

# **OPTIMAL STRUCTURE OF PENSION SYSTEM - PENSION ENTITLEMENTS WITH FOCUS ON REPLACEMENT RATE**

**Ing. Katarína Švejnová Hoesová**

University of Economics in Prague, Faculty of Economics, Czech Republic

## **ABSTRACT**

The aim of this paper is to find a possible solution that would be applicable in the current economic conditions of the Slovak Republic to increase the sustainability of the first tier with a focus on replacement rate. If we would like to find the optimal solution for the pension system we should consider that replacement rate is one most crucial part. The current structure of the pension system of the Slovak Republic is not optimal and significantly caused the annual increase of public debt. On the other hand, people in retirement age are still not satisfied with their incomes. Part of the work is analysis of current approaches to the pension system in different countries. We compare main indicators such as gross pension replacement rate, replacement rates for mandatory and voluntary pension schemes. Based on this analysis we will propose our recommendations for structural changes in the Slovak pension system. Obviously, we consider long term conditions of public pension expenditure.

***Keywords: Pension system, Replacement rate, Mandatory scheme, Voluntary scheme***

## **INTRODUCTION**

Quality of Life in retirement age is a question that has become more resonant in society in recent years. The long-term trend of demographic change, the prolongation of life and low birth rates or replacement rate, poses huge challenges to the sustainability of pension systems. The article discusses how the different countries of the European Union are accustomed to the replacement rate in pension systems as well as the structure of pension systems.

## **Methods of research**

The work will rely on both empirical and theoretical research methods. Basic analytical methods will be used to prepare a comparison of the retirement age and replacement rate in the European Union and Slovak republic. We will also use analysis of the European Union countries pension systems and Slovak pension system as well as analysis of the partial problem of the Slovak pension system with a focus on sustainability.

## Pension systems in European Union

Population ageing is one of the greatest social and economic challenges facing the EU. Projections foresee a growing number and share of elderly persons (aged 65 years and over), with a particularly rapid increase in the number of very old persons (aged 85 years and over). These demographic developments are likely to have a considerable impact on a wide range of policy areas: most directly with respect to the different health and care requirements of the elderly, but also with respect to labour markets, social security and pension systems, economic fortunes, as well as government finances [1].

Although European Union countries have the primary responsibility for designing their pension systems, we can see a different approaches to the public pension schemes. Adjustment of the pension schemes across European Union countries are so different that makes cross-country comparisons much more challenging. Indeed, system differences are not only various provide retirement income or different phases of the pension systems' reform process neither different approach to pension expenditures. However, a huge part of the systems represents by the involvement of the public sector in the pension system that is common for all European Union countries. However, we can divide systems with focus on publicly provided earnings to the following schemes: defined-benefit (DB), notional defined contribution (NDC), and point systems (PS).

Country	Public pension scheme
Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Spain, Luxembourg, Hungary, Austria, Slovenia, Portugal, Finland	Defined-benefit (DB)
Ireland, Malta, Netherlands, United Kingdom	Flat rate + Defined-benefit (DB)
Greece	Flat rate + Defined-benefit (DB) + Notional defined contribution (NDC)
Italy, Latvia, Poland, Sweden, Norway	Notional defined contribution (NDC)
Germany, Croatia, Lithuania, Romania, Slovak Republic, Cyprus	Point systems (PS)
France	Defined-benefit (DB)+ Point systems (PS)

**Tab.1** Main public schemes type in the European Union source: The 2018 Ageing Report Economic & Budgetary Projections for the 28 EU Member States (2016-2070)

## Pension System in Slovak Republic

After 2003, the Slovak Republic enacted extensive pension scheme reform. As a result, the one-pillar scheme with established PAYG (pay as you go) benefits was transformed into a scheme built on three separate pillars.

1st pillar – mandatory pension insurance defined by benefits and funded on an ongoing basis and administered by the Social Insurance Agency. The 1st pillar of the pension insurance scheme is defined by benefits and funded on an ongoing (PAYGO) basis. It is closely connected to the economic activity and income of the citizens.

2nd pillar – old-age pension saving defined by contributions and capital-funded insurance administered by pension fund management companies. Pension savings system with defined contributions is financed by capitalization and managed by single-purpose private pension management companies (PFMC). It is based on savings invested in an individual account intended, together with the old-age insurance provided by the Social Insurance Act (1st pillar), to guarantee an income to the beneficiary in retirement or to his or her descendants in case of death.

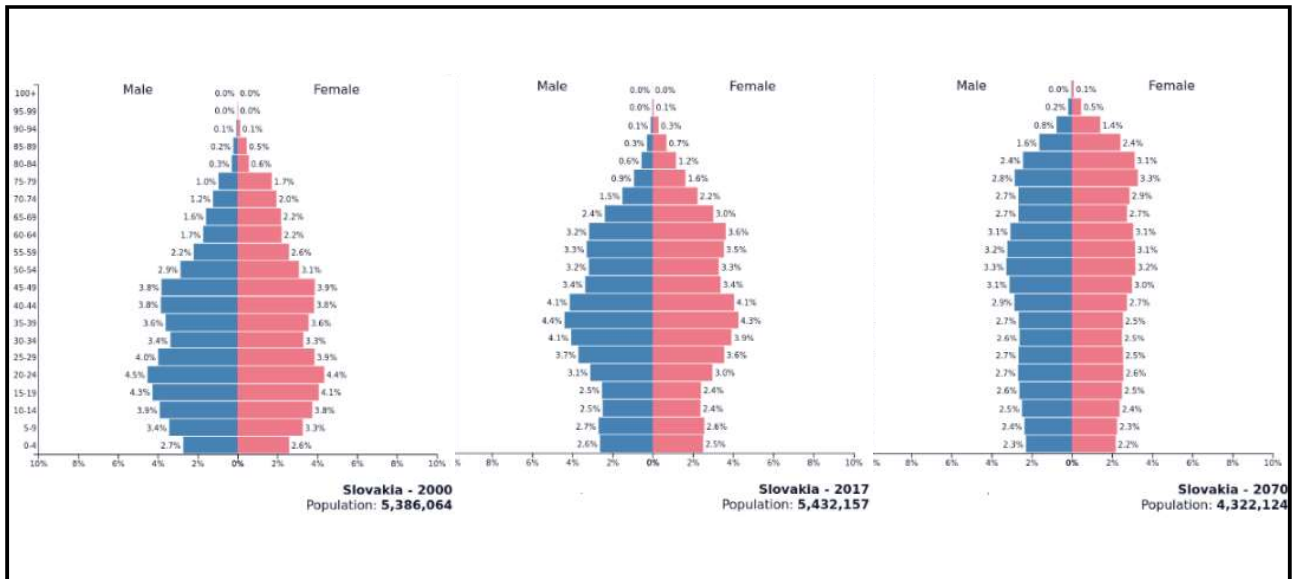
3rd pillar - voluntary supplementary pension saving defined by contributions and capital-funded insurance administered by supplementary pension companies. Supplementary pension insurance is voluntary and represents the third pillar of the pension scheme in which the funds of the participants are administered by supplementary pension companies [2].

According to the European Commission's report, Slovakia will be the third fastest aging country in the European Union. One of the youngest economies in the EU will change to the earliest eight. 1 Aging-sensitive spending will grow by almost 16% (3% of GDP) by 2070. Against the previous three years' report, the increase in spending is due to more favourable demographic assumptions and an improving labour market. However, their level is now higher than predicted in the previous report. The introduction of the retirement age ceiling must be conditional on structural reforms. Also necessary is the connection with the provisions of the Constitutional Bill on Budgetary Accountability [3].

### **Ageing pressure**

Demographic projections predict the rapid aging of the population, but the rate of aging will be slower than predicted by the previous report. Low birth rates and a rise in life expectancy will result in a change in the age structure of the population. One person over 65 years worked 3.2 in 2016, but in 2070 it will be only 1.5 workers [4].

Life expectancy at older ages is especially important for well-being. However, it also influences the finances of retirement-income systems. In 2015-20, on average in OECD countries, women aged 65 could expect to live an additional 21,3 years, which is forecast to increase to 25.5 years by 2065-65. Men of the same age could expect to live 18,2 more years in 2015-20, with a projected increase of 4.5 years by 2060-65 to reach 22.8 years. Gender gaps in the longevity of older people are expected to decrease slightly over the next 45 years (from 3,1 to 2.7 years on average in OECD countries) [5].



**Figure. 1** Population pyramid graphs evolution of Slovak republic, years 2000, 2017, 2070.

Source: <https://www.populationpyramid.net/slovakia/>

### Replacement rate

Replacement rates are measured as the very first pension benefit relative to the last wage before retirement. As such, a downward trend of the replacement rate for new pensions might cause the benefit ratio to decrease. Older generations generally experienced a situation of full employment and complete careers and thus made higher contributions than younger generations [6].

Country	2016	2070
BG	35,8	39,2
Denmark	27,2	27,1
ES	78,7	45,0
IT	60,4	49,8
LV	51,7	21,7
Slovak Republic	49,0	50,2
EU 27	46,3	38,1

**Tab.2** Replacement rates in selected countries of European Union in 2016 and 2070 (%) Source: The 2018 Ageing Report Economic & Budgetary Projections for the 28 EU Member States (2016-2070)

In the Tab.2 we can see comparison of different approaches to the replacement rate in European Union countries. In generally we could see decreasing trend of the replacement rate in European Union countries. Average value of replacement rate in 27 countries of European Union drop down from 46,3 % to 38,1%. On the other side there are still some countries that's ignore the trend, for example Bulgaria and Slovak Republic.

Year	Average retirement income (€)	Average monthly wage in economy SR (€)	Average replacement rate in % (brutto)
2009	339,73	744,50	45,63
2010	352,54	769,00	45,84
2011	362,08	786,00	46,07
2012	375,89	805,00	46,69
2013	390,51	824,00	47,39
2014	400,18	858,00	46,64
2015	411,06	883,00	46,55
2016	417,46	912,00	45,77
2017	428,31	954,00	44,90

**Tab. 3** Average replacement rate in % in Slovak Republic in 2009 – 2017. Source: Social Insurance Agency in Slovakia <https://www.socpoist.sk/vztah-priemernej-vysky-vyplacaneho-starobneho-solo-dochodku--k-3112--a-priemernej-mesacnej-mzdy-v-hospodarstve-sr/3166s>

Increasing the replacement rate is not the solution for any PAYGO system. With focus on replacement rate as solution, we could not compare average wage in Germany (3771€ in 2017) to the average wage in Slovak Republic (945€ in 2017 see Tab.3).

## CONCLUSION

The public finance deficit has only three possible solutions that are cutting costs, increasing revenue, or a combination of both. Immediate cuts in pension expenditure are the last in the list or we can say to cut costs is politically impassable.

PAYGO pension systems are generally very sensitive to political interference. Especially in terms of sustainability of the system, retirement income, or retirement age. Unsystematic interventions such as supplemental benefit payment (13th pension payment) or the retention of retirement age in the long run seriously undermine the sustainability of the pension system.

The rate of compensation as a key indicator of the sustainability of the pension system has shown that, despite its increase, it is not possible to achieve a significant increase in pensions and a disproportionately high burden on the working population.

Solution for PAYGO system is a gradual increase of the retirement age with a focus on demography, slow reducing the replacement rate and sensitive approach to pension indexation.

If we do not start to tackle our pensions responsibly and the sooner our descendants will have to deal with the ever-increasing debt of the ongoing pension system. Without effort and enormous engagement, every attempt to change the establishment is condemned to failure and raising replacement rates is not the right solution to the current situation.

### REFERENCES

[1] People in the EU - statistics on an ageing society, ISSN 2443-8219, URL: [http://ec.europa.eu/eurostat/statistics-explained/index.php?title=People\\_in\\_the\\_EU\\_%E2%80%93\\_statistics\\_on\\_an\\_ageing\\_society&oldid=375268](http://ec.europa.eu/eurostat/statistics-explained/index.php?title=People_in_the_EU_%E2%80%93_statistics_on_an_ageing_society&oldid=375268)

[2] Ministry of labour, social affairs and family of the Slovak Republic, Pension Scheme URL: <https://www.employment.gov.sk/en/social-insurance-pension-scheme/pension-scheme/>

[3] Jakub Fodor, Tomáš Rizman, Lucia Šrámková, Šedivieme pomalšie, Správa Európskej komisie o starnutí populácie, Ministry of finance of the Slovak Republic URL: <http://www.finance.gov.sk/Default.aspx?CatID=11771>

[4] The 2018 Ageing Report Economic & Budgetary Projections for the 28 EU Member States (2016-2070) ISBN 978-92-79-77460-7 Publications Office of the European Union, 2018, Luxembourg. [https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications\\_en](https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications_en)

[5] OECD (2017), Pensions at a Glance 2017: OECD and G20 Indicators, OECD Publishing, Paris, [https://doi.org/10.1787/pension\\_glance-2017-en](https://doi.org/10.1787/pension_glance-2017-en).

[6] The 2018 Ageing Report Economic & Budgetary Projections for the 28 EU Member States (2016-2070) ISBN 978-92-79-77460-7 Publications Office of the European Union, 2018, Luxembourg. [https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications\\_en](https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications_en)