

## **Difficulties of the supporting pensioners by current employees – alternative to pension systems at international level. Empirical analysis in Romania**

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**Abstract.** *The current problems of the labor market, evidenced by decrease the number of contributors in relation to the number of pensioners, is manifested throughout the world and it is increasing from year to year. The origin of this imbalance is increasing the aging phenomenon that occurs at the international level, correlated with declining of the birth rates. Direct effects of aging population are a decrease in the amount of social security contributions for pension payments, as a result of reducing the number of taxpayers, and the increase in pension expenditure, as a result of increasing the number of beneficiaries. An alternative to these problems of public pensions is the orientation of the population towards private pensions, in the same time with increasing their confidence in such solutions. This requires an effective management of private pension fund assets, by using the adequate strategies to perform investment assets. Thus, in this paper, we realize a statistical study about the influence of the main factors on the size of private pension fund assets in Romania. The research methodology is to test the influence of selected factors, as independent variables, to the net assets of the two components of private pensions in Romania: privately managed pension funds and facultative pension funds. At European Union level, is seeking to implement a variety of strategies to increase the share of pensioners line to remain in the workforce, thus extending their working life.*

**Keywords:** labor market, aging population, pension systems, private pension, statistical correlation.

**JEL Classification:** C15, J11, J26.

**REL Classification:** 10D, 11B, 12B.

## 1. Introduction

The current problems of the labor market, evidenced by decrease the number of contributors in relation to the number of pensioners, is manifested throughout the world and it is increasing from year to year. The origin of this imbalance is increasing the aging phenomenon that occurs at the international level, correlated with declining of the birth rates.

Direct effects of aging population are *the decrease in the amount of social security contributions for pension payments, as a result of reducing the number of taxpayers, and the increase in pension expenditure, as a result of increasing the number of beneficiaries.*

As an answer to these problems, the governments of the European Union member states are seeking to implement a *variety of strategies to increase the share of pensioners in order to remain in the workforce*, thus extending their working life, interest manifested since the 80's, concretized by many actions, resolutions and reports regarding these. Thus, *European Year 2012*, through the report "Active Ageing"<sup>(1)</sup>, published in January 2012 by the European Commission, proposed to support active ageing on the three main directions (European Commission, Active Ageing, 2012: p. 4):

- the employment – since life expectancy increases and, along with it, gradually increases the retirement age, European Union aims to improve the professional perspectives of the aged persons;
- participation to social life – by the involvement of aged people into various activities, on volunteer line, by encouragement of the authorities to create a favorable framework to them;
- independent living – for the persons affected by some diseases and handicaps, by promoting of measures to allow their livelihood without relying on someone else.

An alternative to these problems of public pensions is the orientation of the population towards private pensions, in the same time with increasing their confidence in such solutions.

In this paper, we present problems of the public pensions in Romania, related to the phenomena manifested at the European Union level and the alternatives proposed, in order to avoid these difficulties of the pension systems.

## 2. Demographic tendencies at the European Union level

At the level of European Union States Members, the structure of the population is changing, becoming more aged, recording at the 1st of January 2010 more than 87 million persons over 65 year old, representing 17.4% of the total of the population, comparing to 12.8% recorded at first of January 1985 (Eurostat,

Active ageing and solidarity between generations, A statistical portrait of the European Union, 2012: p. 7).

Demographic aging is determined by two *simultaneous factors*: the decline of the rate of fertility and an increasing average life expectancy.

*Fertility rates* have suffered a rapid decrease at the end of the 60's, continuing during the 70's-80's. From this period, the average number of born children remained almost constant, at the rate of less than 2 children/woman. The financial economical crisis led to the decrease of the birth rate in the countries more affected by it, like Greece, where the birth rate is 1.43 children/woman, Portugal, 1.35 children/woman or Spain, 1.36 children/woman.

Regarding *the life expectancy at birth* in the European Union, it increased to 79.4 years, at the level of 2011. The highest life expectancy at birth is recorded in France, Sweden, Italy, with over 80 years. At the opposite side, the lowest life expectancy was recorded in Bulgaria, Romania, Latvia, Lithuania, being between 72 and 73 years, at the level of 2011 (Eurostat, Active ageing and solidarity between generations, A statistical portrait of the European Union, 2012: p. 27).

Among the European Union States Members, the life expectancy at birth had the highest grow rate in Portugal, with 15.6 years, Germany, with 11.1 years, and Belgium, with 10.4 years. On average, the life expectancy at the age of 65, for women is 20.7 years, with 3.5 years higher than men.

In a ranking conducted by ONU in 2009 regarding the position of each country depending on the share of the population over 60 years old from the total of the population, Romania is placed in the 29'th place from the 196 countries of the ranking, with a share of the population over 60 years old, at the level of 2009, of 20%. On the first place is Japan with 29.7% of the population over 60 years old, and on the last place, is Qatar with 1.9% (Nations, Department of Economic and Social Affairs, 2010: pp. 70-71).

As a result of these factors, *population structure has changed* (Kinsella, Phillips, 2005: p. 4) and will register in the next years more significant mutations - from the structure in pyramidal shape, in which young people, representing the base, are more numerous than the higher segments, at a representation with "a rectangular paternal" – the share of the population over 60 years old constantly increasing in the total of the population.

The result of decreasing in the number of children at the same time with the increasing in aged persons has a direct influence between equity and solidarity between generations and also within generations. At the global level, the aged population grows at a rate of 2.6% per year, faster than the annual growth of the total population, which is 1.2% per year. Such rapid growth will require economic and social adjustments in the most countries, especially in the segment of pension systems.

### 3. The pension system in Romania and difficulties of public pensions

In Romania, *the pension system* is structured, also, according to the model proposed in the year 1994 by the World Bank, thus:

- *public pension system*, which represents the *pillar I*, under the supervision of the National House of Public Pensions – NHPP;
- *Private pension system*, set up till April of 2013 under monitoring of Supervisory Commission of the Private Pension System – SCPPS<sup>(2)</sup>, with the two components of its:
  - *pillar II*, which is *the mandatory administrative private component*, it was released in May 2008, known as *privately managed pension fund*;
  - *pillar III*, which is *the voluntary private managed component*, known as *facultative pension fund* and it was released one year earlier comparative with the pillar II, in May 2007.

Regarding the demographic trend and the pension system, in Romania there are registered the following *problems* (Andanut, 2009: p. 5, and Statistics, Ministry of Labour, Family and Social Protection for the Elderly, <http://www.mmuncii.ro/j33/index.php/ro/transparenta/statistici/date-statistic>):

- *employees/retirees report* decreased greatly from 3.3/1 in 1990, to 0.8/1 in 2013 and it will get to 0.4/1 in 2050;
- it was recorded an unjustified increase of the number of *disability pensions*, thus that one in five pensioners would receive an invalidity pension, at the level of 2009, and for 2013, one from seven pensioners;
- *social security budget deficit* deepened in the last years, reaching 12.5 billion lei in 2012, equivalent to 2.2% from GDP;
- *expenditure on pensions have increased by 0,6 billion lei in 2012*, mainly as a result of new entry into system, with higher pensions than the average, of 807 lei, while incomes have advanced only by 0.8 billion lei.

Given these problems, to which is added the problem of the structural deficit of the public pension system, budgetary expenditure with pensions in Romania are unsustainable in relation with social contributions collected. Insufficient public pensions for future retirees should arouse the interest of contributors to supplement them with private pensions.

*Mandatory component of private pensions, pillar II*, presents the following features:

- has established a statutory pension scheme, meaning a *system of terms, conditions and basic rules on which the manager invests the assets of the pension fund* in order to gain by the participants a private pension fund;

- it is a *mandatory* system for new entrants on the labour market *that are up to 35 years* and *optional* for other categories of persons *aged up to 45 years*, who are already insured and contribute to the public pension system;
- *the insured person may possess one single pension fund account* to which he/she participates, being not allowed to possess another account to a distinct pension fund, otherwise, he/she may transfer his/her account from one pension fund to another, paying a penalty for this transfer.

For the first collection year – May 2008, *the contribution to the privately managed pension funds* indicates 2% of the individual contribution to the public pension system. According to the law, this contribution is planned to follow an increase of 0.5 percent points, till reaching 6% within 8 years (till 2016). This anticipated increase of 0.5% was achieved only for the year 2009. The year 2010 announced a constant level of contribution of 2.5%, and during 2011, 2012, 2013, and 2014, 0.5 percent points are added to the previous values, indicating a level of 3% of contributions for 2011, 3.5% for 2012, 4% for 2013, respectively, 4.5% for 2014. The contribution to the private pension does not involve an additional check off, it represents part of the individual contribution to the social insurance (rated at 10.5% for the year 2014) and it is similarly transferred.

The participant has the right to a private pension when all the retirement criteria for the age limit within the pension public system are met. The amount due as a pension may not be less than the amount of contributions paid, adjusted with the consumer price index, plus transfers of amounts and less, where applicable, transfer penalties and fees.

In Romania, *at the end of August 2013, for the privately managed pension funds, pillar II*, there were registered following indicators (SCPPS, statistical data):

- the existence of 8 pension funds, divided on two categories of risk depending on the investments made: balanced pension fund (7 funds) and dynamic pension funds (one single fund);
- a number of 5939 million participants;
- the net assets of the pension privately managed pension funds, pillar II, registered 12,343.72 million lei.

*Facultative component private managed, pillar III*, known as *the facultative pension funds*, unlike privately managed pension funds (pillar II), the participation to voluntary pensions based on age is not restricted, *anyone can contribute to the system up to 15% of gross monthly income and provides additional disability protection - as a form of insurance*.

Instead, in order to benefit from an optional pension, the legal demands impose that each participant should have *at least 90 monthly contributions* paid to the

fund (not necessarily successive payments), *at least 60 years old and a minimum collected sum.*

Starting with 2010, *contributions became partially deductible* from the income tax payment within the limit of the equivalent of 400 euro per year for each participant, and if the employer also contributes, the same level of deductibility is applied, namely, 400 euro, to the calculation of the taxable profit (previously to 2010, the deduction margin indicated 200 euro per year). On January 2012, contributions became fully deductible from the income tax payment, assimilating to the immunity of contributions to the optional pensions from the requirement of paying taxes.

The total number of optional pension funds is currently 10, at December 31<sup>st</sup>, 2013, and, presently, there is no low-risk optional pension fund registered, as these funds have merged with other funds indicating an average level of risk, there are 2 funds registering a high level of risk, and 8 funds of average risk.

#### **4. Correlation between the net assets of the private pension funds and their main influence factors**

Considering various factors which influence private pension assets, as interest rates, evolution in exchange rate and the stock market, in our research we determined the extent to which these factors influence or not the net assets value of the private pension funds, separately for each of the two components, the privately managed pension funds, Pillar II, and the facultative pension funds, pillar III (Cristea, 2013: pp. 81-100).

*The evolution of the net assets of the privately managed pension funds, Pillar II,* for the entire period of analysis, from the beginning till now, is presented in Annex 1.

For the analysis, we use monthly data provided by the Supervisory Commission of the Private Pension System, the Romanian National Bank and Stock Market Bucharest, for the period May 2008 - August 2013, for the privately managed pension funds, Pillar II (the research is applied for a number of 64 monthly observations), and for the period July 2007 - August 2013 for the facultative pension funds, Pillar III (the research is applied for a number of 75 monthly observations).

According to these factors of influence, the following variables have been applied for testing statistical correlations:

- the net asset of privately administered pension funds, as a dependent variable (its values during the studied period, May 2008 – August 2013 (Annex 1);

- the currency exchange lei/euro, the loan interest rate, the deposit interest rate, the monetary interest rate and the value of the BET-C index, as independent variables (Annex 2).

The analysis of the correlation between the dependent variable and the five identified independent variables can be done both separately, through the correlation coefficient, analyzing the correlation between the dependent variable and an independent variable chosen from the group of variables studied or globally, within the linear regression. The intensity of the correlation between the studied variables is assessed using the Pearson correlation coefficient.

Regarding this analysis, in Table 1 there are shown, for the Pillar II, for each multiple linear regression model, the value of the correlation coefficient (R), the value of the ratio of determination (R Square) and the standard error

**Table 1.** Correlation models between net assets of the privately managed pension funds and the main influence factors - Model Summary

Model	R Correlation coefficient	R Square Ratio of determination	Adjusted R Square	Standard Error	Durbin-Watson Coefficient
1	0.934 <sup>a</sup>	0.873	0.862	1301.87394	0.167

a. Predictors: (Constant), BET-C index, exchange rate, deposit interest rate, loan interest rate, monetary policy rate

Dependent variable: net assets of the privately managed pension funds, Pillar II.

As can be seen from Table 1, all independent variables were entered into the model, for which the correlation coefficient, R, is very high (0.934) and the Ratio of determination, R Square, is 0.873. The correlation coefficient means that there is a strong correlation level and the ratio of determination shows that 87.3% from the net assets variation of the privately managed pension funds is explained by the variation of the five independent variables entered into the model.

Regression coefficients calculated for each of the five independent variables and the other statistical indicators of the correlation are shown in Table 2.

**Table 2.** Linear regression coefficients and the statistical indicators of the correlation between net assets of the privately managed pension funds, Pillar II, and the main influence factors<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-416.391	11036.006		-0.038	0.970
	Exchange rate	5219.977	2033.912	0.355	2.566	0.013
	Loan interest rate	-1150.105	241.782	-0.801	-4.757	0.000
	Deposit interest rate	-372.080	384.301	-0.301	-0.968	0.337
	Monetary interest rate	688.065	607.280	0.369	1.133	0.262
	BET-C index	-1.045	0.477	-0.199	-2.192	0.032

a. Dependent variable: net assets of the privately managed pension funds, Pillar II.

It is noted that, for only model obtained, the significant value, Sig., takes very small values (under 0.05), only for three of the five independent variables entered into the model, respectively, *the exchange rate, loan interest rate, and BET-C index value*, while for the variables *deposit interest rate* and *monetary policy rate*, its value exceeds the maximum permitted value of 0.05, which allows to reject the hypothesis that between the loan interest rate and the monetary policy rate, on the one hand, and the net assets of privately managed pension funds, on the other hand, there is a significant relationship, being rejected from the model.

Using the calculated coefficients, which are found in column B of Table 2, the multiple linear regression model identified for the variables studied is given in equation no. 1.

$$Y = -416.391 + 5219.97 * X_1 - 1150.105 * X_2 - 1.045 * X_3 \quad (1)$$

where:

Y – net assets of the privately managed pension funds, Pillar II;

X<sub>1</sub> – exchange rate;

X<sub>2</sub> – the loan interest rate;

X<sub>3</sub> – BET-C index.

The interpretation of the coefficients from the obtained equation (equation no. 1) reveals that based on the analyzed data for the May 2008 - August 2013 period, on a short time horizon, the following correlations may occur:

- If the value of the exchange rate increases with one point, the total net asset of the privately managed pension funds value increases with 5219.97 thousand lei;
- If the loan interest rate increases with 1%, the total net asset value drops with 1150.105 thousand lei;
- If the BET-C index increases with one point, the total net asset value drops with 1.045 thousand lei.

*The evolution of the net assets of the facultative pension funds, Pillar III*, for the entire period of analysis, from the beginning till now, is presented in Annex 3.

For the analysis, we tested to what extent the factors previously considered to measure the impact on privately managed pension funds, Pillar II, influences the net assets of the facultative pension funds, Pillar III.

Analyzed period is July 2007 - August 2013, for which the research is applied to a number of 75 monthly observations.

The correlation model for the facultative pension funds, Pillar III, is shown into the Table 3.

**Table 3.** Correlation models between the net assets of the facultative pension funds, Pillar III, and the main influence factors - Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson coefficient
1	0.964 <sup>a</sup>	0.928	0.923	60613.66038	0.224

a. Predictors: (Constant), exchange rate, BET-C index, monetary policy rate, loan interest rate, deposit interest rate.

Dependent Variable: Facultative pension fund net assets, Pillar III.

The interpretation of the three resulting models of correlation is the following: all the five independent variables were introduced into the model, for which, the correlation coefficient, *R*, is very high, of 0.964 and a determination ratio, *R Square*, of 0.928. These figures show that there is a very strong correlation between the all variables, because 92.8% of the variation in total net assets is accounted for by the all five variables variation: *exchange rate, BET-C index, monetary policy rate, loan interest rate, deposit interest rate.*

Regression coefficients calculated for each of the five independent variables are shown in Table 4.

**Table 4.** Linear regression coefficients and the statistical indicators of the correlation between net assets of the facultative pension funds, Pillar III, and the main influence factors

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	732002.319	404159.939		1.811	0.074
	Exchange rate	157689.376	71743.647	0.260	2.198	0.031
	Loan interest rate	-51773.621	11185.701	-0.535	-4.629	0.000
	Deposit interest rate	-2165.022	12868.353	-0.026	-0.168	0.867
	Monetary interest rate	-22602.578	15311.019	-0.183	-1.476	0.144
	BET-C index	-62.022	17.617	-0.381	-3.520	0.001

a. Dependent Variable: net assets of the facultative pension funds, pillar III

In this study, the significant value, Sig., takes values below the ones permitted, of 0.05, only for three of the five independent variables entered into the model, as well as for privately managed pension funds, Pillar II, respectively, *the exchange rate, loan interest rate, and BET-C index value.* For the variables *deposit interest rate* and *monetary policy rate*, its value exceeds the maximum permitted value of 0.05, which allows to reject the hypothesis that between these and the net assets of facultative pension funds there is a significant relationship, being rejected from the model.

Using the calculated coefficients, which are found in column B of Table 5, the multiple linear regression model, identified for the variables studied is given in equation 2.

$$Y = 732,002.319 + 157,689.376X_1 - 51,773.621 * X_2 - 62.022 * X_3 \quad (2)$$

where:

Y – Total Net Assets of Facultative Pension Funds;

X<sub>1</sub> – exchange rate;

X<sub>2</sub> – loan interest rate;

X<sub>3</sub> – BET-C index.

The interpretation of coefficients from the obtained equation (equation no. 2) reveals that based on the analyzed data for the July 2007 - August 2013 period, on a short time horizon, the following correlations may occur:

- if the value of the loan interest rate increases with 1%, the total net asset value decreases with 51,773.621 thousand lei;
- if the exchange rate increases with one point, the total net asset value increases with 157,689.376 thousand lei;
- if the BET-C index increases with 1 point, the total net asset value drops with 62.022 thousand lei.

According to the analysis performed, should be considered that on a short time horizon, an increase in the loan interest rate and in the BET-C index will cause a slight decrease in net assets of private pension funds, both for pillar II, and for pillar III, the effect which will be counteract by a possible reallocation of the investments of pension funds to placements that provide better returns. On the other hand, increasing the exchange rate will affect to some extent the increase of the net assets of private pension funds.

The analysis<sup>(3)</sup> shows that, the evolution of the interest rate on deposits and the monetary policy rate does not affect the facultative pension fund assets, although their growth will have an indirect effect on these assets. The increase of the interest rate on deposits will increase the default rate on loans for possible continuing interest margin in the same range.

Knowing the value changes of the net assets of private pension funds is very important, primarily through their effects on the increase or decrease in value of investments for the insured accounts, while maintaining unchanged their contributions and, therefore, the results obtained in these placements.

## 5. Conclusions

Regardless of the organization of the pension system on the two core components of its, *public pension and private pensions*, were developed numerous *studies and analyzes regarding identifying the solutions to tackle the problems of public pensions*, aiming at the value evolution of private pension assets under the

influence of certain factors and their efficient allocation to investments that lead to high yields, by applying the uniform regulatory and guaranteed schemes.

In response to the solvency decrease of public retirement systems due to demographic changes, most countries have adopted a series of pension reforms during the past 25 years. Measures have included raising the rates of contribution, restructuring or reducing pensions, raising the standard retirement age and the introduction of private pensions in the structure of pension systems, supporting the private pensions by creating an appropriate legal framework, the establishment of rules for the management of the funds carefully monitored, in order to complement effectively public pension component.

In terms of the actual age at which it exits from the labour market, in the year 2009, in the countries of the European Union, this was 61 years and 5 months (European Commission, Active Ageing, 2012: pp. 58), and in the six countries of the European Union, the age at which it came out of the labor market was under 60 years. To increase the share of aged people who remain in the labor market, many European countries have raised or announced the intention of increasing the mandatory retirement age. These measures may have a slight impact on public opinion, so that young people will gradually accept that they will have to work longer than the current retirees.

Representatives of the European Commission argue that, once the States have undertaken the implementation of a particular model of reform, they have to maintain that system, regardless the economic situation. EU intervention in the architecture of the pension systems of the Member States is limited, amid different cultures and economies, with its own features and rules to manage pension schemes.

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### **Notes**

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- (1) Report was developed for all 27 Member States of the European Union, but also included other five non-member countries, such as Croatia, FYROM (Former Yugoslav Republic of Macedonia), Iceland, Norway and Turkey.
- (2) Starting with May 2013, the three supervisory bodies of private pensions market, insurance and capital markets, respectively Supervisory Commission of Private Pension System, Supervisory

Commission of Insurance and Securities Commission were replaced by Financial Supervisory Authority, common for all the three components of the financial market

- (3) This analysis is taken from the article entitled "Study on the dynamics of private voluntary Pension Fund Assets in Romania", published in the African Journal of Business Management, vol. 6 (21), pp. 6347-6357, May 30, 2012, DOI: 10.5897/AJBM11.309, ISSN 1993-8233, <http://www.academicjournals.org/AJBM/contents/2012cont/30May.htm>

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**Annex 1****The evolution of the net assets of the privately managed pension funds, Pillar II**

<b>Period</b>	<b>The value of the net assets (millions lei)</b>
Year 2008	
May	86.45
June	187.12
July	285.23
August	393.81
September	498.31
October	598.46
November	715.72
December	831.90
Year 2009	
January	949.60
February	1076.46
March	1202.21
April	1330.69
May	1437.23
June	1573.56
July	1705.32
August	1850.51
September	1995.86
October	2116.58
November	2251.40
December	2384.39
Year 2010	
January	2537.70
February	2725.80
March	2967.20
April	3144.50
May	3236.30
June	3379.40
July	3379.40
August	3379.40
September	3236.30
October	4030.70
November	4152.40
December	4331.91
Year 2011	
January	4501.99
February	4682.88
March	4884.65
April	5059.34

<b>Period</b>	<b>The value of the net assets (millions lei)</b>
May	5184.74
June	5373.84
July	5550.49
August	5670.35
September	5799.53
October	6035.58
November	6206.80
December	6416.36
Year 2012	
January	6719.06
February	7006.73
March	7263.96
April	7501.57
May	7667.73
June	7920.70
July	8210.83
August	8493.43
September	8762.59
October	9049.56
November	9292.70
December	9637.28
Year 2013	
January	9987.66
February	10279.07
March	10543.60
April	10844.31
May	11265.81
June	11536.34
July	11961.77
August	12343.72

**Annex 2****Evolution of the main factors of influence on the private pension funds in Romania**

Period		Exchange rate lei/euro *	Loan interest rate	Deposit interest rate	Monetary interest rate	BET-C index	
Year 2007	June	3.2264	13.28	6.67	7.25	6559.52	
	July	3.337	13.14	6.55	7.25	7017.79	
	August	3.2237	12.97	6.50	6.10	7017.55	
	September	3.3466	12.92	6.56	6.48	6605.92	
	October	3.3525	13.02	6.63	6.87	6914.50	
	November	3.4707	13.04	6.76	7.00	6278.77	
	December	3.5289	13.05	6.78	7.50	6665.47	
	Year 2008	January	3.6930	13.16	6.96	7.50	5167.49
		February	3.6528	13.49	7.31	8.00	5202.33
		March	3.7218	13.75	7.66	9.00	4964.97
		April	3.6426	14.36	8.33	9.03	5028.04
		May	3.6594	14.40	8.72	9.50	5488.62
June		3.6557	14.41	9.16	9.75	4637.50	
July		3.5792	14.60	9.50	9.75	4385.25	
August		3.5268	14.90	9.92	10.00	4055.20	
September		3.6254	15.29	10.28	10.25	3235.74	
October		3.7454	16.67	11.06	10.25	2169.66	
November		3.7753	17.45	12.04	10.25	2177.39	
December		3.9153	17.47	13.22	10.25	1977.10	
Year 2009	January	4.2327	17.87	14.03	10.25	1510.65	
	February	4.2839	18.11	14.40	10.25	1244.65	
	March	4.2821	18.15	14.53	10.14	1550.82	
	April	4.1954	18.08	14.22	10.07	1949.17	
	May	4.1689	17.73	13.52	10.02	2060.35	
	June	4.2126	17.46	12.64	9.71	2104.60	
	July	4.2168	17.00	11.51	9.50	2318.34	
	August	4.2185	16.68	10.51	9.00	2519.07	
	September	4.2389	16.50	9.92	8.53	2657.78	
	October	4.2848	16.60	9.62	8.50	2653.02	
	November	4.2881	16.57	9.50	8.00	2781.45	
	December	4.2248	16.58	9.43	8.00	2714.77	
Year 2010	January	4.1409	16.30	9.13	8.00	2966.73	
	February	4.1179	15.60	8.60	7.50	3063.63	
	March	4.0879	14.99	8.03	7.25	3519.93	
	April	4.1285	14.23	7.43	7.00	3434.75	
	May	4.1743	14.26	7.10	6.50	2952.22	
	June	4.2396	13.90	6.93	6.25	2804.47	
	July	4.2611	13.89	6.86	6.25	2964.79	
	August	4.2396	13.59	6.81	6.25	2975.51	

Period		Exchange rate lei/euro *	Loan interest rate	Deposit interest rate	Monetary interest rate	BET-C index
	September	4.2642	13.42	6.77	6.25	3102.99
	October	4.2798	13.17	6.71	6.25	3098.65
	November	4.2931	12.93	6.69	6.25	2994.34
	December	4.2925	12.65	6.70	6.25	3111.17
Year 2011	January	4.2622	12.40	6.68	6.25	3293.47
	February	4.2472	12.61	6.67	6.25	3412.29
	March	4.1646	12.54	6.51	6.25	3524.27
	April	4.0992	12.16	6.45	6.25	3528.33
	May	4.1120	12.13	6.38	6.25	3285.94
	June	4.1929	11.90	6.27	6.25	3312.27
	July	4.2405	11.66	6.16	6.25	3221.67
	August	4.2501	11.81	6.14	6.25	2917.41
	September	4.282	12.02	6.09	6.25	2648.19
	October	4.3238	12.13	6.07	6.25	2795.41
	November	4.3536	12.09	6.08	6.00	2585.64
	December	4.3267	12.08	6.07	6.00	2621.41
Year 2012	January	4.3428	11.90	6.02	5.75	2901.21
	February	4.3506	11.62	5.97	5.50	3103.44
	March	4.3652	11.35	5.82	5.25	3076.07
	April	4.376	11.02	5.66	5.25	2994.89
	May	4.4381	11.04	5.52	5.25	2591.4
	June	4.4603	11.11	5.43	5.25	2547.54
	July	4.5484	11.13	5.33	5.25	2628.85
	August	4.5163	11.24	5.30	5.25	2691.8
	September	4.5007	11.25	5.24	5.25	2616.1
	October	4.5583	11.33	5.23	5.25	2670.1
	November	4.5255	11.43	5.25	5.25	2608.2
	December	4.4895	11.49	5.22	5.25	2786.1
Year 2013	January	4.3793	11.55	5.21	5.25	2952.7
	February	4.3848	11.52	5.16	5.25	3090.9
	March	4.3915	11.42	5.08	5.25	3037.8
	April	4.3802	11.03	4.90	5.25	2930.7
	May	4.3375	10.78	4.76	5.25	2928.8
	June	4.4765	10.66	4.70	5.25	2822.4
	July	4.4257	10.55	4.58	5.00	2893.2
	August	4.4353	10.43	4.41	4.5	3047.8

\*Monthly average exchange rate is calculated as the simple arithmetic average of daily exchange rates of the foreign exchange market provided by the National Bank of Romania.

**Source:** National Bank of Romania, <http://www.bnro.ro/Baza-de-date-interactiva-604.aspx>

**Annex 3****The evolution of the net assets of the facultative pension funds, Pillar III**

<b>Period</b>	<b>The value of the net assets (thousands lei)</b>
Year 2007	
June	58.70
July	328.70
August	892.04
September	1863.09
October	3137.84
November	8443.20
December	14371.81
Year 2008	
January	17553.00
February	21388.00
March	2481600
April	29217.00
May	34529.00
June	40141.00
July	47152.00
August	53461.00
September	59598.00
October	65785.00
November	75575.00
December	84287.00
Year 2009	
January	92675.00
February	100223.00
March	110484.00
April	121806.00
May	129942.00
June	139819.00
July	150532.00
August	161278.00
September	172612.00
October	180758.00
November	192091.00
December	204041.00
Year 2010	
January	215296.00
February	228295.00
March	246101.00
April	255420.00
May	255862.00

June	264393.00
July	276640.00
August	285460.00
September	297600.00
October	307040.00
November	314431.00
December	328000.00
Year 2011	
January	339570
February	349560
March	363368
April	372294
May	375740
June	385320
July	394100
August	397090
September	400840
October	413590
November	421270
December	435650
Year 2012	
January	455070
February	471410
March	483490
April	495180
May	500640
June	512230
July	527630
August	542440
September	554890
October	570340
November	580560
December	598920
Year 2013	
January	618590
February	632720
March	645380
April	653950
May	677270
June	687500
July	711120
August	730540

**Source:** Data processing on the published site Supervisory Commission of Private Pension System <http://www.csspp.ro/evolutie-indicatori/>, statistics section – data series.