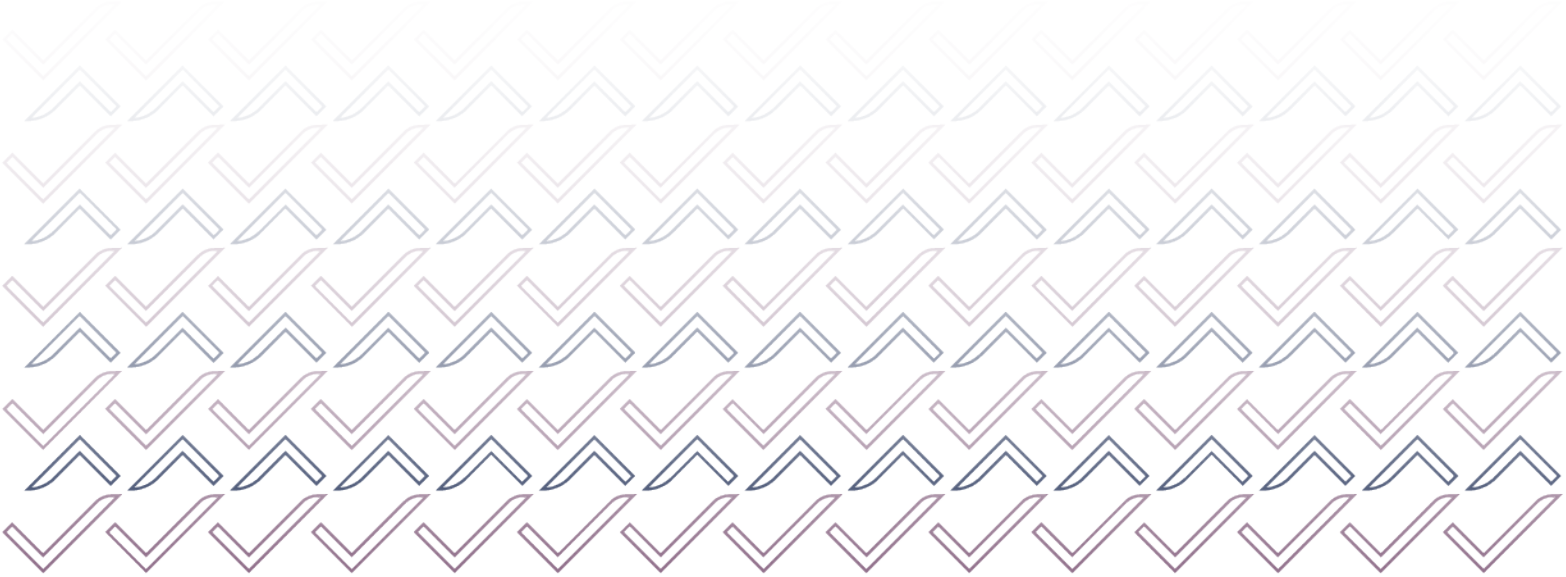
VALSTYBĖS KONTROLĖ
BUDGET MONITORING

REPORT

ASSESSMENT OF THE SUSTAINABILITY OF GENERAL GOVERNMENT FINANCES IN 2025–2050

20 February 2025

No. VRE-2



Since Lithuania became a full member of the Economic and Monetary Union (EMU), The National Audit Office, has also been acting as an independent budgetary (fiscal) authority since 1 January 2015. In this capacity, the institution monitors compliance with the rules and tasks set out in the Constitutional Law on the Implementation of the Fiscal Treaty of the Republic of Lithuania and submits (and makes public) its opinions to the Seimas of the Republic of Lithuania on compliance with these rules.

Report submitted to: the Seimas of the Republic of Lithuania, the Government of the Republic of Lithuania, the Chancellery of the President of the Republic of Lithuania, the Ministry of Finance of the Republic of Lithuania.

CONTENTS

SUMMARY

The aim of the assessment of the sustainability of general government finances in 2025–2050 is to illustrate the impact of ageing on public finances in a no-policy change scenario. It shows the extent to which there are accumulated long-term liabilities that will affect the finances of future governments and future generations. No new structural budgetary policy decisions or reforms are assumed in the future, e.g. the retirement age remains at 65. The projections do not take into account the constraints imposed by fiscal discipline rules. Assumptions of balanced growth and slow productivity convergence towards the EU average are used. More details on the key assumptions are provided in the introduction of the report.

Ageing of the population is projected to continue – a demographic process in which the proportion of older people in the total population is rising and the number of young people is falling. In the long term, the population and demographic structure of Lithuania are among the most important determinants of the development of the Lithuanian economy and the situation of general government finances. Although net migration is projected to remain positive in the long term, the unfavourable population structure and low fertility will lead to a declining population in Lithuania, which may reach 2.6 million in 2050. The ageing of the population will also continue during this period, with more than 3 persons of working age supporting one elderly person in 2025, and this number will drop to 2 in 2050.

The share of ageing-related expenditure in GDP will increase over time, putting pressure on public finances. In the baseline scenario, the Fiscal Institution (NAO FI) projects total ageing-related expenditure to be 18.4% of GDP in 2025, rising to 21.5% of GDP in 2050. The NAO FI projects the largest increase to be in old-age pension expenditure, which is projected to rise by 2.5 p.p. of GDP between 2025 and 2050. Health-related expenditure will also increase. The decline in the number of children will lead to lower spending on education, maternity-paternity and child benefits, but this will not offset the impact on general government finances of the increase in old-age pensions and health spending.

In the long term, the NAO FI projects that the number of old-age pension beneficiaries will increase and the income replacement rate will decrease slightly. However, even at the current replacement rate, the at-risk-of-poverty rate of the pension-age population in Lithuania remains among the highest in the EU. Demographic effects will lead to a rising ratio of old-age pension expenditure to GDP. Under the current policy, pensions are indexed on the basis of wage bill developments. The projected positive net migration has a favourable impact on the projections for the employed population and the annual wage bill. For this reason, the pension replacement rate is projected not to decrease significantly. However, Lithuania currently has one of the highest poverty risk ratios for the population aged 65 and over in the EU and old-age pension expenditure as a percentage of GDP is significantly below the EU average. The European Commission recommends Lithuania to improve the adequacy of old-age pensions while ensuring the sustainability of the pension system.

Positive net migration is likely to have an impact on Lithuania's old-age pension system. However, this impact is difficult to predict. On the one hand, an increase in the number of employed people leads to an increase in social security contributions. Over time, more and more immigrants will become beneficiaries of old-age pensions, thus increasing the cost of social security pensions. On the other hand, it is not clear what proportion of immigrants (especially after the outbreak of the war in Ukraine) will remain in Lithuania in the long term. This will depend to a large extent on geopolitical factors and on integration and migration policies.

In the long term, the costs of ageing will put upward pressure on general government debt and pose risks to the sustainability of the country's public finances. If ageing-related liabilities were to be covered only by debt, this would lead to a rise in the nominal deficit from

3% of GDP in 2025 to 5.8% of GDP in 2050. General government debt is projected to increase from 42.9% to almost 80% of GDP over this period, and to exceed the Threshold of Maastricht criterion in 2043. With rising average interest rates, the cost of debt servicing will increase, with interest payments likely to reach 2.9% of GDP in 2050, compared to 0.9% of GDP in 2025.

To finance ageing liabilities, it is essential to raise general government revenues and pursue structural reforms to boost investment, innovation, labour productivity and mitigate the impact of changing demographics. In the area of demography, it is necessary to take into account a very strong structural factor (an unfavourable age structure that has formed) which will have the greatest impact over the next few decades, regardless of public policy interventions. The challenges ahead therefore call for a combination of measures to mitigate the impact of demography and ensure long-term fiscal sustainability. This could include not only revenue and (or) expenditure measures, but also structural reforms, in particular those that promote labour productivity and sustainable growth. According to the NAO FI's assessment, if real GDP growth were to accelerate by 1 p.p. over the long term compared to the baseline scenario, the growth of government debt would slow down and reach just above 60% of GDP in 2050.

The risk of breaching the Threshold of Maastricht debt criterion remains under both the baseline and the alternative demographic scenarios. Compliance with fiscal discipline is likely to keep debt low in the long term, but without raising revenues, the quantity and quality of public services would decline and social sustainability would deteriorate. Different demographic assumptions have a moderate impact on the long-term dynamics of general government debt. In 2050, it could reach between 74.2% and 89.4% of GDP. However, social sustainability is more affected under the different scenarios, as the average income replacement rate declines under less favourable migration assumptions compared to the other scenarios. If a structural deficit of 1 or 1.5% of GDP is maintained over the long term, general government debt is unlikely to increase. However, without increasing the ratio of general government revenue to GDP, the risks of a decline in the quantity or quality of public services and of social sustainability would increase.

Without additional revenue sources to increase defence financing, general government debt could reach 60% of GDP in 2030. This report assumes that defence funding will amount to least 3% of GDP annually until 2050. However, the National Defence Council of Lithuania has agreed to increase Lithuania's defence funding by EUR 12 billion over the period 2026–2030, i.e. up to 5–6% of GDP annually. If only additional borrowing is used for this purpose, according to the NAO FI's estimate, the public debt could reach 60% of GDP already in 2030.

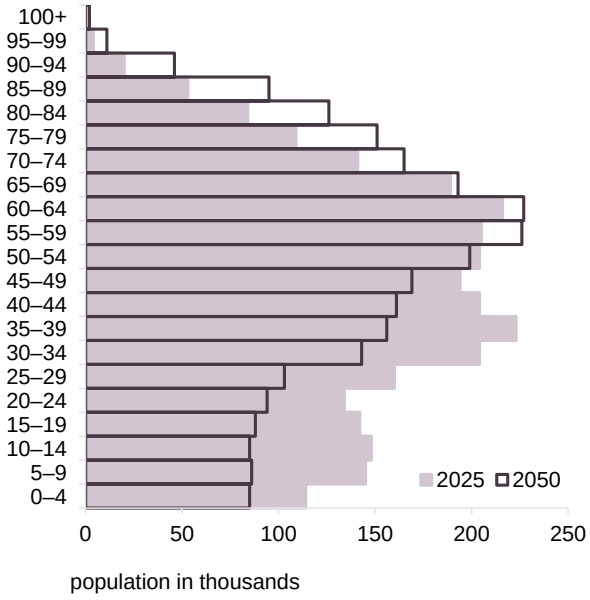
The overall risk to the long-term sustainability of general government finances is assessed as medium. The NAO FI estimates of S1 and S2 indicators on the long-term sustainability of general government finances indicate that the risk to Lithuania's long-term fiscal sustainability is medium (Annex 9).

Financial sustainability can be affected by positive and negative risks. Long-term projections are subject to particularly large uncertainties. Risks to fiscal sustainability may arise from climate change, macroeconomic shocks, a tense geopolitical situation and increasing global economic fragmentation. On the other hand, faster technological progress would be more conducive to productivity and growth than projected. Moreover, over time, policymakers are likely to take into account the risks associated with demographic change and trends in public finances may be different. The stability and prospects of the European Union as a whole in particular its competitiveness challenges and its productivity and innovation gap will also have a major impact on Lithuania.

GRAPHICAL SUMMARY

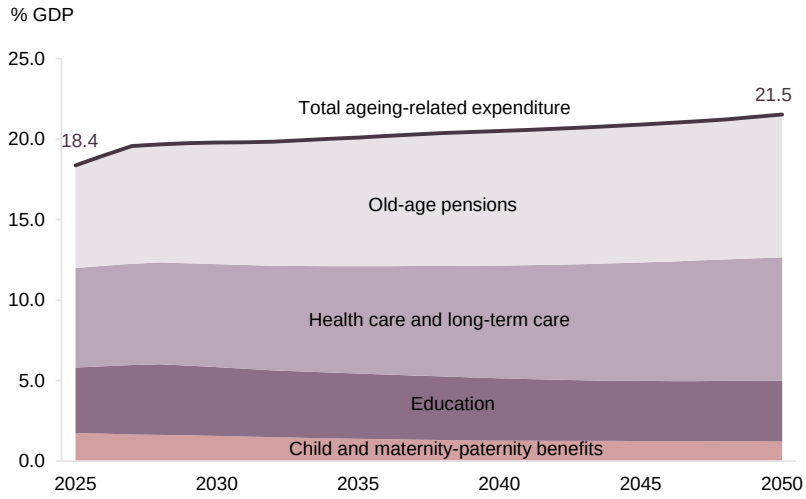
This report presents an assessment of the sustainability of Lithuania's public finances in the period 2025–2050 by the National Audit Office, implementing the function of a fiscal institution. The projections take into account assumptions on ageing population and economic growth. **Although the long-term projections are subject to exceptionally high uncertainty, they can help illustrate the magnitude of the fiscal challenges and the impact of unchanged policies on the long-term sustainability of public finances.** For example, the retirement age is projected to remain at 65 years. More details on the key assumptions are provided in the introduction of the report.

UNDER THE BASELINE SCENARIO, THE NATIONAL AUDIT OFFICE, IMPLEMENTING THE FUNCTION OF A FISCAL INSTITUTION PROJECTS:

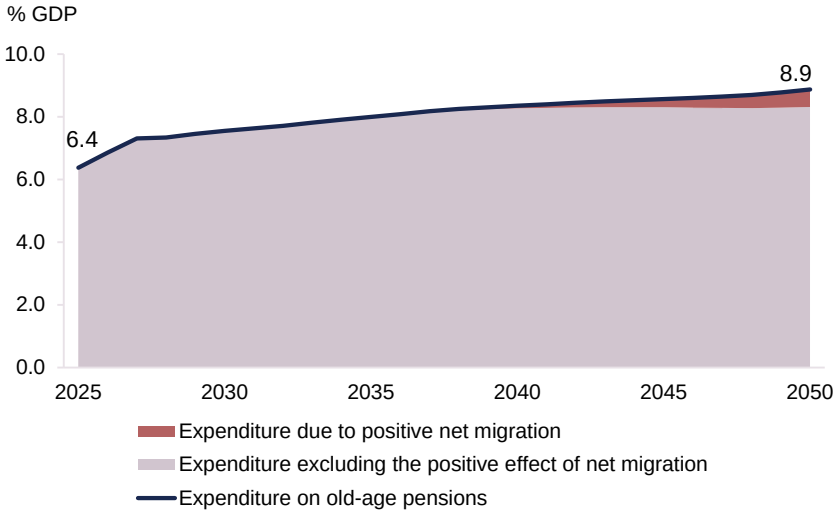


Population ageing will continue - a demographic process in which the proportion of older people in the total **population** is rising and the number of young people is falling.

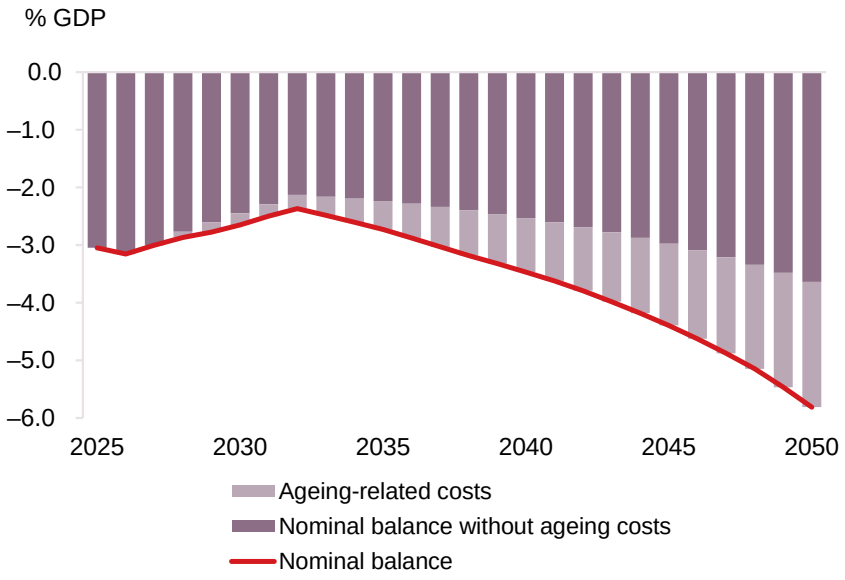
In 2050, there will be two working-age individuals per one elderly person.



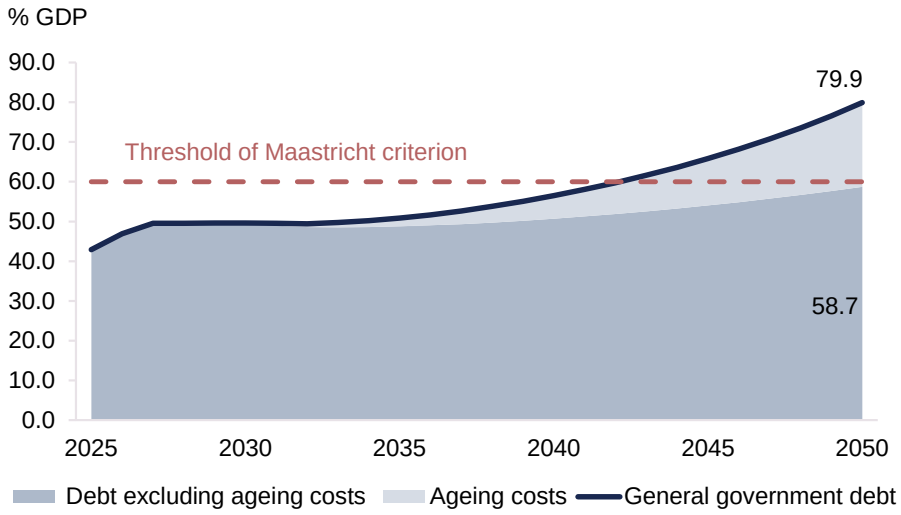
Ageing-related expenditure will increase over time, putting pressure on public finances.



Positive net migration[1] contributes to the increase in social security contributions from 2019. Over time, more and more immigrants will become pension beneficiaries and will start to increase **expenditure on old-age pensions.**

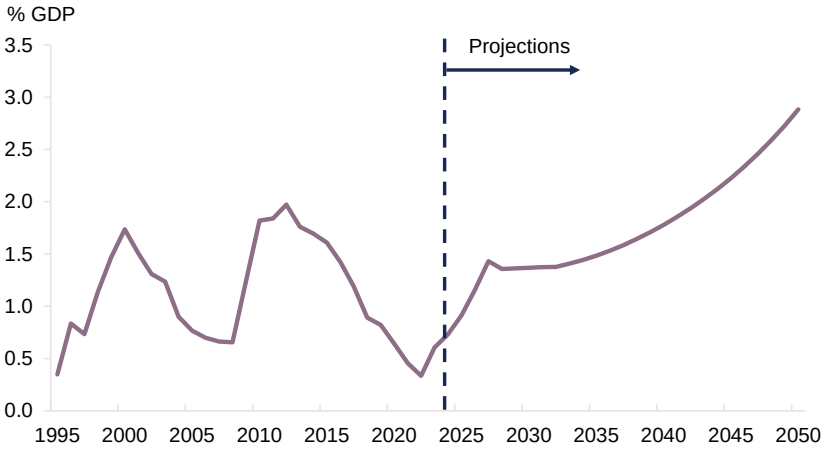


Much of the increase in **the general government deficit** is driven by the costs of ageing, i.e. changes in expenditure and revenue that are influenced by demographics. The increase in the deficit without ageing costs will be driven by interest payments.

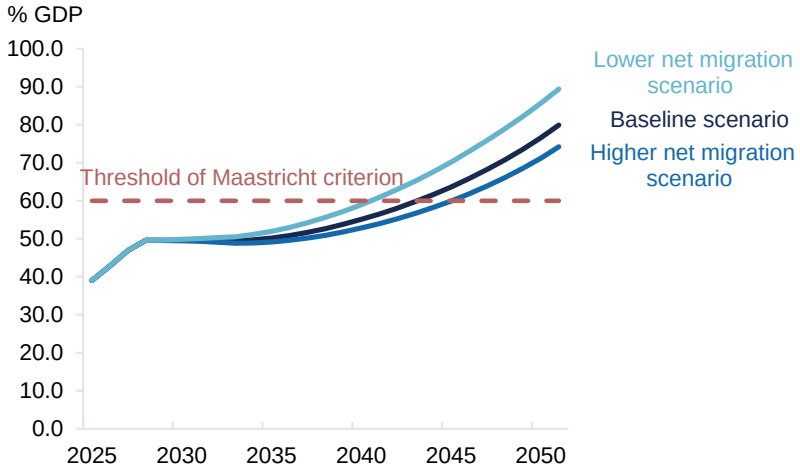


In the long term, the costs of ageing will put upward pressure on **general government debt**. Without revenue increases and structural reforms, it would exceed the Threshold of Maastricht criterion and reach almost 80% of GDP in 2050.

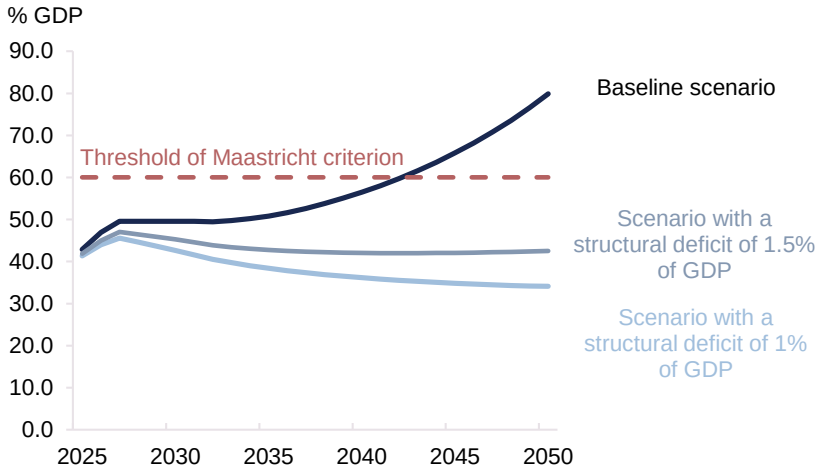
[1] The impact of migration is difficult to predict. It is not clear what proportion of those who have immigrated (especially after the outbreak of the war in Ukraine) will remain in Lithuania in the longer term. This will depend to a large extent on geopolitical factors and the integration of immigrants and migration policies. The NAO FI assumed that immigrants who did not leave in the first year after arrival would stay in Lithuania in the long term.



In the long term, **interest payments on general government debt** are projected to reach 3% of GDP.



The risk of breaching the **Threshold of Maastricht debt criterion** remains under both the baseline and the alternative demographic scenarios.



Compliance with fiscal discipline rules (keeping the structural deficit[2] at 1 or 1.5% of GDP) is likely to keep **debt** from rising in the long term, but without raising revenues, the quantity and quality of public services would be reduced, and social sustainability would deteriorate.

Source: State Data Agency, Law on the approval of the budget of the State Social Insurance Fund for 2025, calculations by the National Audit Office, implementing the function of a fiscal institution

[2] Nominal general government deficit excluding the effects of the economic cycle and the impact of one-off and temporary measures.

INTRODUCTION

The National Audit Office, implementing the function of a fiscal institution, carried out an assessment of the sustainability of Lithuania's general government finances in 2025–2050. According to the IMF, the World Bank and the OECD, the purpose of independent fiscal institutions is not only to assess compliance with fiscal discipline rules, but also to monitor the effective management of public finances and fiscal discipline in the long term. In line with the good practice of other fiscal institutions, the NAO FI is publishing its third assessment of the long-term sustainability of the general government (GG). Since 2017, the last time the NAO FI published this assessment, Lithuania has been hit by shocks such as the COVID-19 pandemic, heightened geopolitical uncertainty and the surge in energy prices in the wake of the war in Ukraine, which required a sudden and large fiscal response. At a time when the changing geopolitical situation calls for significant increases in defence funding, and uncertainty in the macroeconomic environment remains high, addressing the longer-term challenges has received less public attention. However, it should be borne in mind that Lithuania is facing an ageing population problem and the foundations for preparing for it need to be laid now in order to maintain fiscal sustainability and avoid abrupt corrections.

Lithuania's changing demographic structure will put general government finances under pressure from ageing-related expenditure. If we choose to finance this rising expenditure, we will have to choose between spending cuts in other areas, higher taxes or rising debt, which could have a negative impact on the sustainability of general government finances. It is worth noting that the OECD[3] recommends that the sustainability of general government finances should be assessed by looking at solvency, growth, stability and equity. Fiscal policy is considered sustainable when the tax burden and the benefits of spending are fairly distributed across generations. Sustainable policies ensure that future generations of taxpayers do not have to pay unmanageable bills for public services provided to current generations. The combination of these assessment elements provides a multidimensional assessment of the sustainability of GG finances, which shows the extent to which long-term future liabilities have been accumulated that do not show up in current budgets and balance sheets, but which affect the fiscal position of future governments and thus impact on future generations. The report mainly assesses the sustainability of general government finances from a solvency perspective.

The purpose of this report is to provide an independent assessment of whether general government finances are sustainable in the long term in a no-policy change scenario. It assesses the main demography-related expenditures on old-age pensions, health care and long-term care, education, children's benefits and maternity–paternity. Projections of the evolution of public debt over the next 25 years are provided. The starting points and sources of data used for the projections can be found in Annex 2, and detailed data and projections for the figures and tables in the report can be found in the *MS Excel* workbook accompanying this report on the website https://www.valstybeskontrole.lt/LT/Product/Download/4767.

The projections for 2025–2050 are intended to illustrate the impact of ageing on public finances in the absence of any new structural budgetary policy decisions or reforms in the future. The long-term projections are subject to considerable uncertainty. The projections do

[3] OECD, "Long-term fiscal sustainability analysis: Benchmarks for Independent Fiscal Institutions" by Trevor Shaw, 2017, Available online: https://www.oecd.org/en/publications/oecd-journal-on-budgeting/volume-17/issue-1_budget-v17-1-en.html.

not take into account the constraints imposed by fiscal discipline rules, and over time, policymakers are likely to take into account the risks associated with demographic change.

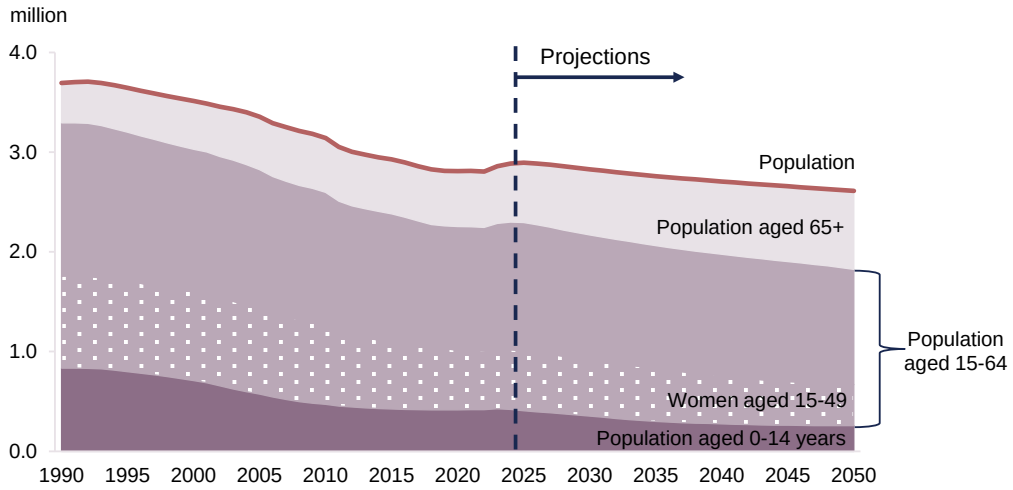
Main assumptions for making projections:

- Long-term economic development will depend on demographics, total factor productivity and capital development. Lithuania's productivity is projected to slowly converge towards the EU-15 average.
- Based on the European Commission, the baseline scenario assumes that net migration remains positive.
- Old-age pensions are indexed over the entire projection period on the basis of developments in the wage bill, and there will be no increase in the retirement age of 65.
- Expenditure on health care, education, maternity-paternity and child benefits are rising in line with projected demographic and macroeconomic indicators.
- The structural primary general government balance excluding ageing costs will remain unchanged at –0.8% of GDP between 2027 and 2050.
- Based on the European Commission, the average nominal interest rate is expected to rise to 3.9% in the long term.
- At least 3% of GDP will be allocated annually to defence funding until 2050.

1. DEMOGRAPHIC PROJECTIONS

In the long term, the population and demographic structure of Lithuania are among the most important determinants of economic growth and general government finances. Ageing affects both the growth potential of the economy and the growth of ageing-related expenditure. Demographic processes are slow-moving phenomena, and their dynamics in the coming decades are largely determined by the already formed population structure. The rapid ageing of Lithuania's population is reflected in the increase in the median age of the population from 32 to 44 years between 1990 and 2024. Since the beginning of independence, the population has declined by almost 22%, the working-age population has fallen by 24%, but the elderly population has increased (Figure 1). Significant population growth in the future is difficult to expect, not only because of low fertility (the number of children per woman has fallen to 1.18 in 2023), but also because of the decline in the number of women of child-bearing age (aged 15-49 years).

Figure 1. Changes in the population size and age structure of Lithuania, 1990–2050



Source: State Data Agency, calculations by the National Audit Office, implementing the function of a fiscal institution

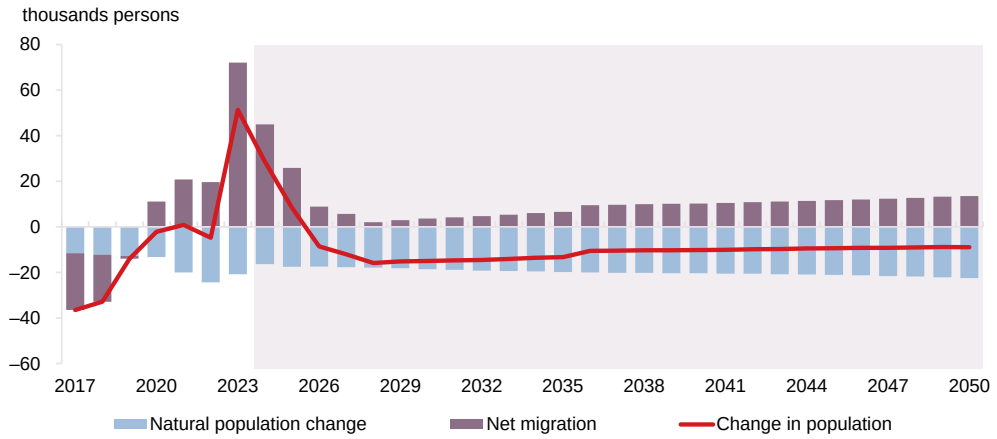
In September 2024 Eurostat published the updated demographic projections for the EU Member States 2023–2050 (STP2024). The NAO FI has prepared demographic projections for Lithuania, incorporating the most recent data and based on the STP2024 and EUROPOP2023 assumptions on fertility, mortality and net migration rates[4].

Although net migration is projected to remain positive in the long term, Lithuania's population is projected to decline and could reach 2.6 million in 2050. Favourable migration rates in recent years lead to changes in long-term demographic projections. As of 2019, more people are entering the country than leaving. Also, more Lithuanian citizens have returned to Lithuania since 2020 than have left. Refugee flows from Ukraine have also contributed to positive net migration (Annex 3). The projections for the main demographic scenario of the NAO FI are based on the STP2024 assumption of positive net migration throughout the projection period. However, the impact of positive net migration will not offset natural population change - the difference between the number of births and deaths (Figure 2). This dynamic is due both to the relatively low fertility assumption

[4] The projections of population dynamics by the NAO FI were based on STP2024 projections of migration and fertility and EUROPOP2023 mortality assumptions. For projections by age and sex, EUROPOP2023 projection distributions were used.

of around 1.3 children per woman over the whole period and to the declining number of women of childbearing age, and to the increasing number of elderly people, which leads to a higher number of deaths. For these reasons, according to the main demographic scenario of the NAO FI, the population of Lithuania will decrease from 2.9 million in 2025 to 2.6 million in 2050.

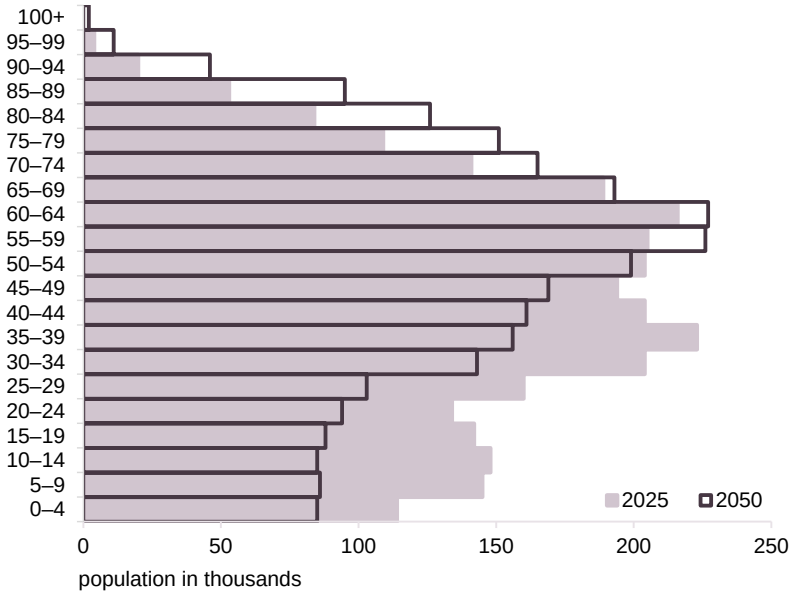
Figure 2. Drivers of population change



Source: State Data Agency, calculations by the National Audit Office, implementing the function of a fiscal institution

The demographic structure and the assumptions of its development lead to projected changes in the age structure of the Lithuanian population in the future (Figure 3). In 2025, there will be 3.1 persons of working age for every elderly person. In 2050, it is projected that there will be two people of working age for every elderly person. The dependency ratio (the ratio of persons aged 65 and over to the 15-64 age group) will rise over the entire projection period and reach 50.2% in 2050.

Figure 3. The baseline scenario projects a significant increase in the population aged 65 and over and a decrease in the working age population



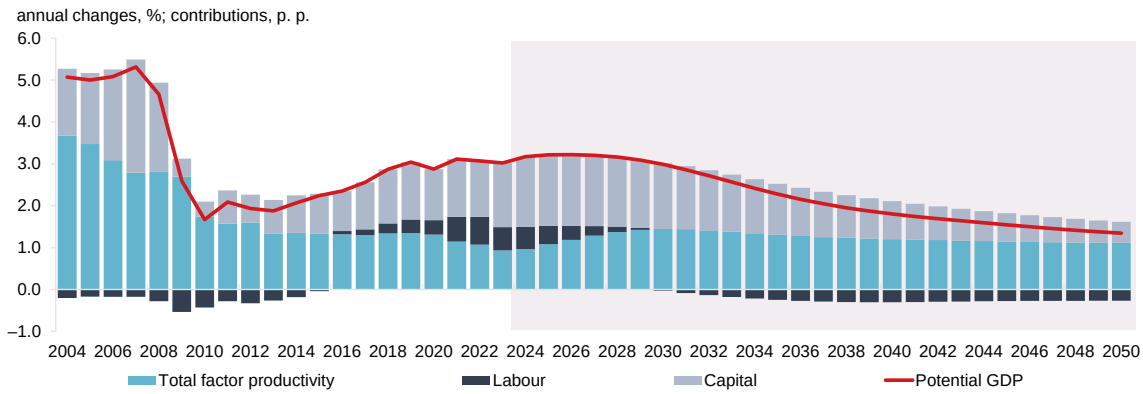
Source: calculations by the National Audit Office, implementing the function of a fiscal institution

2. MACROECONOMIC PROJECTIONS

The macroeconomic projections for 2024–2050 are based on projections from a long-term growth model and an economic scenario prepared by the Ministry of Finance. The projections of macroeconomic indicators for the medium term (2024–2027) [5] are consistent with the Ministry of Finance's Economic Development Scenario of September 2024. This Scenario was approved by the NAO FI and was the basis for the 2025–2027 Budget Approval Law. The projections for the long term (2028–2050) are calculated using the neo-classical Solow-Swan growth model. According to this model, the long-term development of the economy will depend on demography, total factor productivity (TFP) and capital development. The mathematical form of the model is consistent with the NAO FI tool used to estimate potential GDP and the gap between real and potential GDP using the production function approach. The methodology of this tool is presented in the Description of the Procedure for the Evaluation and Endorsement of the Economic Development Scenario[6]. The output gap is assumed to close within five years (2028–2032), so that real and potential GDP will converge in the future.

In the long term, the country's potential GDP growth is projected to slow to 1.4% in 2050 (Figure 4). The evolution of total factor productivity is based on the assumption of real convergence among EU Member States. The gap between real GDP per capita purchasing power parity-adjusted and the EU-15 average is expected to halve every 18 years. This implies a slowdown in TFP growth in the long term. The ratio of physical capital used in production to GDP is also projected to remain stable over this period. According to demographic projections, the impact of the labour factor is projected to turn negative as the working-age population declines. Taken together, these factors point to a slowdown in potential GDP growth in the long term.

Figure 4. In the baseline scenario, the country's potential GDP growth slows down in the long term to 1.4% in 2050



Source: calculations by the National Audit Office, implementing the function of a fiscal institution

The macroeconomic indicators in Table 1 for 2024-2050 are calculated on the basis of the European Commission's assumptions [7]. The annual growth target for the harmonised consumer price index and the GDP deflator is 2.0%. The projections for average monthly gross wage growth consist of labour productivity growth and inflation projections. Labour

[5] The calculations are based on data published before the revision of the national accounts on 1 October 2024.

[6] Available online: https://www.valstybeskontrole.lt/TVS/Content/Biudzeto_stebesena/ERS_vertinimo_ir_tvirtinimo_aprasas.pdf.

[7] Based on the European Commission's Ageing 2024 and Debt Sustainability 2023 monitoring reports.

productivity projections are calculated as the ratio of real GDP to average annual number of employed persons projections.

The unemployment rate and real GDP move steadily towards the target values over five years (2028–2032), i.e. over half the business cycle. In the baseline scenario, the gap between the unemployment rate and the estimated non-accelerating wage rate of unemployment (NAWRU)[8] in 2027 is 1 p.p., while the output gap to potential remains negative. This implies that productivity growth will accelerate during the transition to the long-run growth path between 2028 and 2032.

Table 1. Macroeconomic and demographic projections under the baseline scenario

Indicator, % (unless otherwise specified)	2023	Medium-term				Long–term				
		2024	2025	2026	2027	2030	2035	2040	2045	2050
Real GDP, change	–0.3	2.3	2.9	2.9	2.9	3.5	2.3	1.8	1.6	1.4
Potential GDP, change	3.1	3.2	3.3	3.3	3.3	3.0	2.3	1.8	1.6	1.4
Annual average HICP inflation	8.7	1.0	2.5	2.7	2.6	2.3	2.0	2.0	2.0	2.0
GDP deflator, change	7.1	3.2	2.5	2.7	2.6	2.1	2.0	2.0	2.0	2.0
Participation rate (15-74)	71.8	73.0	72.7	72.1	71.4	70.8	71.3	72.1	72.9	73.7
Unemployment rate (15-74)	6.8	7.3	7.1	6.7	6.4	6.8	7.2	7.1	7.0	6.9
Average gross monthly earnings, change	12.6	10.1	7.6	6.5	5.5	6.1	4.7	4.3	4.0	3.8
Average nominal interest rate*	1.7	2.0	2.5	2.9	3.2	2.9	3.1	3.4	3.6	3.9
Population (thousands), of which - age group %:	2857	2886	2894	2886	2874	2828	2757	2706	2657	2612
0-14 years	14.9	14.5	14.1	13.7	13.4	12.5	10.9	10.2	9.8	9.8
15-64 years	65.0	65.1	65.2	65.0	64.8	64.3	63.9	62.8	61.8	60.0
65 years and over	20.0	20.3	20.7	21.3	21.8	23.2	25.2	27.0	28.4	30.2
Net migration (thousands)	45.0	25.9	8.9	5.7	2.0	4.1	9.5	10.5	12.0	13.8

* Average annual interest rate paid on GG debt management.

Source: State Data Agency, Ministry of Finance, European Commission, calculations by the National Audit Office, implementing the function of a fiscal institution

The average nominal interest rate is expected to rise to 3.9% in the long term. The interest rate for 2024–2027 is the same as the one used by the NAO FI in the DBP2025 assessment, and from 2028 onwards it is consistent with the assumption of the Ageing Report[9] for Lithuania (Table 1). The EC' assumes that the interest rate will converge linearly to the value based on financial market expectations by 2032, and the convergence towards 4% used for most EU countries by 2052. This assumption approach allows to take into account changing macroeconomic conditions and to reflect more closely the country-specific situation in the medium term, while maintaining the EU-wide convergence targets in the long term.

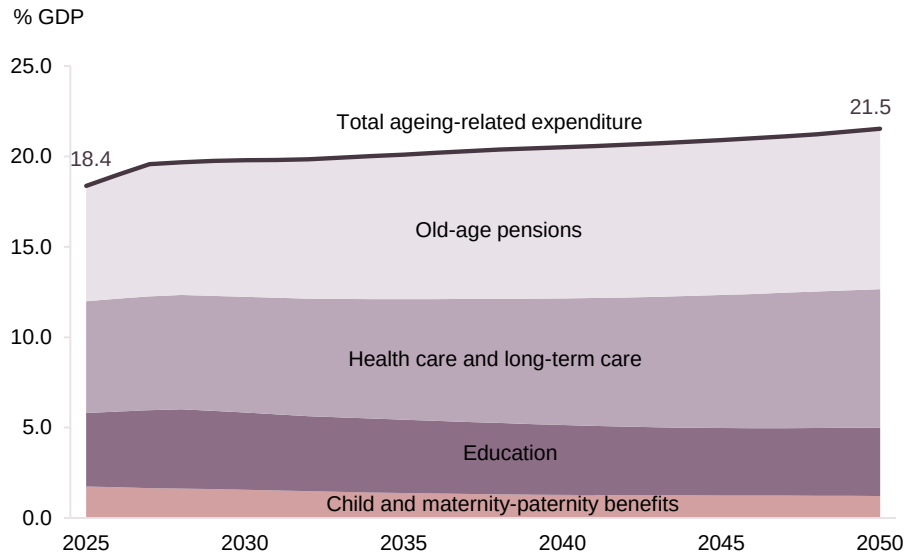
[8] The NAO FI, in projecting the NAWRU, assumes that it will slowly converge towards 6.6%, the EC's long-term target (Ageing 2024 report).

[9] European Commission, "2024 Ageing Report". Available online: https://economy-finance.ec.europa.eu/document/download/971dd209-41c2-425d-94f8-e3c3c3459af9_en?filename=ip279_en.pdf.

3. THE AGEING-RELATED EXPENDITURE

The share of ageing-related expenditure in GDP will increase over time, putting pressure on public finances. In the baseline scenario, the NAO FI projects total ageing-related expenditure to be 18.4% of GDP in 2025, rising to 21.5% of GDP in 2050. A more detailed description of the methodology on how ageing-related projections were prepared is provided in Annex 5. The most significant impact on expenditure growth will come from the growing financing needs for old-age pensions and health care due to the projected increase in the elderly population (Figure 5 and Annex 6). The declining number of young people will lead to a decrease in expenditure on education, maternity–paternity and child benefits.

Figure 5. The ageing-related expenditure will increase over time, putting pressure on public finances



Source: calculations by the National Audit Office, implementing the function of a fiscal institution

Compared to the projections of the Ageing Report, the change in ageing-related expenditure (old-age pensions, health care and long-term care, education) will be higher in the period 2025–2050 according to the NAO FI's calculations (Table 2). The largest differences arise because, according to the NAO FI's assessment, expenditure on old-age pensions and health care may grow faster than projected in the above-mentioned EC report.

Table 2. The NAO FI projects that ageing-related expenditure will grow more than in the EC projections between 2025 and 2050

	EC	NAO FI	*the difference*
Change in ageing-related expenditure from 2025 to 2050, % of GDP:	2.8	3.7	*0.9*
old-age pensions	2.0	2.5	*0.5*
health care	0.6	1.1	*0.5*
long-term care	0.6	0.4	*–0.2*
education	–0.5	–0.3	*0.2*

Totals may not add up due to rounding.

Source: European Commission, calculations by the National Audit Office, implementing the function of a fiscal institution

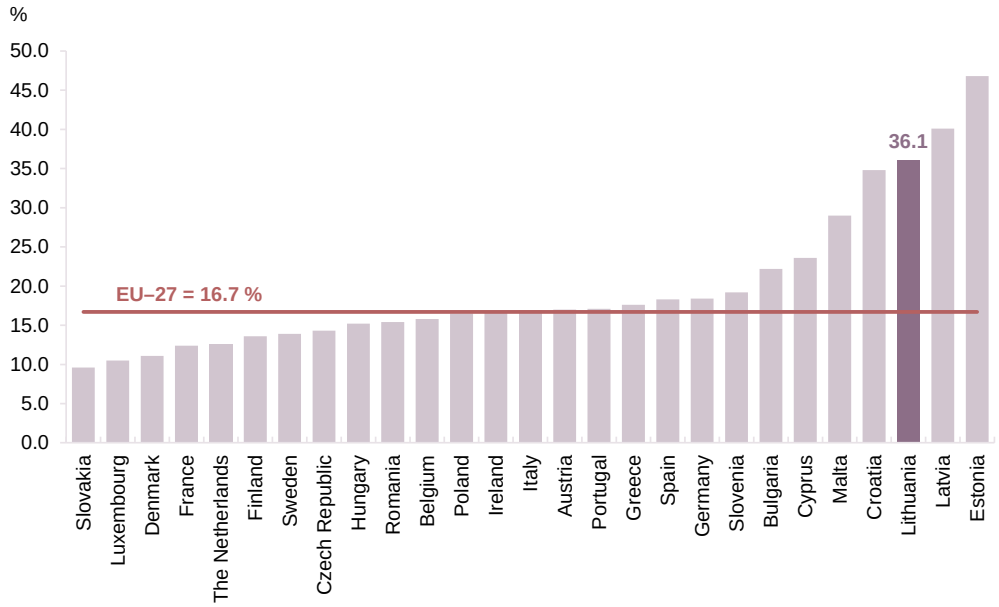
The comparison between the projections of the NAO FI and the Ageing Report is indicative. The main differences between the NAO FI baseline scenario and the baseline scenario of the mentioned report are due to more favourable demographic and macroeconomic

assumptions, and different starting points for data. The EC used actual data for 2022 and the NAO FI for 2023. The volume of ageing-related expenditure analysed also differs. Taking into account the projected decline in maternity-paternity and child benefits, the change in ageing-related expenditure between 2025 and will amount to 3.2% of GDP. However, even taking into account the expected decline in these expenditures, the NAO FI estimates that the change in ageing-related expenditures could be higher than projected in the Ageing Report.

3.1. PROJECTIONS OF OLD-AGE PENSION EXPENDITURE

The EC recommends[10] Lithuania to improve the adequacy of old-age pensions while ensuring the sustainability of the pension system. According to 2023 data, Lithuania's at-risk-of-poverty rate for the population aged 65 and over remains one of the highest in the EU at 36.1% (Figure 6). Meanwhile, spending on old-age pensions as a percentage of GDP lags significantly behind the EU average. According to Eurostat, in 2022, this expenditure amounted to 5.5% of GDP in Lithuania and 9.4% of GDP in the EU. With the entry into force in 2018 of an automatic indexation mechanism for old-age pensions based on wage bill growth, the need for faster pension increases has remained (Box).

Figure 6. In 2023, Lithuania's poverty risk rate for people aged 65 and over remains among the highest in the EU



Source: Eurostat

Box. A number of changes to the indexation of old-age pensions have been implemented for the period 2019–2022

From 2018, old-age pensions are indexed to the average of the growth of the wage bill in the three previous, current and three forecast years. Previously, pensions were increased by government decisions, so the new procedure made pension levels more responsive to economic and demographic conditions. However, the need to improve the adequacy of pensions and to reduce poverty at retirement age remained. Some examples of changes to the indexation are given below.

[10] Council Recommendation on economic, social, employment, structural and budgetary policies for Lithuania, 2024. Available online: https://eur-lex.europa.eu/legal-content/LT/TXT/HTML/?uri=CELEX:52024DC0615.

In 2019, an amendment was foreseen[11], allowing pensions to be increased faster than the calculated indexation coefficient from 2020, taking into account the financial possibilities of the State and/or the budget of the SSIF.

In December 2020, an amendment was adopted[12], according to which pensions will not be indexed if the percentage change in real GDP and the wage bill for the current year and/or the following calendar year is negative. Under the previous arrangements, pensions would not be indexed if at least one of these indicators was negative. This decision was intended to reflect the situation during the COVID-19 pandemic, when real GDP fell but the wage bill (and hence social security contributions) continued to grow.

Additional indexation of the individual part of the pension is foreseen from 2022[13]. This is done when the at-risk-of-poverty rate for persons aged 65 and over is higher than 25% and/or the average replacement rate is lower than 50%. The procedure for calculating the general part of the pension has also changed: persons with the minimum length of service but without the compulsory length of service are paid the full amount of the general part of the pension.

The assessment of the cost of old-age pensions assumes that the indexation coefficients will apply until 2050, while additional indexation of the individual part of the pension is assumed for the medium term. The methodology used by the NAO FI to develop the projections for 2024–2050 is presented in Annex 5. It should be noted that the expenditure on old-age pensions has been assessed for the social security system (Pillar I). According to the regulations in force in 2025, an indexation factor (calculated as the arithmetic average of the annual growth rates of the wage bill for seven consecutive years) is applied if it does not create a deficit for the old-age pension system for the planning year and the following year. As in the Ageing Report, the NAO FI assumes that pension indexation will be carried out throughout the projection period.

The 2025 Law on the Approval of the Budget of the State Social Insurance Fund (SSIF) provides for additional indexation of the individual part of the pension for 2025. In its calculations, the NAO FI assumes that decisions on the additional indexation for the period 2026–2027 are highly probable and will be taken in the future, as has been the practice so far. Therefore, the projected expenditure on old-age pensions for 2024–2027 is in line with the projections of the NAO FI[14], published in the assessment of the draft budgets of the GG for the period 2025–2027.

In the long term, the NAO FI projects that the number of old-age pension beneficiaries will increase and the income replacement rate will decrease slightly. Demographic effects will lead to a rising ratio of social security old-age pension expenditure to GDP. Under the NAO FI baseline scenario, old-age pension expenditure is projected to grow from 6.4% of GDP in 2025 to 8.9% of GDP in 2050. The income replacement rate, defined as the ratio of average net wages to the average old-age pension of the social insurance (Pillar I), will decline slightly in the long term to more than 46% (Figure 7). The projected positive net migration has a favourable impact on the projections for the number of employed persons and the annual wage bill. With wage bill growing at a similar rate to average wage growth, the replacement rate does not decrease significantly.

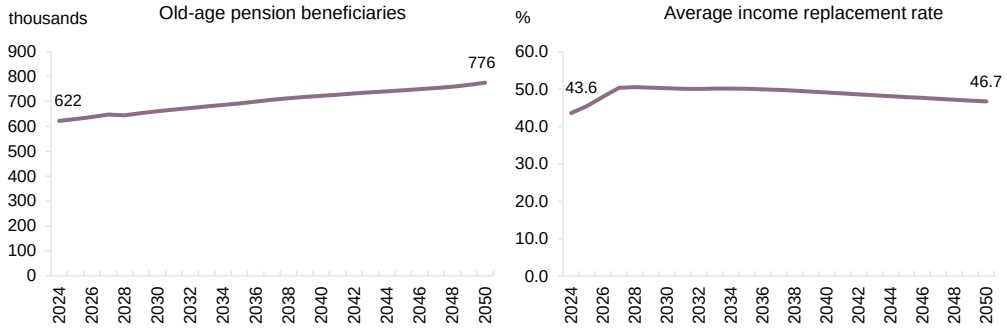
[11] Law amending Article 8 of the Law on Social Insurance Pensions No I-549. Available online: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/d44900931d9811eaadfcfdb735b57421.

[12] Law amending Article 8 of the Law on Social Insurance Pensions No I-549. Available online: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/dbcb04903ba511eb8c97e01ffe050e1c.

[13] Law amending Articles 2, 8, 17, 29, 33, 45 and 49 of the Law on Social Insurance Pensions No I-549. Available online: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/51c0f5424c6911ec86bdcb0a6d573b32.

[14] 07/11/2024 NAO FI opinion on the structural adjustment target. Available online: https://www.valstybeskontrole.lt/EN/Product/24284/opinion-on-the-structural-adjustment-target.

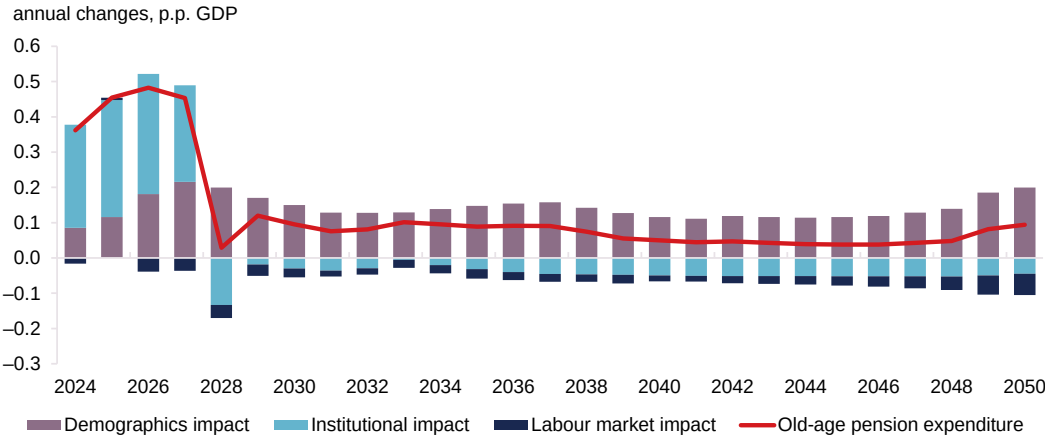
Figure 7. In the baseline scenario, the number of old-age pension beneficiaries is projected to grow in the long term, while the average net replacement rate (based on the social security pension) is projected to decrease slightly from 2028



Source: Law on the approval of the budget of the State Social Insurance Fund for 2025, calculations by the National Audit Office, implementing the function of a fiscal institution

The old-age pension age in Lithuania is set to increase until 2026, when it will reach 65 years for both men and women. According to the baseline demographic scenario of the NAO FI, the number of beneficiaries of this pension will grow over the entire projection period, reaching 776 thousand in 2050 (629 thousand in 2025) (Figure 7). According to the NAO FI's assessment, in the long term, the demographic impact (driven by a rising retirement age and a declining working-age population) will lead to a rising ratio of old-age pension expenditure to GDP (Figure 8). Meanwhile, institutional and labour market effects will mitigate the increase in this ratio.

Figure 8. According to the NAO FI, in the long term, the impact of demographics will lead to an increasing ratio of old-age pension expenditure to GDP



Based on the methodology of the Spanish Independent Authority for Fiscal Responsibility (AIReF) 2023 opinion on the long-term sustainability of general government.

The demographics impact is calculated on the basis of the *dependency ratio* between the population aged 65+ and the population aged 15-64.

The institutional impact is calculated on the basis of 2 indicators: 1) the *coverage ratio* (which can vary with changing retirement age, minimum and compulsory length of service, etc.), and 2) the *benefit ratio* (which shows the impact of the generosity of the pension system)

Labour market impact is calculated on the basis of the ratio of the number of employed people to the population aged 15-64.

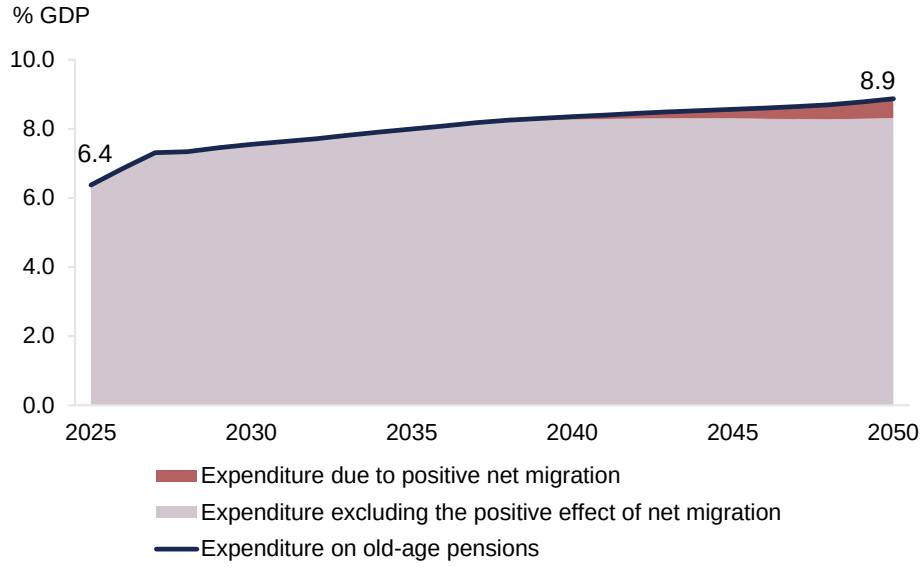
Note: Until 2027, the number of pension beneficiaries corresponds to the values foreseen in the 2025 budget of the State Social Insurance Fund, and from 2028 onwards according to the methodology applied by the NAO FI (see Annex 5). This leads to a larger drop in institutional impact 2028.

Source: calculations by the National Audit Office, implementing the function of a fiscal institution

Positive net migration is likely to gradually increase the ratio of old-age pension expenditure to GDP in the long term. The positive net migration observed from 2019 onwards has

implications for Lithuania's old-age pension system. The increase in the number of employed people leads to higher social security contributions, which helps to maintain the current replacement rate of pensioners' income. However, as time goes on, more and more immigrants will become old-age pension beneficiaries, as they will have acquired the minimum 15-year contribution period needed by the time they reach retirement age. In the long term, this will gradually increase the expenditure on old-age pensions. According to the NAO FI's estimates, this expenditure, driven by positive migration from 2019, will start to increase in the middle of the next decade and could reach up to 0.6% of GDP in 2050 (Figure 9).

Figure 9. In the baseline scenario, positive net migration* is projected to increase the ratio of old-age pension expenditure to GDP in the long term



* The impact of positive net migration from 2019 onwards is estimated.

Source: Law on the approval of the budget of the State Social Insurance Fund for 2025, calculations by the National Audit Office, implementing the function of a fiscal institution

It should be noted that the impact of migration is difficult to measure accurately. It is not clear what proportion of those who have immigrated (especially after the outbreak of the war in Ukraine) will remain in Lithuania in the longer term. This will depend to a large extent on geopolitical factors as well as on the integration of immigrants and migration policies. The NAO FI assumed that immigrants who did not leave in the first year after arrival would stay in Lithuania in the long term.

Significant changes to Pillar II are proposed for 2025. In January this year, the Ministry of Social Security and Labour of Lithuania published proposals for improving this pillar[15]. It is suggested to stop automatic enrolment and to replace state subsidies with personal income tax exemption. It also proposes more flexibility in the choice of the level of contributions and, if necessary, to stop them, and the possibility of withdrawing all or part of the accumulated funds before retirement age. The possibility to withdraw from Pillar II within a 12-month period is envisaged. In this case, they will be allowed to withdraw their own contributions to this pillar and their investment gains, or to obtain additional State Social Insurance Organization (SODRA) pension units, with the remaining funds being credited to the person's SODRA account as additional pension units.

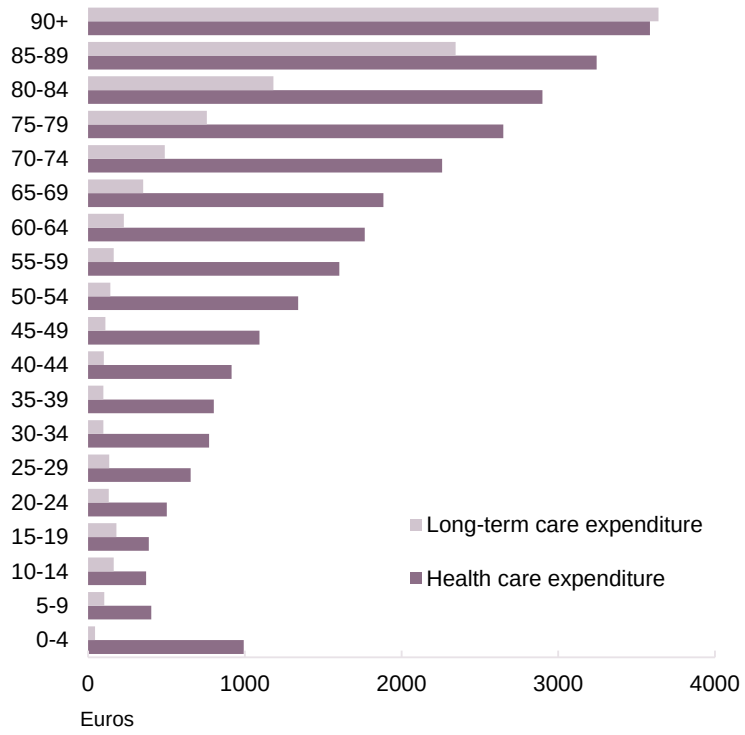
[15] Available online: https://socmin.lrv.lt/lt/naujienos/pristatyti-siulymai-kaip-pertvarkyti-antraja-pensiju-pakopa-didesnis-lankstumas-ir-kaupimo-patrauklumas/.

In this report, the NAO FI did not assess the impact of Pillar II on the income replacement rate. The costs for subsidising for this pillar have been calculated according to the current regulation. In the opinion of the NAO FI, taking into account the proposed changes, it is likely that the impact of this Pillar on the income replacement rate will decrease in the future. As a consequence, the pressures of an ageing population will have an even more negative impact on the social security old-age pension system and will increase the risks for the sustainability of public finances in the long term.

3.2. PROJECTIONS OF EXPENDITURE ON HEALTH CARE AND LONG-TERM CARE

Public spending on health will increase as a result of population ageing. As the population ages, the need for health care and long-term care expenditure increases (Figure 10). As the number of older people increases, more people will fall into the group of individuals with higher health care costs. For example, in 2023, the cost of health care per person aged 60 was 4.5 times higher than the cost per person aged 20, and the cost of long-term care 1.7 times higher. The NAO FI projects general government expenditure on health care and long-term care to increase by 1.1 and 0.4 percentage points of GDP respectively between 2025 and 2050, and to reach 6.1 and 1.6 % of GDP in 2050 (Annex 6). Health care expenditure is higher than long-term care expenditure, but is more evenly distributed across age groups, so that long-term care expenditure grows faster than health care expenditure as the population ages.

Figure 10. General government expenditure on health care and long-term care per capita increases as the population ages in 2023



Source: State Data Agency, calculations by the National Audit Office, implementing the function of a fiscal institution

In the future, pressures on healthcare costs will increase for several main reasons (OECD, 2011): an ageing population, declining access to family care, and the growing need for external long-term care services. It will also increase due to the need for ever higher quality services or technological developments.

3.3. PROJECTIONS OF EXPENDITURE ON EDUCATION

The level of general government expenditure on education is projected to grow by 0.3 p.p. of GDP in 2025–2028, but is projected to decline moderately in the long term. The problem of an ageing teaching workforce is exacerbating the shortage of staff in educational institutions (Annex 7), which is encouraging improvements in their economic and social conditions. According to the national audit[16], the school network in some municipalities is not yet optimal, which makes it difficult to ensure optimal workloads for teachers. To address these problems, municipalities are adopting network transformation plans and pay increases are being decided at national level[17]. The commitment to continue the rapid increase in teachers' salaries over the period 2025–2028 is set out in Annex 5. In line with the decisions taken, the NAO FI projects education expenditure to reach 4.1% of GDP in 2025, peaking at 4.4% of GDP in 2028 and declining moderately thereafter. This will be influenced by declining pupil and student populations, which will lead to lower demand for teachers and lecturers. On the other hand, the Ageing Report stresses that lifelong learning should be increasingly promoted in order to increase productivity and maintain the country's competitiveness, leading to a slower decline in spending. Based on the baseline scenario, the NAO FI projects education expenditure to be 3.8% of GDP in 2050.

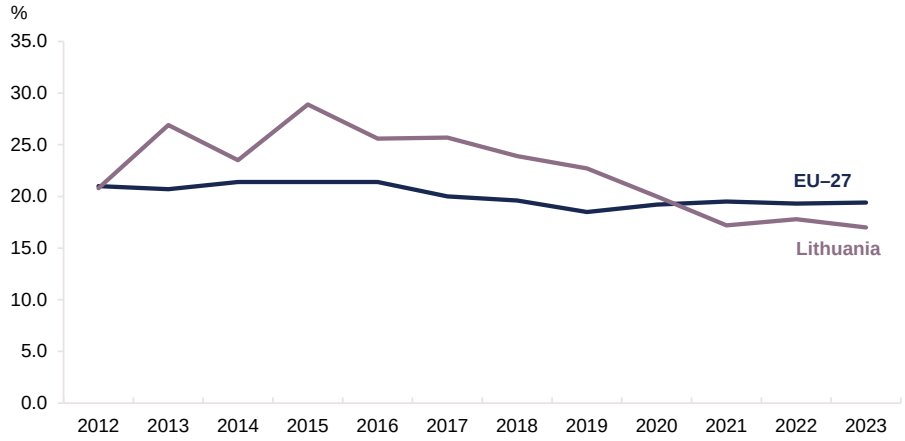
3.4. PROJECTIONS OF EXPENDITURE ON CHILD BENEFITS AND MATERNITY–PATERNITY

According to the NAO FI's estimate, projecting a declining fertility rate, expenditure on child benefits will fall to 0.7% of GDP in 2050. These benefits are one of the measures contributing to reducing poverty and social exclusion of children as one of the most vulnerable groups in society. Since 2015, a decline in the child poverty risk rate has been observed (Figure 11). This steady decline over the last decade is likely due to the implementation of various measures. These include increases in the minimum monthly wage and social benefits such as child allowance, as well as additional benefits for low-income families, broadening the range of beneficiaries of compensation, and other changes in social services. In 2025, with the increase in the basic social benefit, the NAO FI forecasts that expenditure on child benefits is likely to reach 1.1% of GDP. With a declining population in the 0–22 age group, these expenditures will fall by 0.4 percentage points of GDP between 2025 and 2050, according to the NAO FI's baseline scenario (Annex 6). While the expenditure on these benefits is declining due to demographic changes, it is important to ensure that public benefits remain effective, i.e. meeting children's needs and reducing the risk of poverty.

[16] 15/04/2024 National Audit Office report No VAE-4 "Use of appropriations for education". Available online: https://www.valstybeskontrole.lt/LT/Product/24242.

[17] In 2024, two pay rises - 10% in January and 15% in October - to bring teachers' salaries to 130% of the national AME.

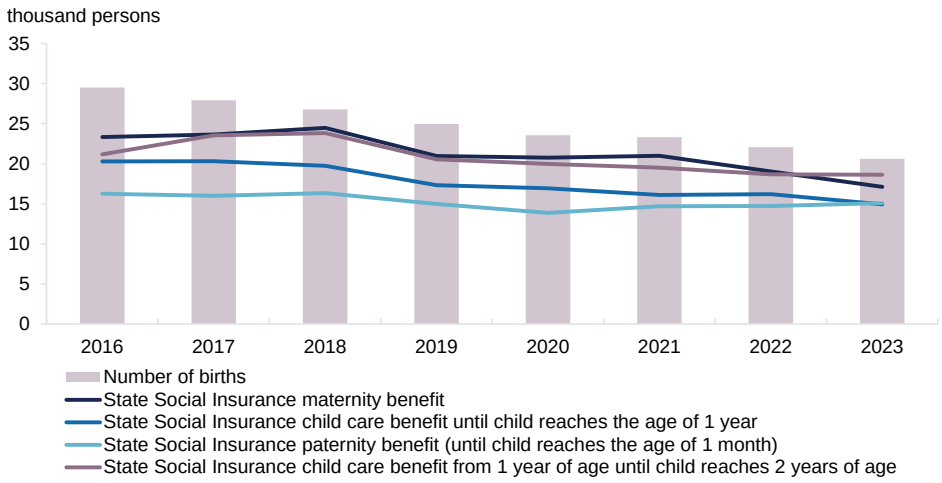
Figure 11. Since 2015, the at-risk-of-poverty rate for the 0-17 age group in Lithuania has been declining rapidly, and since 2021, it has been lower than the EU-27 average



Source: Eurostat

In the long term, according to the NAO FI's estimates, the expenditure of maternity and paternity social insurance could reach 0.5% of GDP in 2050. In order to strengthen family policy, various programmes have been implemented in Lithuania[18], which aim to improve the accessibility and quality of services for families, as well as to provide the best possible conditions for a flexible combination of parenthood and career opportunities. In January 2023, a new parental leave regulation entered into force in Lithuania, which is expected to contribute more to a more equal sharing of parental care and to strengthening gender equality. In the same year, under amendments to the Law adopted 1 July, maternity-paternity benefits increased from 6 to 8 basic social benefits. A favourable parental leave system has a significant impact not only on the well-being of families but also on social justice. However, as fertility rates fall, the number of recipients of maternity and paternity benefits is also falling (Figure 12). According to the NAO FI baseline scenario, expenditure on maternity-paternity benefits may amount to 0.6% of GDP in 2025. The share of this expenditure is projected to remain broadly stable at 0.5% of GDP in 2050 (Annex 6).

Figure 12. Declining birth rate reduces the number of beneficiaries of maternity and paternity benefits



Source: State Data Agency

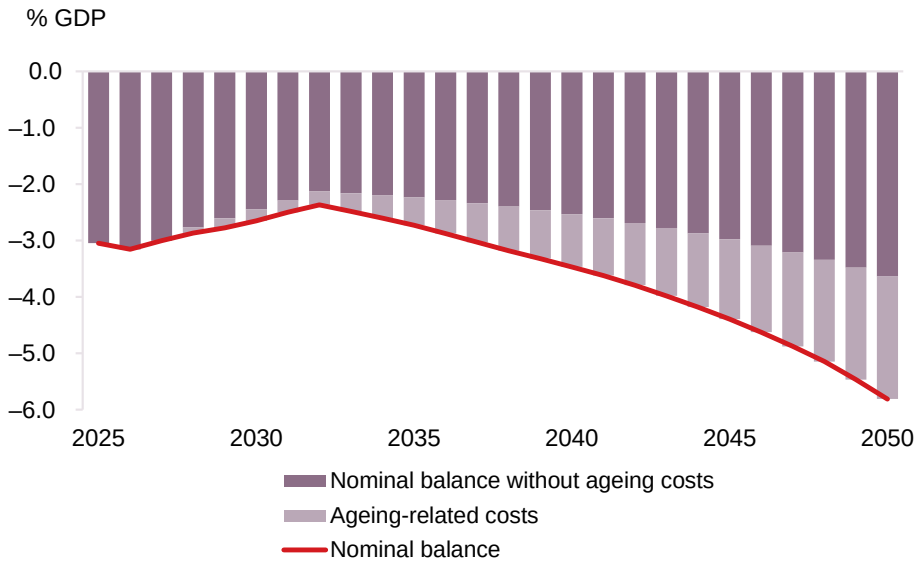
[18] Development Programme for Strengthening Family Policy, 2021–2030. Available online: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/753929a6438311eca8a1caec3ec4b244.

4. GENERAL GOVERNMENT BALANCE

The NAO FI uses the estimates of the GG indicators published in the opinion on the structural adjustment target [19] in the preparation of the fiscal projections for the medium term (2024–2027) and assumes a constant structural primary balance in the long term. In the medium term, GG revenue grows from 38.7% of GDP in 2024 to 39.7% of GDP in 2027, while expenditure grows from 40.4% to 42.7% of GDP (Annex 6). The long-term projections for 2028–2050 are based on the assumption of balanced economic growth, according to which, as the economy approaches its potential output level, the expenditure-to-GDP ratio, excluding the impact of aging-related costs, will decline until 2032. The structural primary balance net of ageing costs is assumed to remain stable at –0.8% of GDP between 2027 and 2050. The increase in the deficit net of ageing costs will be driven by interest expenditure. According to the NAO FI projections, GG revenues will be around 39.5% of GDP in the long term, while primary expenditure will grow over the analysed period and reach 42.4% of GDP in 2050. It is also assumed that at least 3% of GDP will be allocated annually to defence financing.

According to the assessment of the NAO FI, the GG budget will be in deficit throughout the projection period. The nominal deficit will increase from 3% of GDP in 2025 to 5.8% of GDP in 2050 (Figure 13). A large part of the deficit will be driven by demographic pressures on GG expenditure. In order to finance these liabilities, general government revenues need to be increased and structural reforms are needed.

Figure 13. The increase in the general government deficit is largely driven by the cost of ageing



Source: calculations by the National Audit Office, implementing the function of a fiscal institution

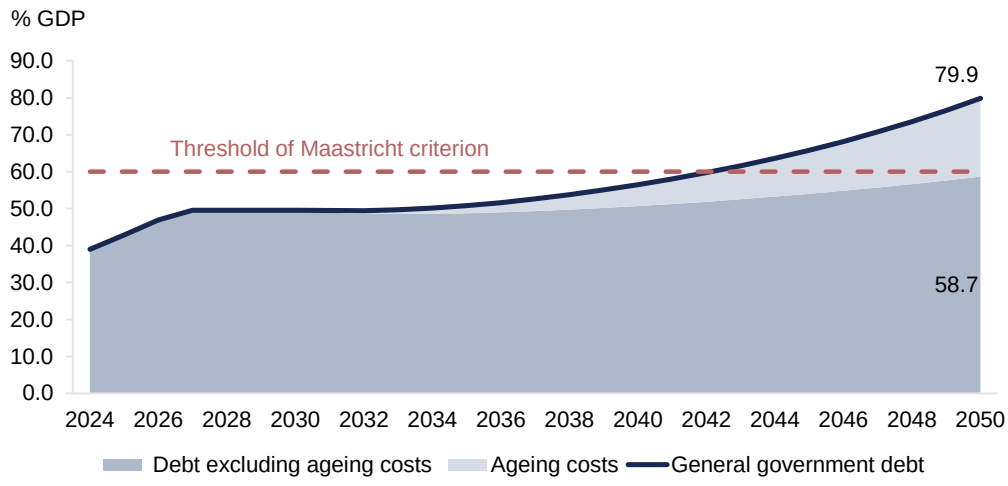
[19] 07/11/2024 NAO FI opinion on the structural adjustment target. Available online: https://www.valstybeskontrole.lt/EN/Product/24284/opinion-on-the-structural-adjustment-target.

5. ASSESSING THE SUSTAINABILITY OF GENERAL GOVERNMENT DEBT

Government debt is projected over the long term using a NAO FI model based on the International Monetary Fund methodology[20]. The calculations use data on debt liabilities incurred up to September 2024 and planned to be incurred by the GG in the period 2024–2027 by type of instrument, maturity and expected interest rates (based on DBP2025). The stock-flow adjustment for 2024–2027 as foreseen in DBP2025 was also applied. In line with usual modelling practice, these flows are assumed to be 0 in the long term (from 2028). In addition, it is assumed that in the long run the accumulated reserves will not be used to finance deficits of general government budgets. The debt projections for the GG are based on the macroeconomic and fiscal projections of the NAO FI baseline scenario.

In the long term, the costs of ageing will put upward pressure on GG debt and pose risks to the sustainability of the country's public finances. The NAO FI projects that the general government debt net of ageing costs will slowly converge towards the 60% of GDP Maastricht criterion Threshold in the long term (Figure 14 and Annex 8). This debt threshold is also in line with the criterion of sustainability of public finances under the Fiscal Discipline Law. In the long term, the costs of ageing will pose risks to the sustainability of the country's public finances. In the absence of revenue increases and structural reforms, the general government debt is projected to increase from 42.9% of GDP in 2025 to almost 80% of GDP in 2050, and to exceed the Threshold of Maastricht criterion in 2043. It should be noted that at the end of the projection period, the ageing costs of the GG debt will amount to more than 20% of GDP.

Figure 14. In the long term, the costs of ageing will put upward pressure on GG debt. In the baseline scenario, it would exceed the Threshold of Maastricht criterion and reach almost 80% of GDP in 2050



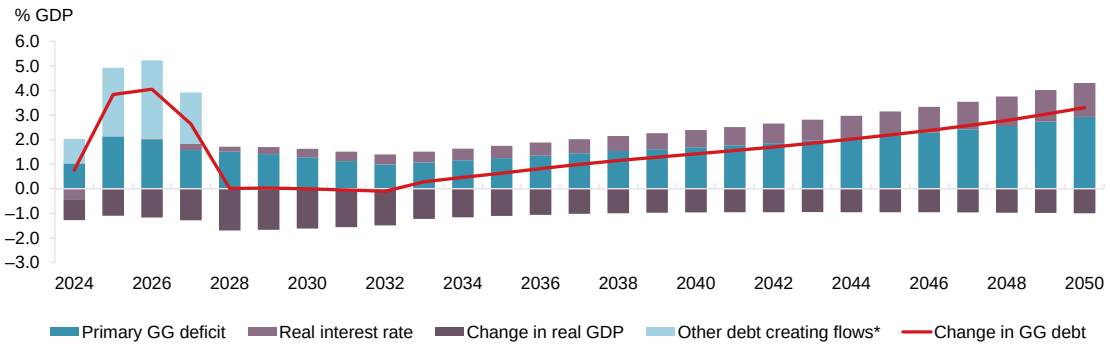
Source: calculations by the National Audit Office, implementing the function of a fiscal institution

In the long term, the primary general government deficit and the real interest rate will contribute to the debt increase, while the economic expansion will moderate the debt growth. Looking at the drivers of debt change in the medium term, the NAO FI estimates

[20] IMF Staff Guidance Note for Public Debt Sustainability Analysis in Market-Access Countries, 9 May 2013. Available online: https://www.imf.org/external/np/pp/eng/2013/050913.pdf.

that the main contributors to debt change will be the primary deficit of the GG and other debt creating flows (in line with stock-flow adjustment foreseen in DBP2025) (Figure 15). Over the next 5 years (2028–2032), as the economy transitions to a sustained growth path and primary deficits decline, the debt of the GG will remain stable (a change of around 0% of GDP). From 2033 onwards, the debt will start to increase at an accelerating pace due to the rising impact of the primary deficit and the real interest rate. Over the period 2025–2050, the primary deficit will add on average 1.8% of GDP annually to the debt and the real interest rate 0.6% of GDP. Projected real GDP growth will moderate the debt increase by an average of 1.1% of GDP annually.

Figure 15. The general government debt-to-GDP ratio will be driven mainly by the primary deficit and the real interest rate between 2025 and 2050, with real GDP slowing down the increase in the ratio

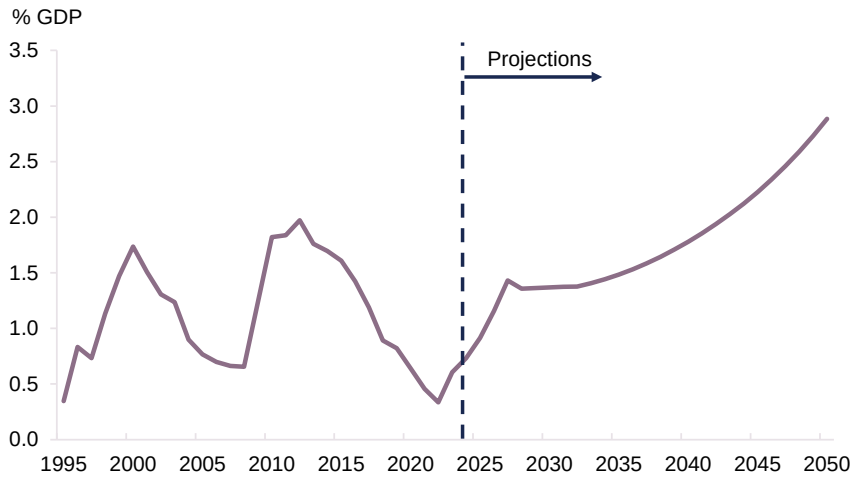


* 2024-2027 includes the stock-flow adjustment foreseen in DBP2025.

Source: State Data Agency, DBP2025, calculations by the National Audit Office, implementing the function of a fiscal institution

With average interest rates projected to rise, the cost of debt management will increase in the long term. This is likely to put increasing pressure on the sustainability of public finances. The NAO FI projects that the cost of interest payments on GG debt could reach 2.9% of GDP in 2050 (Figure 16). For comparison, this indicator is expected to reach 0.9% of GDP in 2025. This contributes to the growth of GG debt. These higher expenditures mean that in the long term, more resources will be needed to service the debt when they could be used for other important public areas such as healthcare, etc.

Figure 16. In the long term, it is projected that the cost of interest payments on GG debt could approach 3% of GDP



Source: State Data Agency, calculations by the National Audit Office, implementing the function of a fiscal institution

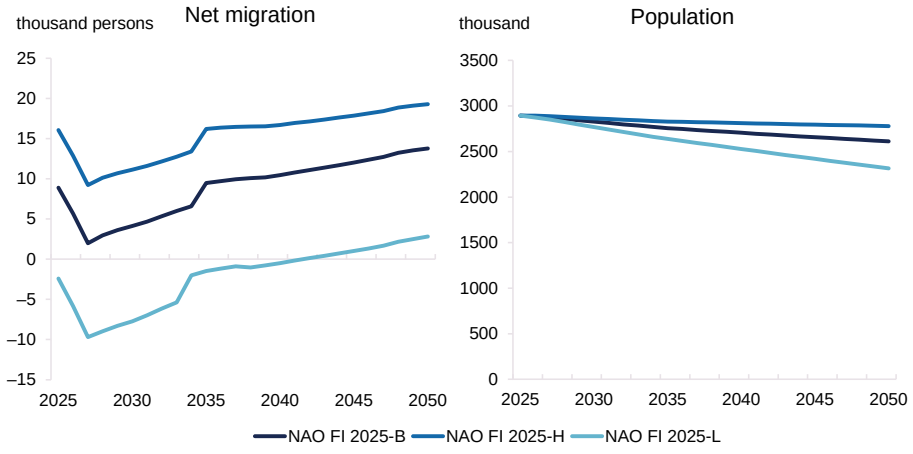
6. SENSITIVITY ASSESSMENT

When analysing long-term scenarios, it is important to know how the projected results depend on the assumptions chosen. Given the uncertainty of long-term projections, scenario analysis is an important part of the sustainability assessment. It provides an insight into how the general government financial position would change if the assumptions of the projections were changed. NAO FI has prepared:

- three demographic scenarios (a baseline and two alternatives), taking into account different net migration assumptions;
- four alternative scenarios to assess the impact of real GDP and interest rate assumptions on the projections of the baseline scenario;
- three alternative scenarios, taking into account the expenditure constraints stemming from fiscal discipline rules.

The NAO FI chose to analyse three demographic scenarios (Figure 17). These scenarios are based on different migration assumptions and lead to different population trends in the long term. The lower net migration scenario (NAO FI 2025-L) is based on the EUROPOP2023 migration assumption, the baseline scenario (NAO FI 2025-B) on the STP2024 migration assumption, and the higher migration scenario (NAO FI 2025-H) on a 70% higher migration rate in 2025–2050 than in the baseline. In these scenarios, Lithuania is projected to have a population of 2 315, 2 611 and 2 779 thousand people in 2050 respectively. The demographic scenarios describe the underlying labour market and other macroeconomic indicators and are detailed in Annex 4. The differences between the potential GDP growth in the baseline and alternative scenarios are mainly driven by the labour factor, which remains negative at the end of the projection period in all scenarios.

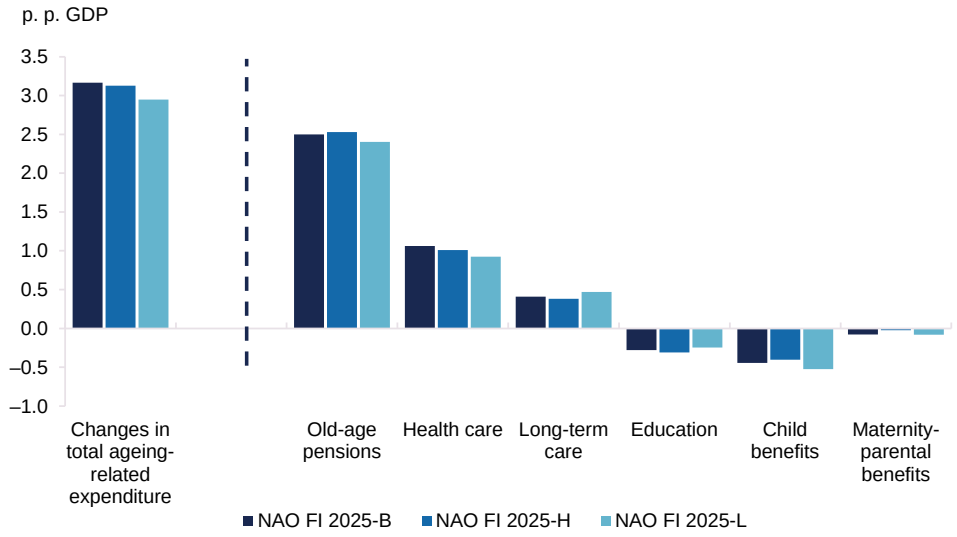
Figure 17. The population under different scenarios is shaped by different net migration assumptions



Source: calculations by the National Audit Office, implementing the function of a fiscal institution

In the baseline scenario, the pressure on public finances is the highest, with ageing-related expenditure rising by 3.2 p.p. of GDP between 2025 and 2050, and the lowest in the lower migration scenario rising by 2.9 p.p. of GDP (Figure 18). In all three scenarios, between 2025 and 2050, old-age pension expenditure rises by around 2.5 p.p. of GDP, health care by around 1 p.p. of GDP and long-term care by around 0.4 p.p. of GDP. It is also projected that spending on education could fall by around 0.3 p.p. of GDP, on child benefits by around 0.5 p.p. of GDP and on maternity–paternity benefits by around 0.1 p.p. of GDP over this period.

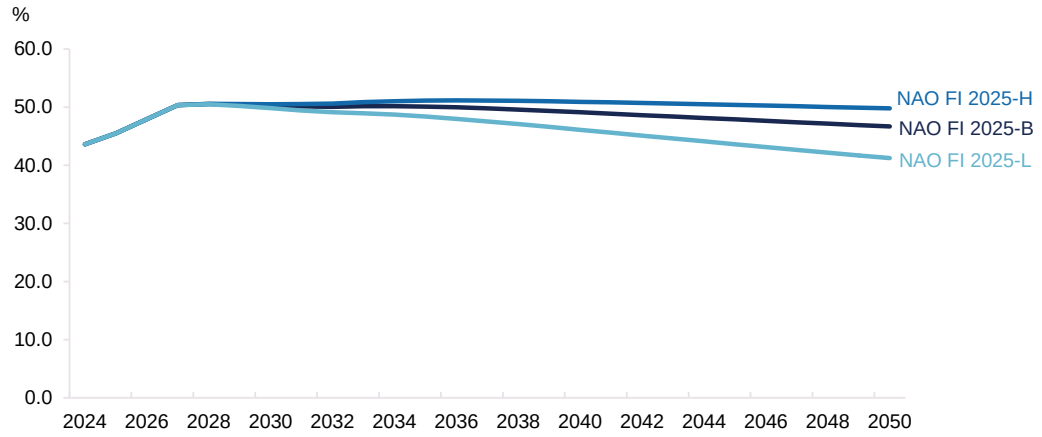
Figure 18. Changes between 2025 and 2050 in ageing-related expenditure under different scenarios



Source: calculations by the National Audit Office, implementing the function of a fiscal institution

Under the alternative net migration scenarios, old-age pension expenditure as a share of GDP is likely to remain similar, but the largest impact is expected on social sustainability. The NAO FI projects that under the baseline and alternative net migration scenarios, old-age pension expenditure will increase to around 8.9% of GDP in 2050. However, net migration has a significant impact on the income replacement rate (Figure 19). In the case of higher positive net migration (NAO FI 2025-H scenario), the growth of the annual wage bill will be more in line with the growth of average wages. This will lead to a stable income replacement rate of around 50%. If net migration is lower in the long run (NAO FI 2025-L scenario) than in the baseline scenario, the current replacement rate is likely to be difficult to maintain. In this case, it is projected to fall to almost 40%.

Figure 19. With higher positive migration than in the baseline scenario, the average net income replacement rate is likely to remain stable at around 50%

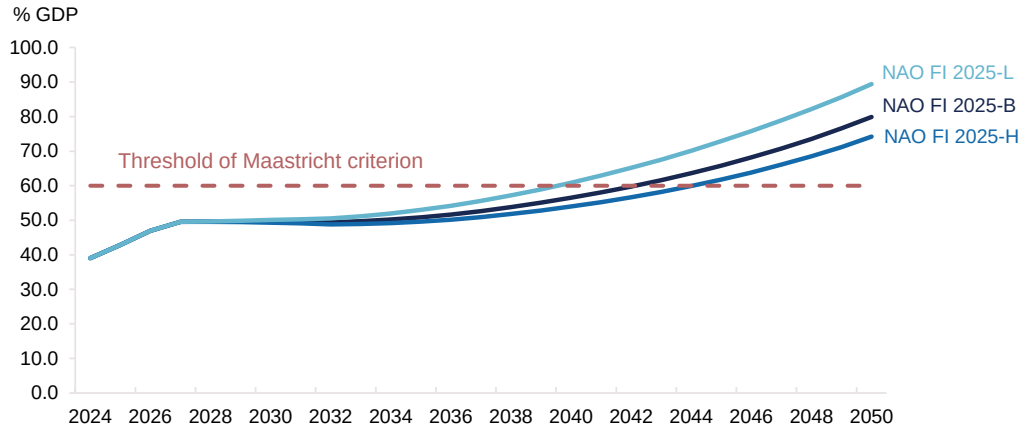


Source: Law on the approval of the budget of the State Social Insurance Fund for 2025, calculations by the National Audit Office, implementing the function of a fiscal institution

Demographic assumptions have a moderate impact on long-term general government debt dynamics, while risks to the sustainability of public finances persist. Under the scenario of higher net migration in the NAO FI 2025-H, general government debt would reach 74.2% of GDP in 2050, or 5.7 p.p. of GDP less than in the baseline scenario (Figure 20). In the lower net migration scenario of the NAO FI 2025-L, debt would grow faster than in the baseline scenario, reaching 89.4% of GDP

at the end of the projection period. It should be noted that the risk of exceeding the Threshold of Maastricht debt criterion remains also under the alternative demographic scenarios.

Figure 20. Demographic assumptions have a moderate impact on the dynamics of long-term GG debt. Risks of breaching the Threshold of Maastricht criterion remain

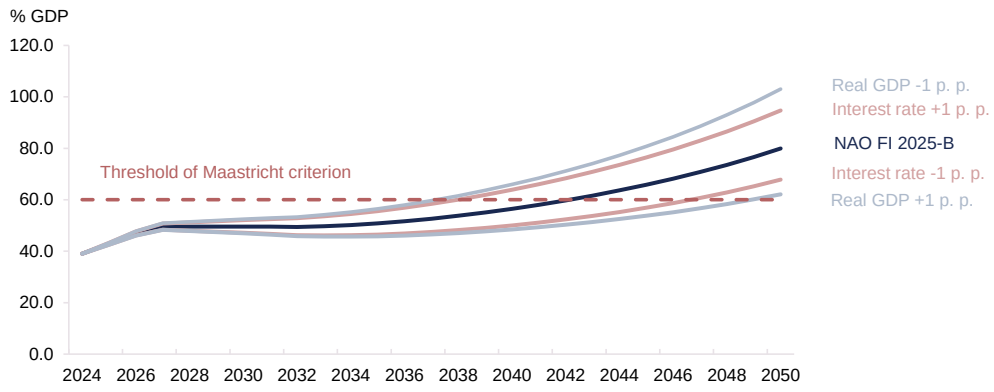


Source: calculations by the National Audit Office, implementing the function of a fiscal institution

Even with real GDP or interest rate assumptions that are more favourable than in the baseline scenario, there is still a risk that the GG debt will exceed the 60% of GDP threshold in 2050. It is important to take into account the automatic debt dynamics when making debt projections. If the projected real interest rate is higher than real GDP growth, the automatic debt dynamics are positive and debt-increasing. Conversely, if the economy grows faster than the projected real interest rate, dynamics is negative and reduces debt.

In order to assess the impact of these factors on the evolution of the debt of the GG, the NAO FI has prepared alternative scenarios for the period 2025–2050, with real GDP growth 1 p.p. higher and lower than in the baseline scenario (Figure 21). Also, with real interest rates 1 p.p. higher and lower than in the baseline scenario. With a lower real interest rate or higher real GDP growth than in the baseline scenario, GG debt would grow more slowly, reaching just over 60% of GDP in 2050 (67.9% or 62.1% of GDP respectively). If the real interest rate were higher or economic growth slower than in the baseline scenario, GG debt would approach 100% of GDP in the long term (94.7% or 103% of GDP in 2050). This highlights the importance of structural reforms to avoid a very rapid increase in GG debt in the long term, in order to stimulate investment, labour productivity and mitigate the impact of changing demographics.

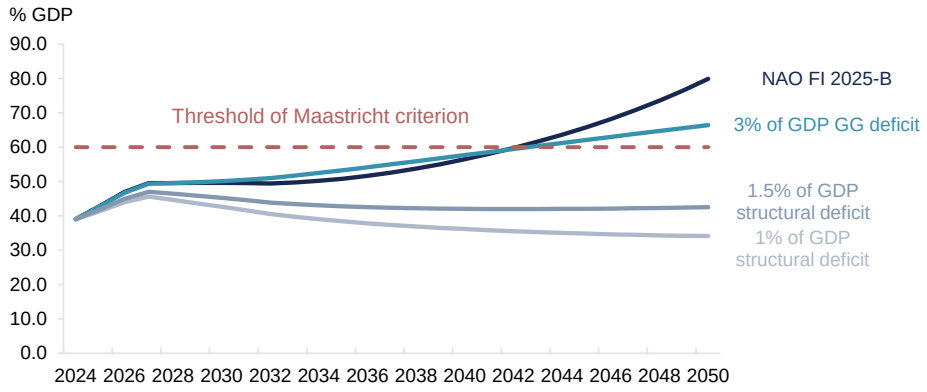
Figure 21. Even with real GDP or interest rate assumptions that are more favourable than in the baseline scenario, there is still a risk that the GG debt will exceed the 60% of GDP threshold in 2050



Source: calculations by the National Audit Office, implementing the function of a fiscal institution

Adhering the structural balance target would help avoid rising debt levels, but without raising the GG revenue-to-GDP ratio, the risks of future cuts in the quantity or quality of public services and poorer social sustainability will increase. The projections for the baseline scenario of the NAO FI general government debt are based on the assumption that ageing-related expenditure will be financed, which does not take into account expenditure constraints stemming from fiscal discipline rules. The NAO FI has assessed a scenario in which the GG balance would be in line with the Threshold of Maastricht criterion of –3% of GDP in 2025–2050. In this case, the debt of the GG would increase slowly over the projection period and exceed the 60% of GDP threshold. In addition, the NAO FI has developed two scenarios for the projection of the GG debt, assuming that the medium-term objective (MTO) for 2025–2050 is to maintain the structural GG balance at the levels of –1% of GDP[21] and –1.5% of GDP[22] (Figure 22). If the structural balance were to reach –1% of GDP over this period, the GG debt would slowly decline to 34.1% of GDP in 2050. With a structural balance of –1.5% of GDP, debt would remain stable at around 40% of GDP in the long term. This is significantly lower than the baseline value of 79.9% of GDP. It should be noted that maintaining these structural balances without increasing the revenue-to-GDP ratio would leave part of the future ageing liabilities unfunded, and therefore risks reducing the quantity or quality of public services and undermining social sustainability in the future.

Figure 22. In the long term, maintaining a 1% or 1.5% of GDP structural deficit would likely prevent an increase in GG debt. However, without raising the ratio of GG revenue to GDP, the risk rises that the quantity or quality of public services may decrease, undermining social sustainability



Source: calculations by the National Audit Office, implementing the function of a fiscal institution

Without additional revenue sources to increase defence financing, the debt of the GG could reach 60% of GDP in 2030. This report is based on the assumption that at least 3% of GDP will be allocated annually to defence funding until 2050. However, it is important to note that the public discourse, including the strategic documents of the Ministry of Defence[23], emphasises that this level of defence spending should be considered as a minimum. The National Defence Council of Lithuania has agreed to increase Lithuania's defence funding by EUR 12 billion over the period 2026–2030, i.e. up to 5–6% of GDP annually[24]. If only additional borrowing is used for this purpose, the GG deficit would be on average 2.5% of GDP higher than in the baseline scenario of this report over the period 2026–2030. As a result, public debt could already reach 60% of GDP (EUR 65 billion) in 2030. Debt servicing costs at that time would amount to 1.6% of GDP or EUR 1.7 billion. According to the NAO FI, in order to ensure the sustainability of public finances and adequate financing of public services, it is necessary to ensure sustainable long-term sources of revenue.

[21] The MTO currently approved by the Parliament.

[22] Article 8 of Regulation (EU) 2024/1263 of the European Parliament and of the Council establishes a deficit-proofing measure, requiring that the indicative path ensures that, if necessary, fiscal adjustment is continued until the Member State concerned reaches a deficit level that ensures an overall margin of resilience of 1.5% of GDP in structural terms, relative to the 3% of GDP deficit reference value.

[23] Available online: https://kam.lt/wp-content/uploads/2024/11/KAM-2024-11-06-Nr.-12-01-2170.pdf.

[24] Available online: https://lrp.lt/en/media-center/news/the-president-we-will-allocate-56-of-gdp-to-defense-in-20262030/44238.

7. ASSESSMENT OF INDICATORS OF THE LONG-TERM SUSTAINABILITY OF GENERAL GOVERNMENT FINANCE

The European Commission assesses the long-term sustainability of the GG finances[25] using the S1 and S2 indicators together (hereafter referred to as the risk indicators). The NAO FI has assessed these indicators on the basis of its projections under all three demographic scenarios. The calculation process is based on the methodology of the Debt Sustainability Monitor Report [26] adapted to the long-term projections of the NAO FI. The definition, interpretation and estimation of the risk indicators under all three demographic scenarios are presented in Annex 9.

Indicator S1, as assessed by the NAO FI, indicates a medium risk to fiscal sustainability. Under the NAO FI's baseline scenario, the risk indicator S1 is estimated at 2.1 p.p. of GDP (Table 3). This implies that a SPB adjustment of the above mentioned magnitude is needed from 2028 onwards (i.e. SPB need to be 2 p.p. of GDP higher in 2028-2050 than projected) to keep general government debt below 60% of GDP in 2050, while covering ageing-related expenditure. The size of the indicator is largely determined by the initial budgetary position.

Table 3. Risk indicators to the long-term sustainability of GG finances under the baseline scenario of the NAO FI, p.p. of GDP

	S1	S2
Indicator of which:	2.1	3.0
initial budgetary position	1.5	0.9
debt target	−0.2	–
ageing-related expenditure, of which:	0.8	1.9
old-age pensions	0.8	1.5
health care	0.4	0.9
long-term care	0.1	0.4
education	−0.3	−0.5
child benefits	−0.2	−0.4
maternity-paternity	−0.1	−0.1
ageing-related revenue	0.0	0.2

The sustainability risk ranges indicated by the S1 and S2 indicators are as follows: up to 2 – low, from 2 to 6 – medium, and above 6 – high.

Totals may differ due to rounding.

Source: calculations by the National Audit Office, implementing the function of a fiscal institution

[25] Since the Debt Sustainability 2022 Monitor Report, the definition and methodology of indicator S1 has been modified. Instead of a medium-term indicator for the sustainability of GG finances, it has become an indicator for the long-term sustainability of GG finances. Also, the fiscal adjustment of S1 over 5 years has been changed to an adjustment from the first year of the long term: the time horizon of the data to be included in the assessment and the ranges of the risk attribution have been aligned with indicator S2. Available online: https://economy-finance.ec.europa.eu/publications/debt-sustainability-monitor-2022_en.

[26] European Commission, Debt Sustainability Monitor Report 2023. Available online: https://economy-finance.ec.europa.eu/document/download/e3a23fba-1402-4cc9-b571-7473b5e7842a_en?filename=ip271_en.pdf.

The S2 indicator, as assessed by the NAO FI, also indicates a medium risk to fiscal sustainability. Under the main scenario of the NAO FI, the risk indicator S2 is estimated at 3.0 p.p. of GDP (Table 3). This implies that a SPB adjustment of the magnitude identified above is needed from 2028 onwards to ensure a stable[27] debt-to-GDP ratio beyond 2050, while covering ageing-related expenditure. In this way, the value of future structural primary balances also covers future debt service costs, ensuring that future interest payments do not lead to self-growing debt. Old-age pension expenditures have the greatest influence on the calculated indicator.

The overall risk to the long-term sustainability of general government finances is assessed as medium. Taking into account the results obtained for indicators S1 and S2[28] and the sum of the risk grades they indicate, the NAO FI assesses the risk to Lithuania's long-term fiscal sustainability to be medium (the conclusion remains unchanged in the case of the other demographic scenarios). This is in line with the assessment of the European Commission's Debt Sustainability Monitor Report 2023[29]. However, the EC notes that Lithuania is the only EU Member State to receive a worse long-term sustainability risk assessment compared to the EU Member States' fiscal sustainability assessment in the 2022 report. Lithuania's long-standing low risk has been replaced by a medium one. It is important to underline that the estimates of the risk indicator are sensitive to the projected SPB in the short term, and therefore indicate what the level of risk would be if the projected SPB were implemented. It should be noted that taking on long-term liabilities without increasing revenues of the GG could further deteriorate the estimates of the indicators of sustainability of general government finances.

[27] The adjustment implied by the S2 indicator could lead to a stabilisation of debt at very high levels. Therefore, on the basis of the S2 indicator alone, some countries may be considered sustainable in the long term, even though their debt ratios would stabilise at high levels. To address this shortcoming, the S1 indicator is used as a complement to the S2 indicator to assess the risk of long-term fiscal sustainability.

[28] S1 and S2 should be taken as a reference point to illustrate the pressures on public finances, rather than as a policy recommendation or a tool to assess the actual adjustment needed in a given year.

[29] Note that the end of the EC's long term projections is 2070.

8. RISKS TO PUBLIC FINANCE SUSTAINABILITY

Long-term forecasts are subject to considerable uncertainty due to their extended timeframe. However, demographic processes are slow-moving and their future evolution is largely determined by decisions taken decades ago and population structures that have already formed. For this reason, a continuation of the ageing process in Lithuania is highly probable. This provides a solid basis for long-term projections, but it is important to take into account other risks when assessing the outlook for future fiscal performance. Macroeconomic shocks, climate change, geopolitical fragmentation, technological progress and other risks can have a significant impact on both economic development and fiscal sustainability.

Identifying fiscal risks helps the government and the public to better understand potential financial challenges, assess their impact on the budget and the economy, and ensure responsible public finance management. In 2019, the IMF conducted an assessment of Lithuania's fiscal transparency[30] and found Lithuania to be in good or advanced practice in most of the criteria applied. However, the management of fiscal risks was identified as an area for improvement. In line with the IMF recommendations, the Ministry of Finance, in cooperation with other institutions, has prepared a comprehensive review of fiscal risks in 2020[31]. In addition to providing statistical information and medium-term projections, the MoF report also assessed the impact and probabilities of fiscal risks. The impact on government finances in 2019, if all risks were to materialise at the same time, was estimated to be around EUR 5.6 billion or 11.5% of GDP. In the opinion of the NAO FI, this type of fiscal risk assessment in Lithuania needs to be carried out on a regular basis, as changes in circumstances change the likelihood of risks materialising and their potential impact. It would contribute to the management of medium-term fiscal risks and would be useful for assessing the long-term sustainability of public finances.

The fiscal risks associated with contingent liabilities that materialise could have a significant impact on government finances. According to the IMF, contingent liabilities are liabilities that do not arise unless certain future events occur. The IMF's analysis of the sources of fiscal risks (Bova et al., 2016) has shown that, while macroeconomic shocks that give rise to contingent liabilities occur on average once every 12 years, their fiscal cost is large, averaging 9% of GDP. If risks in the financial sector were to materialise, this could cost 10% of GDP. Other sources of risk, such as state-owned enterprises or public-private partnerships, have been found to have on average a lower impact on GG finances.

The unfavourable geopolitical environment poses additional risks to the sustainability of public finances. Global economic fragmentation also poses challenges to Lithuania's small and open economy. Trade wars and tariffs can adversely affect global trade, while at the same time worsening Lithuania's economic prospects. The tense security situation is forcing countries, including Lithuania, to increase their defence spending. The changing world order may have a significant impact on countries' defence policies, international trade and economic structure.

[30] IMF, "Republic of Lithuania: Fiscal Transparency Evaluation", 2019. Available online: https://www.imf.org/en/Publications/CR/Issues/2019/05/03/Republic-of-Lithuania-Fiscal-Transparency-Evaluation-46865.

[31] Available online: https://finmin.lrv.lt/uploads/finmin/documents/files/Fiskaliniu_riziku_apzvalga_2020.pdf. The review assesses the risks arising from revenue and expenditure measures, contingent liabilities, sources of other risks including climate change, and presents the financial sector and macroeconomic situation.

Technological change has the potential to significantly alter economies in the future. In the long term, breakthroughs in technology and healthcare remain likely. A breakthrough in health would contribute to more efficient treatment that would require less public resources. It would also lead to longer and more productive lives, enabling people to stay in the labour market longer. Technological developments, such as artificial intelligence, would increase productivity. However, it also carries downside risks. Automation could affect the labour market by increasing structural unemployment, which will require investment in education. Cyber threats are also growing, which could affect economic stability through critical infrastructure and financial institutions. While technological progress is boosting productivity and economic growth, as noted in the Lithuania 2050[32] strategy, the risks associated with technological change need to be managed, in particular to the mental and physical health of the population, social relations and social exclusion.

There is a risk of weakening the country's competitiveness by failing to innovate and increase investment in research and experimental development. According to the World Bank's assessment[33], Lithuania is classified as an upper-income country. Thus, the focus should be on innovation, which can significantly increase productivity levels in the country. According to the Draghi report on EU competitiveness[34], the importance of research and innovation for productivity growth will increase in the future due to the acceleration of global innovation growth rates over the last decades. The report notes that the EU's weakening competitiveness is partly explained by lower EU investment in research and experimental development. Lithuania is one of the EU countries with less than 1% of GDP invested in this area.

In the longer term, climate change may also pose risks to fiscal sustainability. Measures to mitigate and adapt to climate change can have significant implications for fiscal sustainability. The IMF (Cevik, 2024) estimates that adaptation to climate change could cost Lithuania up to 2.2% of GDP annually. Increasing frequency of extreme weather events (e.g. storms, droughts or heavy rainfall) and increasing damage to physical infrastructure creates a need for investment in resilient infrastructure, and may also create a need for compensation for losses. Climate change may affect economic growth prospects. Increases in the frequency and severity of extreme weather events may affect agriculture, private and public assets, and the insurance market. On the other hand, investment in green energy and innovation can boost productivity growth and employment. Climate change may also increase forced migration from more affected countries. A study by the UK's Office for Budget Responsibility (2021) showed that a later transition to a climate-neutral economy could be more costly. Modelling climate change is particularly challenging, not least because of non-linearities such as tipping points[35] - critical thresholds beyond which large, accelerating and often irreversible changes in the climate system begin. Despite the complexity of the problem and the resulting uncertainties, international institutions are developing models[36] to assess the implications of potential climate change for countries' public finances. In the future, it would be appropriate to include a climate change factor in the assessment of fiscal sustainability.

Head of Budget Monitoring Department Jurga Rukšėnaitė

[32] Available online: https://lrv.lt/lt/lietuva-2050/.

[33] Available online: https://www.worldbank.org/en/publication/wdr2024.

[34] The future of European competitiveness, M. Draghi, 09/09/2024. Available online: https://commission.europa.eu/topics/strengthening-european-competitiveness/eu-competitiveness-looking-ahead_en.

[35] For example: melting permafrost that releases methane, melting glaciers that reduce the Earth's albedo, the collapse of the Atlantic meridional overturning circulation that warms the European continent, etc.

[36] IMF's Quantitative Climate Risk Assessment Fiscal Tool (Q-CRAFT). Available online: https://www.imf.org/en/Topics/fiscal-policies/Fiscal-Risks/Fiscal-Risks-Toolkit/Fiscal-Risks-Toolkit-Q-Craft.

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ANNEXES

Report
"Assessment of the sustainability of general government finances in 2025–2050"
Annex 1

Abbreviations and terms

TFP	Total factor productivity
DBP2025	A draft law on the approval of the budget of the Republic of Lithuania for the period 2025–2027 submitted to the Seimas by the Government on 16 October 2024
GDP	Gross domestic product
OECD	Organisation for Economic Cooperation and Development
EC	European Commission
EDS	Economic development scenario
EU	European Union
EUROPOP2023	Eurostat's long-term projections of Europe's population and age structure
MoF	Ministry of Finance of the Republic of Lithuania
IC	Indexation coefficients
Automatic debt dynamics	Debt change factors are differences between real interest rates and real GDP growth, which reduce or increase the debt-to-GDP ratio.
S1, S2	Indicators for the long-term sustainability of general government finances
Ageing report	European Commission Ageing 2024 report
Costs of ageing	Changes in expenditure and income influenced by demography
SPB	Structural general government primary balance
STP2024	Updated short-term demographic projections for EU Member States 2023–2050, published by Eurostat in September 2024.
HICP	Harmonised index of consumer prices
IMF	International Monetary Fund
SDA	State Data Agency
AME	Average gross monthly earnings
Ageing population	A demographic process in which the proportion of older people in the total population is rising and the number of young people is falling.
NAO FI	The National Audit Office as fiscal institution
NAO FI 2025-B	Baseline scenario for the assessment of the sustainability of general government finances 2025–2050
NAO FI 2025-H	Higher net migration scenario for the assessment of the sustainability of general government finances 2025–2050
NAO FI 2025-L	Lower net migration scenario for the assessment of the sustainability of general government finances 2025–2050
MTO	Medium-term objective
GG	General government
SSIF	State Social Insurance Fund

Report
"Assessment of the sustainability of general government finances in 2025–2050"
Annex 2

Data and sources used

Indicator		Data source	Final data inclusion date
Demographics		SDA, Eurostat	20/11/2024
Macroeconomic developments		SDA	Actual data published before the revision of the national accounts on 1 October 2024
General government revenue		SDA	01/12/2024
General government debt		SDA	01/12/2024
General government expenditure		SDA	01/12/2024
The ageing-related expenditure:	old-age pensions	SSIF	22/11/2024
	health care	SDA	30/12/2024
	long-term care	SDA	30/12/2024
	education	SDA	18/12/2024
	child benefits	SDA	22/11/2024
	maternity-paternity benefits	SSIF	25/11/2024
Defence expenditure		SDA	18/12/2024
Interest expenditure		SDA	01/12/2024

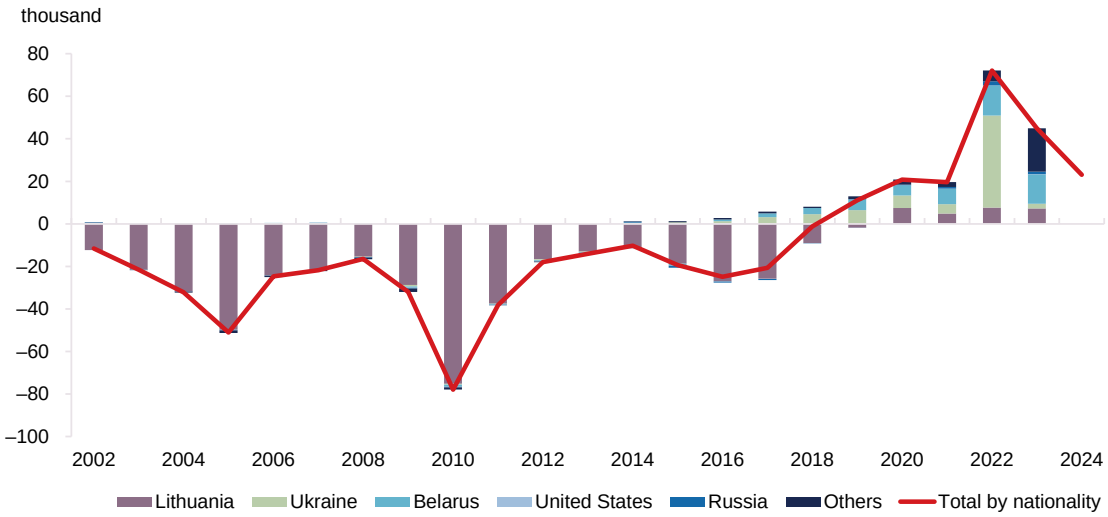
For all indicators, the latest available actual year is 2023, except for demography in 2024.

Source: the National Audit Office, implementing the function of a fiscal institution

Net migration

Lithuania's population has long been depressed by the negative impact of net migration. Emigration increased particularly in 2010, after the Great Financial Crisis. This trend continued for a long time, but net migration turned positive in 2019, and from 2020 onwards, more Lithuanian citizens are returning to the country than leaving it. Citizens of Ukraine and Belarus have also increased Lithuania's population.

Net migration by nationality



Source: State Data Agency

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Annex 4

Macroeconomic and demographic projections under baseline and alternative net migration scenarios

Indicator, % (unless otherwise specified)	2023	Medium-term projections				Long-term projections				
		2024	2025	2026	2027	2030	2035	2040	2045	2050
Baseline scenario, NAO FI 2025-B										
Real GDP, change	−0.3	2.3	2.9	2.9	2.9	3.5	2.3	1.8	1.6	1.4
Potential GDP, the change in it:	3.1	3.2	3.3	3.3	3.3	3.0	2.3	1.8	1.6	1.4
Labour input, p.p.	0.6	0.5	0.4	0.3	0.2	0.0	−0.2	−0.3	−0.3	−0.3
Total factor productivity input, p.p.	0.9	1.0	1.1	1.2	1.3	1.5	1.3	1.2	1.2	1.1
Capital input, p.p.	1.5	1.7	1.7	1.7	1.7	1.6	1.2	0.9	0.7	0.5
Annual average HICP inflation	8.7	1.0	2.5	2.7	2.6	2.3	2.0	2.0	2.0	2.0
GDP deflator, change	7.1	3.2	2.5	2.7	2.6	2.1	2.0	2.0	2.0	2.0
Participation rate (15-74)	71.8	73.0	72.7	72.1	71.4	70.8	71.3	72.1	72.9	73.7
Unemployment rate (15-74)	6.8	7.3	7.1	6.7	6.4	6.8	7.2	7.1	7.0	6.9
Average gross monthly earnings, change	12.6	10.1	7.6	6.5	5.5	6.1	4.7	4.3	4.0	3.8
Average nominal interest rate*	1.7	2.0	2.5	2.9	3.2	2.9	3.1	3.4	3.6	3.9
Population (thousands), of which - age group %:	2857	2886	2894	2886	2874	2828	2757	2706	2657	2612
0-14 years	14.9	14.5	14.1	13.7	13.4	12.5	10.9	10.2	9.8	9.8
15-64 years	65.0	65.1	65.2	65.0	64.8	64.3	63.9	62.8	61.8	60.0
65 years and over	20.0	20.3	20.7	21.3	21.8	23.2	25.2	27.0	28.4	30.2
Net migration (thousands)	45.0	25.9	8.9	5.7	2.0	4.1	9.5	10.5	12.0	13.8
Higher net migration scenario, NAO FI 2025-H										
Real GDP, change	−0.3	2.3	2.9	2.9	2.9	3.7	2.5	2.1	1.8	1.6
Potential GDP, change from it:	3.1	3.2	3.3	3.3	3.3	3.2	2.5	2.1	1.8	1.6
Labour input, p.p.	0.6	0.6	0.5	0.4	0.3	0.1	0.0	−0.1	−0.1	−0.1
Total factor productivity input, p.p.	0.9	1.0	1.1	1.2	1.3	1.5	1.3	1.2	1.2	1.1
Capital input, p.p.	1.5	1.7	1.7	1.7	1.7	1.6	1.3	1.0	0.7	0.6
Participation rate (15-74)	71.8	72.9	72.6	71.9	71.2	70.6	71.2	72.0	72.8	73.7
Population (thousands), of which - age group %:	2857	2886	2894	2893	2888	2864	2829	2812	2795	2779
0-14 years	14.9	14.5	14.1	13.7	13.4	12.4	10.8	10.2	9.8	9.8
15-64 years	65.0	65.1	65.2	65.1	64.9	64.6	64.5	63.7	62.8	61.2
65 years and over	20.0	20.3	20.7	21.2	21.7	23.0	24.7	26.2	27.4	29.0
Net migration (thousands)	45.0	25.9	16.1	12.9	9.2	11.1	16.2	16.7	17.9	19.3
Lower net migration scenario, NAO FI 2025-L										
Real GDP, change	−0.3	2.3	2.9	2.9	2.9	3.1	1.9	1.3	1.0	0.8
Potential GDP, the change in it:	3.1	3.2	3.2	3.2	3.1	2.7	1.9	1.3	1.0	0.8
Labour input, p.p.	0.5	0.5	0.4	0.2	0.1	−0.3	−0.6	−0.7	−0.7	−0.7
Total factor productivity input, p.p.	0.9	1.0	1.1	1.2	1.3	1.5	1.3	1.2	1.2	1.1

Indicator, % (unless otherwise specified)	2023	Medium-term projections				Long-term projections				
		2024	2025	2026	2027	2030	2035	2040	2045	2050
Capital input, p.p.	1.5	1.7	1.7	1.7	1.7	1.6	1.2	0.8	0.6	0.4
Participation rate (15-74)	71.7	73.0	72.9	72.4	71.9	71.2	71.6	72.2	73.0	73.7
Population (thousands), of which - age group %:	2857	2886	2894	2874	2851	2768	2639	2528	2420	2315
0-14 years	14.9	14.5	14.1	13.8	13.5	12.6	10.9	10.1	9.6	9.7
15-64 years	65.0	65.1	65.2	64.9	64.5	63.7	62.9	61.3	59.8	57.5
65 years and over	20.0	20.3	20.7	21.3	22.0	23.7	26.2	28.6	30.5	32.8
Net migration (thousands)	45.0	25.9	−2.4	−5.8	−9.7	−7.7	−1.5	−0.5	1.0	2.8

* Average annual interest rate paid on GG debt management.

Source: State Data Agency, Ministry of Finance, calculations by the National Audit Office, implementing the function of a fiscal institution

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Methodologies for calculating ageing-related expenditures

1.1. Old-age pensions

Figure 1. Scheme for calculating the annual expenditure of old-age pensions

Number of old-age pension beneficiaries, persons	×	Average monthly old-age pension, EUR	×	12	=	Annual expenditure on old-age pensions, EUR

Source: the National Audit Office, implementing the function of a fiscal institution

Number of old-age pension beneficiaries. The figures for the period 2024–2027 are in line with the values foreseen in the draft budget of the State Social Insurance Fund (SSIF) for 2025. From 2028 onwards, the number of old-age pension beneficiaries shall be increased at the rate of population growth projected by the NAO FI for the population aged 65 and over. The number of beneficiaries of this pension is adjusted to take into account net migration, which has been positive in Lithuania since 2019, and its projected further development. Beneficiaries of the old-age pension are considered to be persons aged 65 and over who have completed a minimum of 15 years of service in Lithuania.

Average monthly old-age pension. The average pension projected for 2024 is broken into a general and an individual part, based on a ratio on the accrued amount of social security pensions[37], as indicated in the 2025 budget of the SSIF. In the medium and long term, both parts are indexed:

- The general part of the pension is indexed using pension indexation coefficients (IC). The IC for a given year is calculated as the arithmetic average of the annual rates of growth of the wage bill for seven consecutive years: the three years preceding the year of calculation, the year of calculation and the three years of projection. The IC for 2025–2027 corresponds to the coefficients approved in the 2025 SSIF Budget Law. From 2028 onwards, the ICs are calculated on the basis of macroeconomic projections prepared by the NAO FI.
- The individual part of the pension is indexed by applying the above-mentioned IF and the additional indexation coefficient for the individual part of the social security pension. The Law on the approval of the budget of the SSIF for 2025 foresees the additional indexation for the year 2025. The NAO FI assumes that this will continue to be implemented in 2026–2027. The additional indexation coefficient for this part of the pension may reach 1.034 (3.4%) in these years, calculated on the basis of the 4-year (2022–2025) average of indexation. The individual part of the pension is adjusted according to the number of immigrants. Their individual part of the pension is reduced in proportion to the length of service completed in Lithuania (the general part of the pension is not reduced).

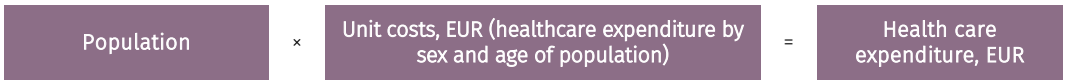
The cost calculations also take into account the change in the old-age pension liability. These liabilities represent only 0.1% of the old-age pension expenditure. This ratio is assumed to remain constant over the rest of the projection period. It is also assumed that from 2028 onwards the ratio of the number of benefits to the number of old-age pension beneficiaries will remain constant.

[37] Amounts of appropriations from the state budget to compensate for the basic (general) part of the social security pension.

1.2. Health care

The projection of government expenditure on health care was based on the assumption that its dynamics are driven by changes in the demographic structure. In this context, in the projections it is assumed that unit costs of health expenditure by sex and age would grow at the rate of change of GDP per capita (Annex 5, Figure 2). This assumption was chosen following the modelling of the baseline scenario used in the Ageing Report. Health-related expenditure may vary with healthy life expectancy or mortality rates, as well as with convergence with other countries and technological progress, and with policy decisions related to wage increases, but these aspects were not modelled. Source of expenditure on health care by sex and age of the population - SDA.

Figure 2. Health care expenditure projection chart



Source: the National Audit Office, implementing the function of a fiscal institution

1.3. Long-term care

The projections for long-term care expenditure are based on the NAO FI model, with a scheme identical to the one for health care expenditure (Annex 5, Figure 2). The only difference is that the distribution of long-term care expenditure (unit costs) by age and sex used in the estimation will grow at the rate of growth of GDP per person employed.

1.4. Education

Education expenditure is projected according to the International Standard Classification of Education ISCED 2011[38], which is designed to classify education programmes and their subgroups into levels of education programmes. The aggregated levels used for the projections are primary education (ISCED 1), basic education (ISCED 2-4) and higher education (ISCED 5-8). Expenditure is broken down into four groups: staff compensation, transfers, other current expenditure and capital expenditure. The number of pupils and students is projected by age cohorts and gender, based on demographic projections and the 2022 enrolment rate in public education. Key assumptions:

- ✓ the ratio of teachers and lecturers to pupils and students will remain constant,
- ✓ enrolment rates in public education will remain stable.

The education expenditure projections take into account the Agreement on Education Policy for Lithuania (2021–2030). Currently, wage increases are projected to be 8% in 2025 and 5% above the national average wage growth[39] in 2026–2028. Over the long term, unit costs are projected to increase at the rate of the increase in AME (Annex 5, Figure 3). Source of education expenditure by ISCED level SDA.

Figure 3. Education expenditure projection chart

Source: the National Audit Office, implementing the function of a fiscal institution

[38] International Standard Classification of Education ISCED 2011. Classification includes: primary education (ISCED 1), basic education (ISCED 2-4) and higher education (ISCED 5-8). Available online: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.462927.

[39] 21/10/2024 Amendment to the collective agreement of the Lithuanian education and science sector. Available online: https://www.svietimoprofsajunga.lt/wp-content/uploads/2024/10/Lietuvos-svietimo-ir-mokslo-sakos-kolektyvines-sutarties-pakeitimas-2024-10-21.pdf.

1.5. Child benefits

According to the Child Benefits Law[40], these benefits are available to people in general education until they reach the age of 23. The payment of these benefits to all children, irrespective of family income, was formalised in 2018 with the entry into force of the new law. Until then, only low-income families could receive them. The amount of child benefits depends on government decisions.

Benefits for families with children come in various forms, such as lump-sum child benefit, foster care benefit, etc. The projection of expenditure on child benefits was based on the largest category of child benefits, the child benefit, which is payable as from 1 July 2004. According to the SDA data, this benefit accounted for the largest share of 92% of total family benefits in 2021–2023. The projections of expenditure on child benefits for the period 2024–2027 were based on data from the State Budget Accounting and Payment System. This expenditure was assumed to increase at the rate of growth of GDP at current prices (Annex 5, Figure 4). Children population projections are based on the NAO FI demographic projections for the 0-22 years age groups. The average number of students in general education schools and vocational training establishments for the period 2020–2024 was also used for the calculations. The expenditure projections were obtained by multiplying the cost (unit cost) of the benefit per child in the relevant year by the total number of children.

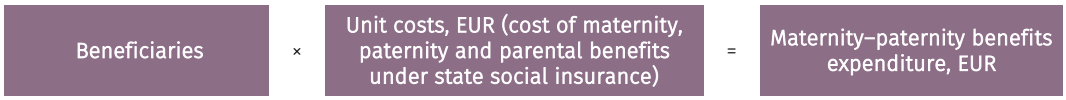
Figure 4. Child benefit expenditure projection scheme

Source: the National Audit Office, implementing the function of a fiscal institution

1.6 Maternity–paternity benefits

The projections of total maternity-paternity social insurance expenditure were made after having projected separately the benefits attributable to this expenditure, i.e. maternity benefits, paternity benefits, childcare benefits up to the child age of 18 months and childcare benefits up to the child age of 24 months. From 2028 onwards, the calculation of the number of beneficiaries of the respective benefits was based on the demographic projections of the NAO FI for the 0-2 years age groups and the SSIF's historical ratio of beneficiaries to the population of these age groups. Benefits were also assumed to grow at the projected rate of average wage growth (Annex 5, Figure 5). Multiplying the unit cost of the benefits concerned by the number of beneficiaries over the relevant period gave the cost, which was then added together to give the total maternity-paternity social insurance expenditure for a given year.

Figure 5. Maternity-paternity benefit expenditure projection scheme



Source: the National Audit Office, implementing the function of a fiscal institution

[40] Law on Child Benefits. Available online: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.5981/fLGwHjHLqL.

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Fiscal projections

Indicator, % of GDP	2023	Medium-term projections				Long-term projections				
		2024	2025	2026	2027	2030	2035	2040	2045	2050
Baseline scenario, NAO FI 2025-B										
General government revenue	37.6	38.7	39.6	40.0	39.7	39.7	39.7	39.7	39.6	39.5
General government expenditure	38.3	40.4	42.7	43.1	42.7	42.4	42.5	43.2	44.0	45.3
ageing-related expenditure, of which:	16.9	17.6	18.4	19.0	19.6	19.8	20.1	20.5	20.9	21.5
old-age pensions	5.6	5.9	6.4	6.9	7.3	7.6	8.0	8.4	8.6	8.9
health care	5.0	5.0	5.0	5.1	5.1	5.2	5.4	5.7	5.9	6.1
long-term care	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.6
education	3.7	4.0	4.1	4.2	4.3	4.3	4.1	3.9	3.7	3.8
child benefits	0.9	0.9	1.1	1.1	1.0	1.0	0.8	0.7	0.7	0.7
maternity-paternity benefits	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.5
Defence expenditure	2.6	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Other expenditure	18.2	18.9	20.4	20.0	18.7	18.2	17.9	17.9	17.9	17.9
Interest expenditure	0.6	0.7	0.9	1.2	1.4	1.4	1.5	1.8	2.2	2.9
General government balance	–0.7	–1.8	–3.0	–3.2	–3.0	–2.7	–2.7	–3.5	–4.4	–5.8
Higher net migration scenario, NAO FI 2025-H										
General government revenue	37.6	38.7	39.6	40.0	39.7	39.7	39.8	39.7	39.7	39.5
General government expenditure	38.3	40.4	42.7	43.1	42.7	42.3	42.3	43.0	43.8	45.0
ageing-related expenditure, of which:	16.9	17.6	18.4	19.0	19.6	19.8	20.1	20.4	20.8	21.5
old-age pensions	5.6	5.9	6.4	6.9	7.3	7.5	8.0	8.3	8.6	8.9
health care	5.0	5.0	5.0	5.1	5.1	5.2	5.4	5.6	5.8	6.0
long-term care	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.6
education	3.7	4.0	4.1	4.2	4.3	4.3	4.0	3.8	3.7	3.8
child benefits	0.9	0.9	1.1	1.1	1.0	1.0	0.9	0.8	0.7	0.7
maternity-paternity benefits	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.5
Defence expenditure	2.6	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Other expenditure	18.2	18.9	20.4	20.0	18.7	18.2	17.8	17.8	17.8	17.8
Interest expenditure	0.6	0.7	0.9	1.2	1.4	1.4	1.4	1.7	2.1	2.7
General government balance	–0.7	–1.8	–3.0	–3.2	–3.0	–2.6	–2.6	–3.2	–4.1	–5.5
Lower net migration scenario, NAO FI 2025-L										
General government revenue	37.6	38.7	39.6	40.0	39.7	39.7	39.7	39.7	39.6	39.5
General government expenditure	38.3	40.4	42.7	43.1	42.7	42.5	42.7	43.5	44.5	45.6
ageing-related expenditure, of which:	16.9	17.6	18.4	19.0	19.6	19.8	20.2	20.6	21.0	21.3
old-age pensions	5.6	5.9	6.4	6.9	7.3	7.6	8.0	8.4	8.6	8.8
health care	5.0	5.0	5.0	5.1	5.1	5.2	5.4	5.7	6.0	5.9
long-term care	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.4	1.5	1.6
education	3.7	4.0	4.1	4.2	4.3	4.3	4.1	3.9	3.8	3.8
child benefits	0.9	0.9	1.1	1.1	1.0	0.9	0.8	0.7	0.6	0.6
maternity-paternity benefits	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5
Defence expenditure	2.6	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Other expenditure	18.2	18.9	20.4	20.0	18.7	18.3	18.0	18.0	18.0	18.0
Interest expenditure	0.6	0.7	0.9	1.2	1.4	1.4	1.5	1.9	2.5	3.2
General government balance	–0.7	–1.8	–3.0	–3.2	–3.0	–2.7	–3.0	–3.8	–4.9	–6.1

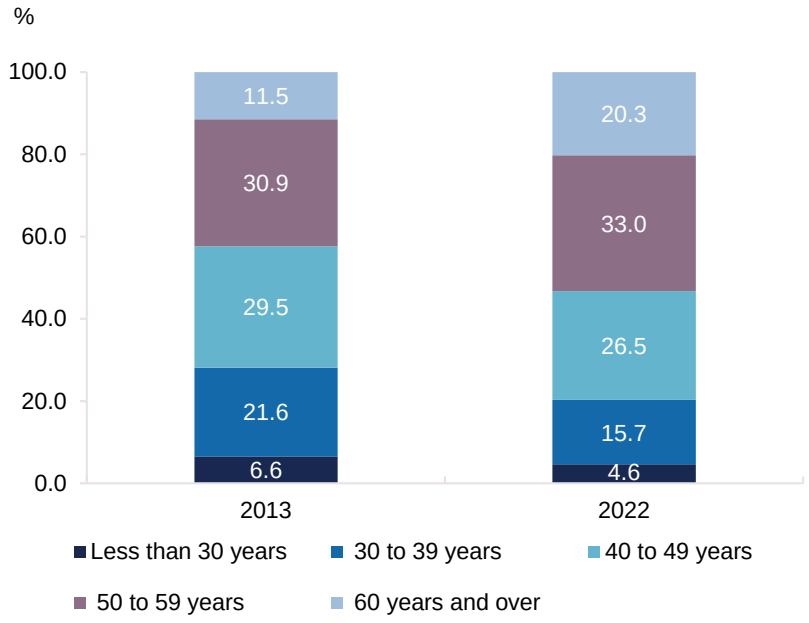
Totals may differ due to rounding.

Source: calculations by the National Audit Office, implementing the function of a fiscal institution

Challenges for the education sector: the age structure of teachers

The education sector is experiencing significant changes in the age structure of its workforce, which could pose challenges in the future. The share of teachers aged over 50 years increased by 11% between 2013 and 2022, accounting for more than half of the total workforce. With young people reluctant to enter the profession, the share of teachers and lecturers under 30 years of age were less than 5% in 2022. Government Strategic Analysis Center of Lithuania (STRATA, 2024) estimates that retirements would require the replacement of more than three thousand education sector workers annually between 2024 and 2033. Without adequate working conditions and a competitive salary system, the shortage of teachers could become more acute, posing challenges to the quality of education. At the beginning of 2022–2023 school year, there was a shortage of teachers in all subjects at all levels of education (OECD, 2024).

During the 2013–2022 period, the proportion of older education sector employees in Lithuania significantly increased



Totals may not add up due to rounding.

Source: Eurostat, calculations by the National Audit Office, implementing the function of a fiscal institution

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General government debt projections

No.	Indicator (% of GDP, unless otherwise specified)	2023	Medium-term projections				Long-term projections				
			2024	2025	2026	2027	2030	2035	2040	2045	2050
Baseline scenario, NAO FI 2025-B											
1.	GG debt	38.3	39.0	42.9	46.9	49.6	49.6	50.8	56.5	65.8	79.9
2.	Change in GG debt (3+4+7)	0.2	0.8	3.8	4.1	2.6	0.0	0.6	1.4	2.2	3.3
3.	Primary GG deficit	0.5	1.0	2.1	2.0	1.6	1.3	1.2	1.7	2.2	2.9
4.	Automatic debt dynamics (5+6)	–1.8	–1.3	–1.1	–1.1	–1.0	–1.3	–0.6	–0.3	0.0	0.4
5.	Real interest rate	–1.9	–0.5	0.0	0.0	0.3	0.3	0.5	0.7	1.0	1.4
6.	Change in real GDP	0.1	–0.8	–1.1	–1.2	–1.3	–1.6	–1.1	–1.0	–1.0	–1.0
7.	Other debt-creating flows*	1.5	1.0	2.8	3.2	2.1	0.0	0.0	0.0	0.0	0.0
8.	General government debt in billion EUR	27.6	29.7	34.3	39.7	44.3	52.6	68.3	92.4	129.1	185.7
9.	Interest expenditure	0.6	0.7	0.9	1.2	1.4	1.4	1.5	1.8	2.2	2.9
10.	Interest expenditure in billion EUR	0.4	0.6	0.7	1.0	1.3	1.5	2.0	2.9	4.4	6.7
Higher net migration scenario, NAO FI 2025-H											
1.	GG debt	38.3	39.0	42.9	46.9	49.6	49.3	49.6	54.0	61.8	74.2
2.	Change in GG debt (3+4+7)	0.2	0.8	3.8	4.1	2.6	–0.1	0.4	1.1	1.9	2.9
3.	Primary GG deficit	0.5	1.0	2.1	2.0	1.6	1.2	1.1	1.5	2.0	2.8
4.	Automatic debt dynamics (5+6)	–1.8	–1.3	–1.1	–1.1	–1.0	–1.4	–0.7	–0.4	–0.1	0.2
5.	Real interest rate	–1.9	–0.5	0.0	0.0	0.3	0.3	0.5	0.7	0.9	1.3
6.	Change in real GDP	0.1	–0.8	–1.1	–1.2	–1.3	–1.7	–1.2	–1.1	–1.0	–1.1
7.	Other debt-creating flows*	1.5	1.0	2.8	3.2	2.1	0.0	0.0	0.0	0.0	0.0
Lower net migration scenario, NAO FI 2025-L											
1.	GG debt	38.3	39.0	42.9	46.9	49.6	50.1	53.0	60.9	72.9	89.4
2.	Change in GG debt (3+4+7)	0.2	0.8	3.8	4.1	2.6	0.2	1.0	1.9	2.8	3.7
3.	Primary GG deficit	0.5	1.0	2.1	2.0	1.6	1.3	1.4	1.9	2.4	2.8
4.	Automatic debt dynamics (5+6)	–1.8	–1.3	–1.1	–1.1	–1.0	–1.1	–0.4	0.0	0.4	0.9
5.	Real interest rate	–1.9	–0.5	0.0	0.0	0.3	0.3	0.5	0.8	1.1	1.6
6.	Change in real GDP	0.1	–0.8	–1.1	–1.2	–1.3	–1.5	–0.9	–0.8	–0.7	–0.7
7.	Other debt-creating flows*	1.5	1.0	2.8	3.2	2.1	0.0	0.0	0.0	0.0	0.0

* 2023 is calculated as a residual and 2024–2027 includes the stock-flow adjustment for 2024–2027 foreseen in DBP2025.

Source: State Data Agency, DBP2025, calculations by the National Audit Office, implementing the function of a fiscal institution

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Indicators S1 and S2 for the long-term sustainability of general government finances

- S1 shows the required structural primary balance adjustment (in p.p. of GDP) from the first year of the long term to keep the debt-to-GDP ratio below 60% at the end of the long term.
- S2 shows the required structural primary balance adjustment (in p.p. of GDP) from the first year of the long term for the debt-to-GDP ratio to be stable over an infinite horizon (beyond the end of the long term projections).

Both risk indicators have several components. The initial budgetary position is a component of both risk indicators, which reflects the difference between the debt-stabilising[41] SPB and the projected medium-term ending SPB[42] . Both risk indicators are also composed of ageing-related expenditure and revenue. The difference between S1 and S2 is due to the debt target. For S1, this factor depends on the difference between the debt target and the projected end-medium term debt. For S2, this factor is zero according to the definition of the indicator.

The ranges of values for indicators S1 and S2, which indicate the degree of risk to the sustainability of GG finances, are identical, but the risk is determined separately for each indicator. If the value of indicator S1 or S2 is below 2, the country is at low risk of long-term sustainability of its GG finances, if the value falls between 2 and 6, the risk is medium, and if the value is above 6, the risk is high. The indicators are complementary, so the overall long-term risk category is determined by aggregating the risk categories derived from indicators S1 and S2. If a higher risk is identified for indicator S1 than for indicator S2, the latter may be replaced by a higher risk category. It should be noted that a low risk category does not imply optimal fiscal policy.

The estimates of the risk indicators for all three NAO FI scenarios are presented in Tables 1 and 2 of this Annex.

Table 1. Long-term sustainability risk indicator S1, p.p. of GDP

Indicator	NAO FI 2025-B	NAO FI 2025-H	NAO FI 2025-L
S1 indicator, of which:	2.1	1.9	2.4
initial budgetary position	1.5	1.4	1.8
debt target	−0.2	−0.2	−0.2
ageing-related expenditure, of which:	0.8	0.7	0.8
old-age pensions	0.8	0.8	0.8
health care	0.4	0.4	0.5
long-term care	0.1	0.1	0.1
education	−0.3	−0.3	−0.3
child benefits	−0.2	−0.2	−0.3
maternity–paternity	−0.1	−0.1	−0.1
ageing-related revenue	0.0	0.0	0.0

Totals may differ due to rounding.
Source: calculations by the National Audit Office, implementing the function of a fiscal institution

[41] A structural primary balance that keeps the debt as a percentage of GDP constant over the medium term.

[42] The last projection point from which the SPB is considered constant.

Table 2. Long-term sustainability risk indicator S2, p.p. of GDP

Indicator	NAO FI 2025-B	NAO FI 2025-H	NAO FI 2025-L
S2 indicator, of which:	3.0	2.8	3.0
initial budgetary position	0.9	0.8	1.2
ageing-related expenditure, of which:	1.9	1.9	1.6
old-age pensions	1.5	1.6	1.4
health care	0.9	0.9	0.8
long-term care	0.4	0.3	0.4
education	−0.5	−0.5	−0.5
child benefits	−0.4	−0.3	−0.4
maternity–paternity	−0.1	−0.1	−0.1
ageing-related revenue	0.2	0.2	0.2

Totals may differ due to rounding.

Source: calculations by the National Audit Office, implementing the function of a fiscal institution