent that Romanians who had previously been “stranded” in Schengen countries were able to return to Romania to enter the circular migratory system (Ethnobarometer, 2004). With the possibility of 3 months’ legal tourist stay, a sophisticated circular migration system developed, focused primarily on Italy and Spain (IOM, 2005). This new strategy succeeded in evading European labor market controls by migrants’ working illegally for three months – essentially, job-sharing with other Romanians;
- **2007- to date:** free access to European labor market, fact that favors both market creation of labor and severe sideslips on local labor markets, as we can observe from Figure 3.



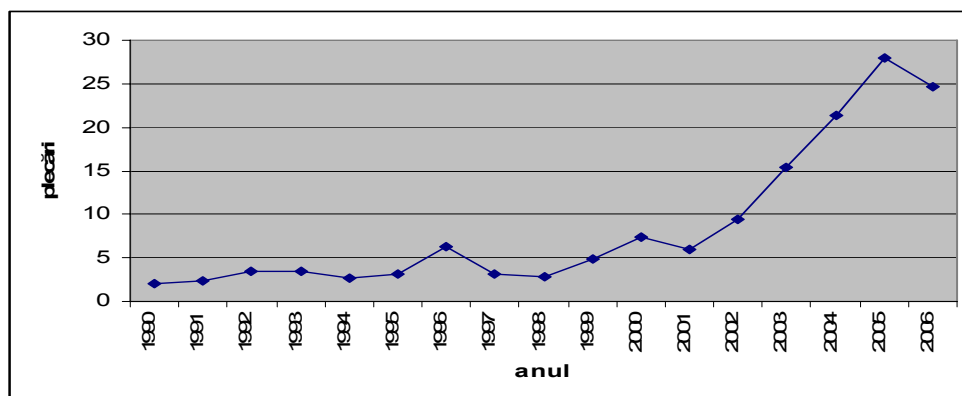
Source: own estimation.

Figure 3. *Phases of Romanian migration after 1989*

3. Intensity and consequences of temporary migration

Migration for employment became the most important component of Romanian migration during the last years. Unfortunately its description in figures is not complete and official statistics regarding migration for employment begin to exist only with the year 2005. According to the Romanian Office for Labor Force Migration's estimates⁽²⁾, there are about 2 million Romanians employed abroad in non seasonal activities, which represents more than 10% of Romania's inhabitants.

In this study we use data from *Living Abroad On A Temporary Basis, The Economic Migration Of Romanians: 1990-2006*, conducted by Open Society Foundation (OSF) and which is representative at national level. The sample of 1,400 people used for data gathering at national level was designed based on a probabilistic, two stage pattern, with stratification in the first stage. The unit of selection in the first stage was the voting station, and, in the second stage, the person to interview. According to OSF, more than one third of the households had at least one migrant for employment in the period mentioned above.



Source: own calculation based on data from Temporary Living Abroad. Economic migration of Romanians: 1990-2006, Open Society Foundation, December 2006.

Figure 4. Persons temporary living abroad per 1,000 inhabitants (1990-2006).
Romanian case

3.1. Socio-demographic effects of temporary migration

From a demographic perspective, the consequences of migration are very important. The tendency of definitely remaining in the destination countries is well installed and that involves a permanent *human loss*, which in the long run is affecting economic growth of the country and even decline of economical

activity. Human factor is the most important source of economic growth, growth rates are expected to be lower than in case of remaining at home and contributing to the value production in the native country.

International mobility is bigger among persons having the appropriate age to work; as a consequence, emigration countries face an accelerated demographic *aging process* of their population, which is currently a demographic phenomenon present in Romania.

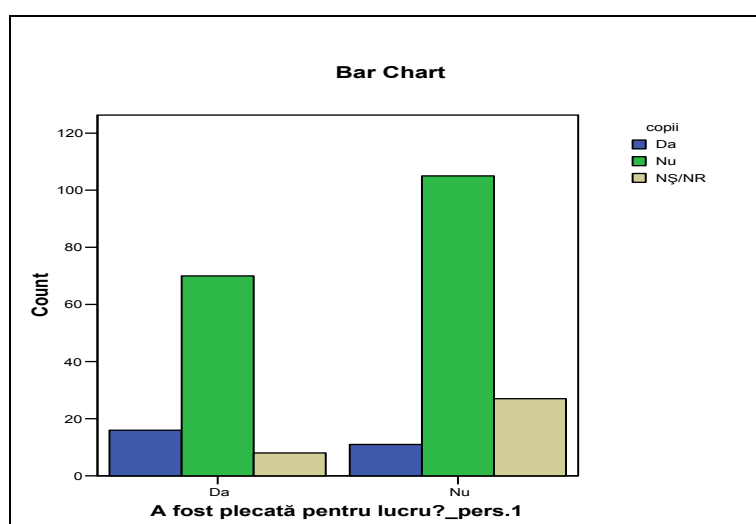
Those who emigrate are young people and their share is constantly increasing, so that we can argue that emigration affects age groups with high specific fertility rates thus it can reduce the potential of newly born in Romania, mostly if the emigration becomes permanent. The emigration structure by gender reveals some changes, migrant women become more numerous in the last years, in 2004, 62% of the migrants being women and the age group 26-40 years accounts for 58% of the migrant population. There is an increasing tendency in these figures and therefore in 2008 65% of emigrants were women. The effects on *birth rate and fertility* are starting to be noticed since a large number of children are born outside the country.

The labor migration effects at family levels are multiple, both positive and negative. Money sent by emigrants to their families is increasing their quality of life and has positive effects on the family relations. Beside this, families suffer for losing one or more members on a temporary basis. In fact, the longer the time of departure is, the more significant the effects on the family are. The departure of one of the members determines reorganization of the roles within the family. In that case, the remaining members of the families take over the roles/functions of those migrated for employment which it can affect the well being of the family or of the couple relationship. This could lead to family disbandment (divorces).

One of the most important negative effects of the labor migration seems to be in relation with the migrants' children which remain (in the happiest cases) with just one of their parents. But there are lots of cases when both of the parents migrate for employment abroad and therefore the grandparents or other relatives, even friends or neighbors, care for their children. Sometimes, the migrants abandon their children which end up in the state's care. So, children are affected in certain extent (and some of them traumatized) by their parents leaving as the persons responsible for their well being cannot fulfill the parental roles. Also, the elderly (or other dependent persons) could be affected by the migrants' leaving, especially within communities with high level of migration.

In some cases, children are leaving the country along with their parents. They have to pass an accommodation period, to learn a new language and to live in a different social environment. This is stressful for them.

According to the mentioned study, *Living Abroad On A Temporary Basis The Economic Migration Of Romanians: 1990-2006*, most of the individuals in households with members who have been gone abroad do not feel any change related to the children or family relations. Starting with OSF, we analyze as a variable *The fact that someone in your household has been abroad for a while, has brought – for you – changes in children* and we found that only 11% from the respondents claimed that they have problems in relation with their children in this respect.



Source: based on data from *Temporary Living Abroad. Economic Migration of Romanians: 1990-2006*, Open Society Foundation, December 2006.

Figure 5. *The impact of living abroad on the relationship with children*

However, the percentage of respondents is low, there are differences between the various categories of respondents. Thus, we notice that the individuals with work experience abroad state, in a higher percentage than the others, that the experience abroad generated certain changes with respect to family relations and children (Figure 5).

We observe that migrants tend to think that the foreign experience has a positive influence on family relations and on the understanding with the life partner, as the money earned from working abroad contributes to an improvement in the quality of life, in the migrant households, and implicitly to an improvement in the relations within the family. They are not aware by the impacts on their children's personal life and they are neglecting the consequences on their future development.

3.2. Economic effects of temporary migration

From the point of view of our paper, it is relevant to explain to what extent migrants may benefit from their (temporary) stay abroad.

There is widespread consensus that temporary migration may contribute to higher skill due to the higher level of technological development in the new workplace. Therefore, we aim to verify the hypothesis if temporary migration abroad has a significant influence on the income of the person who worked abroad, compared to those who did not have migration experience.

We consider income as being the dependent variable and select several variables as explanatory variable: work experience, education, computer skills, foreign languages knowledge and working abroad experience. We run a multi-linear regression on LTS database, with 1032 individuals with or without temporary migration experience during 1990-2006. Table 1 shows the results of the linear regression analysis, with income level as dependent variable, used as logarithm in the regression pattern. All coefficients marked with bold are significantly different from zero for $p = 0.05$. The final pattern was obtained through the “backward elimination” method. Adjusted R^2 is 0.336 and therefore the selected factors explain 33.6% from the variability of individual income, because of the experience accumulated by immigrant person.

Table 1

Results from the regression model on income (n=1032)					
Factors	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.924	0.198		4.658	0.000
Education (last school graduated)	0.194	0.012	0.474	15.946	0.000
Computer skills	0.410	0.067	0.206	6.142	0.000
Work Experience	0.169	0.024	0.208	7.023	0.000
Temporary external Migration experience	0.221	0.073	0.078	3.024	0.003

As a result of our research method, using regression to analyze the relations between several factors that could affect the individual income, the regression analysis shows that:

1. The experience of temporary work abroad positively affects the income. Persons with a work experience abroad have a higher income after their returning to Romania (positive correlation);
2. As it was expected, the main factor that directly affects the income is education. A high number of school years determine a larger income (positive correlation);

3. Income is also directly influenced by computer skills and work experience (positive correlation);

4. In present study we had also control the impact of the *knowledge of foreign languages* but this factor was not significant, for this reason it was excluded from the model.

Direct impact of the migration abroad can be easily “counted” by analyzing the investments made with the money earned from working abroad. The analysis of the investments also allows us to observe to what extent the households invest this money or spend for consumption goods.

The national data show that, in the last five years, a significant part of the Romanians invested in durables: 50% of the Romanians bought household appliances, 37% expanded /modernized their home, and 16% bought cars, etc. However, regardless of the goods purchased, about 10% of the investments were made with the help of the incomes from migration. If we narrow the analysis to just the individuals who purchased goods with money from the migration abroad, we notice that more than 50% of them invested in expanding/modernizing their home, and that the same percentage also invested in purchasing household appliances. A significant percentage (about 21%) represents the households that, in the last five years, spent money from migration in order to purchase one or several cars.

The work migration and the entrepreneurship are life strategies tightly interconnected. Work experience abroad positively associates both with entrepreneurial behavior, and with the intentions to develop a business. As the migrant accumulates financial, human and relational capital abroad and satisfies his/her basic needs, he/she tends to invest this capital in productive activities, becoming an entrepreneur on his/her own. For an important part of the Romanian migrants, working abroad represents an intermediate strategy before putting into practice the entrepreneurial strategy, fact revealed by the strong connection between the work experience abroad and the entrepreneurial orientation, both on a behavior level, and on an intentional level.

Above conclusions generates other effects of labor migration on economical level. The external migration causes divers effects at macroeconomic level. The most important impacts are connected with severe disequilibrium and dysfunctions on the labor market, such as:

- potential employment capacity of the labor force;
- unemployment rate and its characteristics;
- emigration of high qualified labor force, – the loss of “brains”, capable of creating a high level of added value;
- wage distortions and the segmentation of the labor force;

- increasing of underground economy (black labor);
- diminished potential of local labor force – use immigrants in order to complete the lack of local labor force.

Beside these negative aspects, migration has positive consequences on sending countries economies.

The most positive short-term impact is decreasing unemployment, as it can be experienced in all large sending countries such as Romania, but also Poland, Slovakia, Bulgaria. If migration includes mainly otherwise unemployed people, also the budgetary impacts are positive (less unemployment benefit to be paid). Moreover, neither the favorable socio-political impact should be ignored, since high unemployment is generally accompanied by higher social tensions and, as a consequence, by higher budgetary expenditure on social stability (particularly in regions with very high unemployment rate). Migration reduced reform pressure on Romanian government. For some areas/regions, migration for employment abroad release the pressure from the local labor markets, as well as the pressure from the social assistance schemas with respect to migrants which are their potential beneficiaries. For other areas/regions, migration for a better employment produce labor force shortage and affects the potential of local economic and social development. In fact, the highest labor force shortage is displayed by those Romanian regions which display high migration flows.

One positive effect of migration is money transfers, with strong implications at macro economic at microeconomic level. The estimates of the National Bank of Romania regarding workers' remittances equaled 1,753.5 million US \$ in 2004 and 4,440.9 million US \$ in 2005⁽⁴⁾, which accounts for 4.51% of the 2005 Romania's GDP.

Money transfers' effects at macroeconomic level are rather difficult to capture because of their action on a large number of macroeconomic variables. The most visible and immediate impact of transfers is on the households' consumption, important at macroeconomic level as being part of the aggregate domestic demand, component of the GDP. But transfers also affect investments and savings. Transfers received by households directly increase their disposable income, hence increase consumption which leads to temporary poverty reduction. They can also reduce inequalities through their distributional effects.

Concluding remarks

The future of Romanian external migration is partially known only. Western countries need now foreign labor force for economic reason. But some western countries start facing a small natural decrease of population. Immigration covers this natural decrease and the number of population is not declining. Other western countries will have natural decrease during the next years. To avoid population decline, the western countries will increase the immigration level and the reservoir of this migration will be the eastern countries – including Romania (and not the South, as during the post-war economic boom).

There are important economic consequences of this movement. In this paper we analyze the demographic consequences, since category that emigrated for economic reasons in the last years is composed of youngsters (around 30). There were identified important economic consequences on financial aspects and life quality of Romanians, since the volume of remittances was about seven billion Euros in 2007. There is also a social impact particularly on the lives of migrant families. The most problematic issue is the temporary abandonment of minors by their labor migrant parents, and that forced authorities to formulate policies to monitor the situation, which involves more public spendings.

The Romanian external migration will be influenced in the future by how strong and stable will be the national economic growth; to what extent this growth will raise significantly the standard of living, and the immigration policies of western countries. According to the most figures, after a severe recession caused by the economical crisis, in Romania, the first signs of recovery are not easy to observe. We will conclude this paper sustaining with faith that migration phenomenon is influenced primarily by economic evolution, fact that preserves new possibilities for further analysis.

Acknowledgements

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Notes

- (1) For a detailed analysis of demographic decline in Romania, see Ghețău Vasile. *Declinul demografic și viitorul populației României*. Editura Alpha MDN, 2007.
- (2) In the paper *Temporary Living Abroad. Economic migration of Romanians: 1990-2006*, Open Society Foundation, December 2006.
- (3) Liberalization of Labor Market in Romania. Opportunities and Risks, Office for Labor Force Migration, 2006.
- (4) National Bank of Romania: Mihai Copaciu, Irina Racaru, Romania's external balance – qualitative and quantitative approaches, October 2006; the estimates include also unofficial transfers.

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Performance of Financial Control

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Abstract. *Financial control contributes to the augmentation of efficiency, both in one's business and the controlled institutions, appealing to its well-known methods and techniques. If properly targeted, these methods can lead to outstanding achievements. The overall purpose of the debate focuses on evincing the means of quantification regarding the efficiency of the control process*

Keywords: effects; efforts; resources; control; management.

JEL Code: M13.

REL Codes: 14D, 14I, 4J.

1. Introductory remarks

Efficiency reflects certain concrete manifestations of the principle of rationality in the economic activity. Efficiency criteria express the necessity that the involved factors be used under optimal conditions, which signifies that the achieved outcomes should be superior to the efforts put in.

In the case of financial control, efficiency is determined by its contribution to preventing and eliminating dysfunctions, improving organisation and the management of the decision-making process and enhancing the overall efficiency of the economic activity.

Our view is that the efficiency of financial control must be assessed not in terms of the volume of the losses discovered and the sanctions enforced but, rather, in terms of the volume of recovered debts, of solved debits and outstanding credits, of available stocks which were capitalised as a result of the measures imposed after the completion of the enquiry.

Nowadays, it is deemed that the efficiency of control will be higher as long as more emphasis is laid on the prevention of misconduct and on recommending measures to regulate the controlled field.

The efficiency of the financial control is determined by the permanent relationship between two areas of action, namely: the preventive-operative area and the area of immediate capitalisation on the conclusions of the control.

2. Means by which financial control impacts the increase of economic efficiency

Through specific actions, financial control professionals play an important role in increasing the efficiency of the controlled economic entities. This confirms the basic principles that underlie and justify the carrying out of financial control when the focus is on organising and managing the whole activity in order to guarantee its profitability.

Financial control contributes to increasing the efficiency of one's activity, and of controlled entities, by implementing a range of established procedures and techniques. When properly targeted, these methods can lead to high performance. In carrying out financial control (according to M. Cocioară, „*Conceptul de eficiență...*” [The Concept of Efficiency ...], in the journal *Revista Controlul economic financiar* [Economic and Financial Control], issue

3/1999, pp. 19-20) the following extremely simple yet equally effective recommendations must apply:

a. Financial control must not demand inadequate information and situations, which would require an allocation of time and create psychological strain, to the detriment of regular activity;

b. Financial control must consider the fact that economic phenomena and processes tend to be repeated to a certain degree, therefore at a given stage the same dysfunctions will be observed in most entities, which enables control agencies to identify them more rapidly and therefore to improve the efficiency of their own activity;

c. Financial control should be based on combined control methods customised to the specifics and particular issues of the controlled activity, which will allow the successive selection, as the examination process unfolds, of all the categories of dysfunctions.

In this context, the author quoted above (M. Coccoară) makes the following recommendations:

- The chronological control of the petty cash and bank-related documents must begin with the examination of the accounts 5121 “Cash at bank in lei” and 5311 “Petty cash in lei”, and then examine on a selective basis the documents pertaining to transactions which at first sight appear to be unclear;
- When any deficiencies are discovered, they will be recorded either directly in the objective that is analysed in the control brief or in the personal record;
- In order to clarify those issues which require discussions, the parties concerned will be invited, after a brief period, to save time, as this creates an opportunity to tackle several issues during the same appointment;
- To ensure that changes can be made during the period of control, in the first days the analysis will focus on accounts such as: “accounts payable”, “accounts receivable”, “suppliers of current assets”, “advance payments to suppliers”, “cash advances”, “suspense accounts”, “expense accounts”.
- If any deficiencies are observed, which require written explanations and the drafting of observation records, these documents will be prepared immediately or on the following day at the latest, to enable

the correction of the situation based on prompt actions taken during the control itself;

- The stage of analysis, discussion and conclusion involving the management of the entity will be scheduled for the last days of the control, except in serious cases of breach of law, such as violations that must be tackled without delay;
- Fines should not be imposed in the first days, to avoid the creation of a tense atmosphere;
- In setting the deadlines for preparing, submitting and motivating the models and reports, one should request the opinion of those who are tasked with preparing the documents and accept their submission within the time frame allocated to that specific objective. The tracking of the submission will be based on the operational notes made in the personal record book, which will specify the model, the person and the day the meeting is held;
- Financial control bodies must ensure that they avoid the creation of any conflict situations.

3. Financial control, in support of the management of the company

The realities of the modern society demonstrate ever more that the development of the market economy and its increasing complexity require the large-scale use of economic data as a foundation for decision-making to guarantee maximum speed of response and efficiency. Reliance of intuition alone tends to become a thing of the past.

Leadership in general and economic leadership in particular has become a science based on information of all types, which serve as the foundation for the numerous decisions regarding the use of material, financial and human resources. The complete exploitation of available information in the decision-making process can be achieved only within an informational economic system, designed as an overall set of means and methods of information collection, storage and use.

In this management context, financial control holds an important role, due to its capacity to retrieve information from source and to release it in a relatively short time, while simultaneously it contributes in applying decisions at all organisational levels and correcting the issues arising from erroneous adoption or implementation of decisions.

4. The efficiency of control

As noted above, economic efficiency reflects the outcomes of an economic activity, assessed in terms of the resources used to carry out that activity.

Financial control depends essentially for its execution on one determining and absolutely indispensable factor: the human factor. "In no economic activity as the financial control does the human factor play such an important role in achieving, under optimal and efficient conditions, the proposed objectives. This is because, due to its very nature, the control activity, in general, and financial control, in particular, places the one exercising it on a superior level to the one being controlled, a position which can become highly detrimental if used in an abusive or destructive manner. On the other hand, the system of interests which is automatically and almost involuntarily involved in any financial control, regardless of the structure and level of the examination, can have an impact on the conduct of the control activity under the strict provisions of the law and in compliance with the requirements which were a priori established for the control programs." (Pereş et al., 2005, p. 322).

In approaching the issue of the efficiency of financial control we will start from the formula of efficiency, a requirement emphasised by recognised specialists in this particular field.

The ratio of the efforts and their effects (outcomes) is expressed by the following formula:

$$r_e = \frac{C}{T_e} \quad (1)$$

where:

r_e = efficiency of the analysed activities;

C = total efforts put in;

T_e = total achieved effects (outcomes).

When defined according to this formula, the efficiency of the analysed activity is highest when the ratio (r) is lowest. Efficiency can also be expressed by the reverse ratio (r'_e):

$$r'_e = \frac{1}{r_e} \quad (2)$$

In this case, efficiency is highest when (r'_e), defined as the ratio of effects and efforts, is lowest. T_e , the total effects achieved by conducting an economic activity is synthesised in the following mathematical relation:

$$T_e = \sum_{i=1}^n E(i) \quad (3)$$

in which:

$E(i)$ = the effect (i) achieved;
 n = the total number of effects.

In practice, the total number of effects may be identical with the proposed effects, and in such a case efficiency (r_e) is equal with effectiveness (r_{ef}):

$$r_e = r_{ef} \quad (4)$$

In most cases, however, the total of the effects obtained consists of the proposed effects and secondary effects, which may or not be consistent with the proposed effects. *The ratio of efforts and proposed effects, when lower than the ratio of the same efforts and the total effects achieved, defines the notion of effectiveness.* In cases when secondary effects add to the set of proposed effects, the effectiveness of the analysed activity increases, as the ratio:

$$r_{ef} = \frac{C}{T_e} \quad (5)$$

becomes lower than the new ratio

$$r'_{ef} = \frac{C}{T_e + T_{ep}} \quad (6)$$

where:

r'_e = actual effectiveness;
 r_{ef} = proposed effectiveness;
 T_{ep} = the total effects that are consistent with the proposed effects.

The actual increase of effectiveness results from the deduction:

$$\Delta r = r_{ef} - r'_{ef} \quad (7)$$

In cases when the secondary effects are consistent with the overall proposed effects, but are not beneficial, effectiveness decreases because the ratio $r'_{ef} = \frac{C}{T_n}$ becomes higher than the ratio $r_e = \frac{C}{T_e}$

where

T_n = the total negative secondary effects.

5. Quantifying the efficiency of financial control

Nowadays, most specialists (among them Professor Ion Pereş, PhD, of the West University of Timișoara and Professor Sorin Mihăescu PhD, of “Al.I. Cuza” University of Iași) emphasise that the efficiency of the financial control activity can be quantified in terms of the outlay of financial efforts required for performing the control activity in relation to the effects, which are also financial, identified as the total fines levied, the recovery of losses and any other financial and/or cash resources established and collected to the various budgets.

More important, however, for the financial control activity is to determine the qualitative efficiency that this particular activity provides to the organisation and the carrying out of the activities which were the focus of the examination.

This form of efficiency of the financial control activity, determined in the qualitative dimension of the overall economic activity, refers to the achievement of the overall objectives of the control activity, especially the guidance objective and, as part of this objective, its formative role.

To determine the quantitative efficiency, the following evaluation indicators are employed for the evaluation and assessment of the financial control activity and these indicators derive from the indicators of the overall economic efficiency, which are adapted to this area of research (Pereş et al., 2005):

- The total number of economic operators scheduled to be included in the control activity (N_t)

$$[N_t] = \sum_{i=1}^n N_{at}(i) \quad (8)$$

where:

n = the number of economic operators scheduled to be included in the control activity;

N_{at} = the total number of economic operators in a particular sector of the economy.

- The degree of inclusion in the control activity of economic operators (g_e):

$$g_e = \frac{N_t}{N_{at}} \times 100 \quad (9)$$

where:

N_t = the number of economic operators scheduled to be included in the control activity;

N_{at} = the total number of economic operators in a particular sector of the economy.

- The extent to which the scheduled control program has been conducted (g_p)

$$g_p = \frac{N_{ec}}{N_t} \times 100 \quad (10)$$

where:

N_{ec} = the number of economic operators controlled.

- The total amount owed by a controlled economic operator (S_t):

$$S_t = \sum_{i=1}^m S_t(i) + \sum_{j=1}^n S_t(j) + \sum_{k=1}^p S_t(k) \quad (11)$$

where:

m = total amount of determined losses;

n = total amount of fines;

p = total amount of other determined funds.

• The degree of collection, to the various budgets, of the amounts identified as a result of the control (g_i):

$$g_i = \frac{S_i}{S_t} \times 1000 \quad (12)$$

S_i = the overall collected amount, calculated according to the formula below:

$$S_i = \sum_{i=1}^m S_i(i) + \sum_{j=1}^n S_i(j) + \sum_{k=1}^p S_i(k) \quad (13)$$

where:

- m = total amount of determined losses;
- n = total amount of fines;
- p = total amount of other recovered funds.

• Contribution from the collected amounts to each 1,000.00 lei expenses incurred in order to perform the control (a_i):

$$a_i = \frac{S_i}{C_t} \times 1.000.000 \quad (14)$$

where:

C_t = total expenses incurred to carry out the control

• Degree of use of the available time (g_t):

$$g_t = \frac{T_e}{T_d} \times 100 \quad (15)$$

where:

- T_e = actual working time;
- T_d = maximum available time.

Final note: *It must be noted that the quantitative efficiency and the qualitative efficiency of the financial control activity are also dependent on the period of time when the control activity was conducted.*

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Private Pensions in Romania. Management - Marketing - Effects and Expectations

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Abstract. *After Romania's admission into the European Union, Romanian started to reformulate its policies and operation rules in its trial to be more flexible, to have a more consistent budget, to better answer the people's needs. One of the action directions is the one referring to the distribution of social responsibilities with private sector, as an administrator of pension funds. The paper proposes radiography of how this action of adhesion to a pension fund developed, whose top time was recorded during September-December 2008 and currently evolution of this approach.*

Keywords: pension; pension fund; government policies and regulations; fund administration; marketing.

JEL Codes: G23, G38, P44, G24, M31.

REL Codes: 13C, 13J.

For the moment, the Romanian state does not have the capacity to support the pressure for payment of decent pension. Decrease of the number of participants to the social security budget has increased its interest for the partial division of the responsibilities with the private sector, as the pension fund administrator. Thus, since 2007 has started a new activity whose results are beginning to be seen.

Management issues of the privately administered pension funds

Romania has worked for over a decade to elaborate the private administrated pension law. The difficult appearance of these documents and thus putting the system into operation was due to a sustained and concerted opposition of several actors:

- *prospective beneficiaries*, the citizens of Romania, who either did not have the necessary background to understand what is was prepared for them, or they had lost trust in any possibility to accumulate money due to the resounding failures of investment funds (National Investment Fund or Caritas);
- *unions*, arguing that the state has obligations on employees that it no longer wishes to assume;
- *politicians*, who until 2007 had not felt the devastating effect of lack of money in the budget public pension and not were far too sensitive in the face of ridiculous pensions of many citizens living;
- *IMF and World Bank* which have done their best to maintain the role of dominant actor of the state.

Legislative support

In 2004 it was passed the Law no. 411/2004 on private pension funds. Later appeared the Law no. 313/2005 for approval of the Government Emergency Ordinance no. 50/2005 on the establishment, organization and function of the Commission of Private Pension System Supervision (hereinafter CSSPP). It followed the Law no. 698/2005 on voluntary pensions (www.csspp.ro/legislation).

In 2008 it was issued Law no. 201 for approval the Government Emergency Ordinance no. 112/2007 on amending and supplementing the Laws no. 411/2004 and no. 204/2006.

The laws will certainly be modified and supplemented in the future because it is expected the promised Romanian pension system reform.

Commission of Private Pension System Supervisory

CPPSS is the body designated by the Parliament of Romania, under whose control it is, as an autonomous administrative authority to regulate and prudential by supervise the private pension system. Its mission is fulfilled in three directions:

regulatory, continuous surveillance and enforcement of financial reserves to cover the temporary absence of returns of a fund (www.pensieprivata.info).

A council of five members, appointed by the Parliament, and an executive management ensure the fulfillment of these activities:

- regulating, coordinating, monitoring and control of the private pension system activity;
- protect the interests of participants and beneficiaries, by ensuring the effective functioning of the private pension system and information on it.

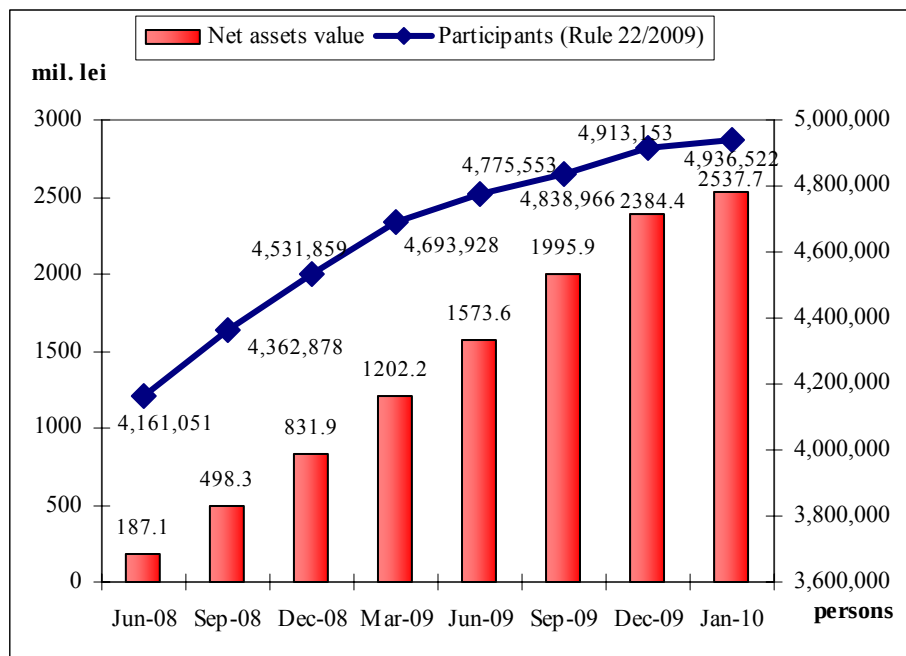
Funds

CPPSS authorized in 2007, operating a total of 18 funds that met the required conditions for pillar II. They were, in the order of CPPSS site, which corresponds to the order in which they were authorized, the following:

1. ING Pension Fund;
2. Allianz - Tiriatic Private Pensions;
3. Aviva Pensions;
4. Omniasig Pensions;
5. Interamerican;
6. AIG Pension Fund;
7. BTAegon Pension Fund;
8. Generali Pension Fund;
9. First Pension, Pension Fund;
10. BRD Pension Fund;
11. OTP Pension Fund;
12. BCR Pension Fund;
13. AG2R Pension Fund;
14. Bancpost Pension Fund;
15. Marfin Pension Fund;
16. Romexterra MKB Pension Fund;
17. KD Pension Fund;
18. Zepter Pension Fund.

We mention that only BTAegon Pension Fund is established in the country, in Cluj-Napoca, all others are based in Bucharest.

The evolution of these funds was different, some of them even could not resist in the original version because they did not find the necessary audience and merged with other more powerful, so today there are only twelve, whose situation is as follows:



Source: www.csspp.ro.

Figure 1. Evolutions of the number of participants and of the net assets in the privately administered pension funds system

Table 1

**Leading indicators of the privately administered pension funds (Pillar II)
on January 31, 2010**

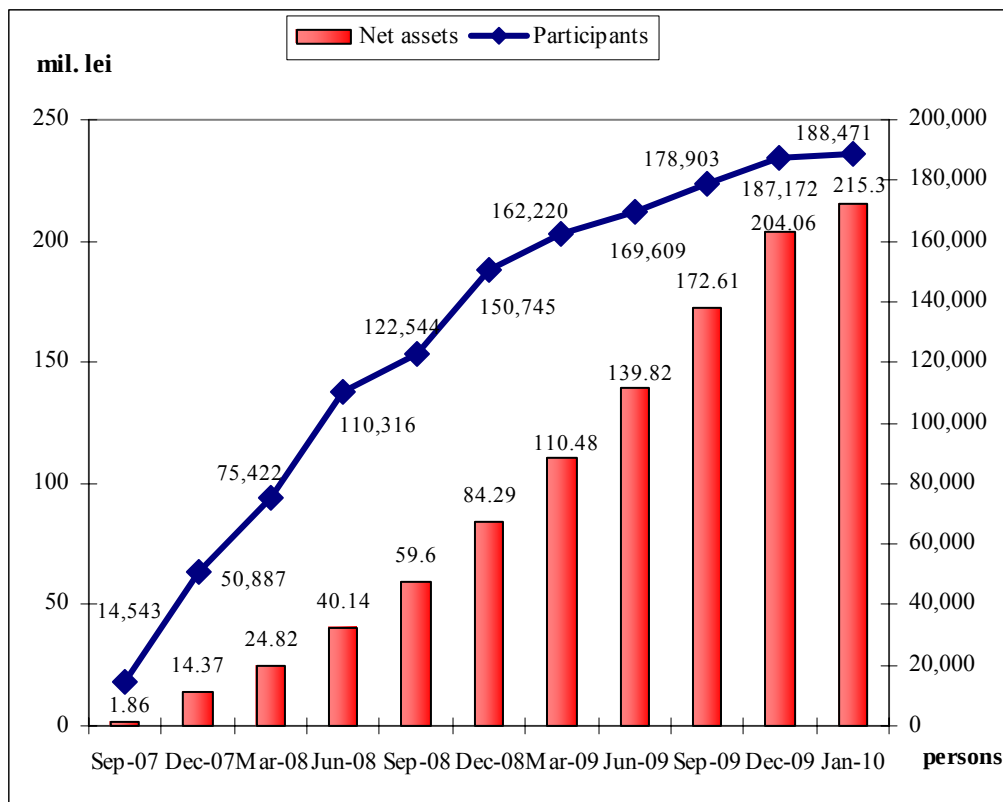
No.	Fund	Total Assets Value	Net Assets Value	Net Assets Unit Value	Participants (Rule 22/2009)
1.	EUREKO	134,945,176.50	134,861,071.13	12.377588	336,711
2.	PENSIA VIVA	166,409,955.38	166,330,190.06	11.950199	359,671
3.	BCR	110,424,320.81	110,343,067.38	12.451062	256,917
4.	KD	3,356,891.79	3,355,374.97	11.423087	8,408
5.	AZT VIITORUL TĂU	588,017,796.90	587,694,418.98	12.537271	1,257,083
6.	ING	1,002,358,729.27	1,001,875,936.78	13.447733	1,629,133
7.	ARIPI	206,425,698.55	206,285,029.76	12.808742	469,241
8.	VITAL	68,280,204.82	68,248,897.25	12.515646	153,947
9.	PRIMA PENSIE	6,870,250.72	6,831,413.29	11.445637	22,327
10.	OTP	9,539,973.10	9,493,635.25	11.316434	22,741
11.	BRD	62,250,003.29	62,194,519.16	11.829521	116,088
12.	AIG	180,261,275.28	180,162,820.44	12.786271	304,255
	TOTAL	2,539,140,275	2,537,676,374		4,936,522

Source: www.csspp.ro.

Also there were initially authorized a total of six funds for Pillar III, respectively:

1. AZT Moderato
2. AZT Vivace
3. My pension
4. ING Classic
5. ING Optim
6. BCR Prudent.

Today their number is more than double, and the situation is as follows:



Source: www.csspp.ro.

Figure 2. Evolution of the number of participants and of the net assets in the voluntary pension funds system

Table 2

**The value of assets and number of participants in the scheme Pillar III
on January 31, 2010**

No.	Private pensions fund	Total Assets Value	Net Assets Value	Net Assets Unit Value	Participants
1.	ING CLASIC	32,009,077.29	31,961,012.94	13,252243	22,741
2.	AZT MODERATO	32,888,621.28	32,830,553.84	11,749298	26,693
3.	PENSIA MEA	12,838,822.22	12,809,513.54	11,360310	9,574
4.	BCR PRUDENT	44,638,587.22	44,559,617.05	11,611606	48,509
5.	AZT VIVACE	17,238,598.18	17,198,593.17	11,637014	17,582
6.	ING OPTIM	60,942,180.16	60,861,103.10	13,531133	48,057
7.	OTP STRATEG	247,743.72	246,983.72	9,024501	315
8.	RAIFFEISEN ACUMULARE	11,015,782.73	10,989,747.63	12,331373	6,718
9.	CONCORDIA MODERAT	257,537.68	257,243.09	12,599155	260
10.	EUREKO CONFORT	544,679.00	544,657.95	8,095914	2,347
11.	STABIL	382,794.15	382,179.31	10,732078	1,755
12.	BRD MEDIO	1,215,095.83	1,213,089.44	10,406991	1,409
13.	BRD PRIMO	1,443,922.52	1,441,880.20	10,431013	2,511
	TOTAL	215,663,442	215,296,175		188,471

Source: www.csspp.ro.

For whom are working all these?

Optimists estimated to the start proceedings to join a fund, according to statistical sources, that the number of potential customers will be about 3.5 - 3,6 million persons, that meaning 80% of employees who contributed in 2007 to the public pension system and who were aged under 45 years old. As in Figure 1 we can see that there are now about five million people.

We make the following clarification: people aged between 18 and 35 years old were required by the law to join a privately administered pension fund. If they have not done that until January 16, 2008, automatically and randomly, they were distributed to a fund. As for people aged between 35 and 45 years, they were not obliged to join, their choice is optional. Risk that they were exposed by non-adherence is that their pension will be much smaller than the others.

Marketing dedicated to the private pension funds

The marketing of this activity was also conducted in accordance with the CSSPP rules by authorized marketing agents. Agents were and are individuals or companies which received the opinion of the CPPSS. Individuals can be: marketing agents, insurance agents, brokerage assistants, sub-agents, which can develop marketing activities for a single administrator or for a single corporate marketing agent. Binding conditions to be met for individuals were:

- a valid contract signed with an administrator or, by case, with a corporate marketing agency;
- CPPSS authorization or opinion;
- inclusion in the marketing agency Register and payment of the opinion tax;
- holding a certificate of graduating a lecture of marketing agents for private administrated pension funds. There is no prohibition for the individual marketing agent to be engaged in any other occupation.

Legal persons can be: companies incorporated and authorized by CPPSS with the purpose of activity only marketing of the private administrated pension fund; companies established and authorized under special laws of National Bank of Romania, of the Insurance Supervisory Commission or of the National Commission for Real Estate. More simply, these are insurance brokers, pension brokers, banks, brokerage companies on the stock exchange etc. They must:

- have a minimum of 25,000 lei as social capital;
- have a name that does not mislead the public and include mandatory words “marketing agency for private administrated pension funds”;
- be not affiliated with a manager person;
- have as object of marketing only private administrated pension fund.

Practically, it was created an army that numbered, at the start time of the action, about 100,000 marketing agents, of which 35,000 belonged to the ING company. They were virtually in a four months war and after there were passed we found out who were the winners. Four or five funds of the 18 listed above funds had real chances, and gathered a considerable and reasonable number of adherences. Then the number of active agents decreased because hot market that they have exploited is, almost exhausted.

Other instruments and marketing methods used by funds administration to create a need that customers were not aware were:

- aggressive advertising (television, radio, written press, outdoor, leaflets, posters);
- relationship systems of the managers from the insurance companies;
- a proper site for each fund, which posted the necessary information;
- retrieval of information by other profile sites such as: www.pensii-private.ro, www.epensie.ro supplementing the information network in the area.

The most visible of all forms was the television advertising. And of course, the most expensive of all, because the show costs about 18 million euros.

In July 2007, according to Alfa Cont Mediatrack (www.alfacont.ro)¹, it was known that ING company has invested 7.9 million euros, Allianz - Tiriatic 3.8 million euros, BCR 3.6 million euros, Aviva 3.2 million euros etc.

From the marketing position we can highlight the appearance of some interpretable and unfair actions of some funds:

- about ING company agents, it was stated that they had some insistence, some aggression, evidenced by a very strong behavior on the potential customer. The company reported that across the world have 75 million customers, but it was obvious that most of them were for life insurance, but not for private pensions;
- experts noted that some funds are characterized by the manipulative advertising. For example, Aviva, offered through a public person (television star) strongly insurances about three aspects: value, safety and growth, in fact, none of them was neither actually any safely. Moreover, it was slipped a lie about their 300 years of experience. It is true that the roots of the group are in 1696 when it was created the first insurance company in the world (Hand in Hand), but certainly not a pension fund, where experience only dates from 1998;
- another example is Generali Group, whose affective-emotional message was obviously for a marketing specialist. The slogan "Your Future under the lion wings", which offers safety, actually belonged to the only fund of the high risk category. We note, in addition, the mixture between pension and insurance.

Effects – Expectations

The first immediate effect was moving some important groups of persons for two different purposes: some sold, others bought. The purchase was done at a greater rate informed choice, because being about retirement money, people have a special sensitivity. They hoped that being informed; they will not be fooled or manipulated.

Report released on October 15 showed that in a month from the onset of the action were 1.16 million adherence. It was a good result, there were about 30% of the approximately 4 million. Their distribution was as follows:

- 501,000 - 40.4%, ING Company,
- 242,000 - 20.5% Allianz – Tiriatic,
- 100,000 - 10% Aviva,
- 100,000 - 10% Generali.

Other funds were still far from expected results (Enache, E., Enache, S., 2008, p. 30). Thus, AIG, Interamerican, BRD, BTAegon, BCR recorded

percents between 1 to 7% and there have been enough funds with insignificant percentages, under 1%.

Of the total number of the validate signatories the first month shows that about 52% were women, confirming their concern for family, household, future.

The race of the second month was even fiercer. In early November the adherence number had increased with other 640,000, registering a total of 1.8 million adhesions.

They reported significant side effects by providing information:

- the first which react were the persons over 45 years old, who have completed voluntary pension and 60% of them have opted for Allianz-Țiriac. Moreover, for the voluntary pensions were originally only 6 funds, as we have shown above;
- while, it was a growing number of life insurance policies, proof that the agents had extended the benefits of personal protection (pensions and insurance);
- there were expected some increases in the number of work books, so a reduction in the phenomenon of undeclared work, workers, through their adhesion, thus forcing employers to find reliable;
- according to a study published at that time (www.capital.ro/finante.html), a lot of persons expected explanatory information from the employer (manager). From this, many managers agreed directly or indirectly, that they can make good money and become agents, or they have got a part of the money from the agents they worked with. By law, it was not permitted to provide collateral benefits to participants

Other main effects that we can identify are:

- eliminating the pressure on state social insurance budget;
- stimulate economic growth by investing amounts accumulated to pension funds;
- capital market development;
- creation of jobs, thus reducing unemployment;
- establishment of joint - ventures between funds.

There were also irregularities

- Nearly 2% of the adhesions were double and it had to be taken a correct decision to intervene.
- CPPSS announced the withdrawal of the approval for a number of marketing staff of a fund, as penalty for violation of the law. Opinions have been withdrawn at the request of the fund itself, ING Company, for various frauds: falsifying the accession documents, pressure on a

part of the customers or acts of accession signed by the participants in the presence of a third part, not authorized to do so.

It was not known from the beginning which could be the yield that it will be required by CPPSS to the administrators. In reality we can not know either how much money will return to future pensioners by entering into payment. Currently there are few indicators that we have available for documentation:

- *Degree of risk* - average for all funds, raised for the General;
- *Low-risk Investments (upper limit)* between 85 - 90%:
 - *government bonds in Romania and European Union* from 55 to 67.5%;
 - *government bonds in the USA, Japan, Canada* between 1 to 11%;
 - *Foreign private debt* between 1.5 - 5%;
- *High-risk placements* between 25 - 45%;
- *Listed shares (maximum amount)* between 25.5 to 50%;
- *Commission for administration of the contribution (initially)* - 2.5%;
- *Commission for the permanent management of assets* - 0.05%.

Each person will see in a closer or further future how much it meant the choice made today. The fact is that people have followed those funds with brand and experience in their home countries or on various markets.

Performances of the funds were already possible to be seen in 2008, when yields were positive, except Bancpost and First pension funds, which have had a slightly negative trend, inducing a cold shiver of concern, each person hoping, obviously, at least one return to cover the losses from inflation and fees charged by administrators.

Year 2009 has "benefited" from the effects of financial and economic crisis: lower number of employees, increase the number of registered unemployed, lower gross wages, lower gross domestic product estimated for the period January-October 2009. All these have influenced, as expected, the development of private administrated pension funds, but not in the same proportion of other countries with more developed private pension systems (pension funds in Romania were in the first months of operation). Moreover, the private pension system in Romania focuses on the safety of the participants and the most important security features of its derived from the protection that the law provides to the participant. Through the organization of the system, through the separation of the assets of pension funds from those of the administrators, participants' contributions are deviced from the difficulties that they can move at a time the private pension fund administrators or their shareholders.

Today, there is a recovery in investment and earnings, development of the funds can be analyzed at any time on the CPPSS site (www.csspp.ro).

Here are some general considerations on the evolution of the private pension system in Romania in 2009 as there were published (www.csspp.ro). The overall conclusion found is that the private pensions market, located in the accumulation stage, has a positive development, even in unfavorable conditions above and in maintenance the contribution at 2%.

Thus, the main indicators of the private pension system, that the number of participants and the net assets of pension funds, have maintained an upward trend, registering monthly increases further during 2009, but distinguishing in the second part of the year, when they were significantly smaller than in the first half.

According to data reported by CPPSS, at the end of 2009, the number of participants to the private pension funds was 4.75 million people, up with 13% compared to December 2008; the value of net assets of private pension funds was 2588,43 million lei (612.18 million euros - NRB currency la 31.12.2009: 4.2282), registering an three times increase from early 2009.

To the private pension funds, that of pillar II, at the end of 2009, the number of participants was 4,565,116 persons, up 13% over December 2008 and up 43% over the first month of collection, that May 2008; the value of net assets of private administrated pension funds was 2.384.39 million lei (564 million euros), registering a three times increase from early 2009.

At the voluntary pension funds, that of pillar III, the end of 2009, the number was 187,172 people participants, with 24% more than in December 2008; the net assets value reached 204.04 million lei (48 million euros), increasing 2.4 times from early 2009 (National Institute of Statistics, 2009; National Forecast Commission, 2009).

When referring to the portfolio at the end of 2009 was stated:

About private administrated pension funds the situation was:

- government bonds: 64.70% of total assets,
- non-debt foreign bodies: 3.82% of total assets,
- municipal-bonds: 1.28% of total assets,
- corporate-bonds: 13.23% of total assets,
- bank deposits: 4.90% of total assets,
- shares: 9.34% of total assets,
- equities: 0.91% of total assets,
- hedging instruments were -0.02% of total assets,
- current-sum settlement for purchase / sale assets and / or availability in the current account: 1.81%.

In the case of voluntary pension funds, pension funds portfolio was as follows:

- government bonds: 68.91% of total assets,

- non-debt foreign bodies: 1.5% of assets,
- municipal-bonds: 3.43% of total assets,
- corporate-bonds: 6.89% of total assets,
- bank deposits: 6.09% of total assets,
- shares: 12.61% of total assets,
- equities 0.54% of total assets,
- current-sum settlement for purchase / sale assets and / or availability in the current account: 0.04%.

Considering its role and regulatory, supervision and control powers of the private pension system in Romania, during this period of turbulences on the financial markets, to protect the assets of participants of the pension funds, the Commission for Monitoring Private Pension System took some regulatory measures, that were developed, approved and subsequently published in the Official Gazette the legislation with the specific rules.

Conclusions

Romania will remove from the people mentality the idea that the private pensions destroy the state pension system. Private pensions work complementary to the state pension, diversifying the sources of income in retirement, ensuring aggregate, a decent living.

The evolution of private administrated pension funds is a subject on which will be directed more vigilant looks, beginning with the state and ending with the each and every citizen who hopes that over the years to live better than he does himself or the pensioners today. Not just the hope for a better life improves attention, but also a series of damaging experiences many Romanian lived, who had not the skills necessary to multiply their financial reserves and were not protected in any way by the State, which is guilty of that, especially that it had handy tools.

The need for a coherent pension system, anchored in the realities of the European Union, compared with developed countries, has recently been discussed with the officials of the International Monetary Fund, resulting in recommendations in the "Romania-Financial Sector Stability Assessment" (www.amosnews.ro). They are:

1. *The contributions level* transferred to the mandatory private pension funds should increase further in accordance with the original schedule of contributions; according to that, the contribution for 2010 would have to be 3%, but is only 2.5% and therefore, the recommendation IMF is to respect the commitment to reach 6% by 2016;

2. *Guarantee inflation* for mandatory private pension funds should be rejected, because now the financial market in Romania does not provide

sufficient tools to cover the risk of inflation; we talk about the legislative proposal to impose a yield at least equal to inflation rate, which according to foreign officials must be abandoned because it will generate losses for pension funds.

3. Encourage the development of *long-term investment strategies* for private pension funds by:

- preparation of a CPPSS secondary legislation, which should provide that the security of the net contributions should be given to the participants only at the stage of pensions payment, not to the transfer between two mandatory private pension funds;
- swift adoption of the CPPSS Rule for detailing the minimum return guaranteed mechanism for mandatory pension funds;
- transferring the direct costs of administration from the administrators in charge of mandatory private pension funds.

4. *Review the level of the management fees* charged by the administrators of the private pension funds in Romania, because they are the lowest in Central and Eastern Europe and it will affect the small administrators;

5. The authorities need to *harmonize the tax treatment of marketing expenditure* made by the pension fund administrators with the European Union practice in that field; the regulation of the Public Finance Ministry that administrators must immediately recognize the marketing expenses incurred by initial accession campaign, resulted in record of losses by them and extension the payback period with one year;

6. Adoption of legislation to establish the payment methods of the private pensions, *with an emphasis on annuities (lifetime pensions)*, ensuring protection against longevity risk;

7. Introduction of the *multifond model* and allowed outsourcing the activities of investment assets of the private pension funds; called lifecycle or lifestyle funds, this model has some features, such as: a company can manage not one but three pension funds and risk profile and different investment strategies, according to participant age (young people will be allocated to the dynamic fund, with high investment risk and investment primarily in shares, the average age will be allocated to the fund with a moderate risk profile and investment in balance and those close to the retirement age will be allocated to conservative fund);

8. The law should provide clear *methods to avoid conflicts of interest* if the pension fund administrators dealing with entities from the financial group they belong;

9. Improve *the CPPSS rules for evaluation assets* of the private pension funds, especially for fixed income instruments for which there is not an active and liquid trading market.

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