# Sustainability of Finland's public finances

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**Finland's general government debt grew rapidly after the financial crisis, almost doubling its volume relative to GDP. Even though the debt-to-GDP ratio has begun to decline, the rise in public expenditure stemming from population ageing over the next decades threatens to reverse this development. The Bank of Finland's autumn 2018 estimate of the sustainability gap in Finland's public finances is about 3% relative to GDP. Although the fiscal position is more comfortable now than at the time of the previous estimate, the long-term outlook for the public finances remains weaker.**

With the help of long-term fiscal sustainability calculations, it is possible to approximate the trajectory and magnitude of future challenges for the general government finances. Such calculations are necessarily based on a number of assumptions regarding future development paths. Here, our basic premise is that fiscal policy will remain unchanged, implying that public revenue and expenditure will also remain mostly unchanged relative to GDP. However, the demographic structure of the population will have a strong impact on several public expenditure items, as education, health and long-term care services are

all primarily publicly funded. Furthermore, the entire pension system is part of the public sector in Finland, and pension expenditure is the single most significant factor which determines age-related spending. Population ageing and demographic structure can be forecasted with population projections. Since demographic structure evolves relatively slowly over time, its development can be predicted with some certainty even many years ahead. On the other hand, it is difficult to change age demographics with policy measures. Finally, as sustainability calculations are subject to significant uncertainty, it is advisable to examine the sensitivity of the results against various assumptions.

## Calculation of the sustainability gap at the Bank of Finland

The sustainability of the public finances, or fiscal sustainability, refers to the balance of general government revenue and expenditure over the long term. If public expenditure exceeds revenue, public debt will grow. The sustainability calculation is based on the assumption that, over the long term, any debt generated by a deficit needs to be made up for with a surplus, meaning the public finances face an intertemporal budget constraint. In our assessment of the long-term balance of revenue and expenditure, the impact of demographic change on age-related public expenditure is taken into account. The fiscal balance is also affected by interest payments on public debt and the return on general government assets. Public revenue and expenditure are otherwise assumed to remain unchanged relative to GDP.

The standard measure of the sustainability gap is the so-called S2 indicator. It determines the immediate and permanent fiscal adjustment required to stabilise public debt in spite of growth in age-related expenditure. Technically calculation of the S2 indicator is subject to an infinite time horizon, although in practice the examination of age-related expenditure is restricted to 40–60 years ahead.

At the Bank of Finland, fiscal sustainability is assessed with a model framework which draws on the short-term cyclical forecast for 2018–2021 as well as the medium- and long-term forecasts for the macroeconomy and the public finances. In the medium-term macroeconomic forecast for 2022–2025, the economy is assessed to move closer to a balanced growth path, in which total output will grow at its potential rate and economic growth will not be based on the accumulation of debt. Inflation will approach 2% and real earnings will rise at a rate close to productivity growth. The fiscal balance will be weakened already in the coming years by higher spending on healthcare and long-term care, in addition to higher pension expenditure. However, the primary budget position[1] is almost on balance in 2025, the base year of the calculation.

The long-term forecast estimates GDP growth and its components – employment and productivity – in 2026–2040. The actual assessment of the sustainability gap, which examines how the fiscal position responds to demographic change and its effects on age-related expenditure, is also based on this period and the subsequent years until 2065. Thus, the sustainability gap indicator calculated by the Bank of Finland determines the

1. General government budget balance without interest payments.

permanent adjustment required in 2025 for stabilising the general government debt-to-GDP ratio.

## Key assumptions of the sustainability calculation

Long-term economic growth underlying the sustainability calculation is expected to average 1.4% in 2026–2040.[2] Economic growth will stem solely from higher labour productivity growth, since labour input will contract slightly during the period. Structural unemployment is estimated at 7.7%, compared with 7% in the previous long-term forecast.

In the years following the long-term forecast horizon, i.e. 2041–2065, age group-specific labour force participation rates and labour productivity are assumed to remain at the 2040 level. This will lead to slightly slower GDP growth from 2040 onwards than estimated in the previous sustainability calculation, since the most recent population projection points to a decline in the working-age population. Real wages will rise in the sustainability calculation at the rate of productivity growth. Inflation will stabilise to 2% already in the medium term.

Fiscal sustainability is also affected by interest rate assumptions. Both general government property income (i.e. rent, interest and dividends), which is mainly income received by the pension funds, and interest payments on public debt are dependent on the assumed interest rate path and the long-term equilibrium interest rate. The Bank of Finland's sustainability calculation assumes that the current low level of interest rates will have risen by the mid-2030s: the nominal interest rate on public debt will reach 5%, and the return on property income assets will be 5.5%.

Pension funds' investment portfolios are assumed to be divided equally between interest-bearing (bond) and equity investments.[3] The real rate of return on equity is assumed to be 4% immediately from the first calculation year onwards. The real interest rate, in turn, is assumed to rise to 3%, but only later, by 2035. This pertains to both the interest rate on public debt and pension funds' bond investments. Thus, the long-term average return for pension funds is assumed to be 3.5%, in real terms.

## New population projection gloomier than the last

Estimates on population growth and demographic structure are key components of the sustainability calculation. From the perspective of healthcare and long-term care spending, in particular, there will be a major change in the demographic structure in the early 2020s, as the baby boomers begin to surpass the threshold of 75 years (Chart 1).

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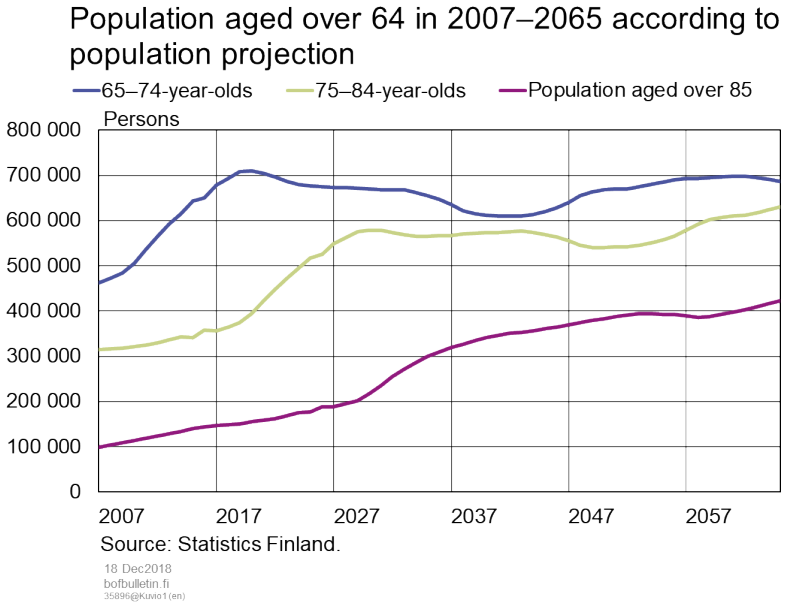
2. In the Bank of Finland's summer 2018 forecast, average annual GDP growth was estimated at 1.5% (see Finland's long-term growth prospects moderate). Following Statistics Finland's new population projection published in November 2018, the Bank's long-term growth forecast has been revised downward, to 1.4%, due to a faster decline in working-age population than forecast in the previous population projection.
3. Bond investments include real estate and money market investments. The Bank of Finland's assumption on equity returns is slightly lower than that of the Finnish Centre for Pensions (ETK) in their corresponding calculations (4.8%). On the other hand, the Bank's assumption about returns on other investments is slightly higher than that of the ETK (2.2%).

Similarly, in the early 2030s, the number of persons aged over 85 will start to grow more rapidly.

Statistics Finland's population projection published in November 2018 assumes that the birth rate will remain unchanged, at its current low level. This means that the number of working-age persons will be markedly lower than in the previous projection. Namely, there would be 200,000 less persons of working age in 2050 in Finland than estimated in the previous population projection. If the labour force participation rate is assumed to remain unchanged, the decrease in the working-age population will also mean a decrease in the number of employed. Weaker employment, in turn, will put a strain on economic growth in the long term.

Chart 1




## Age-related expenditure will grow already in the coming years

Age-related expenditure items are education, healthcare, long-term care and pensions. The sustainability calculations also assess the impact of unemployment on public expenditure. Long-term developments in age-related expenditure are determined based on the population projection. It is assumed that the current cost structure of age group-specific healthcare and long-term care services will remain unchanged and that the supply of services will increase in accordance with the rise in the standard of living. The prices of these services are assumed to rise in line with the price of GDP.

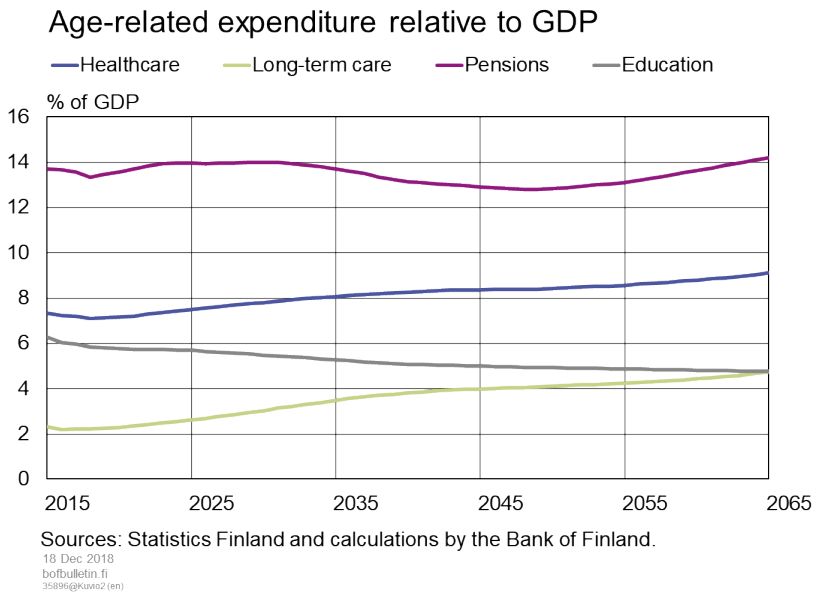
Total age-related expenditure, including unemployment spending, relative to GDP, will grow by an estimated 2.8 percentage points in 2016–2065 (Table 1).

Table 1. Age-related expenditure, % relative to GDP. 2016–2065

| | | | | | | | | Change, p.p. relative to GDP | |
|---|---|---|---|---|---|---|---|---|---|
| | **2016** | **2020** | **2030** | **2040** | **2050** | **2060** | **2065** | **2016–30** | **2016–65** |
| Pensions | 13.7 | 13.6 | 14 | 13.1 | 12.8 | 13.6 | 14.2 | 0.3 | 0.5 |
| Healthcare | 6.8 | 6.8 | 7.3 | 7.6 | 7.7 | 8 | 8.3 | 0.4 | 1.4 |
| Long-term care | 2.2 | 2.3 | 3 | 3.8 | 4.1 | 4.4 | 4.7 | 0.8 | 2.5 |
| Education | 6 | 5.8 | 5.5 | 5.1 | 4.9 | 4.8 | 4.8 | –0.6 | –1.3 |
| Unemployment | 2.4 | 1.8 | 2 | 2 | 2 | 2 | 2 | –0.4 | –0.4 |
| **Total age-related expenditure** | **31.1** | **30.2** | **31.7** | **31.6** | **31.5** | **32.9** | **33.9** | **0.6** | **2.8** |
| **Age-related expenditure, excl. pensions** | **17.5** | **16.6** | **17.7** | **18.4** | **18.7** | **19.2** | **19.7** | **0.3** | **2.3** |

However, age-related expenditure will not grow evenly over time (Chart 2). In 2020–2030, age-related spending will grow already by 1.5 percentage points. During this period, pension, healthcare and long-term care expenditure will grow simultaneously. Pension expenditure growth will peak in the 2030s. From the perspective of central and local government budgets, the expenditure challenges will increase throughout the period under review, since healthcare and long-term care spending will still grow for many years in the 2060s.

Chart 2



## Sustainability gap estimate unchanged

The Bank of Finland's autumn 2018 estimate for the sustainability gap in Finland's public finances is about 3% relative to GDP. The estimate was about 3% also in December 2017. Compared with the year-earlier estimate, the future interest payments on the base-year public debt are now lower, due to more favourable medium-term debt developments. The estimate for the level of the structural primary balance in the base year 2025 has improved slightly. However, the present value of future deficits is estimated to be slightly higher than in the previous calculation. In the current updated calculation, the fiscal balance is strained by the new long-term growth forecast and the weaker population projection. On the other hand, the unit costs on healthcare and long-term care have been brought up-to-date, resulting in a slightly more favourable forecast for expenditure.

## Impact of the interest rate level on fiscal sustainability

It is advisable to test the sensitivity of the sustainability gap estimate against a set of interest rate assumptions. In the projection baseline, the general government debt-to-GDP ratio will surpass the level of 90% in the 2040s. In the sustainability calculation, this is not assessed to change the required rate of return on public debt. However, it is clear that the level of debt and its outlook are connected with the interest rate on public debt. If the real interest rate on Finland's public debt was assumed to rise smoothly to 4%, instead of 3%, the sustainability gap would increase by 0.2 percentage point.

Another method for assessing the impact of interest rates is to assume that the general interest rate level exceeds the baseline, which would affect not only the real interest rate on public debt but also the real return on pension fund investments. If the real interest rate and the return on equity were both to exceed the baseline scenario by 1 percentage point, the sustainability gap would be 0.6 percentage points smaller. Better pension fund returns would reduce the pressures to raise pension contributions, which would leave room for increases in central and local government taxation in the event of a weakening of the fiscal balance, as the total tax ratio is assumed to remain unchanged. This would also compensate for larger interest payments on public debt.

## Impact of employment and unemployment on fiscal sustainability

A higher employment rate would have a positive effect on the sustainability of Finland's public finances. If the employment rate (people aged 15–74) were 1 percentage point higher starting from the 2030s, the sustainability gap would be about 0.5 percentage points smaller. Higher employment would strengthen economic growth and public revenue, especially if the number of hours worked were to rise in the same proportion. On the other hand, the impact is symmetric: if employment were 1 percentage point lower, or correspondingly if structural unemployment were to grow by the same amount, the sustainability cap would be 0.5 percentage points larger.

## Tags

age-related expenditure, sustainability gap, public finances, ageing