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SUSTAINABILITY OF THE PENSION SYSTEM OF THE SLOVAK REPUBLIC IN THE CHANGED SOCIO-ECONOMIC CONDITIONS[1]

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Abstract. Pension systems are a standard part of the macroeconomic and microeconomic environment of developed countries. Pension schemes, particularly developed after World War II and based on continuous funding system are currently getting influenced by the negative changes such as demographic fluctuations, changes in economic growth and high unemployment. These changes put the high burden on economically active population and that increases pressure on the necessary reform. Slovak Republic in order to ensure stabilization of the pension system, taking into account the adequacy of pension benefits, had decided to reform the pension system, which means that was applied combined method of financing of the pensions. This change turned into high transition costs which are significantly destabilizing the pension system and in the short term these costs are deepening the deficit of public finances and also the whole financial sustainability of the pension system. The reform of the pension system required not only the introduction of the funded method of financing of pensions, but also caused changes in the interim financing arrangements. The most important parametric changes made in the Slovak Republic are: linking retirement age to life expectancy, changing of the mechanism of valorisation of pension benefits and changes in the funded pension schemes mainly driven by the global financial crisis. Adopted parametric changes will significantly improve and strengthen the long term sustainability of the pension system and public finances.

Keywords: sustainability of pension system, ageing, retirement age

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1. Introduction

The basic objective of social policy is to create for residents such legislative and institutional framework and to adopt and implement measures which will ensure the sustainable development of human, economic, social and cultural rights and resources aimed to ensure decent living conditions for all (e.g. Streimikiene 2014). Pension systems are a part of the macroeconomic and microeconomic environment of all developed countries. Pension schemes developed after World War II and also based on continuous financing system, ran into financial crises impose ever higher demands on taxpayers, respectively on the economically active population (Rievajová, Sika, Husáková, 2012, p. 476). Financing of the pension system is an important part of public finances and

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therefore very significantly affect its sustainability. Pension systems ensure the quality of life for a significant part of the population and also its consumption, which subsequently turns into economic development *and other* components of the national economy. From the opposite point of view, pension system is significantly influenced by demographic trends, employment and socio-political and economic situation in the country (Starineca, Voronchuk 2015; Oganisjana et al. 2015; Samašonok et al. 2015; Pather 2015; Matetskaya 2015; Rezk et al. 2015; Tvaronavičienė et al. 2015).

The changes taking place in different countries have their own specific and historical differences. While in Western Europe there are changes in pension systems under constant pressure of demographic development, in Eastern European countries there are much more radical reforms, which are caused by not only the pressure of demographic trends, but mainly political and economic changes in these countries. All EU countries face the challenge of ensuring the financing of compulsory pension schemes. The risk of financial burdens and risk of reducing of the functionality of the pension system are challenges for major changes of pension system. Reform steps taken in the Slovak Republic, which operates a three-pillar pension system, require in accordance with the socio-economic development constant changes and corrections. The aim of this paper is to characterize the current pension system, to highlight the problem of sustainability of the pension system in terms of public finances and demographic trends and to show out measures which should ensure long-term financial stabilization of pension system.

2. Social security as a part of social system

Social system includes taxes, social insurance, health care, legislation dealing with labor relations, public education or housing. According to the literature social system or social security system is defined as a group of social incidents or risks for which needs relevant political and administrative measurements. These social states and risks include sickness, old age, childhood, unemployment, loss of breadwinner, disability, maternity and poverty (Karpiš et al. 2006, p. 3). Social security system is an instrument for the implementation of the objectives and tasks of social policy and creates the core of social policy. In the Slovak Republic it is made up of three sub-systems: social insurance, state social support and social assistance.

Social insurance is a formal insurance systems established to ensure the protection of the economically active population in the case of specific social occurrence (disease, pregnancy and maternity, old age, injury, death, unemployment ...) (Šipikalová, 2013, p. 58). State social support system is mainly funded through the state budget, the state takes the role to participate in solving some of the state-recognized life situations in order to prevent unwanted decline in living standards of families caring for dependent children. (Sika, 2014, p. 55). Social assistance is one of components of social protection, social assistance acts as a safeguard mechanism for individuals and families in the social accidents. (Husáková, 2014, p. 51) Social assistance reflects the fact that the citizen is in a situation when it is not in his forces to become economically independent, respectively. It is not possible neither with the help of his family. Social assistance differs from social insurance and state support in its application, which is conditioned by individualized social necessity, reliance, or temporary need and the possibilities of social conditionality of aid agencies.

In the Slovak Republic in terms of financial sustainability as the most problematic part of the Social Security system appears ensuring old age pension, mainly due to demographic risks, changes in economic growth, high unemployment rate. The main task of social system is ensuring an adequate income level in long-term situations, during which the individual is unable to obtain financial resources by their own activity, mainly due to age. Therefore, we can conclude that Pay-as-you-go pension system has become, despite its modifications unsustainable in the long run; it makes a significant burden on public finances and does not provide socially acceptable level of compensation for several generations. These factors lead to the fact that the pension system in the Slovak Republic, especially in 2004, has undergone significant changes. Nowadays it consists of three pillars. The first pillar (mandatory pension insurance) through systematic and parametric changes changed from the security system to the insurance system. The implementation of social insurance was established by Social Insurance Act with effect from 1 January 2004. The second, fully funded, defined-contribution pension pillar (retirement savings), is realized by pension management companies under the law on pension insurance from

1 January 2005. The third pillar (voluntary supplementary pension insurance) is contribution-defined, funded through capitalization and performed by supplementary pension companies pursuant to the Act on supplementary pension savings from 1 January 2005 (Sika, 2013, p. 57-58).

3. Sustainability of the pension system in relation to public finances and demographic trends

Inherent risks of the financial burden in the future, several times higher current debt of public finances, risks of reducing of the functionality of the system were challenges for conceptual change in the pension scheme in the Slovak Republic. Intention of the reform was to conform to the three specific objectives. The first objective was to change the existing retirement system based almost exclusively on the pay-as-you-go system to modern three-pillar system with a clear relationship between the premium paid and the subsequent benefits from the system. The second objective was to improve long-term fiscal sustainability of the system, especially in the context of the expected demographic changes in coming decades. The third objective was to diversify the sources of income in old age (PAYG pillar - Labor Market, funded pillar - Capital Markets), thereby partially reducing the risk of negative impact on pensions due to adverse development of different pillars. (MLSAF, 2011, p. 4)

In terms of evaluation of the aims of pension reform is important that the objective of long-term fiscal sustainability is not fulfilled and the setting of parameters for the first and second pillar leaded to an even greater deepening of deficits in the pension system, which is exposed in the short term (Fig. 1).

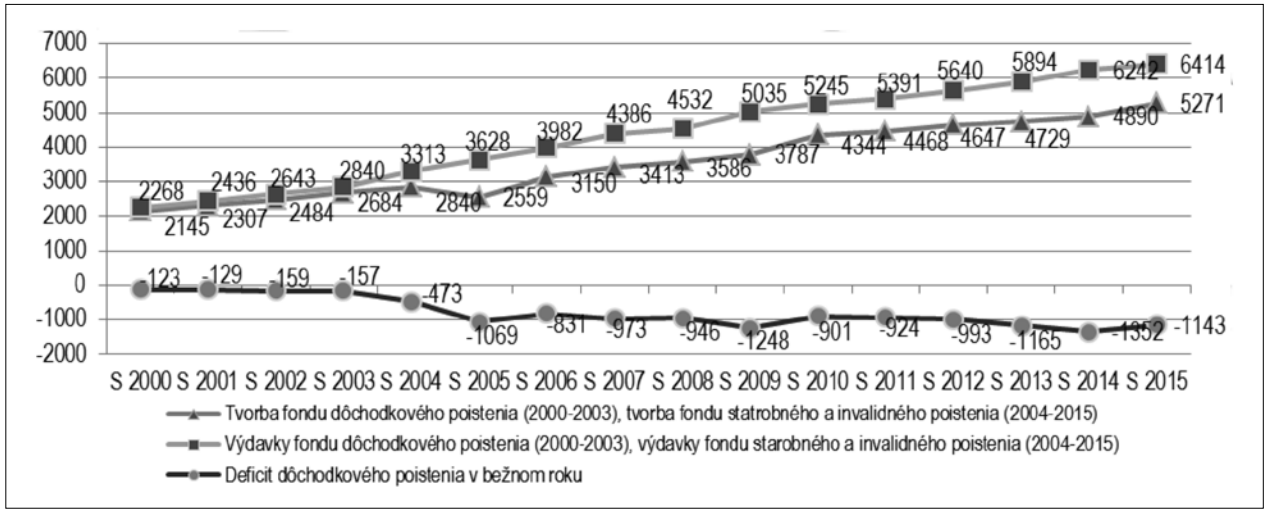

Fig.1. The deficit of the pension insurance system during 2004-2015 (in mil. €)

Source: Own processing based on data of the Social Insurance Agency. Bratislava: SP, 2015.

In the long term, each country has a number of instruments to maintain the financial balance of the pension system within acceptable limits, the most frequently applied measurement is raising of the retirement age, changing the mechanism of valorization of pension and the inclusion of automatic stabilizers. In addition to financial sustainability it is necessary to take into account the adequacy of pension benefits.

All the revenues of Social Insurance Agency used for old-age insurance come from the old-age insurance contributions, which are required to pay each working citizen of the Slovak Republic. The current monthly contribution is at the level of 18% of gross salary. Part of the contributions in the second pillar from the Social Insurance Agency is now redirected to the saver's personal account in pension fund management companies (currently 4% of gross pay, with gradual increases to 6% in 2024). Rest of the money (contributions to the first pillar -14% of the gross wage) becomes the first pillar´s income. If the insured is not participating on second pillar, his entire deductions of 18% of gross wages remain to the Social Insurance Agency as income in the first pillar.

The transition from pay-as-you-go scheme to the combinational system of financing is associated with transformational costs caused by the re-routing of insurance to private pension companies. A gradual upward trend of transformational costs was pressed by the percentage change in the payment to the second capitalization pillar from 9% to 4% in 2012. And also by the opening of the II pillar several times, this operation had weaken II. pillar and strengthen the political signification of the first pillar. During the quadruple opening of the pension system decided to enter 71,317 savers, but 424,312 savers decided to return to a purely national PAYG pension system, because the system considers them as if they had never been in the private pension system (Table 1, Table 2).

Table 1. Overview of the contributions transferred to the second pillar

in mil. €	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
Contributions forwarded to PFMC[2] 2005 - 2015	304,7	605,7	749,8	815,2	780,4	800,2
Revenue of Social Insurance Agency after opening 2. pillar	0,0	0,0	0,0	132,3	108,8	0,0
Contributions forwarded to PFMC net of proceeds from the opening II. pillar	304,7	605,7	749,8	682,9	671,6	800,2
in mil. €	**2011**	**2012**	**2013**	**2014**	**2015**	**Total**
Contributions forwarded to PFMC 2005 - 2015	848,3	804,9	413,6	438,0	444,6	**7 005,4**
Revenue of Social Insurance Agency after opening 2. pillar	0,0	44,2	239,7	0,1	566,9	**1 092,0**
Contributions forwarded to PFMC net of proceeds from the opening II. pillar	848,3	760,7	173,9	437,9	-122,3	**5 913,4**

Source: Ministry of Labor, Social Affairs and Family.

In the future, these costs will rise again, as from 2017, the rate of mandatory contributions will increase by 0.25% per year up to 6% in 2024.

Table 2. Impacts of increasing acceleration in the rate of compulsory contributions of II. pillar by 0.25% per annum for a maximum of 6%

in mil. €	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Contributions collected on old-age insurance	490 604	544 075	603 912	670 329	743 389	824 411	914 263	1 013 909

Source: Ministry of Labour, Social Affairs and Family.

The transition from PAYG financing to the combinational financing is associated with transformation costs caused by the re-routing of insurance to private pension companies. These costs will increase gradually until the beginning of the period of pension payments from the funded pillar (2015), that means till the time when the transition costs will gradually diminished by the savings on the expenditure side. Starting with the year 2015 3000 savers could ask for payment of the pension from II. pillar, but the actual number of those who used this option was negligible, only 284 savers. This negative phenomenon occurred due to very low offer of pensions from private life insurance companies. Real decline of transformation costs are expected with the increase of the number of pensioners, who have been savers in the private pension system (Table 3, Table 4).

Table 3. Number of savers in PFMC by age groups

Age group	**till 25 years**	**26-35**	**36-45**	**45-55**	**From 56**
Number of savers	70 678	457 910	522 467	261 430	27 827
% share	5,3%	34,2%	39,0%	19,5%	2,1%

Source: Ministry of Labor, Social Affairs and Family.

Social Insurance Agency improves the financial sustainability of the pension system by the transfer of funds from other profitable social insurance funds, but this is done without considering citizens' claims in the form of pension benefits, which clearly is non-systemic element in social insurance. The current level of rates of social security contributions do not correspond with actual needs of citizens and therefore the Slovak government is preparing the revision of collection of taxes and contributions.

[2] Pension Funds Management Companies

Table 4. Covering of deficit in pension insurance by 31.12.2014 (in thousands €)

	Covering of deficit in pension insurance
Basic fund of sickness insurance	- 122 000
Basic fund of pension insurance	+ 1 461 000
Basic fund of disability insurance	- 121 000
Basic fund of accident insurance	- 94 000
Basic fund of guarantee insurance	- 25 000
Basic fund of unemployment insurance	- 165 000
Reserve fund of solidarity	- 934 000

Source: Report on the management of the Social Insurance Agency in 2014. Social Insurance Agency, February 2015, p. 17

The Slovak Government had realized the urgency of the sustainability of the pension system, but also the adequacy of pensions, and has adopted changes of the pension system, aimed at improving the negative trends (Fig.2).

The most important parameter changes are:

- Linking retirement age to life expectancy age,[3]
- Linking valorization mechanism to pensioners inflation,[4]
- Strengthening of the solidarity in the granting of pensions from PAYG pillar,[5]
- Changes in the second pillar pension system.[6]

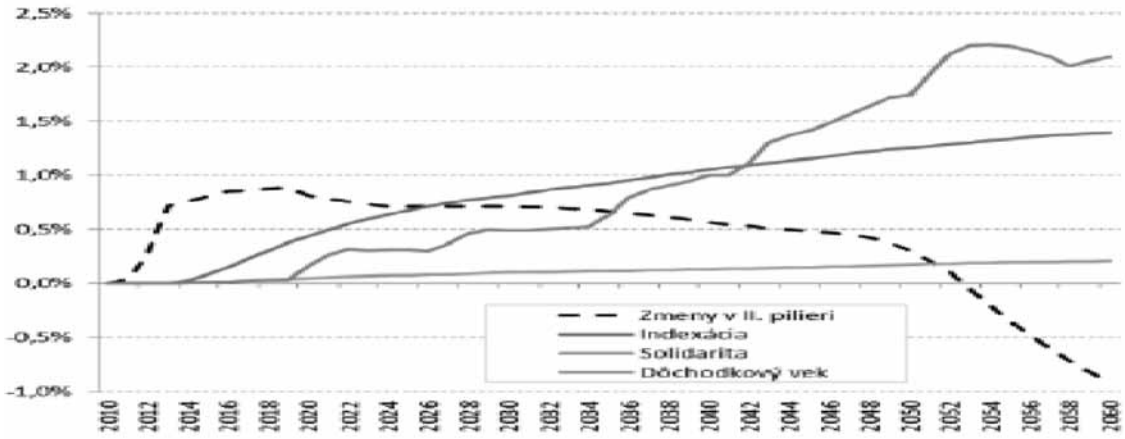

Fig2. Measures to change the balance of the pension system (% GDP)

Source: Ministry of Finance of the Slovak Republic - Financial Policy Institute, 2013, aging will increaseexpenditure, pension reform helped. Bratislava: Slovak Ministry of Finance. Comment 2013/4. with. 5. Available at: http://www.finance.gov.sk/Default.aspx?CatID=8886.

According to initial projections from the beginning of 2012 deficit had to deepen the existing 3% to 9% of GDP, that means by 6 percentage points. The pension reform made in 2012 improves and strengthens the sustainability of public finances. In 2060 the deficit would reach a level of 5% of GDP, that means an improvement of the balance of public finances by 4 percentage points.[7]

[3] § 65a of Act no. 461/2003 Coll. on social insurance, as amended.

[4] § 82 Act no. 461/2003 Coll. on social insurance, as amended.

[5] § 63 Act no. 461/2003 Coll. on social insurance, as amended.

[6] § 22 of Law no. 43/2004 Coll. on retirement pension saving and on amendments to certain laws, as amended.

[7] Slovak Ministry of Finance - Financial Policy Institute, 2013, aging will increase expenditure, pension reform helped. Bratislava: Slovak Ministry of Finance. Comment 2013/4. with. 1. Available at: http://www.finance.gov.sk/Default.aspx?CatID=8886.

4. Employment as a factor of the sustainability of the pension system

Unemployment is one of the main challenges of European and global economy and in terms of the pension system form the starting point for the sustainability of expenditure and consumption. The most important is competitiveness and sustainability of employment, which is closely linked with the dynamics and the overall success of the economy. In comparison with other EU countries, Slovakia has a relatively low employment, especially of young people but also older people. This may create various risks to the current pension system. The global economic crisis has significantly affected the economy and the global labor market. Slovakia's economic growth is largely based on the production and export of foreign companies using Slovak cheap labor. (Rievajová, Klimko, 2015)

Table 5. Employment in EU 28 in age group 20-64

	Countries of EU 28			**Slovakia**		
Year	Employment in %	Men	Women	Employment in %	Men	Women
2004	67,4	75,5	59,4	63,7	70,9	56,7
2005	67,9	75,9	60	64,5	72,5	56,7
2006	68,9	76,8	61,1	66	74,6	57,5
2007	69,8	77,6	62,1	67,2	76	58,7
2008	70,3	77,8	62,8	68,8	77,4	60,3
2009	69	75,7	62,3	66,4	74,6	58,2
2010	68,6	75,1	62,1	64,6	71,9	57,4
2011	68,6	75	62,2	65	72,5	57,4
2012	68,4	74,6	62,4	65,1	72,8	57,3
2013	68,4	74,3	62,6	65	72,2	57,8
2014	69,2	75	63,5	65,9	73,2	58,6
2015	-	-	-[8]	67,7	75,0	60,3
Target of the Strategy Europe 2020	75%			72%		

Source: Own processing of data by Eurostat

According to Eurostat data, the employment rate of the population aged 20-64 years in 2015 increased by 1,8% to 67,7% (Table 5). This is the most significant increase after year 2009, when crisis appeared in Slovak economy. The level set in the Strategy Europe 2020 is 75% for EU28 and for the Slovak Republic it is defined by the 72% level of employment. Employment growth in the period 2004-2014 is characterized by the following graph (Fig.3):

[8] data not available to the public yet

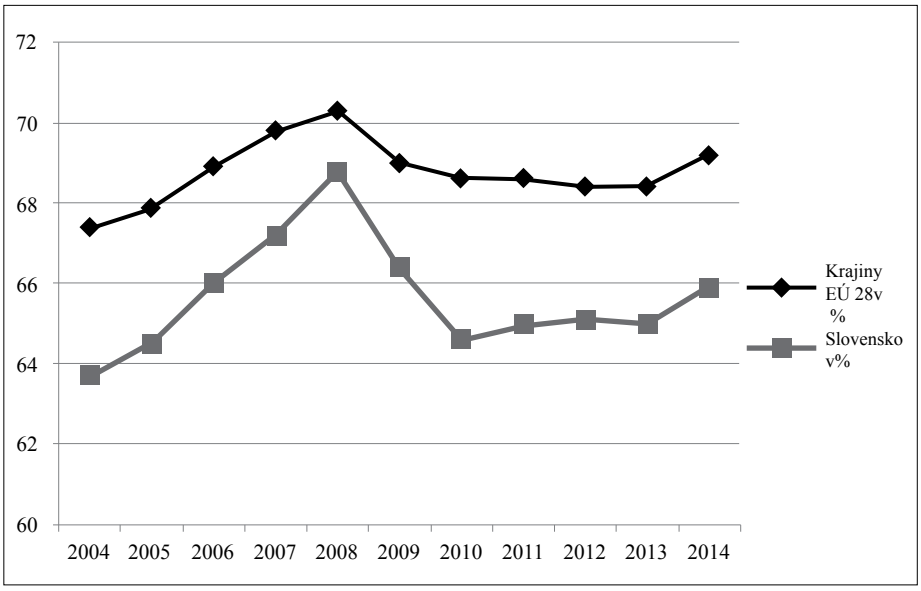

Fig. 3. Growth of employment in the EU28 countries and in Slovakia

Source: Own processing of data by Eurostat

The period from 2010 to 2013 can be characterized as a period of stabilization after a significant decline in employment caused by the economic crisis. The significant increase was recorded in the EU countries in 2014, when employment grew by 0.8 %.

4.1. Prognosis of employment until year 2020

Employment forecasts done until year 2020 were prepared in three versions. (Bleha, B., Šprocha B., Vaňo B, 2012) Static version considers the fact that economic activity and even employment in Slovakia are relatively low and under the least favorable conditions both (employment and economic activity) will stagnate at the values of 2011. This assumption is applied in a static version for the entire region, for both sexes for all ages.

Targets of employment adopted by the Strategy Europe 2020 forms the basis of the optimal version of forecasts. The basic thesis of the optimal alternative is to achieve 72% employment for the population of the age group 20-64 years till 2020. The increase in employment in the forecast does not grow proportionally in every region but takes in account regional specifics, difference of age and sex. This model assumes a gradual reduction of disparities, especially between regions. Increasing of the employment rate in the optimal alternative means increasing economic activity while the unemployment rate is reducing. Medium variant´s forecasts are approximately between static and optimal variant data. (MLSAF, 2014, p. 23)

If the rate of economic activity has not changed till 2020 the number of economically active persons should be reduced from the current 2.7 million to 2.6 million. The other two scenarios would mean increase the number of economically active to 2.8 million (Medium variant), or over 3 million (optimal variant). (Bleha, B., Šprocha B., Vaňo B, 2012).

Prognosis of total employment till 2020 is favorable for Slovakia, especially in the group of population with high level of education. At the same time should be an obvious loss of job opportunities for the population with low and medium levels of education. The key employment sector in Slovakia is currently manufacturing and still remains the same position till 2020. The most significant fall in employment is supposed in the agricultural sector, forestry and fishing sector. In all sectors is projected increased demand for labor with a high level of education. Also in all major classes of employment it is expected to increase employment of people with a high level of education. In terms of profession in 2020 should be the highest number of persons employed as technicians and associate professionals. High share of total employed will keep workers in services and trade. Skilled agricultural, forestry

and fishing employees will record decline in employment according to the forecast. (MLSAF, 2014, p.25)

5. The aging of the population as a demographic process in the context of the pension system

Ageing is not only a physiological change in the human body, but is also very significant social change for each individual. Old age is usually associated with the end of the active social life and retirement. Retiring brings man loses both its social position and in income obtained by working activities. (Matlák et al, 2009, p. 145, 146). The first signs of an aging of all the population can be seen in the Slovak population since the mid-60s. More significant acceleration of this process is exactly what happens now: "baby boomers" from after-war period are reaching retirement age and on the other hand, at the age of highest fecundity (physiological fertility) are age groups born in the first half of the 90s, which are characterized with lower abundance. (SO SR, 2013, p. 38).

According to the analysis of long-term sustainability of the pension system of the Slovak Republic published by the Ministry of Labor, Social Affairs and Family, will increase male life expectancy of 10.6 years and for women by 8.6 years until the 2060. Slovak population will be ageing the fastest in the EU. While today 100 Slovaks in working age from 15 to 64 years count 19 people aged 65 years and more, in 2060 it will be almost 66 on 100 productive persons.

According to the European Commission report about population aging, public expenditure is sensitive to aging of population and they will increase significantly till 2060 (retirement benefits, retirement pensions, health care, long term care, education, unemployment benefits). In 2013, these expenses created 18.1% of GDP and were the fifth lowest in the EU. By 2060, according to the basic scenario, it is supposed the increase of 4% to 22.1% of GDP. The increase in expenses in 2060 would be the fifth highest in the EU. According to the AWG risk scenario this increase would be the highest even in the whole EU to 9.3% of GDP (IFP, MF, 2015, p. 1).

Expenditures on pensions will fell slightly by 2030. The decrease is mainly caused by binding the retirement age to life expectancy from 2017, followed by a lower number of newly granted pensions. Therefore, the Slovak pension model predicts fewer new pensions by 2030 every year. After 2030, the number of new retirees will start to rise again according to demographic causes. More pensioners and increasing life expectancy mean significant growth in expenditure on pension benefits after 2030 again (IFP, MF, 2015, pp. 3-4).

In line with the target of ensuring long-term financial sustainability of the pension system it is providing a new way of gradual automatic adjustment of the retirement age, depending on the dynamics of the average life expectancy reported by the Statistics Office of the Slovak Republic, common for men and women in the current retirement age expressed in whole years (reference age). A new way of determining the age of retirement will be applied from 1 January 2017. Since 2017, the retirement age will be increased annually by 45 to 50 days. So people who reach retirement age in 2024, should retire as a 63-year-olds, those who reach retirement age in 2032, they retire at age 64 years, and those retire in 2040, they will retire as a 65-year-olds.

Table 6. Retirement age according to life expectancy

Year	Men	Women
2016	62,00	61,57
2017	62,14	62,14
2018	62,28	62,28
2019	62,42	62,42
2020	62,56	62,56
2030	63,94	63,94
2040	65,26	65,26
2050	66,49	66,49
2060	67,68	67,68

Source: Council of Fiscal Responsibility

In our opinion, the negative trends in demographic indicators can be reversed, or mitigated through population policy, personalized support of families and migration, as well as improving of education and higher employment. The result of these policies may increase birth rates and migration, thereby helping to avert ominous trend, but it is important to note that these interventions not remove the negative trends, but probably only alleviate them.

Conclusions

Over the next decade the impact of demographic change on the sustainability of public spending begins be much more intensive. Increased life expectancy, the relative increase in the number of pensioners comparing to the active population and fewer births, those are the factors which will affect areas such as pensions, health, long-term care and education. In order to strengthen the financial sustainability of the pension system of Slovak Republic will have to incorporate automatic stabilizers in the calculation of pension entitlements. This action, however, causes a reduction in the pensions, which will have a negative impact on the living standards of Slovak pensioners.

Employment forecast for the Slovak Republic by 2020 has a favorable outlook and expects to increase employment, which would have a positive impact on the sustainability of the current pension system. Increasing employment is refillable challenge for the Slovak Republic, comparing to ageing of the population, which is demographic situation that cannot be reversed immediately but will be needed structural measurement to fear with this topic. Ageing of society, which is seen as a threat that will have far-reaching and irreversible effects in the point of view of economists, can in fact be seen as progress in many scientific disciplines. Cannot be abstracted from the impact of aging on the pension system, but this impact cannot be considered as tragic and irreversible. Countries need to focus their attention and adapt their systems and policies; not only in pension schemes, but also adopt systems in the light of new expectations, but also unexpected events which can largely affect the life situation of the individual groups of society.

Aknowlegements

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