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An analyses model of the Romanian privately managed pension system

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Abstract. *The Romanian privately managed pension system (Pillar II) is a system financed though the allocation towards the privately managed pension funds of a certain percentage from the contributions due by the participants to the public social insurance system. The main advantage of the system is represented by the fact that the amounts received by the pension funds will be better used, being invested by the pension management companies, which will ensure that he amounts saved by the participants will increase on the long run. Pillar II is compulsory for employees under 35 years old and optional for those between 35 and 45 years old, at the moment of enrolment. By contributing month after month until retirement, assets will be accumulated and will be multiplied through investments, ensuring a supplementary pension beside the public system one. The pension management companies are only authorized companies, in that way the investments will be made in a professional environment, towards profitable areas, ensuring the accumulated assets profitability. The number of participants at Pillar II is increasing since the inception of the system and this trend will continue at least on medium term. From the start of the system to the moment of the first pension payments, there were and there will only be a small number of participants, which received or will receive the assets accumulated in their accounts. Until the first participants enrolled will reach the legal retirement age, the amounts in their accounts will continue to grow, while efficiently invested, will offer a guarantee for a higher supplementary pension.*

Keywords: Pillar II, private pensions, participants, analysis, returns, contribution.

JEL Classification: J32, J11, C61.

Introduction

In this article we conducted a study regarding the Romania privately managed pension system, using different statistical instruments. We have analyzed the evolution of the number of participants, the participants age, the number of the participants automatically enrolled, the number of participants which opted to transfer from one pension fund to another, the total assets and the net assets value, as well as the average rate of return of the pension funds. We used pictures, tables as well as a series of statistical instruments such as dynamic series, indexes, etc.

In 2018, the international markets were characterized by a relative increased volatility, being affected by the Chinese market turbulences and in by the numerous discussions regarding Brexit. In Romania, the financial markets had positive evolutions based on an economic growth higher than the European Union average. The foreign exchange market and the stock exchange market had a volatility lower than the south-eastern and central European markets.

The evolution of the Romanian financial sector (assets over GDP), was positive in the last year. On the same trend was one of the main components of the non-banking financial sector, namely the private pension sector. This sector, with its main component – the privately managed pension funds (Pillar II) – aims to offer a private pension supplementary to the one offered by the public system. The implementation of the privately managed pension system represented a very important stage of the pension reform process in Romania, increasing the possibility to obtain a supplementary pension, also bearing in mind the unfavourable perspective of the demographic evolution, the birth rate decrease and the reduction of the active work force share in the total population. Moreover, the increase of the retiree number and the decrease of the employee number will result in lower amounts paid by the last category to the public pension system, while the payments made to the retirees will grow. In addition, the life expectancy is on a positive trend making the decision factors more aware with respect to the life standard of the elderly, idea underlined at the level of the European Union as well.

The Romanian privately manage pension system is a defined contribution system, meaning that the participants will benefit at the legal retirement age from a supplementary pension computed based on total assets accumulated in their accounts. The amounts found in the personal accounts are composed from the share transferred to Pillar II from the social insurance contribution and the results of the investments made with these amounts. Pillar II is organized as an accumulation and investment system, through individual accounts managed by authorized pension management companies. In that way, supplementary funds are accumulated in each participant account. The money found in the personal accounts will return to the participant, at the legal retirement age. All the amounts won as investment return will go back to the participants at the retirement moment. All these amounts will the used by the participants to buy a supplementary pension, which will be computed based on the amounts transferred as well as on the investment return produced by the pension management companies.

1. Literature review

Ambachtsheer (2007) have analysed the way in which could be crated well-governed pension fund. Barr and Diamond (2009) approached a series of aspects related to private pension reforms. Bauer, Cremers and Frehen (2010) conducted a study regarding the investment structure and performance of the pension funds. Chybalski (2011) pointed out the necessity of the diversification of the pension systems in the European Union for a better reaction against the economic crisis. Colomeischi (2014) analysed the evolution of the Romanian private pension system. Cristea and Thalassinos (2016) have highlighted the role of the private pensions on the financial markets. Heijdra and Romp (2008) investigated the impact of the demographic changes and of the private pensions on the macroeconomic trends. Hill (2007) investigated a similar subject. Naczyk and Domonkos (2015) presented the main characteristics of the private pensions systems. Neményi (2011) analysed the economic effects of the ageing process in Romania. Orenstein (2011) studied the individual savings accounts. Stancu, Hașegan and Darmaz-Guzun (2019) conducted simulations of the Romanian pension system. Stewart (2014) analysed the investment activity of the pension funds. Yan (2008) studied the correlation between the size of the pension fund and their investment performance.

2. Research methodology, data, results and discussions

The evolution of the privately management pensions system in Romania had a positive trend during the period analyzed, namely 2008-2019, the number of participants and the net total assets increasing from one year to the other. Pillar II aims to ensure a tradeoff between the safety and the performance of the investment, to the benefit of the participants. Meanwhile the pension management companies have the purpose to protect the interest of the participants as well as to mitigate the potential risks, which could appear related to the investment process. Today, the Pillar II system has 7 pension management companies, each managing one pension fund, 3 authorized depositary and 5 authorized financial auditors.

At the end of June 2019, there were 7.34 million participants, an increase of 1.26% from the end of December 2018. At the end of June 2019 Pillar II net assets value was 55.14 billion lei, representing a share of 5.6% of the GDP, increasing from 5.12%, the percentage registered at the end of 2018. The annual rate of increase of the net assets value was 26.11% (June 2019 compared with June 2018), while the average monthly contribution of a participant in June 2019 was 182.2 lei. At the end of June 2019, the average value of a personal account in the Pillar II was 7,631 lei (1,621 euro), a jump of 14.36% from December 2018 value, while 5.52 million participants (76% from the total) had less than 10.000 lei in their accounts, the remaining 24% having more. From the former ones, 0.41 million had more than 25.000 lei accumulated, representing only 5.71% from the total. When we analyze the rate of return, it we observed that it increased to 3.5575% at the end of June 2019 from 2.7204% at the end of December 2018. Thus, on the short run, the pension management companies should intensify their efforts in their quest of finding better assets in terms of rate of return, in order to provide investments that are more efficient. More than half of the assets are invested in Romanian state bonds, which did perform reasonably well, yet new assets are to be found for an increase of the pension funds' average rate of return.

In the Pillar II system, it is compulsory to participate for all employees under 35 years old, while the participation is optional for those aged between 35 and 45 years old. In the table below, we present the number of participant, which increased every year, with a relatively constant rate.

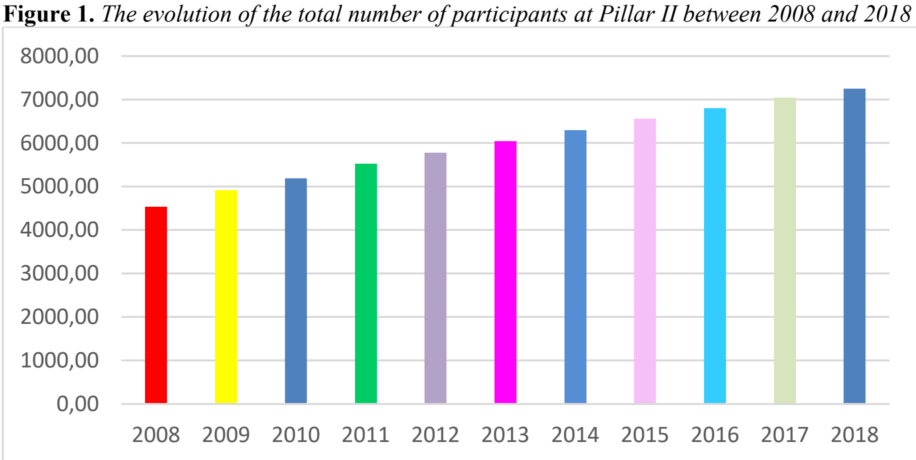
Table 1. *The number of participants and evolution in Pillar II between 2008 and 2018*

End of year	Number of participants (billions)	Rate of increase		Dynamic index		Modification rhythm	
		Fixed base	Year over Year	Fixed base (billions)	Year over Year (millions)	Fixed base	Year over Year
2008	4.53	-	-	-	-	-	-
2009	4.91	108.41	108.41	0.39	381.29	8.41	8.41
2010	5.19	114.44	105.56	0.655	273.22	14.44	5.56
2011	5.52	121.72	106.36	0.984	329.67	21.72	6.36
2012	5.77	127.38	104.65	1.241	256.47	27.38	4.65
2013	6.30	133.26	104.62	1.507	266.75	33.26	4.62
2014	6.29	138.86	104.20	1.761	253.88	38.86	4.20
2015	6.56	144.67	104.18	2.024	263.24	44.67	4.18
2016	6.80	150.01	103.69	2.267	242.06	50.01	3.69
2017	7.04	155.39	103.59	2.51	243.74	55.39	3.59
2018	7.25	159.99	102.96	2.718	208.12	59.99	2.96

Source: Romanian Financial Supervisory Authority, 2019, own computation.

From 2008 to 2018, the number of participants steadily increased. From the initial 4,531,800 participants registered at the end of 2008 (the first year of the Pillar II system), the number of participants increased to 7,250,300 at the end of 2018.The rate of increase calculated with a fix base (the index of 100% being set for 2008), ranging from 108.41% in 2009 to 159.99% in 2018. When we analyse the increase in a year over year perspective, we can observe that between 2009 and 2015 the increase was between 4.62% and 8.41%, while in the last 3 years it decreased, ranging from 3.69% to 2.96%. The evolution of the number of participants in also presented in the picture below.

Figure 1. *The evolution of the total number of participants at Pillar II between 2008 and 2018*



Source: Romanian Financial Supervisory Authority, 2019, own representation.

In the table below we analyses the distribution of the number of participants on age groups in the last 10 years. We observed that in both categories the number of participants increased, yet the percentage of people aged above 35 years old increased.

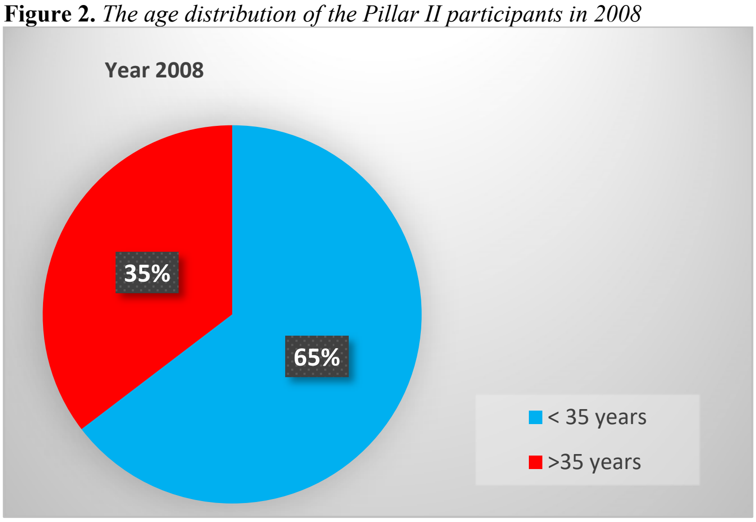
Table 2. *The distribution of the number of participants on age groups between 2008 and 2018*

End of year	< 35 years (billions)	> 35 years (billions)
2008	2.929	1.603
2009	3.063	1.850
2010	3.084	2.103
2011	3.161	2.355
2012	3.180	2.592
2013	3.190	2.849
2014	3.193	3.100
2015	3.206	3.351
2016	3.209	3.589
2017	3.226	3.816
2018	3.218	4.032

Source: Romanian Financial Supervisory Authority, 2019, own computation.

We also compare in a graphical way the age structure of the participants for 2008 and for 2018.

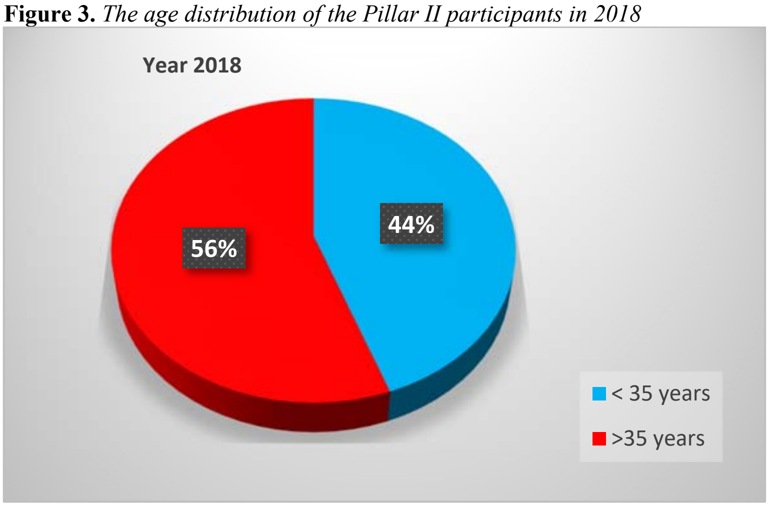
Figure 2. *The age distribution of the Pillar II participants in 2008*



Source: Romanian Financial Supervisory Authority, 2019, own representation.

We observed that compared with 2008, in 2018 the shares of person aged under 35 decrease from 65% to 44%.

Figure 3. *The age distribution of the Pillar II participants in 2018*



Source: Romanian Financial Supervisory Authority, 2019, own representation.

Another indicator that we analysed is the number of participants who were automatically enrolled in Pillar II every December between 2008 and 2018. This indicator shows a possible issue of the system, because the number of automatically enrolled participants being relatively large. We presented the data in Table 3.

Table 3. *The number of automatically enrolled participants between 2008 and 2018*

December	The number of automatically enrolled participants
2008	53,596
2009	20,949
2010	18,860
2011	29,400
2012	29,668
2013	35,626
2014	37,846
2015	45,519
2016	35,276
2017	41,740
2018	33,591

Source: Romanian Financial Supervisory Authority, 2019.

A fair indicator regarding the stability of the participant's choices on enrolment is the number of participants, which chose to switch the pension fund. We present the data in Table 4, and we observed that although there are some participants who decided to switch the fund, the level is very low compared with the total number of participants.

Table 4. *Pension fund transfers between 2009 and 2018*

December	Total
2009	124
2010	115
2011	246

December	Total
2012	372
2013	101
2014	94
2015	78
2016	107
2017	94
2018	107

Source: Romanian Financial Supervisory Authority, 2019.

The evolution of the total assets and of the net assets value is highly important. We present the data for the period 2008-2018 in Table 5. We noticed that the net asset value increased from 0.83 billion lei in 2008 to 47.58 billion lei at the end of 2018.

Table 5. *Total assets and net assets value in Pillar II from 2008 to 2018*

End of year	Total assets (billions)	Net assets (billions)
2008	0.832	831.9
2009	2.386	2.384
2010	4.504	4.332
2011	6.420	6.416
2012	9.642	9.637
2013	13.946	13.939
2014	19.127	19.118
2015	24.686	24.674
2016	31.481	31.466
2017	39.760	39.741
2018	47.601	47.577

Source: Romanian Financial Supervisory Authority, 2019.

We also analyzed the value of the total contribution in the last month of each year between 2008 and 2018, as well as the average contribution per participant in the same month for Pillar II. At the beginning of the system, both indicators were relatively low, yet after 10 years, the increase is enormous: over five times both for the total contribution and for the average contribution per employee. In Table 6, we present the data for the whole period.

Table 6. *The total contribution and the average contribution per participant in December between 2008 and 2018*

December	Total contribution to the system (millions lei)	Average contribution per participant (lei)
2008	110.6	32.2
2009	107.2	31.6
2010	132.4	39.57
2011	173.53	50.11
2012	217.40	60.85
2013	299.62	80.61
2014	339.22	89.41

2015	446.08	113.21
2016	513.55	128.45
2017	624.03	153.97
2018	656.10	159.75

Source: Romanian Financial Supervisory Authority, 2019.

Another paramount indicator of the Pillar II pension system is the rate of return of the pension funds. The pension management companies have as one of their main objective the increase of the participant assets' value. In the table below we present the weighted average rate of return of the Pillar II, computed for the last 24 months, in accordance with the legal requirements, thus this indicator is only available starting with 2010. In the first 5 years, the returns delivered by the pension fund management companies were encouraging, with a peak of 15.1% in 2010. Yet, starting with 2016, the results were relatively low, with a very disappointing result (2.72%) in 2018.

Table 7. *The weighted average rate of return of the Pillar II pension funds computed for the last 24 months*

End of year	%
2010	15.0991
2011	8.5636
2012	6.7106
2013	10.4535
2014	9.2276
2015	6.1493
2016	3.7338
2017	3.9543
2018	2.7204

Source: Romanian Financial Supervisory Authority, 2019.

In our analyzing model of the efficiency of Pillar II in Romania we studied the following statistical indicator: the number of participants, the increase of the number of participants (computed with a fixed based and year over year), the distribution of the participants on age groups, the number of participants who chose to transfer, the number of participants who were automatically enrolled, the total assets and the net assets value, the average contribution per system and per participant, and the weighted average rate of return. The series of data analysed were 10 years long (the age of the system), which are long enough to provide relevant evolution trends, especially for the future. All this statistical indicators studied revealed to us the soundness of the Pillar II pension system in Romania, as well as its efficiency. Thus, we can argue that the participants will have in their personal accounts the amounts needed for a supplementary pension at age of retirement.

Conclusions

In this article, we have used an analysing model based on the dynamics of a series of relevant indicators for the Pillar II pension system. Studying the data, we can conclude that the assets accumulated in the privately managed pension funds have experienced a constant increase in the analysed period (10 years), due to increase of the contribution and to good investment results. Thus, if the decision factors will analyse in the future the increase of the percentage transferred to Pillar II, the participants could benefit from a better supplementary pension when reaching the retirement age.

The privately manage pension system is now in the accusation phase, thus the actual effect of pension payments will have to be analysed based on empirical data at a future time. On the other hand, one of the component of the assets accumulated in the pension accounts is the investment results. Thus, the analysis of the efficiency of the returns delivered by the pension management companies is crucial. The level of the returns have to be compared with market returns and have to ensure the participants that the assets are invested in a proper manner, in order to increase the value of the personal accounts.

This study could be extended by using a series of regression, considering that in the privately manage pension system some variables could be correlated and evolving in the same direction. Thus, in the future studies we can build a multiple regression analysis for computing evolution parameters, for anticipating the development of the Pillar II pension funds.

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