

AGING POPULATION – FACTOR AFFECTING FISCAL BALANCE IN THE NEXT DECADES

Kristjan Tamla

Over the last decade, addressing fiscal policy and balance, long-term dimension is being more and more often referred to. The reason is that an additional dimension – aging population – has been added to factors influencing sustainability of fiscal policy and balance. This is an urgent problem in all developed industrial countries and also in several developing countries. In principle it means that in upcoming decades the ratio of taxpayers to dependants is going to shrink continuously, which would make funding of public services increasingly difficult. To strengthen the long-term fiscal balance there is more and more discussions about the necessity to modify the financing principles of the pension system so that they would comply with structural changes arising from aging population. In this context such a need to modify financing principles of the pension system could be called a reform of the pension system¹.

■ Pension System Reform ■

Today, most of the national pension systems are based on Pay-As-You-Go principle, ie pension payments are covered from current tax revenue. For about half a century such systems have performed relatively efficiently but due to constant aging of the population and the increase in the number of pensioners in relation to working-age population, it is increasingly unlikely that the systems could be sustainable long term in future² (see Figure 1).

The main weakness of Pay-As-You-Go (PAYG) systems lies in continuous redistribution of funds between generations (from contributors to beneficiaries). The maintenance of this principle will be ever more difficult due to demographic processes (relative aging of population). These systems perform efficiently in circumstances in which the working-age population compared to the retirement-age population is constantly increasing, ie the revenue base is growing faster than the retirement-aged population. In such an environment the relative purchasing power of pensions compared to wages will grow even at the constant tax burden. In case of reverse demographic processes, ie if the number of pensioners is going to increase faster than that of the workers, the PAYG system could ensure the maintenance of the relative purchasing power of the

¹ In reality it involves in addition to the pension system also all other public services, consumed by the entire population or primarily its retirement-aged part (eg, health system).

² Sinn, H.-W. (1997), 'The Value of Children and Immigrants in a Pay-As-You-Go Pension System: A Proposal for a Partial Transition to a Funded System', Working Paper 6229, Cambridge: NBER.

pensioners only by involving additional funds from each taxpayer. This means that if the inter-generation redistribution will continue, each upcoming generation will have to bear a larger tax burden.

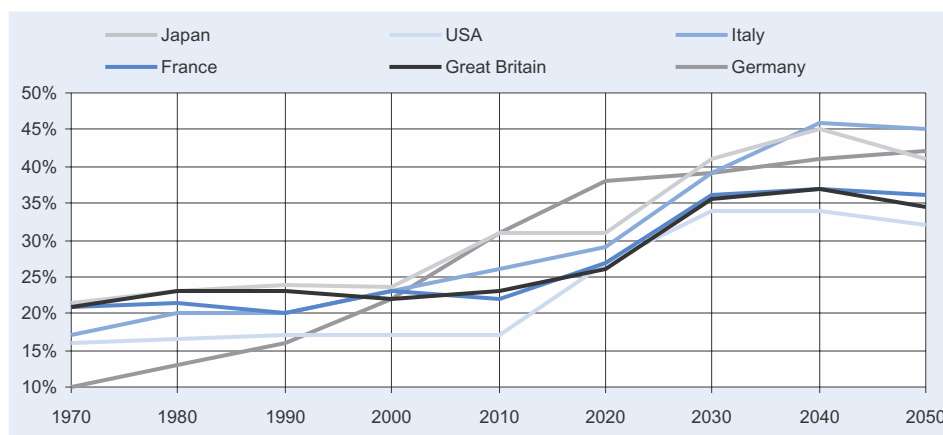


Figure 1. Population aging in larger industrial countries (the ratio of non-working-age population to working-age-population)

Today, most of the OECD and Central and Eastern European countries have the annually collected taxes to finance the PAYG system between 5–15% of GDP. **If the projected trends of the aging of population were to continue, the pension contributions necessary to maintain the current relative purchasing power would nearly double by mid-21st century compared to today³.**

Therefore, during the last decades the entire world has attempted to reform pension systems so that they could be funded even if population aging would continue. In principle, it could be done in two ways⁴:

- 1) To curb the growth of pension expenditure accompanying aging population and simultaneously to maintain the principles of PAYG financing.** As a rule, under such a reform it will be necessary to tighten the current eligibility criteria of pensions, raise retirement age and to curb the growth of pensions by indexation systems, which take into consideration demographic trends;
- 2) To replace the current PAYG financing with funded system.** Such a fundamental reform would suspend the inter-generation redistribution of funds characteristic of current systems, replacing it with old-age funds collected by each generation and individual. Such a reform would, for the most part, eliminate the dependence of the pension system funding from changes in the population age structure.

³ Holzmann, R. (1998), 'Financing the Transition to Multipillar', Staff Papers 44, No 2. Washington: IMF.

⁴ 'Guidebook to Pension Reform', (1999), United States Agency for International Development.

For fiscal stance the implementation of the fully funded pillar means primarily that part of the tax revenue is now re-transferred to pension funds. Contemporaneously, budgetary commitments to the current pensioners are retained and new sources to finance pension expenditure should be identified. Such an additional financing commitment could be called transitional cost of the pension reform.

As an abrupt transition to private funding concentrates transition costs into a very narrow timeframe, pension reforms in many countries contain components of both of the aforementioned options: **the reform curbs the growth of the PAYG component expenditure and encourages contributions to funding system⁵.**

■ Aging Population in Estonia ■

Similarly to developed industrial countries, the aging of the population affects fiscal balance also in Estonia. While in transition to market economy our pension insurance system has been subject to various specific factors (a sharp fall in the employment, modification of taxation principles, etc), during the upcoming decades it will be increasingly subject to population aging.

According to various forecasts, in the next 7–8 years the share of the pension-age cohorts in Estonian population will remain relatively stable (about 15%) and their share to the working-age population will be even slightly shrinking. This is primarily caused by two clearly distinguishable historic fertility waves – the World War II wave followed by a fall and

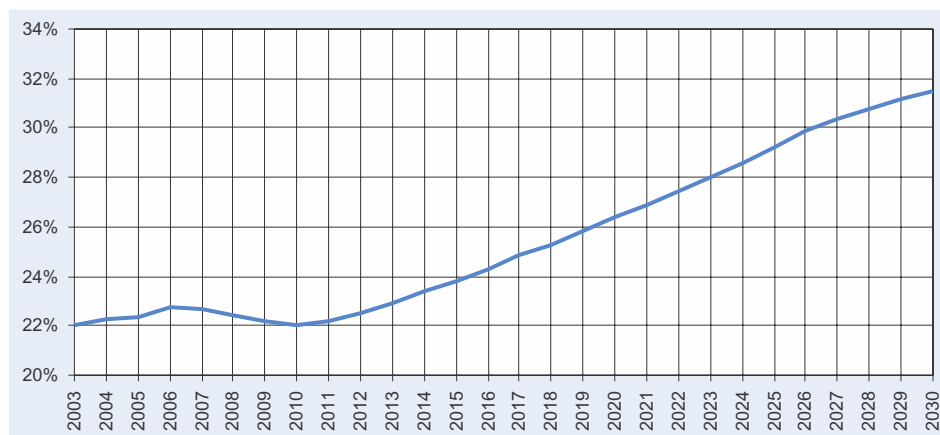


Figure 2. The ratio of retirement-age population (aged over 65) to working-age population (aged 15–65)

⁵ Góra, M., Rutkowski, M. (1998), 'The Quest for Pension Reform: Poland's Security through Diversity', SP Discussion Paper No 9815. Washington: World Bank.

a considerable fertility rise before the restoration of independence. Thus, at the beginning of the 21st century a relatively small part of the population will reach the retirement age, whereas the number of labour market entrants will go up. **Consequently, sharp aging of the population will occur in Estonia slightly later than in developed industrial countries but due to declined birth rate after the restoration of independence it will progress considerably faster** (see Figure 2).

Next we are going to address the impact of the population aging on the PAYG system in Estonia in upcoming decades. We apply simulations conducted within the projection model⁶ – the impact of population aging on budgetary balance, tax burden and relative purchasing power of pensions.

Various simulations display that **in case of the PAYG pension system, the projected aging of the population could soar considerably the financing gap of the state budget in upcoming decades**. Intending to maintain the relative purchasing power of pensions against wages, increasingly larger budget transfers to maintain the PAYG system would be necessary in the next decades. According to the projection model, the need for additional funding would reach 0.9% in 2020 and 2.4% of GDP in 2030. The cumulative financing gap would reach 20% of GDP over 25 years (see Figure 3).

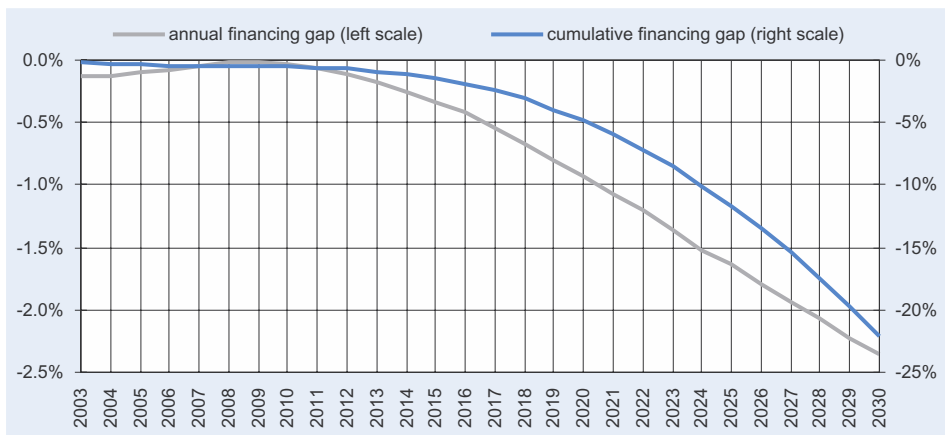


Figure 3. The impact of the aging of population on financing gap of Pay-As-You-Go pension system (% of GDP)

One way to finance the gap would be to gradually increase the tax burden. Provided that only the social tax will be raised, the payroll taxation would increase from the current 20% to about 28% in 2030 (see Figure 4). It is clear that **such a rise in the tax burden would gradually significantly increase labour cost and affect economic efficiency**.

⁶ The projection model was compiled by Martti Randveer and Kristjan Tamla when advising Financial Projections Working Group of the Estonian pension reform in 2000.

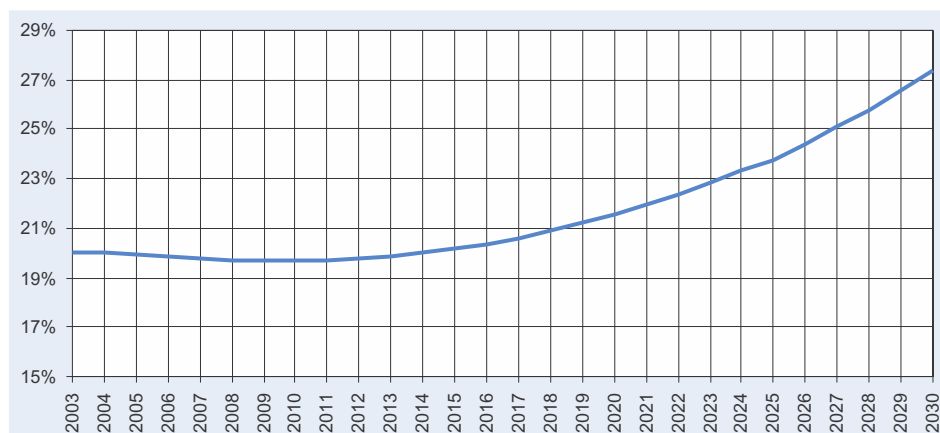


Figure 4. Social tax rate for covering financing gap

■ Conclusion ■

In 1998–2002, a pension reform was conducted in Estonia in order to guarantee a functioning pension system under aging population. The new pension insurance system is based on three pillars. As a result of the reform, the growth of the PAYG component was curbed and additional benefits to encourage private funding were set up.

Today, while more than 350,000 beneficiaries (about 60% of the employed) have joined the new pension system, the reform could be considered relatively successful. However, we should keep in mind that **although the new three-pillar pension system will reduce the dependence of the fiscal balance on the aging of the population, it might not fully exclude the growth of a potential financing gap in future. Therefore, it is necessary that the public sector would preserve the accumulated free resources – first and foremost, funds of the Stabilisation Reserve Fund.**