THE PAYG VARIANT VERSUS THE FULLY FUNDED VARIANT IN CONFIGURING AN EFFECTIVE PENSION SYSTEM

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Abstract

The actual situation is characterized by a major transformation of economical structures, such as: the decrease of population, the increase of participation rate of younger people in higher education and most important, massive retirements and migration. These aspects have generated a drastic decrease in labor force and have brought imbalance in Romanian pension system. Now, the Romanian system of pensions based the principle of social solidarity (support by those who have an income now for the people who worked in the past) known as a „pay as you go" system – PAYG has demonstrated its limits, especially due to the current demographic context. This system is an un-funded one not based on economizing. On the other side, private pension systems, either obligatory or optional, are fully funded and based on process of economizing. PAYG pension systems are more vulnerable to demographic changes than pension systems base on accumulation and capitalization. This paper presents, in comparative approach, these two pension systems and corroborating them with present socio-demographic situation try to disclose whichever is more viable in ensuring sustainability of pension system from Romania.

Keywords: *social security, sustainability, pension systems, demographic risk, transition*

Introduction

Worldwide discussion on the sustainability of pension systems is of utmost interest, especially since, in the current socio-economic conditions, it is undergoing a severe crisis. Thus, factors such as aging, reducing the active population, labor migration, etc., represent major challenges for configuring policies on pension systems. The importance of this aspect is reflected in the allocation of GDP in most countries in Europe and which lies between 8 and 10% for providing minimum pension system's stability.

Given these assumptions, most countries were already engaged in developing policies to reform their pension systems. The main issue raised in most discussions concerning the reform of pension systems has as leitmotiv the dichotomy between PAYG and fully funded type systems.

Typically, the public pension system is founded on the pay-as-you-go (PAYG) idea, meaning current payment of pensions from contributions collected from present incomes of working population.

On the other hand, there are private pension systems based on the accumulation and investment of individual savings, also called fully funded.

Existing pension systems differ considerably between countries mainly due to the specific historical path of each. For example, in countries with an ideological and economic foundation of social obvious type, such as France and Germany, the PAYG type pension schemes are more present. In other countries, like Britain and the United States, with a liberal or neoliberal orientation economically speaking, the emphasis is on fully funded systems. These pension schemes can work mixed, as well. In fact, in most states, the main pillar for the foundation of pension provision consists of a public pension plan, mandatory, completed with a private pension system, either mandatory or optional. This is also Romania's case, which since 2007 has introduced a multi-pillar pension system.

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PAYG Pension Systems. Advantages and Weaknesses

The “pay-as-you-go” pension schemes, or PAYG, are based on a “pay as you get paid” principle. It is a state social security system that functions on the social solidarity principle, which means that those who currently receive income support financially those who have worked in the past, with the promise that, in turn, they will be supported by the incomes of future generations. The “pay as you go” pension system is a system that works on the principle of intra-and intergenerational solidarity.

This system was designed by Bismarck about 120 years ago. In fact, in the history of social security systems, this marks the crucial point of development, representing the first formal pension system in the world. Under the original scheme, devised by Bismarck, the system was financed from contributions, hence the name of social insurance. They were mandatory for employees for which they were created, whether qualified or not, young or old, male or female, regardless of their health. The principle of solidarity was manifested by contributions paid by employees on a regular basis to make bear the socio-economic difficulties, in our case this being determined by the depletion of our working life. Three social partners – workers, employers and the state – had the role, rights and obligations in the management of the system as a whole. The resources mobilized by this method are dependent on the number of working people and taxpayers, the results being related to the balance between the number of those who subscribe and the number of beneficiaries of such services. This makes such systems to encounter difficulties in times of high unemployment rates when the number of those taxpayers is reduced, requiring intervention from the state budget to not get too high the insurance premium.

The PAYG type system is an “un-funded” one, not being based on accumulation funds, in other words not being based on saving. This system was especially successful in the past because it provides a high level of confidence and a reasonable retirement income, at also reasonable contribution rates. At the time of its appearance, the system was profitable because life expectancy was low and almost coincided with the retirement age. The system has expanded in Europe and works today, but socio-economic changes produced in the last 120 years have made it not viable for our times.

The basic principles under which public pension systems operate of PAYG type are[1]:

- *the principle of uniqueness*, according to which the state organizes and ensures the public pension system based on the same rules of law for all participants in the system;
- *the principle of obligation*, under which individuals and legal entities by law are required to participate in the public pension system, social insurance rights correlating with exercising obligations;
- *the contributiveness principle*, under which social security funds are based on contributions from individuals and legal entities participating in the public pension system, social security benefits being due under the social security contributions paid;
- *the principle of equality*, which ensures all participants in the public pension system, taxpayers and beneficiaries, a non-discriminatory treatment between persons in the same legal position in respect of the rights and obligations provided by law;
- *the distribution principle*, under which social security funds are redistributed for payment of obligations of the public pension system, according to law;
- *the principle of social solidarity*, according to which the public pension system participants assume mutual obligations and enjoy rights to prevent, limit or remove the insured risks, under the law;
- *the principle of autonomy*, based on independent management of the public pension system, according to law;
- *the imprescriptibility principle*, according to which the right to pension is not prescribed;

[1] Adjustment by Romanian State Pension System (Law no. 263 from 16 december 2010).

- *the non-transferability principle*, under which the pension right may not be transferred, in whole or in part.

The pay-as-you-go system has primarily the advantage of increased prevention of poverty in the elderly and requires a fairer distribution between generations of inflation and especially of risks caused by potential disasters such as wars, recessions. On the other hand, this system is vulnerable to unemployment and population aging.

The generational solidarity principle, subsumed to the PAYG pension system, works as long as the ratio between the active and inactive population is in favor of the first category.

As life expectancy has increased, an imbalance occurred between these categories, the balance leaning in favor of retirees. Of course, the issue can be corrected by rising the retirement age, but this cannot be done indefinitely. On the other hand, such a measure generates resistance to change in society, because people do not accept the idea of working ever more years before they enjoy the right of retirement. The imbalance induced by this phenomenon in the PAYG type system is doubled also by the reduction of the working population and the decrease in birth rates. Aging modifies the conditions for redistributing income, in general, and the balance of the PAYG type pension system. A decline in the working population influences the income of these systems which, in essence, are based on wage bills (total wages received by employees). An acceleration of retirement increases pension payments so that aging degrades the financial situation of the systems based on the PAYG principle.

Global progressive aging of population stresses the financial difficulties of the PAYG type pension systems, therefore the pension schemes will have to become less sensitive to demographic and social changes.

Advantages and Disadvantages of FULLY FUNDED Type Pension Schemes

In countries with a liberal economic tradition, private pension schemes have developed, either mandatory or optional, based on the accumulation of individual savings and investment. These are the so-called fully funded systems based on a process of saving. As stated above, these pension systems find their origins in the liberal and neoliberal economic doctrine. This philosophical-social and politico-economic concept supports the minimization of the influence of state on economic events. According to this philosophy, the neoliberalism option, in terms of social security, is quite clear: privately held solutions instead of state systems considered to be inoperable because of excessive bureaucracy. State intervention on the social security component should manifest only in case of those who really need social assistance, meaning those who are unable to secure their daily living. From the perspective of neoliberalism, the pay-as-you-go strategy is criticized on the grounds that it would not have a solid foundation.

Fully funded type pension schemes may be mandatory or optional, operating in parallel with systems based on redistribution (PAYG) or they can fully replace them. For example, in countries such as Chile, Mexico, Bolivia, El Salvador, Kazakhstan, this type of pension scheme is used instead of the PAYG type, in countries such as Peru or Colombia the fully funded type private system is a variant of the PAYG type system, and in countries such as Argentina, Uruguay, Eastern European countries, including Romania, this system works in mixed regime together with that based on redistribution. The most advanced private pension systems are in the U.S.A., Australia, Switzerland, and the Netherlands. For that matter, these countries have introduced, with a binding character, a component based on accumulation, managed by private institutions and that is the result of optional pension plans organized by employers. In countries where the mixed regime operates, as is Romania's case, private pension is formed by monthly transfer of a share of the social security contribution paid in the public pension system to a private pension fund.

The most known presence in the area of social security of private pension systems is in the form of the 2nd and 3rd pillars. The 2nd pillar covers occupational pension provisions that are generally set in advance. Pensions are managed by private, independent, pension funds. The 2nd pillar's features are:

- *requirement*, all those who receive income under an employment contract are required to contribute to a private pension fund;
- *capitalization*, private pension funds are invested in accordance with a series of legal provisions;
- *individualization*, contributions and their results are individually oriented to those who have contributed to the private pension fund.

The extension of the 2nd Pillar is the 3rd Pillar, consisting of voluntary individual savings managed by private insurers, which may be mutual funds, investment companies or even the individuals themselves. Therefore, the specificity of the 3rd Pillar compared with the 2nd Pillar is the optional nature of contributions. The second and third pillar are, usually, of the fully funded type and have as major advantage the fact that they encourage private savings for the retirement period. Pensions financed from an accumulated stock of assets are less vulnerable to demographic changes than those based on the PAYG system. However, they are subject to inherent risks in economic life, such as bankruptcy or devaluation. Yet, some specialists consider that the highest risks to which private pension funds are subjected in the near future are generated, just as with PAYG systems, again by aging. The difference is that with fully funded systems the risk generated by aging is correlated with a possible devaluation of assets[2]. Demographic factors along with economic ones pull with them asset prices and hence affect private pension systems. The idea is that over the past 30 years asset prices have skyrocketed, mainly due to the baby boomers generations who have contributed. When this generation will retire and begin to sell the assets they have, these, according to the above theory and called asset meltdown, will be devalued due to the large number removed from the market at once. The logic on which this theory develops is simple: young people gather easily assets for old age, while the elderly waive assets to finance their old age. When the younger generation is more numerous, prices raise; when the elderly are more numerous, prices are lowered.

Of course, the asset meltdown theory is subject to much criticism that required its treatment with caution. It is true that on the capital markets demographic aging induces a decline in the stock of capital, yet it is also characterized by a decline in the working population. Therefore, the dynamics of capital per capita is thus influenced by two phenomena with opposite effects, which ultimately offset each other.

The PAYG and the Fully Funded System in Romania – Present and Future Prospects

The crisis marking pension systems all over the world is also present in Romania and it affects our country's pension system. In addition, Romania is facing a different situation, generated by policies developed on the pension component after 1990.

Currently, in Romania operates, as basic formula, a public pension system, of a redistributive type based on solidarity between generations, i.e. a PAYG type system. It is also called 1st Pillar. In the public pension system all employees contribute plus any other taxpayers required by law to pay the SSC (social security contributions). For 2010, the social security contribution rates were 31.3% (for the special conditions of employment), 36.3% (for the particular conditions of employment) and 41.3% (for special conditions of employment). From this, the individual social security contribution rate is 10.5%, regardless of the working conditions.

All contributors receive a pension right, but the link between the amount of contributions paid during the lifetime and the pension amount is not proportionate. All contributors accumulate a score according to the amounts paid, and the pension which is calculated is the result of the product of the number of points and the point value. This is a very relative formula because the point value is

[2] Mankiw, N.G. and Weil, D.N, The baby boom, the baby bust, and the housing market, Regional Science and Urban Economics 19 1989, pp. 235-258.

determined politically and therefore subjected to the country's political development and the economic and doctrinal orientation of those in power. This is one of the major flaws of the PAYG type public pension system currently operating in Romania. Currently, there are approximately 4.1 million employees contributing to the public pension system supporting about 4.7 million pensioners. In addition to this type of pensions there is a the pension system for farmers, different from the public system, not contributing, which is supported by resources from the state budget and which provides payment of pensions for about 760,000 former farm workers. Then there are the special pensions of former employees of the defense system, which had a special contribution regime, and we also mention other types of pensions such as those of diplomats, judges, parliamentarians, etc. Also in the latter's case, the contributions' scheme had a special character.

Pension formulas applied in the post-socialist period hoping to solve growing unemployment (including early retirement) have increased the number of retirees. Thus, between 1990 and 2010 the number of retirees increased by approximately 80%. The situation of grave imbalance in which the pension system is found, based on the principle of social solidarity, PAYG specific, is reflected by the dependency ratio between the number of retirees and the number of employees and how it evolved between 1990 and 2010. In other words, we are speaking about the number decrease of those who pay social contributions. If in 1990 there were 8.1 million employees and only 2.5 million retirees, in 2010, statistics show only 4.1 million employees and approximately 4.7 million retirees (not including the farmer retirees). The evolution of this report is shown in the table below:

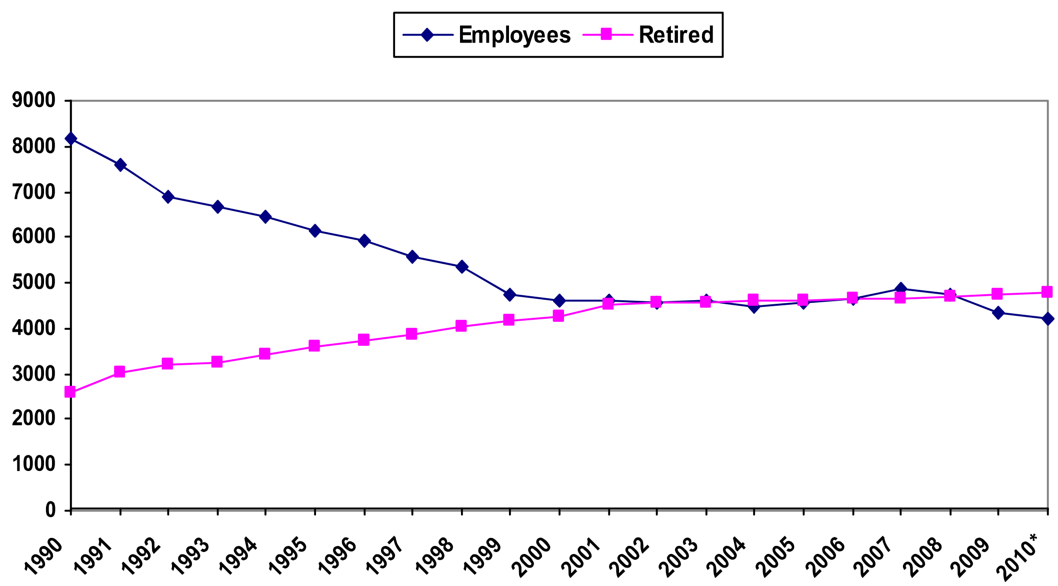


Fig. 1 – Evolution of employees - retirees ratio in Romania during 1990 to 2010 (thousands of people)

Source: National Institute of Statistics and National House of Pensions and Other Social Insurance Rights

This imbalance was produced over time, as I noted above, by pension policies developed and implemented after 1990, by the sinuous economic developments that led to an increase in unemployment and by a series of natural factors such as the population demographic evolution.

Unemployment had generally an upward trend, thus diminishing the mass of contributors to the pension system. Given the fact that the pensions of current retirees are paid from the proceeds of the contributions of current employees, the unemployment factor is obviously one having an impact on the sustainability component of the pension system. The evolution of unemployment in the period 1991 to 2010 is reflected in the chart below and indicates perhaps most accurately, by the sinuous nature, the evolution of Romanian economy after 1990. It must be made clear that 1990 is not included due to lack of data.

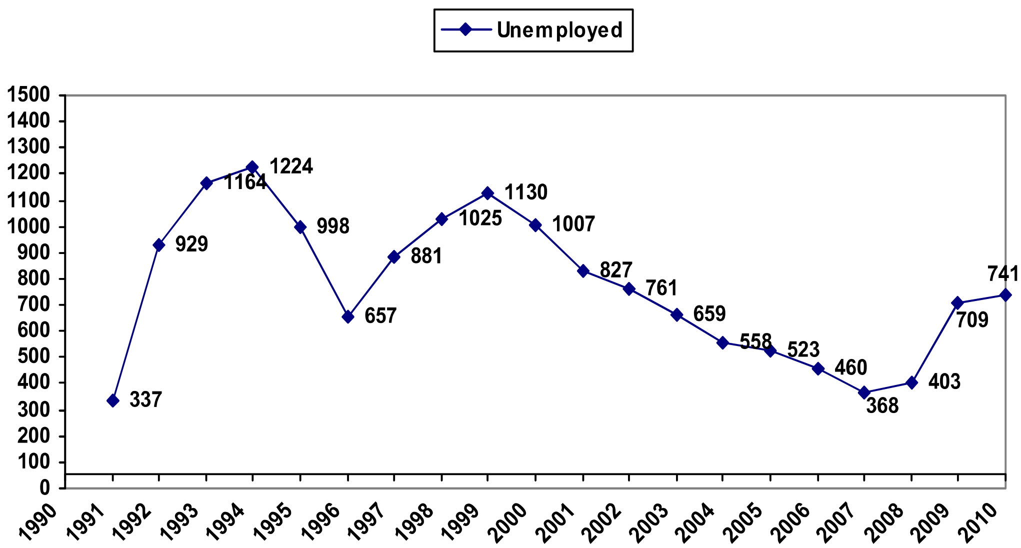
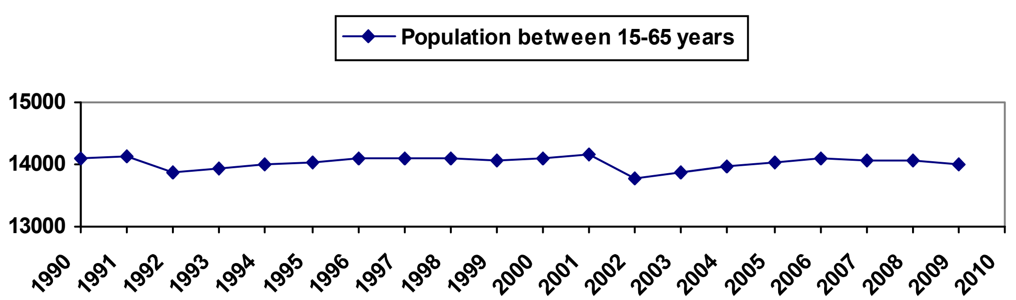


Fig. 2 – Unemployment in Romania during 1991 to 2010 (thousands of people)
Source: National Agency for Employment

Demographic issues affecting the sustainability of the current pension system in most countries have not spared Romania. The population in Romania is an old one, which affects the sustainability of the pension system. In the past 20 years, the evolution of the active population, i.e. the one aged 15 to 65, has been decreasing compared to the evolution of the population aged 65 and older. Graphically, these developments are highlighted in Figure 4 and 5:



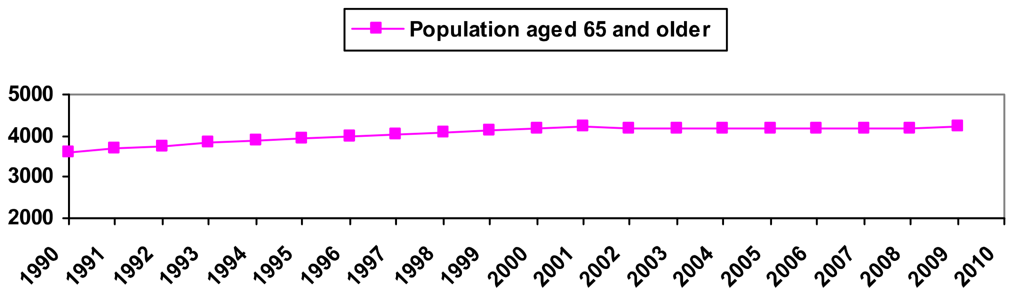


Fig. 3 – Evolution of the population aged 15 to 65 in Romania between 1990 to 2010 and evolution of population aged 65 and older in Romania between 1990 to 2010 (thousands of people)

Source: National Institute of Statistics and own approximations for 2010

Adjustment of these imbalances can be achieved only through a proper reform of the pension system in Romania. A major challenge in terms of sustainability of the pension system is the introduction of mandatory 2nd Pillar of a fully funded type. In 2007 two pillars were introduced that match the private pension system: the 2nd Pillar (regulated by Law 411/2004) and the 3rd Pillar (regulated by Law 204/2006). The 2nd Pillar is binding on all persons up to the age of 35. The contribution is voluntary for those aged between 35 and 45. The 2nd Pillar represents the pre-financed component of the first pillar, a part of social security contributions being directed towards the compulsory pension funds under private management. The contribution rate in the first year was 2% of the gross income and will reach a maximum of 6% by the end of 2016. For 2011, the contribution rate related to private pension funds is 3%[3].

Forwarding a percentage of mandatory contributions to private pension funds is a direct consequence of reducing the funds available for current pensions combined with an increase in deficit on the PAYG system. However, on long term, private pension component insertion will reduce dependence on the state of retirement and could balance the Romanian pension system.

Conclusions

The problem of efficient management of the pension systems and their adaptation to the current socio-economic dynamics is one of the biggest challenges of the 21st century. It is obvious that the risks and vulnerabilities arising from socio-economic dynamics are becoming more entrenched by the application of traditional measures. Viability of pension systems becomes an important issue and which probably will increase as the baby boom generation will reach retirement age. For this reason, policy makers are faced with different options. Of these, controlling public expenditure on pensions by thinking of pension schemes less sensitive to demographic changes through reforms in the PAYG systems or switching to a private system represent the main option.

For example, it is clear that PAYG type pension systems are increasingly inadequate in the current socio-economic context marked by demographic deficit. This situation could not be anticipated when Bismarck devised this formula. On the other hand, it is true that the Fully Funded type system is protected from the aging population risk, but only partially, if we consider the asset meltdown expected by some experts. However the fact that this type system eliminates the conditioning of retirees to the "generosity" of younger generations makes it more adapted to today. Certainly, in terms of philosophy of social security, the fully funded type systems eliminate the idea

[3] art. 17 paragraph (2) of Law no. 287/2010 on the state social insurance budget in 2011.

of solidarity between generations, but establish a deeper connection between personal contributions and the amount of pension received.

The two components, the public namely the private one, are exposed differently to demographic, macroeconomic, namely political risks. The main purpose in devising a pension system should consider opportunities to diversify the protection measures against risks induced by each variant. The risk of bankruptcy of private pension funds and the possible asset meltdown caused by the depletion of active life of the baby boom generations may be mitigated by the parallel existence of a public pension system. At the same time, the risk related to the aging phenomenon and its obvious effects on the PAYG type pension systems can be partially diminished by the existence of fully funded type pension systems. However, it is sure that both systems bear risks, generally determined by the population dynamics. As a matter of fact, the Club of Rome, through the voice of their experts, warn that population aging will affect, at a different pace and with a variable force, both the financing schemes of pensions based on redistribution (PAYG) and voluntary savings schemes based also on investment (fully funded).

In other words, having seen both the advantages and disadvantages of the PAYG type pension systems as well as the fully funded type ones, the best solution seems to be a mixed one that combines the advantages of both types of systems.

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