ИНСТИТУТ ЗА ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ НА БЪЛГАРСКАТА АКАДЕМИЯ НА НАУКИТЕ
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TRANSFERRING RESOURCES BETWEEN THE FIRST AND THE SECOND PILLAR IN THE CONTEXT OF DEVELOPMENT OF THE PENSION MODEL IN BULGARIA

The evolution of pension models is a continuous and long process since social issues acquire new dimensions and the social security systems should respond in a timely and adequate manner to these challenges. Changes in the pension model are an expression of the efforts to improve it but this needs to be a well-thought-out and consistent process since it is likely to give rise to mistrust on the part of insured persons. The results of any reform of the pension model are postponed in time making difficult the current assessment of the effectiveness of the changes that have been made.

The present study examines some of the more significant changes in the Social Security Code with emphasis on those concerning the possibility of transferring funds from a universal and professional pension fund to the State Social Security System. The implications of this transfer for the Bulgarian social security model have been analysed and an attempt has been made to seek for more optimal alternatives for changes in the pension system contributing to the attainment of adequate retirement incomes, which is one of the fundamental principles enshrined in the European Pillar of Social Rights.

JEL: H55; H75; J32

The main objective of the present work is based on the retrospective analysis of the development of the pension system in Bulgaria made to present the contemporary challenges to its development and to seek some opportunities for overcoming them. An assessment will be made of the consequences of the opportunity for the insured persons to transfer funds between the First and Second pillars of the pension model.

In order to achieve the set objectives, the traditional research **methods** have been applied with respect to the theory and practice of the studied area: analytical, comparative, inductive and deductive.

Research thesis: The achievement of a sustainable pension system which guarantees adequate retirement income requires consistent changes in the Bulgarian pension model

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which should, on the one hand, reflect the current demographic and socio-economic transformations and, on the other hand, to improve its long-term stability.

The objective and timely identification of potential problems in the transfer of funds from the Second pillar into the First pillar of the Bulgarian pension system is essential for achieving and preserving the sustainability of the pension model in the country. Understanding the accompanying risks of switching from a multi-pillar to a one-pillar pension model will allow the prevention of adverse consequences for the country's social security system and will facilitate the insured persons to make responsible and informed choices for their retirement income.

1. Emergence and Development of Pension Insurance in Bulgaria

The construction of a sustainable pension model in Bulgaria is a long-term process which did not end only with the adoption of the Social Security Code in 2003 but has continued to this day. In search of more optimal retirement protection of individuals and achievement of financial stability of the pension system, reforms are taking place in the country, which reflect different views and trends in this direction. Began in 1999 the pension reform is an expression of the efforts to diversify the source of pension income and financially alleviate the solidarity pension system which is strongly affected by demographic transformations. Changes in the field of pension insurance affect a large part of the country's population, therefore, this process should be accompanied by accurate studies, calculations, hypotheses and risk assessments to avoid the negative effects on the adequacy of pensions and the financial stability of the model.

1.1. Key stages in the development of the Bulgarian pension model

The history of Bulgarian pension insurance could be provisionally divided into three stages (Dulevski, Stefanov, 1998, p. 34) which to a great extent indicate the specifics of the age in which they were manifested.

First stage: From the Liberation of the country from Ottoman rule in 1878, until the mid-1940s.

Pension insurance in Bulgaria marked its beginning in 1869 with the establishment of a professional pension fund, part of an Austrian one which insured the persons working on the railway line between Istanbul and Pazardjik and was privately managed. The first pension funds in our country were established during the period 1887-1894 by the government of Stefan Stambolov (Konstantinov, 2001, p. 11). The first act adopted in this area was the Teachers' Pensions Act (1888) which specified the minimum required a length of service of 20 years needed for teachers for being entitled to a pension. Possibilities for receiving a disability pension for sickness and infirmity, occupational disease, etc. were also provided. No provision was made for any length of service contributions to the promised cash payments and the pension at the same time was 50% of the average salary for the last five years, provided that the person had been working for at least 20 years.

This period was marked by the financial instability of pension funds due, above all, to the fact that the only criterion for retirement was the length of service and not reaching a minimum age. This allowed many people who had started working at an early age to retire in their prime resulting in high costs for the system and jeopardizing its financial stability. Such a requirement was introduced gradually as late as 1908 and 1915.

In 1918 the long-awaited Social Security Act (Konstantinov, 2001, p. 42) was passed which imposed compulsory insurance for all payroll employees in private and public establishments and enterprises and for all working on a daily wage basis. An important moment at this stage in the development of social security in Bulgaria was the establishment of the Social Insurance Institute in 1941, which united the management of all existing insurance funds and trusts.

During this first stage, social security in Bulgaria was developing in the conditions of market economy and thus the foundations of a comprehensive, modern for its day and relatively well-functioning insurance model were laid.

Second stage: From the mid-1940s to the late 1980s

This is the period in which the planned economy and centralized governance were typical for the country. In 1949, a Social Security Act was adopted, whereby all social insurance funds and trusts existing in the country were united under the unified governance of the State Social Insurance Institute (National Social Security Institute, 2015a). In 1951 with the adoption of Section III of the Labour Code the funded social insurance system was abolished, all existing insurance funds were nationalized and their financial resources transferred to the State Budget. In the years in which there were more revenues than expenditures the surplus was not allocated to a separate reserve fund but was part of the country's consolidated budget. In the event of pension insurance costs exceeding the revenues the deficit was covered by an increase in the social security contributions.

The problems of the pension system in this stage are due to the following key factors: the state government where all contributions go to the state budget, the easy access of the pension rights, the non-payment of social contributions by workers, etc. (Shopov, 2008, p. 4).

A positive moment in the development of the system during this period was the extension of the circle of insured persons and the scope of the insurance risks while the state guaranteed the payment of the money, albeit in a relatively small amount.

Third stage: From the beginning of the 1990s to present day

In the third stage of the evolution of social security, the country has made a transition from a centrally planned to market economy and the results of this have reflected on the overall state of social security and in particular on pension insurance. At the beginning of this period, substantial reforms were not made, and efforts were directed to protecting insurance income from high inflation in the mid-1990s.

In 1991, for the first time, differentiated amounts of social security contributions were introduced depending on whether the persons retire under the conditions of the third category of labour. The circle of insured persons was expanded by adding freelance practitioners as well as those people who work without a labour relationship.

With the adoption of the Social Insurance Fund Act in 1995 the fund of the same name was created for the implementation of State Social Security System in the country. Its management was entrusted to the established National Social Security Institute (National Social Security Institute, 2015a). Important reforms took place in 1996 when the Pensions Act changed the method of calculating the pension by introducing an individual coefficient of the pensioners.

In 1997, the first separate budget of the State Social Security System (SSSS) was adopted and a register of insured persons and insurers was established whereby the collection of data on the insured income, length of service and social security contributions of each insured person began. With the adoption of the Voluntary Supplementary Pension Insurance Act in 1999, was finalized the regulation of the activity of the private pension funds and the Third pillar of the pension system was completed. A State Agency for Insurance Supervision was established in the same year.

According to one of the researchers of the problems of Bulgarian pension model prof. Georgi Shopov (2008, p. 4) the collapse of the system before its reforms is indicated and predetermined of the financial deficit that reached 22% of GDP. The deficit in this period is mainly due to the structure of the pension system that is not adequate to the new demographic, social and economic reality and this makes necessary the implementation of pension reforms at the beginning of the new century.

In 2000, the Code of Mandatory Social Security was adopted, regulating the insurance relations in two areas: State Social Security System and Mandatory Supplementary Pension Insurance. The fund governance of State Social Security System was re-established. During this period the NSSI collected the contributions for mandatory supplementary pension insurance and transferred them to the private pension funds (National Social Security Institute, 2015a).

A very important step towards the overall building of the social security system in Bulgaria was the adoption in 2003 of the Social Security Code which brought together the Mandatory Social Security Code and the Voluntary Supplementary Pension Insurance Act. This regulated and institutionalized the three-pillar pension model and the pension reform was considered to be completed in its initial stage, although other important decisions concerning the architecture of the pension model were made later on. In 2006 was set funds for voluntary supplementary pension insurance on the basis of occupational schemes. Thus facilitates the possibility of transfer of social security rights of people who had worked abroad.

In 2007 Bulgaria became a full member of the European Union and started implementing Regulations on the Coordination of Social Security Systems. In the next year – 2008 the Act on the State Fund for Guaranteeing the Sustainability of the State Pension System, more popular as the “Silver Fund”, was adopted which aimed to strengthen our pension model by collecting and managing additional resources for the public pensions system.

In 2015 significant changes in the pension insurance system in Bulgaria took place enabling persons insured in the Second pillar to transfer their financial resources to the pay-as-you-go system. The refusal to participate in a universal pension fund might be changed and the resources were retained in the Silver fund. The refusal to participate in an occupational pension fund was final and the financial resources were transferred to the solidary system. Potential risks and possible consequences of this reform will be discussed further in detail in this study.

The last important change was in 2016 when Pensions of Persons under Article 69 fund was included in the State Social Security System. Persons who work in the so-call security sector were insured in this fund. All of them were entitled to early retirement, which was funded by the newly established fund.

1.2. Architecture of the modern day pension model in Bulgaria

The pension model, legally regulated in Bulgaria in 2003, is three-pillar and reflects the national demographic and socio-economic specifics. It combines the pay-as-you-go, which is the base, and the funded system, which builds on it and provides supplementary retirement income to the beneficiaries.

The First pillar provides solidarity pensions from State Social Security System and is managed by the National Social Security Institute. The Second pillar is mandatory supplementary pension insurance in universal and occupational pension funds governed by private insurance companies on a funded basis. The Third pillar is voluntary supplementary pension insurance in voluntary pension funds and voluntary supplementary pension insurance funds under occupational schemes, also managed on a funded basis by private pension insurance companies.

The main aims of all reforms implemented in the pension system in Bulgaria can be reduced to the following:

1) achievement of sustainable and adequate pensions relevant to the social security contributions of the persons;
2) diversification of the sources of retirement income and mitigation of the consequences of unfavourable risks typical of the pay-as-you-go and the funded system;
3) achievement of long-term and medium-term financial stability of the pension system in Bulgaria.

The pay-as-you-go and the funded system have their important place in social security but at the same time they carry specific risks inherent to each of them. Combining the two systems aims to focus on their advantages and to reduce their negative aspects.

The main advantages of the pay-as-you-go system are: full coverage of the insured person; guaranteeing a minimum pension for persons entitled to a retirement pension; provision of social old-age pension for persons with incomplete insured length of service but who have reached the old age limit; relatively low dependence on inflation and fluctuations in capital market returns; the budget deficit can be compensated by a change in the amount of the social security contribution.

The risks of the system can be reduced to: strongly manifested demographic dependence; limited opportunities for investing the financial resources and achieving profitability; inexact correspondence between the social security contribution and the payment; partial inheritance of financial resources; the influence of public finances stability; a large share of people working in the grey economy, etc.

The funded system has the following more important advantages: greater sustainability of the demographic processes; opportunity for investment of contributions and achieving profitability; possibility of full inheritance of accumulated resources together with the achieved profitability; greater transparency in funds management; strongly expressed personal interest;

At the same time, this system hides some important risks: inflation risk related to the possibility of devaluation of the accumulated financial resources; investment risk; risk of investing in related parties as well as manipulating profitability.

In order to minimize the risks of both systems different options are applied to achieve financial stability and fair retirement incomes for the beneficiaries. Among the most commonly used approaches are:

- Maintaining the solidarity system as fundamental and complementing it with the funded one with defined contributions, thus focusing on the positive aspects of both systems and reducing the systemic risks involved. This is considered to be the most effective and workable approach on a global scale, thus combining the positive aspects of both systems and reinforcing the effect of their action. It facilitates a pay-as-you-go system and provides diversification of retirement income. The capital system makes it possible to reach higher pensions but has a high investment risk.

- Forming a “reserve fund” in a pay-as-you-go system that could cover the shortage of resources in the years when expenditures exceed revenues. Where appropriate, financial resources can be invested in low-risk financial instruments and yield a positive return. The allocation of surpluses from the pay-as-you-go system and their use to cover future retirement costs resulting from the changed demographic, economic, social or political situation in the country would have a beneficial effect on the financial stability of the pension system although the trend in recent years is that the deficit in State Social Security System funds has been constantly rising.

- Achieving a more direct correlation between the social security contribution and the insurance payment by closely linking the paid social security contributions to the social security system and the amount of the pension income received from them. This could be achieved by applying a fairer pension formula in which the personal social security contribution to the system and the accumulated insured length of service are the key factors on which the amount of the pension payment depends. Such closer relationship would partially deprive the pension system of its social character but, on the other hand, it is a prerequisite for achieving greater fairness in the distribution relations.

- Using the so-called “notional defined contributions”, whereby the revenue collected will cover the current costs of the system (Hristoskov, 2009, p. 34). At the same time, the individual contributions are recorded in “virtual” or “notional” accounts kept separately for each insured person. These accounts could achieve virtual profitability, mostly linked to inflation rates, wage growth rates, GDP growth or other measurable economic indicators.

The rate of the pensions is related to the individual`s earnings and every contribution paid into the personal account is relevant to an equal pension right with a rate of return. Workers and employers are motivated to pay social security contributions on real income as their interest is clear and the transparency of the system is greater. The structure of notional defined contribution schemes creates a desire in workers to stay within the labour force for as long as possible because this will increase their social security contributions and the level of the pension would be higher. This could reduce the demographic risks inherent to the pay-as-you-go system while avoiding the investment and inflation risk of the capital system as the financial resources are not actually capitalized (OECD, 2018).

But at the same time if the pensioners receive money related to the accumulated pension rights the costs of the pay-as-you-go system will increase rapidly and it is possible to generate a very high deficit. People that have very small accumulated insurance rights would receive funds below the minimum required and they should be compensated from the state budget. On the other hand, if the persons have large accumulated social security rights, the state must ensure that the relevant pensions would be paid. This would increase also the cost of the solidarity system.

Notional defined contributions are applied in a number of countries such as Sweden, Poland, Lithuania, Latvia, Italy, etc. but are too expensive because of the reasons mentioned above and therefore they are not widely applied worldwide.

2. Changes in the Pension Model Related to the Choice to Participate in the Capital Pension System

Since 2003, when the construction of the legal framework of the pension model in the country was completed, it has been subject to frequent parametric reforms concerning to a various degree the change of the social security contributions for the First and Second pillars, the regulatory framework for the management of the pension companies, etc. The amendments to the Social Security Code and the Ordinance on the procedure for selection of insurance, payment and distribution of mandatory social security contributions adopted in August 2015, the contributions to the Guaranteed Workers' and Employees’ Receivables Fund and exchange of information allow the persons to transfer their financial resources between First and Second pillars of the pension system. This could shift financial resources from the private pension funds to the state pension system, which would have serious and multifaceted consequences for both the funded and the solidarity pension system.

The actual changes in the Social Security Code are as follows:

- The persons insured in a universal pension fund have the right to change their participation in a universal pension fund to one in the Pensions Fund, respectively to the Pensions For Persons Under Article 69 Fund with an increased contribution to the amount of the social security contribution for a universal pension fund.
- The persons insured in a professional pension fund are entitled to change their participation once and transfer their resources to the Pensions or the Pensions of Persons under Art 69 funds. They will be able to pay a higher contribution to the state pension system without having the right to participate in the capital one. Persons can do so if they have not been granted a pension for insured length of service and age or an early retirement professional pension.
- The individual coefficient of the insured people shall be reduced on the basis of the ratio between the amounts of the social security contributions for a universal pension fund and the Pensions fund for the third category of labour for persons born before January 1, 1960. This should be done for the periods during which the persons are insured in a universal pension fund.
- In the periods when the accumulated resources in the individual account of the persons in a universal pension fund are transferred to the Silver fund the individual coefficient of the persons is not reduced.
- According art. 124a para 1 of the SSC stipulates that the persons who change their pension insurance in a universal pension fund to the funds of the First pillar may choose to resume their insurance in a universal pension fund not later than 5 years before the retirement age and if they have not been granted a pension for insured length of service and age. Those persons can change their choice after one year and to waive their participation in a universal pension fund. The right to transfer resources from occupational pension funds to the solidarity system is exercised only once.

Persons who have exercised their right of choice and have moved only to the solidarity pension system will be deprived of the opportunity to diversify their retirement income and only the option to participate in the Third pillar remains for them. In practice, at this moment voluntary pension funds and voluntary supplementary pension insurance funds under occupational schemes are not particularly comprehensive – the total number of persons insured in them as of December 2017 is 622 549 people (respectively 614 761 in the first and 7 788 in the second type of funds) (Financial supervision commission, 2017b). Therefore, it can be assumed that a large proportion of the individuals who left the Second pillar will be deprived of the opportunity to participate in the capital pension scheme on the basis of their voluntary choice.

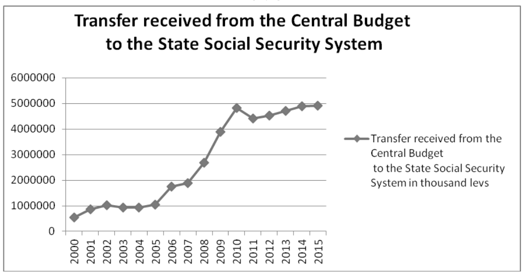
Part of the pension insurance companies consider these changes to be unlawful and have filed a complaint with the Supreme Administrative Court (SAC) against that act. The Court considered the arguments in favour of mandatory supplementary pension insurance to be well founded and brought the matter to the Constitutional Court, stating the following reasons:

- The transition from the capital to the solidarity system changes the adopted three-pillar structure of the pension insurance which changes the social security status and the relationship between the First (primary) and the Second (supplementary) pillar of mandatory pension insurance system;
- The changes transform the two pillars from complementary to competing ones, where there is a real danger of elimination of the Second pillar, although according to Art. 1 of the SSC, the right to mandatory supplementary pension insurance is personified, guaranteed by the State;
- Persons will lose the possibility to capitalize on the resources, to be inherited, etc., and also important is the fact that this decision runs counter to the initially accepted option for beneficiaries to dispose of the Second pillar resources once they are entitled to a First pillar pension or up to 5 years earlier;
- According to the Supreme Administrative Court, "this is a very serious change in the model of the pension system set by the legislator which creates uncertainty and unpredictability because until the time of retirement comes a model in which insurance began is transformed into another and the rules have changed abruptly".
- The insured person exercises unilaterally his/her right of choice which terminates the existing insurance relationship between him/her and the pension insurance company. At the same time, a new legal relationship between the insured and the public insurer is created, thus making the resources no longer personal and survivors cannot inherit them.
- According to the court's arguments in practice "there is no legal mechanism to make a definite conclusion that the consent of the insured persons is informed and the choice is free". There is no conclusive evidence or guarantee that the transition from the Second to the First Pillar is more favourable to the person and he/she will receive a higher retirement income.

The idea of giving individuals the choice to transfer their resources from the private to the public system is thus intended to increase revenue in the State Social Security System. According to data from the NSSI Actuary Report of 2016, transfers received from the Central Budget to the State Social Security System are progressively increasing:

Figure 1

Transfer received from the Central Budget to the State Social Security System in thousand levs



Source: Own calculations.

In 2000, the transfer received from the Central Budget to the State Social Security System was the lowest for the whole period considered from 2000 to 2015 - only 534 986.90 million levs. It gradually increased over the next five years to 1 039 782,70 million levs. In 2006 the transfer to State Social Security System increased sharply to 1,760,866.70 million levs and this trend remained until 2010 reaching 4,827,496.60 million levs. The significant increase in the expenditures of the Central budget was due to the aging of the population, the increasing average life expectancy and the growing share of the population in over-working age which was a prerequisite for increasing the expenditures of the State Social Security System.

The Figure 1 shows that only in 2011 the transfer was decreased by about 410 million levs to 4,417,497.60 million levs. The decline, however, was one-off and as early as next year, transfers started to increase their amount reaching their highest value in 2015 - 4 924 425,20 million levs. The clearly outlined trend towards increased transfers from the State budget to the State Social Security System will continue in the future as the population is expected to continue aging and the average life expectancy will increase thus increasing the expenditures of the social security system permanently.

In addition of this the other main reason of the increasing deficit of PAYG system and the rising transfer from the Central budget is the dramatic reduction of the contribution in the State Pension fund. Starting with 29% in 2002 the level of the contribution decreases to 23% in 2006, 22% in 2007 and 2008, 18% in 2009 reaching the lowest level of 16% in 2010 for individuals born before 1.1.1960. After this period the level of contribution gradually begins to rise to 17,8% between 2011 and 2016, 18,8% in 2017 and 19,8% in 2018. These values are reduced if the person makes a contribution to a universal pension fund. The real amount of the pension contributions is much lower than required and this gap remains even the contribution of 12% paid by the Central budget in the period 2009-2015. The data in Figure 1 shows that the deficit of social security funds and the required transfer from Central budget were the lowest in the periods with the highest contribution to the pension fund (between 2000 and 2005).

The decision to reduce pension contributions was taken with the intention that this would increase their collection rate and would decline the shadow economy. The analysis of revenues in the social security system shows that this goal has not been achieved and, as a result, the deficit has increased sharply.

Even if the ratified amendments to the SSC regarding the transfer of resources from the Second to the First pillar achieve their goal and contribute to the reduction of the deficit in the pay-as-you-go system, this effect is likely to be short-lived in view of the deteriorating demographic indicators, the rising costs of the solidarity pension system, the large number of uninsured persons or persons working in the grey sector who are not insured on their real income, the availability of early retirement pensions for people working in harmful working conditions and in the Security sector, the large number of persons entitled to disability pensions the lower level of contributions, the reduced contributions in the First pillar and other factors that have a negative impact on the pay-as-you-go system.

3. Possible Consequences of Transferring Resources between the Funded and the Pay-As-You-Go Pension System

Realistic scenarios for the consequences of the transfer of resources from universal and occupational pension funds to the public pension system are difficult to predict and are accompanied by a number of assumptions and conventions. Therefore, in the present study we will refer to the some of the scenarios presented in the Actuarial Report for 2016, developed by the National Social Security Institute. It made a baseline scenario in which 100% of people born after 1959 are insured both in the First and the Second pillars. In addition, three alternative scenarios were made on the following hypotheses:

- 10% of the insured persons born after 1959 choose insurance only in State Social Security System;
- 50% of the insured persons born after 1959 choose insurance only in State Social Security System;
- 100% of the insured persons born after 1959 choose insurance only in State Social Security System.

These hypotheses are applied in the forecasting of three indicators:

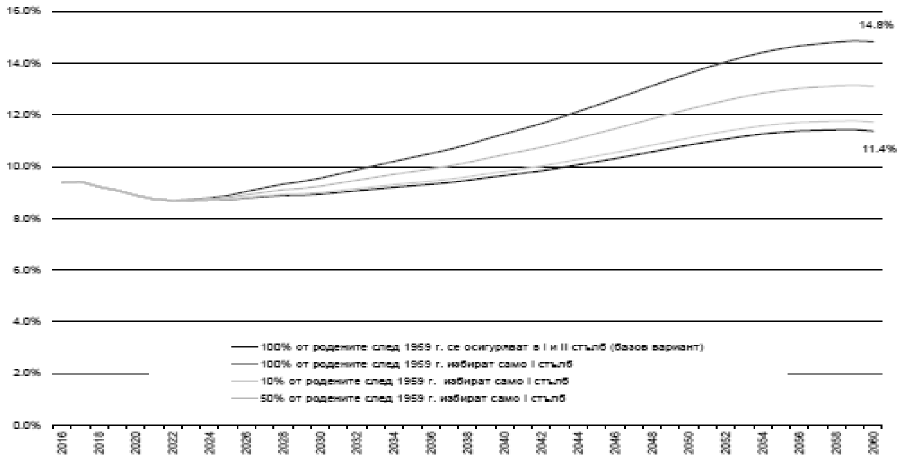
1. Pensions expenditure in % of GDP;

2. Income replacement rate;

3. Balance of State Social Security System in % of GDP.

Figure 2

Pensions Expenditure in % of GDP, baseline option and alternative scenarios, 2016-2060



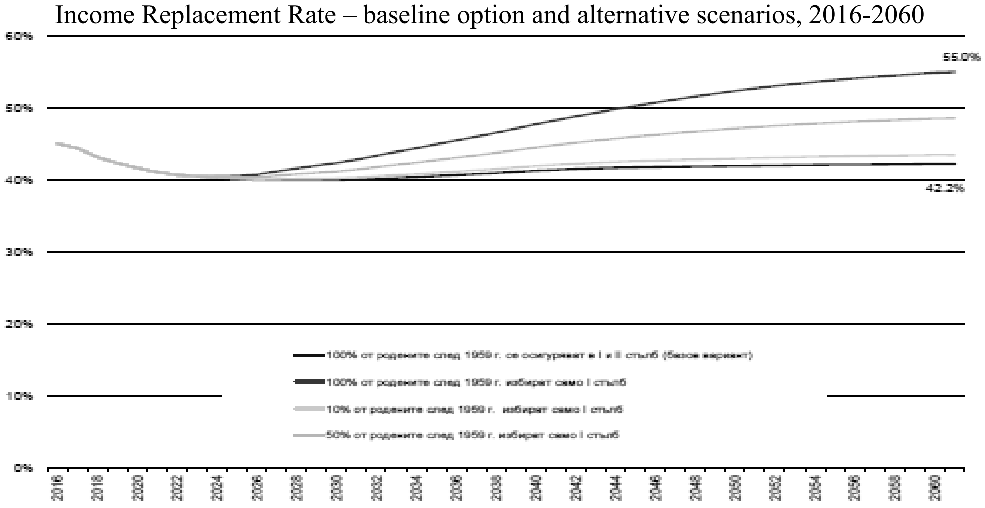
________ 100% of those born after 1959 are insured in I and II pillars (baseline option).
100% of those born after 1959 choose only the I pillar
________ 10% of those born after 1959 choose only the I pillar
________ 50% of those born after 1959 choose only the I pillar

Source: NSSI Actuarial Report for 2016.

Figure 2 shows that in the baseline option, pensions expenditures are the lowest, since the payments to persons born after 1959 will be reduced proportionately to the social security contribution which is transferred to the Second Pillar. The reduction coefficient is defined as the ratio between the social security contribution to the Second pillar and the contribution to the First pillar and will be discussed further in this study. The highest expenditures will be needed if all persons born after 1959 choose to be insured only in the First pillar because the pensions they receive from there will be in full and therefore more money will be needed for their provision. Higher revenues will not be able to cover the expenses and the required transfer from the State budget will be the biggest.

Figure 3

Income Replacement Rate – baseline option and alternative scenarios, 2016-2060



________ 100% of those born after 1959 are insured in I and II pillars (baseline option)
100% of those born after 1959 choose only the I pillar
________ 10% of those born after 1959 choose only the I pillar
________ 50% of those born after 1959 choose only the I pillar

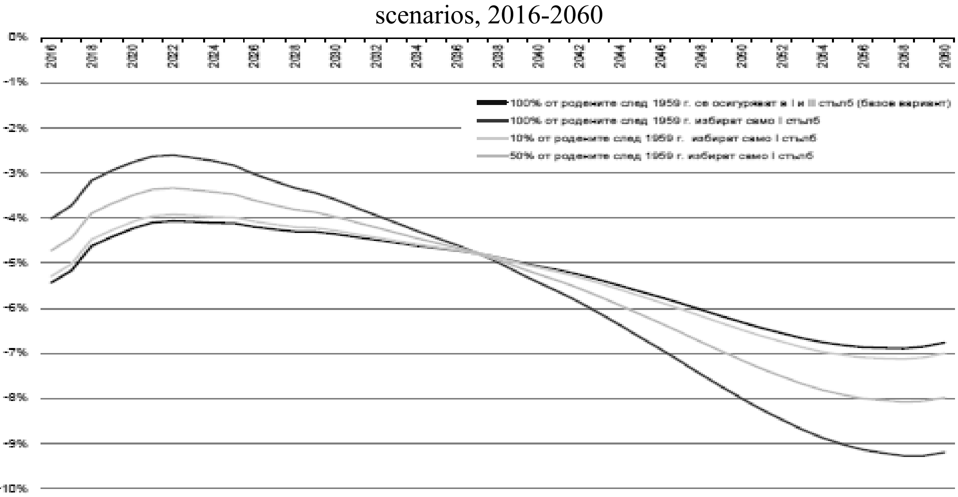
Source: NSSI Actuarial Report for 2016.

In the option where all persons born after 1959 choose to transfer to the state pension system, the highest income replacement rate is expected to achieve from the First pillar - 55% in 2060, unlike the baseline option in which all individuals keep the status quo and continue to be insured in both pillars – 42%. This is explained by the fact that in the baseline option all contributions will go only to the Pensions Fund and there will be no proceeds in the capital system. If the universal and occupational pension funds are added to the income replacement rate in the baseline option it can be assumed that this indicator would be even higher, since the second pillar is expected to achieve an addition to the income replacement rate from the solidarity system. This is possible only if the profitability of pension funds is higher and outpaces inflation otherwise the income replacement rate will decrease and will not be able to achieve the expected values.

The analysis suggests that the cumulative income replacement rate would be higher when participating in the two pillars than in the First pillar only and this difference will be the greater the longer the person pays contributions in the Second pillar and the higher the profitability of the fund management.

Figure 4

Balance of State Social Security System in % of GDP – baseline option and alternative scenarios, 2016-2060



________ 100% of those born after 1959 are insured in I and II pillars (baseline option)
100% of those born after 1959 choose only the I pillar
________ 10% of those born after 1959 choose only the I pillar
________ 50% of those born after 1959 choose only the I pillar
Source: NSSI Actuarial Report for 2016.

The transfer of resources from the Second to the First pillar will also affect the State Social Security System's balance, as it will lead to an increase in its revenues due to the 5% increase in the social security contribution. According to the analysis to every 10% of the people who transferred to insurance only in the First pillar corresponded an increase in the State Social Security System revenues of about 0.13% of GDP (National Social Security Institute, 2016). At the same time, the higher social security contributions also implied higher social security payments from the state pension system due to the commitment to finance the full amount of the pension.

In all scenarios, the system would remain in deficit throughout the whole period until 2060, but there are differences in the scope and dynamics. The entire forecasting period may be provisionally divided into two sub-periods, the watershed year being 2037 when the trend is supposed to reverse. The period until 2037 has a positive effect on the balance of the State Social Security System as a result of the right granted to individuals to participate only in the First pillar of the Pension System. In all scenarios, the State Social Security System deficit is present, but in options with transfer to the First pillar it is higher than in the baseline option. After 2037 higher spending on retirement payments are beginning to accumulate for those who chose only the solidarity system and the resources from the individual social security account transferred to the First pillar are not able to cover the higher costs of paying full pensions to individuals who refuse to participate in the capital system. By 2060 the State Social Security System deficit would reach 9.2% of the GDP on the assumption that all individuals transfer entirely to the solidarity system.

This means that the positive effect of the transfer of resources from the capital to the public pension system is temporary and in the long term this could lead to a more serious exacerbation of the deficit in the State Social Security System due to the commitment to pay higher pensions from the solidarity system. The higher revenues in the solidarity pensions system from the accumulated resources from the private pension funds and the social security contributions for the Second pillar will not be able to cover the expenses. This hides a risk for its solvency and would lead to its greater dependence on state transfers.

The structure of the investment portfolios of universal and occupational pension funds should also be taken into account in order to be optimal and informed the choice which individuals who preferred to move from the capital into the solid pension system would make. According to the Financial Supervision Commission, the investment portfolios are well balanced since over 50% of the assets are invested in low-risk financial instruments such as government and municipal securities, deposits in a bank, etc. Investments in other financial instruments are with higher risk which is managed within the portfolio.

Table 1

Structure of the investment portfolio and balance sheet assets of UPF and OPF as of 31.12.2016

№	Investment instruments	UPF	OPF
I.	Total investments, incl.	100.00	100.00
1.	Debt securities issued or guaranteed by EU Member States, other countries or their central banks	51.61	47.69
2.	Corporate bonds	12.78	12.67
2.1	of them: issued or guaranteed by banks to finance infrastructure and investment projects	-	-
3.	Mortgage bonds	0.07	0.07
4.	Municipal Bonds	0.04	0.03
5.	Shares, rights and interests	30.34	35.13
5.1	Shares and rights of Special Purpose Investment Companies	0.92	2.20
5.2	Shares and rights of Collective Investment Schemes	13.78	13.58
5.3	Shares and rights other than those of SPIC and CIS	15.64	19.35
6.	Bank Deposits	3.00	2.12
7.	Investment properties	2.16	2.29
II.	Total balance sheet assets, incl.	100.00	100.00
1.	Total investments	86.72	89.19
2.	Financial resources	12.05	9.21
3.	Short - term receivables	1.23	1.60

Source: FSC, own calculations.

For the optimal choice between the two pension insurance options and the objective assessment of the potential profitability, it is necessary to compare the capitalization that individuals would receive from the universal and occupational pension funds and that of the State Fund for Guaranteeing the Sustainability of the State Pension System (the Silver Fund), which holds the resources of those who have opted out of contribution in the Second pillar. Both the Silver Fund and the Mandatory Supplementary Pension Insurance are invested under strict restrictions and are subject to supervision by the Ministry of Finance and the Financial Supervision Commission respectively. Despite the more liberal constraints, the resources from the Silver Fund are rarely invested but are kept in short-term deposits with the Bulgarian National Bank which is why no significant profitability is achieved and they are often depreciated by inflation. In the case of universal and occupational pension funds the variety of investment instruments is big and the possibility of achieving higher profitability is significant. In order to protect better the interests of insured persons, minimum profitability requirements for mandatory supplementary pension insurance have been introduced representing 60% of the weighted average profitability achieved by all funds of the same type for the previous 24 months or 3 percentage points lower than this value - whichever number is less. In cases where the achieved profitability of these funds is lower than the minimum determined the pension insurance company is obliged within 10 days from its announcement to cover the difference to the minimum with reserves specially created for the purpose. In order to guarantee the minimum profitability, reserves are created separately in the pension fund and in the pension insurance company.

With a view to the proper and informed choice of insured persons to participate in a multi-pillar or one pillar pension model it is imperative to pay attention to another very important fact – pension funds profitability, although regulated and monitored by the Financial Supervision Commission, may be both positive and negative. Despite the requirements to achieve a minimum profitability, financial resources are exposed to market risk and may, at certain times, reach low or negative profitability. According to prof. Hristoskov (2016), this is permissible, because it is normal for the worker's entire working life there to be at least two or three similar financial crises. Such profitability, for example, was achieved in 2008 due to the global financial crisis affecting the capital markets. In such periods when the average profitability of all funds of the same type is negative, it is possible that even the minimum profitability required from the companies to be also negative. In the long run, this would result in decapitalization of the resources in supplementary pension insurance and to a serious loss of savings for the beneficiaries. Moreover, those who retire at such a time of financial crisis and low profitability will probably receive a small Second-pillar pension. Under the current legislation, the choice to transfer from a funded system to a pay-as-you-go one should be made up to five years before the person's retirement – a period of time during which a number of unfavourable changes can occur and a very low profitability achieved.

To prevent such unwanted results, companies need to strive to avoid long-term negative profitability. Even if this is the case, it could be compensated by a National Guarantee Fund, common to all pension companies, to cover the losses in profitability and to ensure the adequacy of accumulated resources in individual accounts. This fund could be financed by the pension insurance companies and its management should be centralized and performed by the State by bodies such as the Financial Supervision Commission, the Ministry of Finance or any other body.

On the basis of the analysed hypotheses, the following most important potential risks can be identified, which arise from the granted possibility for opting-out from insurance in the Second pillar of the pension system and the transition to First pillar only:

- *The possibility of transfers between the Second and the First pillar could cause a competition between the solidary and the funded system that is not recommended.* Both systems should complement, not compete with each other because they perform different functions – the pay-as-you-go system is basic and guarantees the basic income of pensioners while the funded system complements it. The choice individuals can make is not among equivalent alternatives. By their very nature, the systems are not interchangeable and equal. They carry various risks that cannot be eliminated but only their consequences can be reduced in their parallel existence. Solidary system have strongly manifested demographic but funded system – investment and inflation risk and only the mutual cooperation between both systems can reduce their negative impact.
- *When moving from the funded to the solidarity system, individuals would be deprived of the right to property on their personal savings, at the expense of preserving the accumulated insurance rights.* Financial resources lose their personality and although people have the opportunity to change their minds and, under certain conditions, return to the capital system, for a certain period of time, that money becomes part of the public funds. This could violate the citizen`s right of private ownership and could be interpreted as a kind of "nationalization" or "refusal" of personal pension savings. The most important thing is that individual`s choice is informed and made with a clear awareness of all the consequences.
- *The Silver fund is a specialized fund outside the solidarity system and the money transferred there is not personal* (Pavlov, 2015). The transfer of resources from the Silver fund can be done 10 years after the Act on the State Fund for Guaranteeing the Sustainability of the State Pension System enters in force and is up to the amount determined by the act on the budget of the Republic of Bulgaria for the respective year. The resources can be transferred to the budget of the Pensions fund of State Social Security System which could cover the expenses incurred by the demographics aging of the population. In return, individuals are promised to be paid the full pension by the solidarity system but for a long time it has been experiencing a number of problems and there is no guarantee that these commitments can be entirely fulfilled in the long run.
- *Individuals who choose to leave the privately managed pension system will be deprived of the possibility of capitalizing their resources.* Insured persons will not receive the income they would have if they participated in the Second pillar and even if they ever go back to it, there will be lost profits for them. Meanwhile, resources in the Silver fund practically do not achieve profitability and could be depreciated by inflation. The profit of the investments of Silver fund depends on the government`s decisions about the structure of the portfolio and as it was described before usually they are kept in short-term deposits with the Bulgarian National Bank. Transferring funds to a pay-as-you-go

pension system would be a good option if the person retires during a financial crisis when the return on investment is very low or negative, when inflation is too high and outperforms the achieved profitability or when there are too small accumulations of resources in the Second pillar.

- *Resources transferred to a pay-as-you-go system cannot be inherited completely but only partially in the form of hereditary pensions.* It is assumed that the revenues in the State Social Security System cover the expenses of the current beneficiaries and that is why for the relatives of deceased insured persons or pensioners is impossible to inherit the full amount of the accumulated rights. It is thus possible the survivors of those who die earlier to be not able to take advantage of the social security contributions of their relatives. On the other hand, those who have a higher survival rate and deplete their contribution will have guaranteed aggregate retirement income for the rest of their lives. In solidary system there is not always an equivalent between the personal contributions and the pensions but within the social security system income and expenditure should be relevant.
- *Capital pension funds are one of the most active and large investors in the capital markets, and their deprivation of resources through a transfer to the solidarity system could reduce their available resources* (Pavlov, 2015). There is a real risk of restricting the trading of securities, especially with government securities in which the main investments of private pension funds are made. As a result, this could lead to a slowdown of the country's economic growth, and the economy would be deprived of long-term investment assets. Also, the State would not be able to trade a larger number of debt securities on the domestic market which is an additional loss of resources.
- *Those persons who opt out of the Second pillar will receive full pension from the State Social Security System while those who decided to be insured in a universal pension fund will receive a pension from the First pillar reduced proportionally to the contributions paid to the private pension system.* The Actuarial Report of the NSSI specifies the formulas for calculating the individual coefficient of persons depending on whether they participated in a universal pension fund or only in the state pension system. According to the adopted methodology, its value is reduced in proportion to the ratio between the social security contribution to the Universal Pension Fund and the one to the Pensions Fund and depends on the time during which the persons have been insured in the private pension system.

According to prof. Hristoskov (2016), by reducing the solidarity pensions, the persons participating in the capital system suffer from an excessive reduction of the pension from the State Social Security System. This kind of “punishment” for them makes the task of private pension funds to compensate for the lower payments from the First pillar even more difficult. Depending on how long they paid contributions to a universal pension fund and if the funds’ current levels (5% for UPF and 19.8% for the Pensions Fund for 2018) are retained, individuals would receive an individual pension coefficient for the pension from the First pillar by 25% lower than if they were insured only under the solidarity scheme. In this situation, the income replacement rate from the universal pension fund must compensate for this difference and reach an income equal to or higher than the reduction of the pension from the State Social Security System. In order to reduce this "disadvantage" to the participants in the capital pension scheme, the experts recommend that the reduction of the solidarity pension be not with the actual but with the required amount of the social security contributions to the Pensions Fund, which is set at 32% for 2018 in the Actuarial report 2016 of NSSI. Then the reduction would be much more bearable – 15.6%, and it is realistic that the income from private pension funds would be able to compensate for this reduction, and that the total pension of those participating in the two pillars would be greater than if contributions were paid only in the First pillar.

Supporting this thesis we have made calculations for the amount of the pension of a man with 40 years of service, who retired on 1.01.2041. The following assumptions are made in the calculations: the person has no interruptions in the insurance period, during the whole period he has insured the average insurance income for the country, he had fulfilled the retirement criteria for the respective year and gender. The weight of one year of insured period in the year of retirement will be 1.5%. The calculations use the forecasts of the NSSI Actuarial Report for 2016 and the Concept of regulation of the stage of payment of the pensions from the mandatory supplementary pension insurance, according to which the average monthly insurance income for the country in this period is 2180 BGN and the pension from the universal pension fund is expected to be 333.18 BGN. The pension is calculated in two hypotheses: 1) the person makes contributions only in the First Pillar; 2) the person makes contributions in the First and the Second Pillar throughout his entire insurance period.

In the first option, where the person makes a full contribution in First pillar, the pension is expected to be BGN 1308. In the second option, the person makes contributions in both pillars, so his individual coefficient should be reduced by the ratio between the contributions for the universal pension fund and the Pensions Fund – i.e. 5% and 19.8% or 0.25 (if these levels remain unchanged till the retirement year). Therefore the pension from the solidarity system will be BGN 981 and it should be added to the pension from the universal pension fund – BGN 333.18. Thus, the total amount of the pension in this case will be BGN 1314.18, which is BGN 6.18 more than the first option. This means that the person will be more profitable to participate in both systems, as his cumulative income is 0.47% higher than the first option.

This difference would be even greater if the amount of the social security contribution to the Pensions Fund is increased and it is closer to what is necessary, as this will decrease the reduction factor and thus the Pension from the First pillar will be even higher. The other option for increasing the difference in the amounts of these pensions is the rise of the insurance contribution for UPF and hence the accumulations in the individual insurance account of the persons.

When determining the reduction of the individual coefficient, it is advisable to take into account another factor as well - the transfer from the state budget to the benefit of State Social Security System. It should also be added to the contribution to the Pensions Fund when calculating the amount of the reduction and it will become even smaller.

- *Frequent changes of the pension model creates prerequisites for uncertainty and difficult predictability because a substantial change of retirement rules is made within a* *short period of time.* Probably well founded the fears of some experts that these decisions could portend new changes in this direction such as the transfer of resources from the capital into the solidarity pension system from voluntary to become compulsory or the possibility in the future to limit the option of individuals to return to the Second pillar and thus to permanently lose the right to ownership on their savings. By using budget transfers the shortage of resources in the State Social Security System could be covered in the short term but in the worsening demographic indicators the system would remain heavily dependent on the transfers from the State budget.

This scenario was applied in Hungary where in 2010 was accepted a law that temporarily stops employee`s contributions to Second-pillar individual accounts and transfers them to the First-pillar (International social security association, (2016)). Employees and employers pay the entire contribution (resp. 9.5% and 24%) only in the pay-as-you-go system. From the end of the same year workers must transfer obligatory their privately managed accounts into the First pillar. In 2011 the new two-pillar pension system was established. It includes only social security pension fund (First pillar) and voluntary schemes (Second pillar). The number of the private pension companies decreased dramatically - from 18 to 4 and the transfers from the Second to First public managed pillar was 14.6 billion USD. Thus reduced the deficit in the solidary fund from 3,8% to 3% and the revenues increased by 2 billion USD only for one year.

We consider that this kind of transformations could have only a short-term effect. The problems of the pay-as-you-go system are caused mainly by demographic reasons and by the lack of social security contributions income thus the forced transfer of activities from the private pension funds could cause problems in the future. As we proved before the higher contributions in the solidary system leads to higher obligations to pay a bigger pension after beneficiaries` retirement.

- *The transfer of resources from a funded to a pay-as-you-go system could be counter to the European Pillar of Social Rights adopted by the EU Council, the European Parliament and the European Commission* (European Pillar of Social Rights, (2017)). The aim is to achieve better results in the field of social legislation through this pillar and to protect the social rights of EU citizens to a greater extent. The European pillar of social rights must contribute to the social progress of citizens by supporting fair and well-functioning labour markets and social systems. It should make it possible to adapt the European social model to the challenges of the 21st century.

The achievement of these goals should be done by following 20 social principles, divided into three categories: 1) Equal opportunities and access to the labour market, 2) Dynamic labour markets and fair working conditions, 3) Public support/social protection and inclusion.

The European Pillar of Social Rights pays special attention to the sustainability of retirement incomes, stating that "regardless of the type and duration of their employment, workers and, under comparable conditions, self-employed workers are entitled to adequate social protection." (Principle 12: Social protection) and that "Workers and the self-employed in retirement have the right to a pension commensurate to their contributions and ensuring an adequate income. Women and men shall have equal opportunities to acquire pension rights. Everyone in old age has the right to resources that ensure living in dignity.“ (Principle 15: Old-age income and pensions).

If fears that the transfer of resources from the Second pillar to the first Pillar of the pension system in Bulgaria could undermine its financial stability and jeopardize its solvency come true, this would violate the principles enshrined in the European Pillar of Social Rights and would prevent the achievement of social justice for citizens. Increasing the deficit of the State Social Security System funds and the sub-optimal management of the resources of the capital pension funds could lead to social destabilization of the country, to undermining the adequacy of the pensions, and subsequently it is possible to transfer these risks to the other countries of the European Union which would take our country away from joining the Eurozone.

Although the possibility of transferring funds from a funded to a pay-as-you-go system has started to exist recently, the NSSI Actuarial Report for 2016 data show that as of April 30, 2016, only about 4,200 individuals have transferred their insurance from universal pension funds to the State Social Security System which represents only 0.1% of the insured persons in the universal pension funds. The majority of them are from the so-called Security sector – military personnel and employees of the Ministry of the Interior. According to Prof. Pavlov (2015), “the benefit from the transfer of resources from the capital funds to the NSSI will be mainly for insured persons with low savings in their accounts, such as “working poor”, for the persons residing in the grey economy hiding incomes and pension contributions” and all those who expect low pensions from the solidarity system. The difference to the guaranteed minimum amount of the pension will be supplemented by the supplementary contribution from the universal or occupational pension fund, resources from the State Social Security System funds or from the State budget in case of shortage.

4. Some Guidelines for the Development of the Pension Model in Bulgaria

In order to overcome the problems of the Bulgarian pension system and it to achieve stability, all changes need to be well understood and widely discussed and their consequences assessed, thus reducing or avoiding the risks both in the phase of accumulation of resources and their payment as well. *Recommendations for such changes could be:*

- *Gradual increase of the contributions for the First pillar to the restoration of the initial levels before to the pension reform (29% in 2002), which will reduce its deficit and the need of transfer of resources from the State budget.* From 1.01.2018 the contribution to the Pensions Fund has been increased by 1% and reaches 19.8% for persons born before 01.01.1960 and up to 14.8% for those born after 31.12.1959. At the same time, the criteria for access to retirement have been set higher and for 2018 they are: for women – age 61 years and 2 months and insured length of service of 35 years and 6 months; for men – age 64 years and 1 month and an insured length of service of 38 years and 6 months. Even with this stipulated increase, the balance of State Social Security System will be negative but the worsening of the deficit will be less intense than in the case of the transfer of resources from a private to a state-run pension system. It is therefore appropriate to consider a more substantial and rhythmic increase of the social security contribution whereby the deficit in the state pension system could be reduced to more balanced levels. This is unavoidable, especially in view of the deteriorating demographic processes of an aging population, the change in age structure to the advantage of older age groups, the declining fertility rate and the intense levels of emigration. In order to achieve greater sustainability of the pension system in the long run, it is also necessary to gradually increase both the retirement age and the required length of service. This would increase their social security contribution which is a prerequisite for increasing the amount of the pension they are entitled to (in July 2018 all pensions granted until 31.12.2017 are updated by 3.8%).

Restoration of the contributions of the fund "Pensions" and reaching the levels of 2002 (29%) would enhance the income of the solidary system and would decrease its deficit. This would be a prerequisite for increasing the pensions without having to fund it from the state budget. The rise of the pension contribution will change the individual coefficient of the pensioners who have participated in the Second pillar. On that way they will be less "punished" by participating in the multi-pillar system;

- *Improving risk management when investing resources and limiting the possibilities for achieving negative profitability.* Reaching higher real profitability is in the interest of both the insured persons and the insurance companies that seek to attract more customers in the long run. Since the long-term negative profitability can lead to a loss of resources in the capital pension scheme it is necessary for those who are about to retire at such a time to consider reasonably the possibility of transferring their personal savings from the Second to the First pillar of the pension system and to choose the option that will be most optimal for them. According to the current legislation, the option of switching from a funded system to a pay-as-you-go should be made up to five years before the person's retirement – a period of time during which a number of unfavourable changes can occur and very low profitability would be achieved. This period should be shortened so that the choice made takes into account the events and potential risks immediately before person's retirement.
- In order to optimize the management of the pension funds' investment portfolios, it is advisable to consider the idea of *creating a fund to guarantee the resources accumulated in the capital pension schemes from which they may be covered in the case of decapitalisation*. This fund could be centralized and state-run or formed within the individual companies and it can guarantee the resources accumulated from the social security contributions to the amount of their principal. This would prevent a possible loss of resources and would be an additional guarantor for the personal pension savings of insured persons. At the same time, companies would have a strong incentive to manage better the assets they have been entrusted in such a way that they do not have to cover losses from the guarantee fund. The resources in this fund may be formed from deductions from the investment fee which is collected from the insurance companies or from other own resources.

- *Stricter regulation of the activity of the pension insurance companies and control of the compliance with the prohibition of investments in related parties*, which makes it possible to manipulate the profitability of funds. Investing in related parties is a long-standing problem and despite the legislative attempts to deal with it and the repeated audits of companies, it still remains unresolved. Related parties are difficult to define and identify, and the inspections carried out on the activities of the pension funds do not find such obvious irregularities. Nevertheless, it is necessary the prevention of such investments to be effective and to eliminate the possibility of reporting unrealistic profitability as this could lead to distortion of the data on the supplementary pension insurance market and misleading of the insured persons, to unfair competition between insurance companies and a crisis in liquidity of resources.
- *Development of more diversified pension products by the insurance companies, among which the persons with different preferences and characteristics to choose.* In this way opportunity for greater satisfaction of diverse beneficiaries needs will be created and they will be able to choose the most appropriate type of retirement payment according to their individual needs and wishes, according to their age, family and health status and other characteristics. This would create in them a sense of greater control over their savings and would motivate them to participate more fully in the insurance process. Among the most popular types of pension products applied in countries with traditions in supplementary pension insurance are (Hristoskov, 2009, p. 94), Ministry of labor and social policy (2018):
  - **One-time withdrawal** – the accumulated resources are withdrawn at once, according to the insured person's wish and the conditions of the insurance or pension contract. This withdrawal may be linked to certain conditions – reaching a certain age, acquiring the right to a pension for insured length of service and age, insurance of the persons in the pension fund for a required number of years, etc.
  - **Temporary pension (programmed withdrawal) –** it fixes the period of receiving the pension and the specific amount of the payment depends on the chosen period for receiving the financial resources, the accumulated amount, the achieved profitability over the years, the fees and deductions collected by the insurance company, the health condition of the person and other factors.
  - **Lifetime (net) annuity –** it is a commitment to pay a fixed amount of the pension for the lifetime of the insured person. Generally, for this purpose at retirement the person buys an annuity with the resources of his/her own individual insurance account which is then closed. The accumulated money goes to a joint pool from which the pensions of annuitants (persons receiving a lifetime pension from the pension insurance company) are paid until the end of their life. This pool could be managed by various financial institutions – insurance companies, trust funds, asset management companies, etc.

Bulgaria applies a combined option including the retention of the individual insurance account in the post-retirement period and the provision of a lifetime pension. However, this puts at risk both the insurance company and those who prefer this type of payment because thus the risk of survival cannot be shared. There is a possibility for companies to be unable to meet their commitments and become insolvent and thence pensioners would be left with no income.

Many varieties of annuity are known in the world practice the more popular of which are:

- **Certain annuity –** the company undertakes to pay a certain amount of the pension for a fixed period of time. The company makes a limited number of payments, whether the insured person is alive or not. In the event that he/she dies prematurely, the pension is still paid to his/her survivors.
- **Deferred annuity –** in this case the start of pension payments does not coincide with the time of retirement but is postponed in time. Thus, the annuitant chooses when he/she will begin to receive an additional retirement income which will be greater than the amount he/she would receive if he/she started receiving it immediately after retirement.
- **Single life annuity** – it guarantees payments of the annuity until the end of his/her life, and the payment ends when the pensioner dies. In the case of the death of the person who has chosen this type of payment, his/her close family members supported by him/her in the household will be left without money.
- **Joint and survivor annuity –** the company pledges to pay a statutory amount of the pension while at least one of the two persons with a relationship, usually spouses, their children, or other lineal relatives is alive. To limit the likelihood of financial instability when paying a survivor annuity the company may decide to pay a smaller amount of the pension than in a single life annuity as the number of payments made will be higher.
- **Inherited annuity** – in this case in the event of the death of the pensioner or the beneficiary, his/her survivors are given the opportunity to receive the remainder of the eligible resources or part thereof. In order to increase the attractiveness of supplementary pension plans and to secure better the interests of the insured, some of the annuity companies offer a combination of an annuity certain and inherited annuity.
- **Fixed annuity** – in this case the beneficiaries are entitled to the same amount of payment regardless of how long they will receive it.
- **Variable annuity** – the annual payment varies and can be adjusted by the ratio between the actual return on the investment portfolio and the accepted interest rate or other measurable indicators и.
- **Increasing annuity** – the amount of payment increases over time as it is assumed that immediately after retirement individuals have still retained much of their working abilities and could work or still have savings to support them.
- **Decreasing annuity** – the amount of payment decreases over time in view of the lower mobility of pensioners as they age.

- **With-profit annuity** – the amount of the cash payment is fixed and part of the company's profit is distributed to the beneficiaries in the form of bonuses or dividends.

- *The introduction of multi-funds is another good opportunity to exercise the right of choice for insured persons.* By choosing among many funds of the same type that have a different risk and profitability tendency the insured persons would have a better judgment of the investment risk they are taking. By taking part in funds with different investment portfolios, the insured can choose the one that best meets the reached stage of their life cycle, preferences and risk-taking propensity (Pavlov, 2011, p. 344). When people are younger and have a long time horizon it is appropriate to choose a higher-risk pension fund that focuses on floating-rate investments. Thus even if low or negative profitability occurs for a short period of time it should be compensated by the end of the working career. As people age, it is usually advisable to transfer to a more balanced and even conservative fund, with a higher share of investments in fixed income financial instruments which, albeit lower, are more secure. It is possible the switching from one fund to another to be the choice of the insured person or automatically and the direction is from a more risky to a more conservative fund.

- *Promoting competition between pension insurance companies* will improve the structure of investment portfolios of the funds and more optimal fund management could lead to increased profitability, reduced costs and fewer fees. In practice, companies are currently in a weak competition as they are legally limited with respect to the type of pension products and the structure of their investment portfolios and the collected fees are almost identical with a few exceptions. In addition, they rely on a secure stream of newcomers who have been insured for the first time and who have not exercised personally their right to choose a pension fund within three months of the start of insurance and are allocated on a lottery basis among pension funds. It would be more effective to exercise the right of personal choice not only with respect to pension funds but also to their investment portfolios, achieved profitability, collected fees and deductions, proposed pension products and other criteria which will motivate pension companies to manage more efficiently the assets entrusted to them.

- *The introduction of flexible forms of retirement* – this is a pension scheme in which individuals have the option to choose the time of their retirement on their own complying with certain legal requirements. In many cases, flexible retirement allows for a combination of labour and retirement incomes, whereby people make a smooth transition from work to retirement. It allows individuals to determine alone the exact time of their retirement and, to a great extent, to influence the size of the retirement pension, since with other conditions remaining the same the longer the time they work and pay contributions, the greater the social security entitlement they have. Usually, the possibility of flexible retirement is accompanied by some objective statutory requirements, such as the age at which insured persons can benefit from this pension scheme and the required minimum length of service entitling them to early retirement.

When applying flexible forms of retirement, account should be taken of the fact that the postponement of retirement inevitably leads to a reduction in the period of receiving the pension income. It is therefore very important to select carefully the moment of withdrawal from active labour in order to avoid the inherent risks to beneficiaries, insurance institutions and the pension system as a whole.

On the basis of the analysis of Bulgarian pension model`s evolution and the advantages and challenges of the system we can provide the following *international prospective and lessons learned* that could be useful for the future researches and pension reforms in other countries in the world.

- The evolution of pension systems and their adaptation to the dynamic demographic and socio-economic situation in the countries should be a continuous process aimed at improving the model and adapting it to the changing environment. This is necessary to ensure the system's solvency, to maintain its credibility and to provide decent pensions to the beneficiaries. This will achieve the objectives set out in the European Social Rights Pillar and the White Paper – an agenda for adequate, safe and sustainable pensions of the European Commission and will guarantee the social equity in the countries.
- It is necessary to avoid a sharp reduction in the amount of social security contributions as this negatively affects the income of the social security system and can not be a guarantee for increasing the collection of resources. The generated deficit requires an increase in the transfer from the State Budget and redirects funds that could be used for other priority purposes. It is therefore more appropriate for the levels of social security contributions to be closer to the amount required to cover the costs.
- The comparatively easy access to early retirement before fulfilling the retirement criterias for a retirement, the granting of a pension for incomplete insurance period and the payment of life-long pensions for disabled people under relatively easy accessed conditions have a predominantly social character in Bulgaria. This inevitably leads to an increase in the cost of the system and strongly threatens its stability and solvency. By allowing people with incomplete social security contributions to access to pension benefits for a long time apart from negative financial consequences, it could also have a demotivating effect for the other members of the social security system. Instead, it is necessary for states to try to limit this type of payments, to increase and refine the retirement criteria and to redirect these persons to the social assistance system where the main criterion for access to wealth is the need for financial resources and social services.
- The possibility of transferring resources between the First and Second pillars extends the choice of persons, but the decision must also be taken after assessment of all the consequences for both the beneficiaries and the pension system as a whole. Countries that would consider such opportunities for transferring funds between the solidarity and the capital system need to assess the effects of this in the short, medium and long-term. They should take into account that the larger contribution to the social security system also entails greater social rights of individuals and lead to bigger system costs in the future.

In conclusion, it may be noted that the changes in the pension system in Bulgaria are imperative in view of the dynamically changing demographic and socio-economic environment. In order to maintain the stability of the model and achieve trust among insured persons, it is important to create the appropriate conditions for achieving a fair and decent retirement income diversified from different sources. It should be more closely tied to the social security contributions of individuals so that they can be motivated to participate more actively in the insurance process. Frequent reforms of the three-pillar pension model put at risk its sustainability and create a sense of instability and uncertainty among beneficiaries and insured persons. It would be more effective to look for changes within the existing pension model than outside it as it has its merits in balancing the underlying risks of the two systems of financing pension insurance. Provision of a wider choice of different pension funds that are in real competition with each other, the formation of diversified investment portfolios, the supply of various pension products by companies, the application of flexible forms of retirement corresponding to the individual needs of people or the functioning of different institutions making pension payments are measures that, in the long run, would have a more beneficial effect on both the stakeholders and the pension model in Bulgaria.

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