

Economic Policy Council Report 2019

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Economic Policy Council

VATT Institute for Economic Research

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Preface

The Economic Policy Council was established in January 2014 to provide independent evaluation of economic policies in Finland. According to the government decree (61/2014) the council should evaluate:

1. the appropriateness of economic policy goals;
2. whether the goals have been achieved and whether the means to achieve the policy goals have been appropriate;
3. the quality of the forecasting and assessment methods used in policy planning;
4. coordination of different aspects of economic policy and how they relate to other social policies;
5. the success of economic policy, especially with respect to economic growth and stability, employment and the long-term sustainability of public finances;
6. the appropriateness of economic policy institutions.

The Council is appointed by the government based on a proposal by economics departments of Finnish universities and the Academy of Finland. Current council started its work in April 2019, when the Council also adopted a rotating scheme, with two of its members changing every two years. At the same time the term of each member was reduced to four years. The Council members participate in the work of the Council in addition to their regular duties.

In the sixth report of the Economic Policy Council we evaluate the government's fiscal policy and its employment-promoting policies. As in the previous reports, in addition to fiscal policy, the Council concentrates on fiscal sustainability and on the connections between social security and employment.

The council does not make its own macroeconomic or fiscal projections but relies mainly on forecasts made by the Ministry of Finance. The most recent information used in this report is the Ministry of Finance Winter 2019 Economic Survey and the December release of the Statistics Finland Labour Force Survey.

The Economic Policy Council has resources to commission research projects to support its work. These reports are published as attachments to the Council report, but the authors of the reports are responsible for their content. Any opinions expressed in them may or may not be in agreement with the Council's views.

Five background reports have been published in connection with this Council report. Juha Tuomala and Tuomas Pekkarinen of the VATT Institute for Economic Research examine the effect of the flexible home care allowance on the labour supply of the parents of children under age three. Tomi Kyyrä of the VATT Institute for Economic Research conducts an empirical research on the effect of the labour market subsidy on unemployment exits based on the Finnish data. Heikki Palviainen of the University of Tampere studies the evolution of social protection systems and incentives in Finland, Sweden, Denmark and in Germany. Juha Junntila and Juhani Raatikainen of the University of Jyväskylä School of Business and Economics provide an empirical analysis on risks of the Finnish state guarantee system. Elena Ahonen from the secretariat estimates Finnish fiscal multipliers.

Several experts have attended Council meetings or contributed to parts of the report. We thank Kimmo Viertola of the Prime minister's office, Juhani Raatikainen of the University of Jyväskylä, Heikki Palviainen of University of Tampere, Tomi Kyyrä, Juha Tuomaala and Tuomas Pekkarinen of the VATT Institute for Economic Research, Markus Sovala of the Ministry of Finance, and Lars Calmfors of International Economic Studies Stockholm University for sharing their views and expertise. We would also like to thank Veliarvo Tamminen, Ilari Ahola and Jaakko Nelimarkka of the Ministry of Finance for patiently responding to several detailed questions by the Council. We also thank the Finnish Centre for Pensions for providing us with details on their employment projections. Elena Ahonen has been competent research assistant for the Council. We are also thankful to Tiina Heinilä, Anna-Maija Juuso, Auli Karra, Marjo Nyberg, Riikka Könönen and Markku Kivioja of VATT for their help in administration and communication.

Helsinki, 29 January 2020

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1. Summary

1.1. Assessment of the economic situation

The Finnish economy seems to have moved beyond a recovery period characterised by high growth rates. Growth expectations for 2020 declined over the past year with increasing tensions in international trade. The period of high growth rates is not expected to continue. The broad consensus among forecasters is that GDP growth will decelerate in 2020 and hence stay close to the potential growth rate of approximately 1 per cent, based on a steadily decreasing working-age population and assumed productivity growth. According to the latest estimates, the Finnish economy has reached its potential level, i.e. the output gap has almost been closed. While the output gap is still slightly positive, there is no need for immediate expansive fiscal policy. It seems that the economic cycle is also cooling off in the main EU countries and monetary policy is expected to remain accommodative. Thus, the slowdown in growth is associated with international economic fluctuations and is difficult to reversed through fiscal policy in a small open economy.

Rapid growth in recent years helped the employment rate to increase to 72.6% in 2019. The predicted slower growth rates are assumed to keep the employment rate at 73%, a historically high level. The employment rate is low compared to other Nordic countries. At the same time the unemployment rate is forecast to stay around 6.5%. The increase in economic activity has also increased the number of vacancies, but the unemployment rate is estimated to be already close to or even below the equilibrium unemployment rate. The ongoing increase in labour shortage is associated with the economic situation and is also being experienced in other European countries. Given the projected slow economic growth and increasing shortage problems in the labour market, it might be difficult to reach the employment rate target of 75% without targeted measures.

The previous government set a fiscal target of reducing the general government deficit to zero by 2020. According to forecasts, general government had a 1% deficit in 2019. Rapid growth in tax bases helped to decrease the general government deficit, but economic growth could not cure the structural deficit in public finances, and the structural balance was -1.2% of GDP in 2019. The current government kept the medium-term objective for the structural balance (MTO) at the minimum level of -0.5%. To support attainment of the target it also set a target of abolishing the general government deficit by the end of the government term. According to forecasts, these fiscal targets will not be met without changes in fiscal policy or rapid employment growth (necessitating labour market reforms). The structural balance is forecast to stay below -1% of GDP and general government net borrowing below -1.2% of GDP throughout the government term. Also, the debt-to-GDP ratio is forecast to exceed the 60% threshold by the end of the government term.

Breaching the 60% threshold for the debt-to-GDP ratio and not attaining a path to the MTO are both against the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union. If economic developments follow the forecasts, Finland will be required to take corrective measures.

Forecasts involve uncertainty, which should be taken into account in formulating appropriate fiscal policy. Economic history shows that large negative surprises are more common than positive ones. Maintaining and increasing fiscal buffers would improve the government's ability to support the domestic economy when necessary.

Despite the normalisation of the economic situation, the long-term prospects remain problematic. According to the most recent estimates by the Ministry of Finance, the long-term sustainability gap is almost 5% of GDP. Fiscal sustainability is broadly defined as the ability of a government to maintain its current spending, taxation and other policies without any immediate need for policy changes.

1.2. Assessment of employment policy

The government places a significant weight on employment growth as a means of achieving its fiscal targets. Increases in employment are needed to help to finance the public expenditures required to reach the social welfare

objectives. However, the share of the private sector and the quality of new jobs are important aspects of the fiscal implications of increased employment.

The government's target of an employment rate of 75% translates into approximately 60,000 jobs, and half of the measures to achieve this should be in place by August 2020.¹ The Council shares the view that increasing employment is an appropriate policy target for helping to finance the welfare state. However, it must be noted that an ex ante evaluation of the employment effects of policy reforms is always challenging. The current government's decision to explicitly link such evaluations to spending decisions, in particular the possible reversal of spending decisions already made, raises the significance of these evaluations to unprecedented levels.

As increased employment is the main means of reaching the fiscal targets, the Council emphasises the need for a plan to attain or even evaluate the fulfilment of the latter half of the employment target. Also, the assessment of employment and the fiscal effects of economic policies should not be restricted to certain reforms only. The Council emphasises that assessment of the attainment of the employment target must include a comprehensive assessment of all the government's policy changes that have a non-trivial effect on employment, including policy changes with negative employment effects.

Some labour market reforms (such as reducing unemployment benefits), while probably effective, may come at the cost of increasing the risk of poverty and inequality. Measures of this type contradict with other objectives set in the government programme. A set of recent studies conducted in Finland examine the employment impacts of various policy reforms. While the results vary, they all seem to suggest that these reforms do not have large impacts on employment outcomes. It also seems that the employment of people not attached to the labour market, e.g. the long-term unemployed, reacts sluggishly to changes in subsidies. Achieving major changes in employment appears to require fairly substantial and targeted policy changes.

¹ The required 60,000 refers to the difference between the target and the Spring 2019 forecast by the Ministry of Finance.

1.3. Assessment of fiscal policy

The government's fiscal policy is moderately expansive when compared to a path with no policy changes. Given that the current cyclical situation is slightly positive, this implies a pro-cyclical increase in both temporary and permanent spending in 2020. Given the fact that there are also long-term reasons to consolidate public finances, the fiscal policy stance can be considered to be too lax.

The government has announced that it is aiming for a balanced budget by 2023, while the current forecast for the general government budget is a deficit of -1.2% of GDP in 2023. This deficit number does not even include the expenditure increase caused by the purchase of fighter jets, which could increase the deficit by ½ percentage point. The government has announced that it will finance the increased deficit by policy measures targeted to increase employment. While the current rather high unemployment rate indicates that there is potential to increase employment, increased labour shortage problems underline the need for labour market reforms. In its programme the government has also committed to reducing income inequality, which further limits the set of policy choices.

According to current forecasts, the increases in permanent and temporary spending in 2020 and 2021 imply that government spending will rise faster than what is allowed under the Stability and Growth Pact. When it comes to the conditionality of the consolidation decisions with respect to employment growth, it would have been more prudent to establish the conditionality in reverse order so that spending is increased if the target is met. In part, such conditionality is applied to the package of 'future-oriented investments', for about half of which no implementation has yet been made and thus these are not included in the fiscal forecasts.

The government's temporary package of 'future-oriented investments' can be considered to be misleadingly labelled as many of the items included do not bear close resemblance to investments. Also, it is unclear why many of the items in the package should be funded via a temporary programme instead of on a more permanent basis. The government has decided to fund these one-off expenditures through property income. While financing expenditure via deficits or sales of assets has an equal effect on net wealth, asset management decisions should be made on the basis of strategic considerations for or against government ownership, not on the need to fund particular packages.

Increasing the government deficit when the business cycle has just passed its peak is likely to reduce the scope to make fiscal policy more accommodative in the event of a possible future downturn. While the general government debt-to-GDP ratio is low compared to most European countries, the government has introduced an escape clause into the spending limits, which allows spending increases if the Finnish or European economy is hit by a severe downturn. The Council welcomes this well-defined flexibility but points out that discretionary spending measures are slow to implement, and there is uncertainty about the size of the economy's reaction to increases in public spending.

However, the very low, or even negative, interest rates that the government currently benefits from lower the cost of the deficits relative to what they would be in more normal times. In addition, low interest rates would be an argument for undertaking necessary investment sooner rather than later to benefit from the low financing costs. It would be useful to have a plan for such investments so that the opportunity could be seized. Any such investments would, naturally, need to pass normal cost-benefit tests. One also needs to remember that public investment is already at a high level in 2020.

1.4. Assessment of fiscal sustainability

Finland has a significant long-term fiscal sustainability problem. This is caused by the changing demographics, which are reducing the share of the working-age population and increasing the share of the old-age population. These changes will reduce tax revenue and increase spending on publicly funded transfers and services such as health care and pensions. A straightforward projection shows that without policy changes during the government term, the Finnish debt-to-GDP ratio will reach over 80% in 15 years, which indicates sustainability problems also in the medium term. The sustainability gap is also partly caused by a structural deficit that is forecast to remain large over the government term.

Unlike the previous government, the current government has not directly committed to making decisions that would eventually close the long-term sustainability gap. Increasing employment is given as the main solution to the Finnish sustainability problem. The government has set an ambitious goal of 75% for the employment rate, and notes in its programme that an even higher rate would be needed to abolish the long-term sustainability problem.

Both medium-term and long-term sustainability problems have been building up for a long time and were inherited by the current government. The government has decided to increase permanent expenditures by EUR 1.4 billion, and to fund these increases by tax increases and employment growth. If the employment target is met with the required fiscal effects, which is still uncertain, the government will have succeeded in not further worsening the state of public finances. It is problematic that the government does not even aim to increase the government's fiscal capacity, which is set to deteriorate considerably in the next two decades. Also, financing permanent expenditure increases through higher employment reduces the potential to fight the inherited sustainability problem.

The government appears to have made a realistic assumption concerning the effect of employment growth on the primary balance when drafting its programme. The government should, however, continue to monitor the quality of employment growth from a fiscal perspective. The fiscal benefits of employment growth are reduced if employment growth is disproportionately part-time, or especially if the new jobs are funded by the government either through wage subsidies or public employment. It should also be noted that a significant part of the improvement in the general government primary balance from employment will come via an increase in pension contributions, which in the longer term is matched by an increase in pension expenditure.

In previous years the government has increasingly participated in the risk-taking of exporting industries. Compared to our European peers, the contingent liabilities of central government have increased to a relatively high level. A study commissioned by the Council shows that these guarantees have increased central government's exposure to the tail risks associated with international financial turbulence.

The recent reduction in fertility has received much attention, and it has raised concerns about long-run fiscal sustainability. This concern often neglects the fact that there was a significant long-run fiscal sustainability problem due to population ageing even before the recent decline in births. While it is true that a reduction in cohort sizes increases the sustainability gap, this effect is modest relative to the sustainability gap already in existence and does not change the broad picture of long-run fiscal sustainability. Across general government the pension system is most exposed to changes in fertility, with reduced pressure on educational spending counteracting the negative effect on the rest of the public sector.

The challenge of fiscal sustainability is a serious long-term issue which will be faced not only by the current government. Closing the sustainability gap does not need to be done immediately, but it must be dealt with sooner rather than later. This is why there should be a credible medium-term plan about how the sustainability gap will be addressed. The Council sees merit in an arrangement where such a plan would be discussed and decided in parliamentary negotiations, the decisions of which would serve as an anchor not only for the current but also future governments.

2. Recent economic developments

The upswing in Finland's business cycle started in 2016 and continued through 2017. In 2018 the annual growth rate decreased, but still exceeded 2 per cent with private consumption and net exports as the main factors contributing to economic growth. Higher growth has increased demand for labour, and the employment rate increased rapidly already in the first half of 2018. The unemployment rate has also started to decline, but at a slower pace since previously inactive unemployed people have started to search for jobs. With increasing labour demand, labour shortage problems seem to be worsening. Many forecasts anticipate that growth will decelerate in 2019 and 2020 towards the long-term growth of potential output.

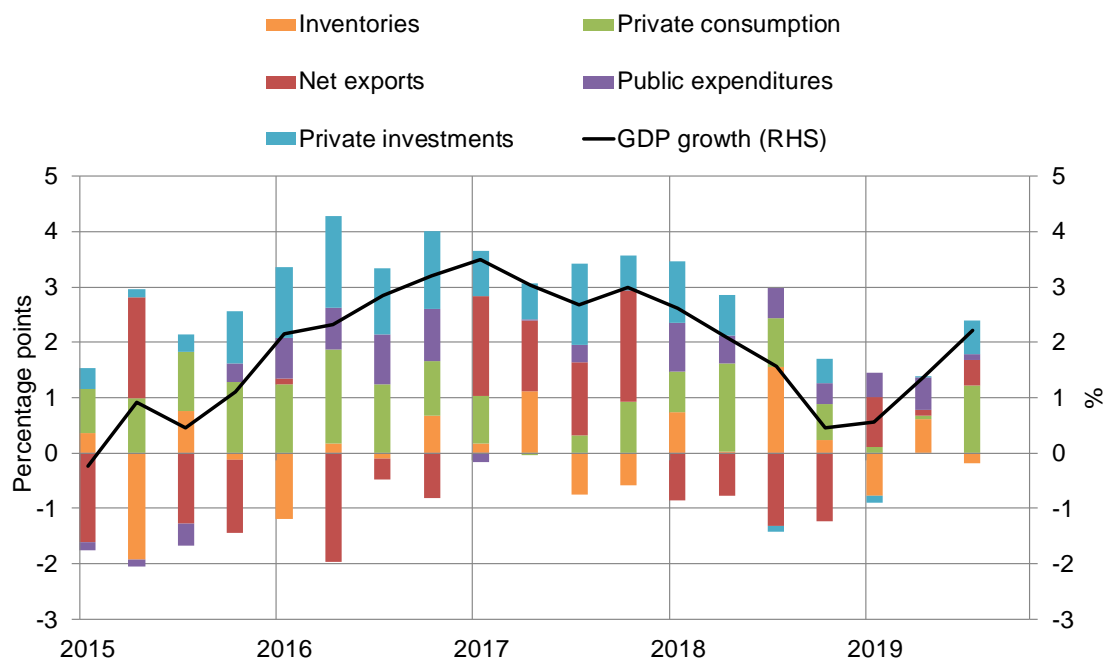
This chapter discusses recent economic developments and their implications for the appropriate fiscal policy stance.

2.1. GDP growth and its components

After two years of rapid growth the Finnish economy seems to have passed the peak of its cycle. Economic growth started to decline at the end of 2018 but according to latest statistics GDP growth accelerated in 2019. Growth has been supported by increases in domestic demand and in net exports, see Figure 2.1.1. In the medium run, annual growth rates are expected to remain close to 1%.²

² In June 2019, various domestic research institutions published their estimates of the growth rate of the Finnish economy in the next 20 years. The mean estimate for annual GDP per capita growth in the next 10 years is 1.1% and 1.4% in the following decade. See, Heimonen and Lehkonen (2019).

Figure 2.1.1. Latest data shows that GDP growth gathered pace in 2019.



Sources: Statistics Finland and EPC.

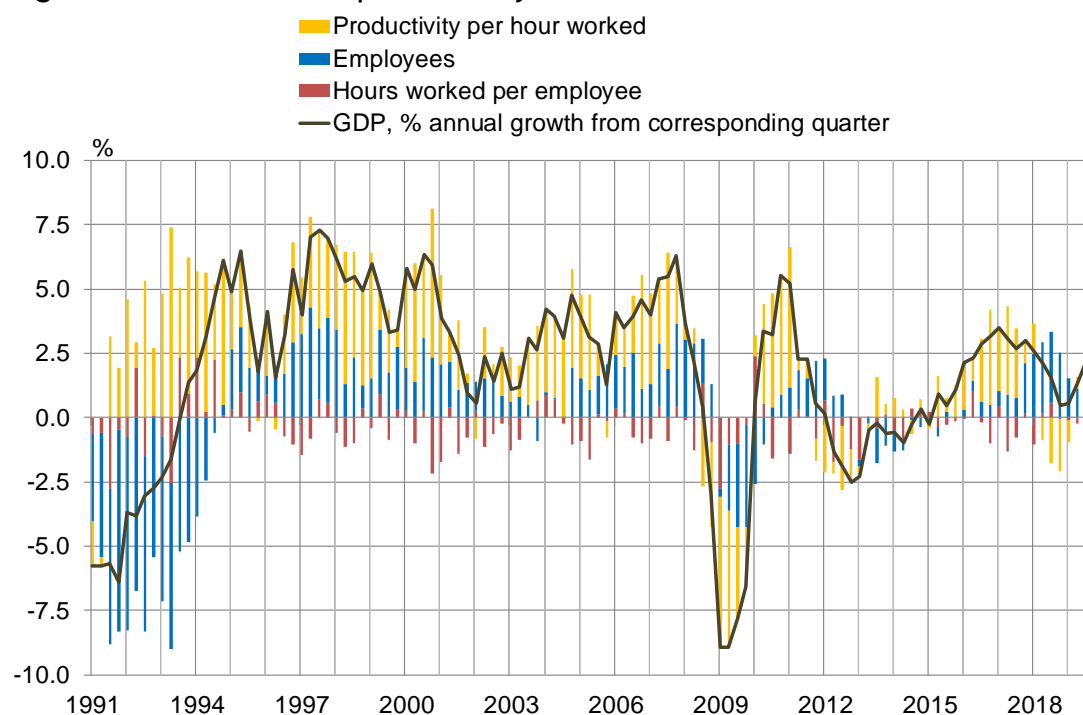
Growth forecasts of various national and international organizations are summarized in Table 2.1.1. The broad consensus among forecasters is that GDP growth decelerates in 2020 and stays close to the potential growth rate in the future. The growth expectations for 2020 declined over the year 2019 with increasing tensions in international trade. Compared to the forecasts published at the end of 2018, this revision can be considered moderate, as the revisions have been approximately 0.5pp. Naturally both the forecasts and the National Accounts Statistics contain a degree of uncertainty and the picture of the recent economic situation can change as information accumulates. However, it is fair to conclude that the economic situation has now normalized from the recession period of 2012-2014.

Table 2.1.1. Forecasts of real GDP growth rates (per cent).

	2019	2020	2021	2022	2023	2024
Bank of Finland (17 Dec 2019)	1.3	0.9	1.1	1.3		
Ministry of Finance (18 Dec 2019)	1.6	1.0	1.1	1.2	1.0	0.9
OECD (8 Nov 2019)	1.3	1.0	0.9			
European Commission (7 Nov 2019)	1.4	1.1	1.0			
IMF (7 Oct 2019)	1.2	1.5	1.5	1.4	1.3	
PT (17 Sept 2019)	1.3	1.1				
ETLA (16 Sept 2019)	1.1	0.9	1.1			
PTT (12 Sept 2019)	1.3	1.2				

Although growth in GDP slowed in 2018, employment grew rapidly. Quarterly national account statistics indicate that hours worked per employee remained broadly unchanged in 2018-2019, suggesting that the growth in employment followed the normal composition of employment between part-time and full-time jobs. However, as the growth in employment was faster than GDP growth, productivity per hours worked decreased in 2018. In 2019 employment growth slowed down and the decreases in productivity ended, see Figure 2.1.2.

Figure 2.1.2. Decline in productivity ended in 2019.



Sources: Statistics Finland and EPC.

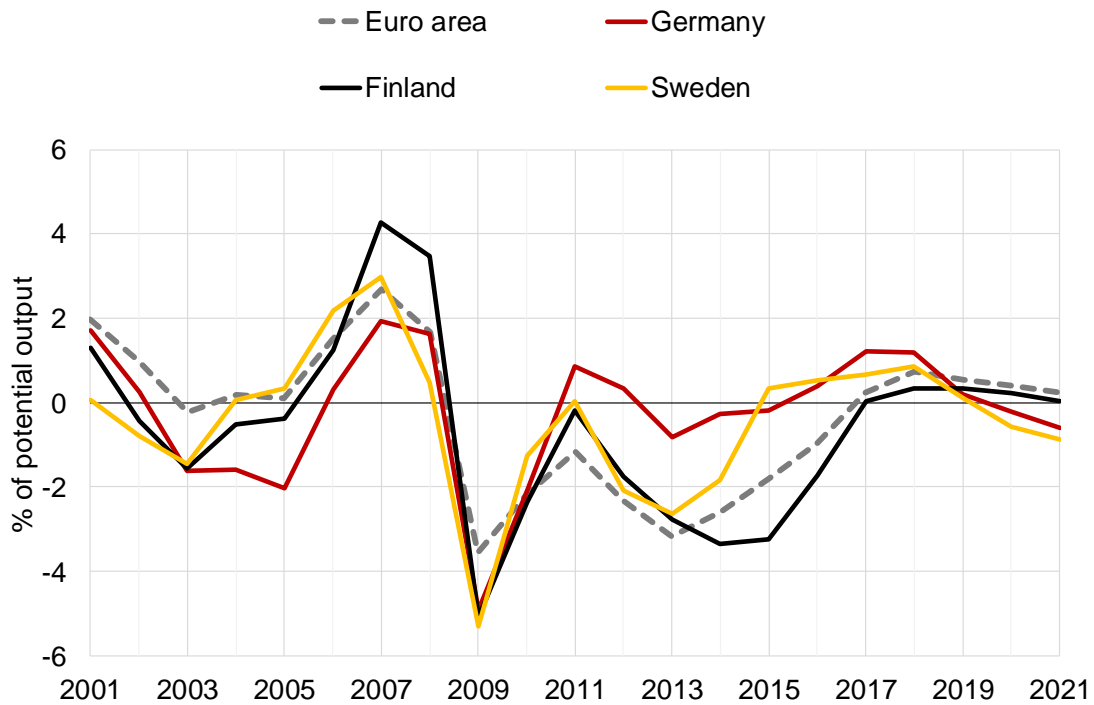
2.2. Potential output and international economy

Potential production can be defined as the level of production that can be sustained over the long run. Domestic production can be above potential when, for example, excess domestic demand is at an unsustainable level or increases in employment accelerate wage inflation. Also, a production level below potential can be associated, for example, with sudden decreases in demand or production difficulties. From the production function perspective, growth in potential output is driven by changes in the growth of the labour force, production capital and productivity. Increases in capital, productivity and hours worked since 2015 have accelerated potential output growth. While the Ministry of Finance forecasts that growth in the capital stock and productivity will continue in the future, the growth in employment is forecast to turn into a decline. In total, the sustainable annual rate of growth of the Finnish economy is estimated to be 1 per cent.

Assessment of potential output and the output gap involves a great deal of uncertainty arising from methodological issues, possible revisions to current data, and from forecasts that the estimates are based on.

In its previous report, the EPC discussed the delayed start of the business cycle upswing in Finland. Figure 2.2.1 depicts the latest output gap estimates by the European Commission for the euro area, Sweden, Germany and Finland. According to these estimates, the Finnish business cycle peak was higher than those in reference countries. It is also notable that the cycle had turned in our biggest trading partners already in 2017 and 2018. The output gaps are based on the European Commission forecasts – the Finnish business cycle situation is forecast to follow the European cycle in the coming years.

Figure 2.2.1. European business cycle is entering its next phase.



Source: AMECO database.

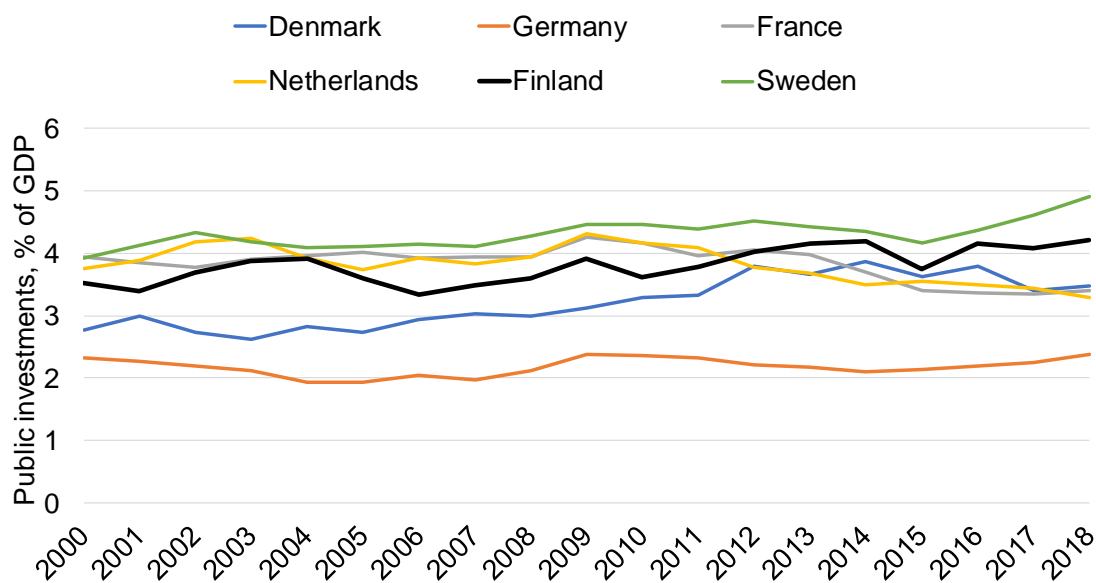
Following the financial crisis, the European economy has been stimulated by low, and negative, interest rates and by unconventional monetary policy. In a recent research paper, Mouabbi and Sahuc (2019) estimate that the ECB's unconventional monetary policy contributed to annual GDP growth in the euro area of 0.5% in 2014Q1-2016Q1. At the beginning of 2019 it seemed that the ECB would be able to cease its asset purchase programme. However, with growing tensions in the economic climate and downward revised growth forecasts the ECB announced that it would restart its asset buying programme again in November 2019. In his introductory statement, ECB's President Draghi, noted that:

'In view of the weakening economic outlook and the continued prominence of downside risks, governments with fiscal space should act in an effective and timely manner. In countries where public debt is high, governments need to pursue prudent policies and meet structural balance targets, which will create the conditions for automatic stabilisers to operate freely.'
ECB (24.10.2019).

In the Finnish discussion this has been translated into a somewhat urgent need for fiscal stimulus. Finnish fiscal policy will be discussed from this perspective in Chapter 4.

Compared to other European countries that also experience low interest rates on public debt, Finland has taken an advantage of the situation to finance public investments. Figure 2.2.2. depict the GDP share of public investments in Finland and other well-developed European countries. Higher GDP shares of public investments than in Sweden and Finland can only be found in the Eastern European Countries and in Norway.

Figure 2.2.2. GDP share of public investments is relatively high in Finland.



Source: Eurostat.

2.3. Labour markets

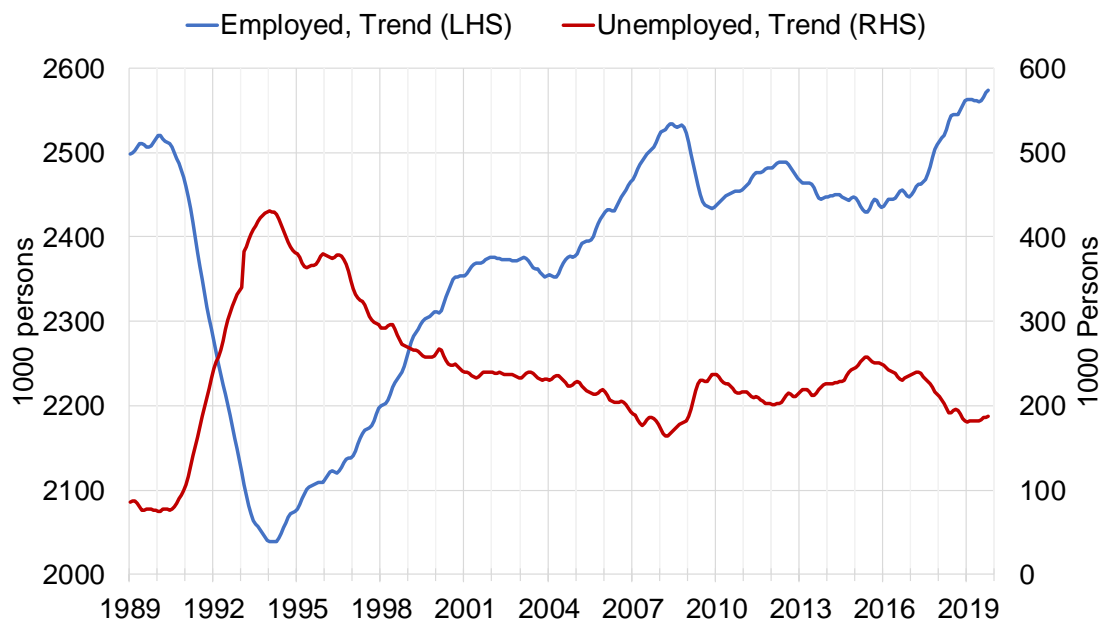
The employment situation has been improving constantly since the beginning of 2017. According to the Quarterly National Accounts data, the number of employed persons has increased by 118,000 in the past 2½ years, including an increase of 12,000 jobs in the public sector.

According to the Labour Force Survey, the number of unemployed persons has decreased by 12,000 between 2018Q2 and 2019Q2 and by 63,000 between 2017Q2 and 2019Q2. Disguised unemployment, i.e. the number of people that are registered as unemployed but are not actively searching for employment, has decreased since the beginning of 2017. While in 2018 the

statistics showed increases in employment in all sectors, in 2019 growth in employment slowed and turned into a decline in some sectors, e.g. social and health care and in some manufacturing industries.

The trend employment rate reached its highest value of 72.6% in September 2019 and the trend unemployment rate has been at 6.7% since April 2019. The unemployment rate is now at its lowest level since the financial crisis. Also, the employment rate of 15-64-year-olds has passed its past record. Figure 2.3.1 shows the number of employed and active unemployed 15-74-year-olds. The total number of people in the active labour force has increased to 2.75 million.

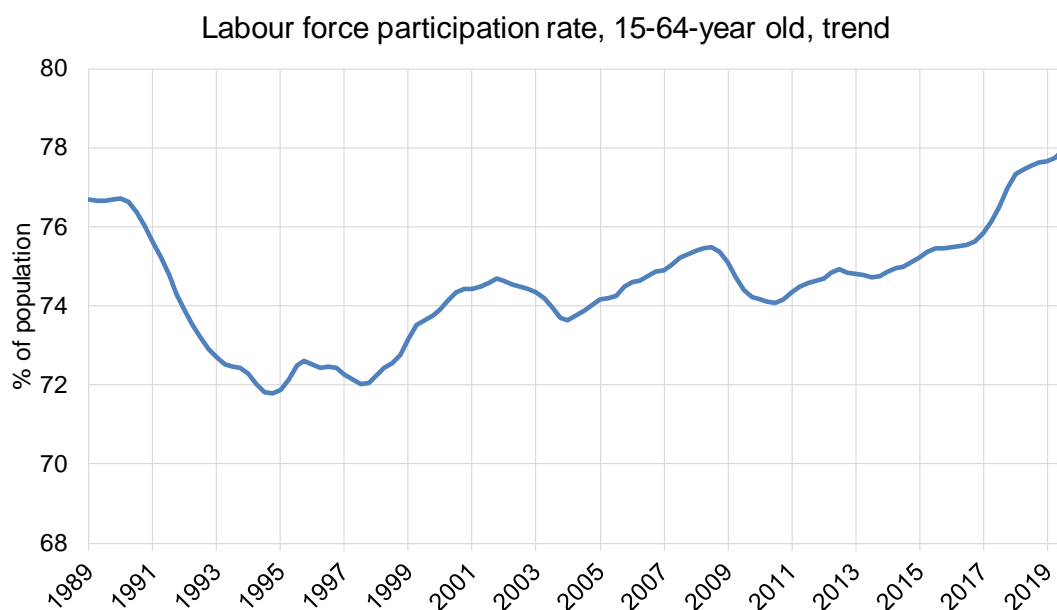
Figure 2.3.1. The number of employed people keeps increasing.



Sources: Statistics Finland: Labour Force Survey and EPC.

Based on the Labour force survey, the participation rate of 15-64-year olds has increased and is already close to 80% level, see Figure 2.3.2. Alongside the increases in the number of employed and increases in the number of active unemployed, the increases in participation rate is partly caused by the declining number of 15-64-year olds.

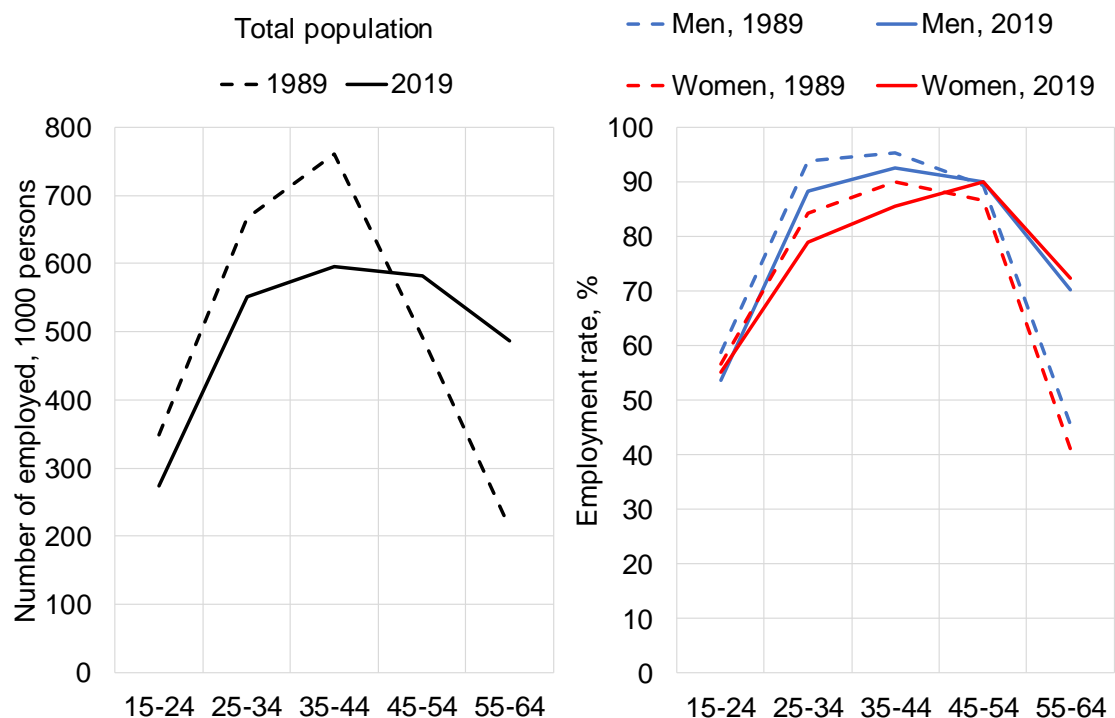
Figure 2.3.2. Participation rate has reached the 78% level.



Sources: Statistics Finland, trend by EPC.

Despite the changes in the size of the population in the 1990s and 2000s, the size of both the labour force and the population of 15-64-year-olds was surprisingly similar in 1989 and 2019. However, the composition of the labour force has changed as the employment rate of older workers has increased over the past 30 years. Figure 2.3.3 depicts both the number of employed persons and employment rates in different 10-year age groups in 1989 and in 2019. The increase in employment in the oldest age group can partly be explained by changes in working life and life expectancy and a decrease in employment in the youngest age group due to increases in education. While there is still room for improvement in employment rates of the oldest age group, the employment situation of 25-44-year-olds is rather alarming as also the labour force participation rate of this age group has been on a declining trend in the past ten years. The relative changes in employment are same for both genders in almost all age groups.

Fig 2.3.3. Employment of 55-64-year old has increased.



Sources: Statistics Finland, seasonal adjustment by the EPC.

According to the Labour Force Survey, two thirds of the active unemployed in 2019 had been unemployed under 6 months. According to the Ministry of Economic Affairs Employment the number of long-term unemployed, i.e. those who have been registered for 12 months, has been on a steady decline over the past two years.

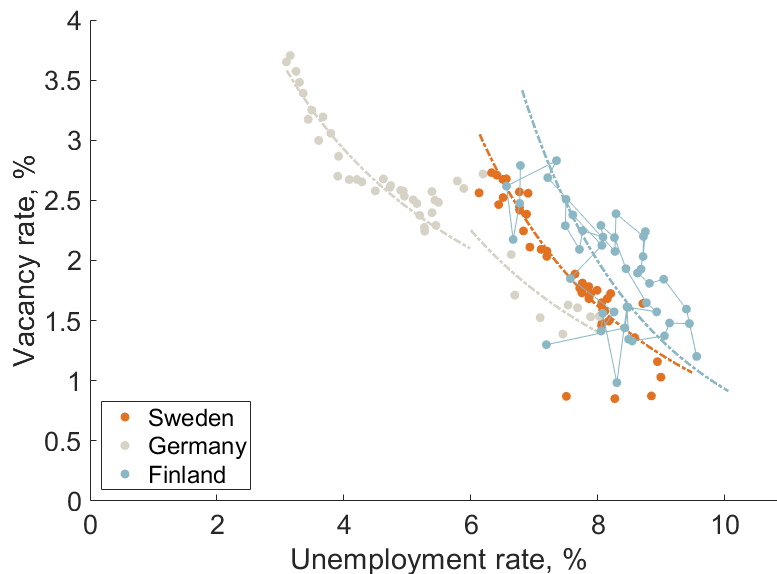
The vacancy rate in the Finnish business economy³ remained at a record high level in 2019. Figure 2.3.4 depicts the business economy vacancy rate and unemployment rate⁴ in Finland, Sweden and in Germany. The resulting Beveridge curves show how changes in the unemployment rate and in the vacancy rate are related in these countries. Upward movement along the curve is characteristic of economic boom periods, while movements in the curve itself or

³ The business economy is a grouping of the following economic activities: industry, construction and services, excluding activities of holding companies. It does not include agriculture, forestry and fishing and public sector and non-market activities.

⁴ The vacancy rate refers to vacancy rates in the business economy and the unemployment rate refers to the unemployment rate as measured in the Labour Force Survey. This comparison uses business economy vacancies to disregard the effect of increases in public employment and vacancies. Both rates are published by Eurostat. Seasonal adjustment is performed using the X13-ARIMA-SEATS method.

changes in the steepness of the curve are taken to indicate changes in labour market conditions.

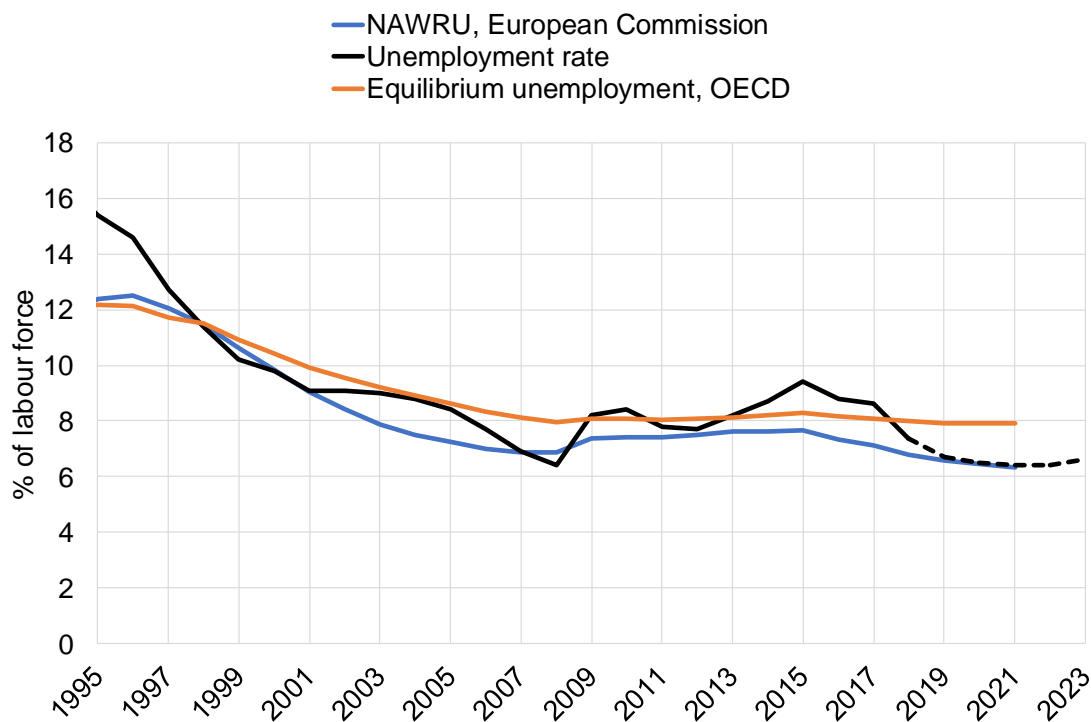
Figure 2.3.4. Change in vacancy rates* and unemployment rates in selected economies between 2009Q1 and 2019Q3.



Sources: European Commission and calculations by the EPC.
*The vacancy rate and the unemployment rate are based on surveys.

In 2009, the unemployment rate was roughly 8% in each country. Over the past 10 years, vacancy rates in the business economy have increased in each country, but the resulting effects on unemployment rates seem to vary across countries. According to the estimated Beveridge curves, the strongest reaction to an increase in open vacancies seems to be in Germany. The curve becomes steeper as the unemployment rate decreases. The relation depicted in Figure 2.3.4 is not constant over time. Recent decreases in both the unemployment rate and the business economy vacancy rate in Finland may be a sign of a structural change in the labour market matching process. Such a change seems to have occurred in Germany in the previous trough of the German business cycle in 2013.

Figure 2.3.5. Unemployment is below its trend and almost at the structural level.



Sources: OECD, AMECO database, Statistics Finland, forecast for 2019-2023 by Ministry of Finance.

The decrease in the unemployment rate experienced in recent years has happened without inflation pressures, indicating that the equilibrium unemployment rate, or NAIRU/NAWRU⁵, has decreased. Figure 2.3.5 shows the equilibrium unemployment rates estimated by the European Commission and the OECD. According to the Commission’s estimates, unemployment is now at an equilibrium level. On the other hand, the OECD estimates indicate that the unemployment rate is well below equilibrium. The difference is explained by the methodology, as the EC estimates relate the unemployment rate to wage inflation and the OECD estimate is closer to the results that could be obtained with a univariate filter, see Box 2.1.

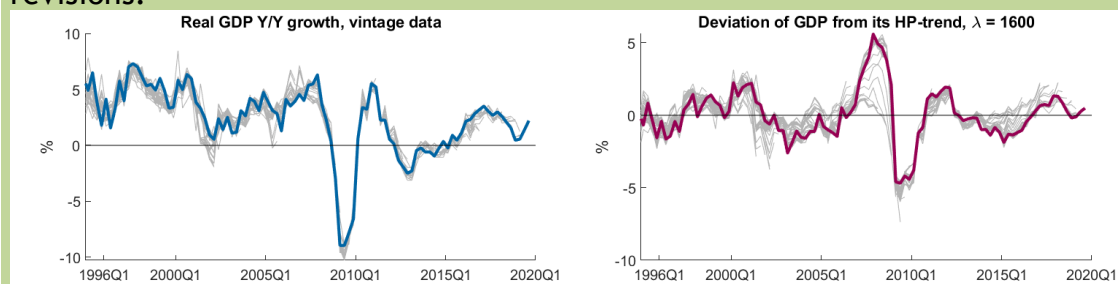
⁵ NAIRU is the Non-Accelerating Inflation Rate of Unemployment, and NAWRU the Non-Accelerating Wage Rate of unemployment.

Box 2.1 Multivariate filter and univariate filter.

Finland's output gap is estimated by a number of domestic research organizations, namely the Ministry of Finance, the Bank of Finland and ETLA, who publish their estimates biannually. In estimating the output gap, these institutions use methods that are based not only on annual data but also on forecasts. The use of forecasts adds a source of uncertainty to the estimation and makes estimation of the output gap rather demanding. To acquire more timely information on the output gap, i.e. the business cycle situation and possible turning points, one must use a method that is based solely on quarterly data releases. This box presents one possibility for such an approach.

The univariate HP filter by Hodrick & Prescott (1997) is often used to derive empirical approximations for trend, or potential, GDP. Estimates of trend GDP vary over time as data for later dates becomes available. In the case of univariate filtering techniques, revisions to the most recent quarters tend to be particularly large, creating an awkward problem for current analysis. The so-called end-point problem is especially large in a small open economy, where the Quarterly National Accounts also tend to be revised substantially between releases. The problems arising from the revisions of statistics is illustrated in Figure B2.1. The left panel shows the revisions to the quarterly year-on-year growth rates of real GDP in Finland between 1996Q1 and 2019Q3. The data covers all releases of Quarterly National Accounts between March 2002 and August 2019 and is acquired from the OECD database. The right panel of the Figure depicts the gap between actual GDP and its HP trend for each data vintage.

Figure B2.1. A univariate filter is affected by new observations and data revisions.



Sources: OECD and EPC.

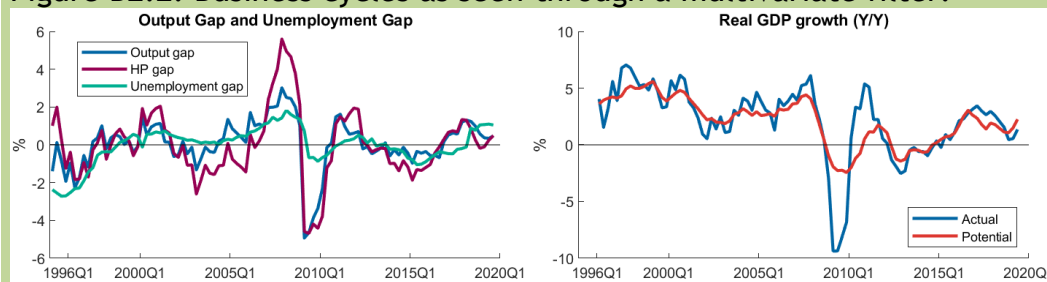
The problem of large revisions can be lessened by enlarging the filter from a univariate setup to a bivariate or a multivariate one. The introduction of

non-revised data, such as survey data, makes the estimates of the output gap more stable over data releases.

To provide up-to-date information on cyclical situation and on potential output, we build a model using a multivariate filtering (MVF) method for measuring potential. The MVF method used incorporates empirical relationships between actual and potential GDP, unemployment, core inflation and capacity utilization in manufacturing industry, within a framework of a small macroeconomic model. The model is based on work by Benes et al. (2010) but is slightly modified to include expectations of the output gap process.

The estimated model imparts filtered trends to GDP, unemployment and the capacity utilization rate. The left panel of Figure B2.2 depicts the estimated variation in GDP and unemployment around the estimated trend, referred to as the output gap and unemployment gap, respectively. A positive unemployment gap refers to a situation where the unemployment rate is below the equilibrium rate. The right panel of Figure B2.2 depicts the variation in the growth rates of both actual and potential output.

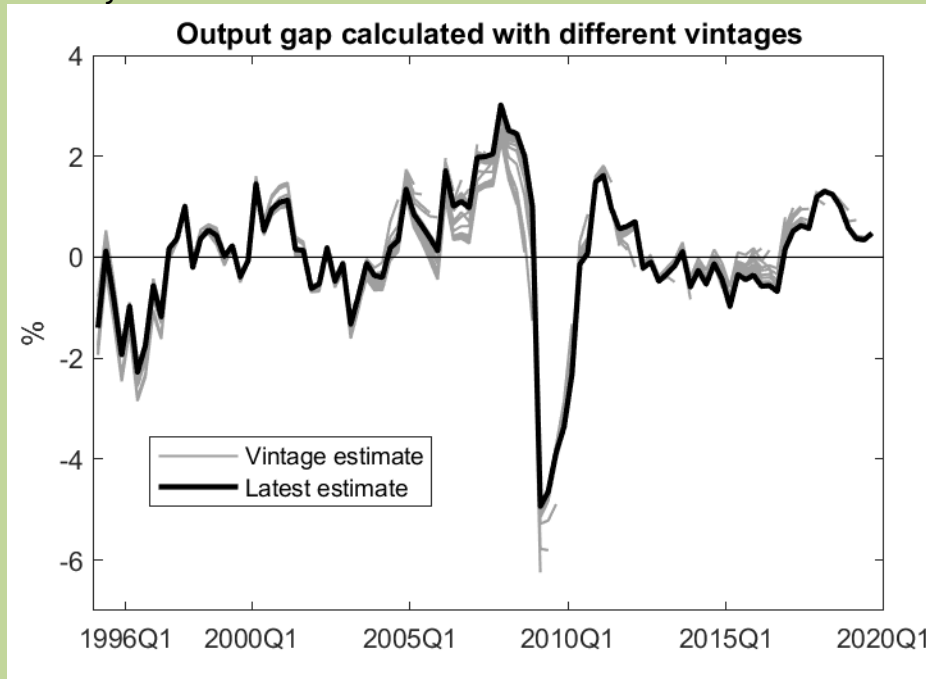
Figure B2.2. Business cycles as seen through a multivariate filter.



Source: EPC.

As the purpose of the model is to analyse the concurrent state of the business cycle, we test the reliability of the model using the vintage data above. The vintages are needed only for real GDP as the data on the other variables in the model are not revised after the first release. The estimates based on a multivariate filter get revised less than estimates based on HP-filter.

Figure B2.3. Revisions to a multivariate filter-based output gap are comparatively small.



The presented multivariate filter gives an up to date information on the business cycle. The multitude of unrevised time series used in the estimation decreases the effect of data revisions of the headline GDP on the output gap. However, the variance of the estimated output gap seems to be smaller than one produced with the standard production function methodology.

2.4. Conclusions

After reaching the peak of the cycle in the turn of 2017-2018 economic growth seems to be cooling down. The employment rate has increased to a remarkably high level and unemployment seems to be close or even below its equilibrium level.

There is no need for immediate expansive fiscal policy, because the output gap is still slightly positive.

It seems that the economic cycle is cooling off in main EU countries and the monetary policy remains accommodative. Thus, the slowdown of growth is associated with international economic fluctuations.

The ongoing increase of labour force shortage problems is associated with economic situation and is experienced also in other European countries.

Given the projected slow economic growth and increasing shortage problems in labour markets, the employment rate target of 75% might be difficult to reach without changing the structures of labour markets.

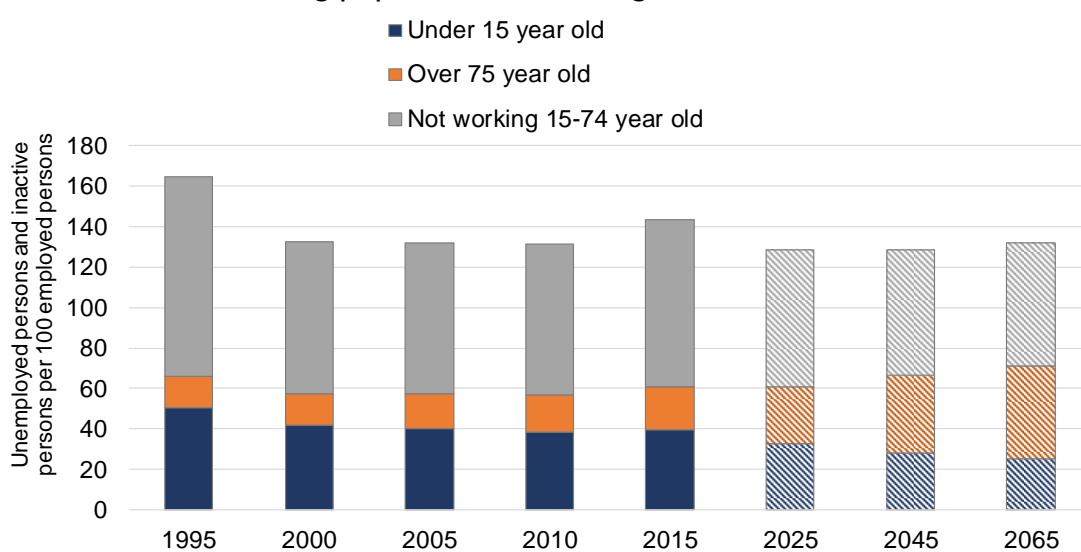
Forecasts involve uncertainty, which should be taken into account in formulating appropriate fiscal policy. Maintaining and increasing fiscal buffers will improve the government's ability to support the domestic economy when necessary.

3. Employment policy

The government set its main goal for employment policy in its government programme, which targets an employment rate of 75% by 2023. This objective has also been translated into policy decisions designed to increase employment by 60,000 persons. The reasoning for the employment target is long-run economic sustainability, and growth in employment is given as one of the main sources of revenue growth over the government term.

An increase in employment is a key element in improving the sustainability of Finland’s public finances and the welfare state. Figure 3.1 depicts the economic dependency ratio, i.e. the number of non-employed people per 100 employed. While the economic dependency ratio is projected to remain fairly stable in the future, the population share of pensioners is projected to increase. Eventually the number of people who are dependent on expensive old-age care will increase.

Figure 3.1. Economic dependency ratio will remain stable, but the age structure of non-working population will change.



Sources: Statistics Finland. Employment forecast based on projection by Finnish Centre for Pensions.

The Finnish general government has been running a deficit for the past 10 years. Stabilising public finances requires fiscal adjustment and increases in both employment and productivity that will also increase revenue in the public sector. Of these two, the employment rate is more directly related to government policies than productivity. Thus, the employment rate is a sensible policy target, and the government's emphasis on this indicator is fully justified.

Stabilising public finances should not be the only motivation of employment policy. Labour market structures are formed by past agreements and policies and they affect the employment possibilities of people outside the labour force. Participation in the labour market also has a social dimension, and therefore possibilities for employment based on individual needs and preferences should be enhanced.

In this section we assess the government's employment policy and its target, discuss structural issues in the Finnish labour market and describe the main principles in assessing the effects of public policy on employment.

3.1. Employment policy targets

The government has set an employment rate target of 75% by 2023, with the government programme also containing an unemployment target of 4.8% for the same year. A comparison of the employment and unemployment rate targets tells us how much the government aims to increase participation to labour force. A little arithmetic and some relatively innocuous assumptions suggest that approximately four fifths of the employment growth target is assumed to come from the pool of the unemployed, with the rest coming into employment from outside the labour force⁶ (Seuri 2019b). Historically speaking, such a ratio is not exceptional, although it is rather at the high end of the distribution. If we look at all the four-year periods (to keep things comparable to the government programme) during which unemployment declined and employment increased in 1989–2018, on average the number of unemployed declined by about 60% of the increase in the number employed.

The purpose of the discussion above is not to comment on the realism or the consistency of the government's employment targets, but to understand

⁶ The required increase in the employment would increase the participation rate of the 15-64-year-old population by 0.3 percentage points.

where the government sees most potential in increasing employment. The answer is, it seems, among the unemployed.

In its programme the government states that it is “strongly committed” to the 75 per cent employment rate target “under normal international and ensuing domestic economic conditions”. Employment growth is the most important single element in the government’s plan to increase revenues and achieve a zero net general government lending position by 2023. As the government programme acknowledges, the effect of employment growth on fiscal sustainability may vary depending on the quality of the jobs and the policies implemented to achieve it.

Overall, the government commits to a number of principles but specifies few policy proposals in its programme. The following are some of the key principles the government has committed to in its employment policies:

- In addition to the employment rate of 15-64-year-olds, the government will monitor the employment rate of 20-69-year-olds, hours worked, the full-time-equivalent employment rate, and the quality of jobs.
- The government will evaluate employment growth vis-à-vis the target “continuously”, with developments monitored annually when drafting the general government fiscal plan, when drafting the budget, and in the government’s mid-term review.
- In its labour market policies, the government commits to taking no actions with negative employment effects without simultaneously compensating them with more efficient employment-improving policies.

The government programme includes some information as to how the employment target is to be monitored and how fiscal policy is to be made conditional to achieving it:

‘The aim is that, under the normal economic circumstances described above, the combined effect of [certain measures listed in the programme] and other measures will be at least an additional 60,000 people employed. Of the measures referred to above, half will be in place by the government budget session in August 2020. If this is not the case, the government budget session will assess the expenditure increases previously decided, which were made relative to the technical General Government Fiscal Plan.’

By August 2020 the government should have measures in place to deliver 30,000 jobs, or else previously decided expenditure increases will be “assessed”. The paragraph quoted raises one important question: what about the other half of the employment target? When will the government assess whether the latter goal of generating 30,000 jobs has been attained, and does the government commit to assessing expenditure increases if measures are not found for this other half of the target? The government should clarify its position to improve transparency and reduce uncertainty.

Our understanding is that the government’s employment target refers to the employment effect of the government’s policies as evaluated *ex ante*. Compared to a more traditional approach of simply targeting employment, a target of this type may be more difficult to communicate to the general public. It is, however, preferable in terms of evaluation and accountability, provided it is implemented properly.

Employment growth over a single government’s term is determined by many factors and evaluating whether failure or success in reaching the target was due to the government’s policies is extremely difficult. Targeting a particular employment rate four years ahead also risks inducing short-termism into employment policy. Although the current government’s *ex ante* employment growth target is defined at the 2023 level, redefining this target for a later date would not constitute much of a loss of accountability. This is because fulfilment of the target must in any case be evaluated before the end of 2023.

An *ex ante* target for employment growth is more demanding than a simple target of actual employment. The employment effects of government policies are evaluated regularly, and the Council has routinely commented on these evaluations. By explicitly fixing spending decisions to the results of *ex ante*-employment evaluations, the current government has significantly raised the stakes in this area. While the economic policy discussion concerning the assumptions in these evaluations – for example labour demand elasticity and the previous government’s cost competitiveness package – may often seem rather academic, in the next few years such assumptions will, at least in principle, directly determine whether individuals will see their benefits and services cut. This is a considerable challenge both for the government in assessing these effects and for civil society in evaluating the credibility of the government’s assessment.

As per its mandate, the Council will evaluate the government's measures and their employment effects. The government is still preparing policy measures to reach its employment target. As the government has stated that half of the required measures should be in place by the budget discussion in autumn 2020, the Council will also evaluate these measures and their stated employment effects in its next report. We would, however, like to discuss some challenges and basic principles related to assessing the employment effects. Broadly speaking, there are three key issues.

First, policy measures should be identified. In most cases this is straightforward. There may be some exceptions, however: is inflation-adjustment of the income tax schedule a policy measure? From a certain perspective, certainly. As inflation adjustment does not happen automatically, the government has to take measures to enact it. But from the perspective of increasing employment to improve the long-run sustainability of public finances the issue is less clear as for example long-run sustainability assessments implicitly assume that full indexation is carried out.

Second, the government must determine whether a policy measure is a government action. This again may seem trivial, but in many cases it is not. There are some policy measures which originate from the previous government's decisions, and some measures where the decision is *de facto* made by some other body. For example, the unemployment insurance contribution rate is formally decided by parliament, but the proposal comes from the employment fund via the Ministry of Social Affairs and Health. The fund makes its proposal within relatively tight constraints set by law. A rather similar case arises also when evaluating the origin of the government proposal to increase the eligibility age of so-called 'unemployment tunnel to retirement' by one year. This reform on social security was proposed to the government by social partners and the reform was negotiated during the previous government term.

In these two instances, for borderline cases it may be tempting to include a measure if it improves employment, but to exclude it if it reduces employment. The government's treatment of different measures should be principled and symmetric.

Finally, the government must assess the employment effects of a given measure. As noted above, this is already done regularly and there is good expertise

on this in the state administration, but the current government's targets increase the needs for these assessments both in terms of scope and accuracy.

The following items present some principles that could be useful when assessing the employment effects of government measures.

1. The evaluation of the effect of government actions on employment should be comprehensive. Assessment of whether the employment target is met should not only take into account employment policy measures which are intended to boost employment, but also measures which may have unintended consequences for employment.⁷
2. The employment increase created by the government's measures should be permanent or at least very long-lasting.
3. If possible, the quality of employment growth should be evaluated. It is especially important to discuss the quality of employment growth in terms of its fiscal effect.
4. Possible spill-overs of policies should be discussed and considered, whenever possible. There is international evidence from labour market programmes where increased employment among participants comes partly at the expense of other job-seekers in the same labour market (e.g. Crépon et al. 2013).
5. It should be carefully decided whether a certain policy action is the government's own measure. Examples of potentially difficult cases are changes in payroll taxes and the so-called unemployment tunnel (early retirement channels).
6. An identical index adjustment to all income brackets which are in accordance with the predicted growth in index of wage and salary earnings should not be defined as a change in policy. All the changes which deviate from the aforementioned index adjustment can be considered as discretionary tax changes with possible employment effects.

⁷ Examples of such measures are the increase in the level of social security benefits and repeal of the sanctions of the activation model. Comprehensiveness is also in line with the principle stated in the government programme that no measures with negative employment effects will be taken without simultaneously taking more effective measures which increase employment.

7. The government's target is quantitative, and any assessment of its attainment should also be quantitative to some extent. Any effects that are difficult to quantify should be described qualitatively.⁸
8. While assessing the aggregate effect of multiple government policy decisions on employment, the possible overlap of these effects across individuals should be taken into account.

The above principles will help to assess attainment of the government employment target. The employment effects of different policies may differ from each other in size but also in timing. Given that the government has increased permanent spending, that should be financed by increases in employment, already in 2020. Also, the employment policy should be effective during the government term or in the medium run. However, there are policies with diminishing long-run effects, and policies that are effective in the long run but could be costly in the short run. From the perspective of the prevailing long-run sustainability problem, there is very little difference between a policy reform which credibly increases employment in four years and one where the increase happens only after 10 years.

The official assessment of the employment effects of government policies, based on which the government will determine whether the target has been reached and whether fiscal measures are needed to account for the shortfall, will be a challenging and important task in the coming years. It is important that the government provides enough resources for this endeavour. Furthermore, it is important that the analysis is transparent and independent from political decision-making. It should be noted that while the independence of the Ministry of Finance's macroeconomic forecasts is established in law, no such safeguard is available for policy evaluation.

3.2. Mismatch

The labour market matches workers to jobs. In an idealised setting, potential workers enrol as job-seekers and potential employers post vacancies for jobs, and some workers and some vacancies are matched to create employment. As

⁸ For example, many uncertainties can only be described in qualitative (e.g. "uncertainty is relatively large for this reform" or "the assessment is more likely to be biased upwards than downwards") and semi-quantitative assessments ("the magnitude of this bias is almost certainly less than 1,000 jobs")

both the job-seeker and the employer are happy to have found each other, the match increases welfare.

In the most fortunate case, the labour market would generate the perfect possible match for each worker-vacancy-pair immediately and at no cost. In reality for workers, finding jobs takes time and possibly other valuable resources as well, and the same goes for employers looking for workers. The efficiency of the matching process is a crucial factor for the functioning of the labour market and the economy as a whole. Improving matching, or decreasing mismatch, is also attractive from a political standpoint.

This section surveys some common mismatch indicators for Finland to understand how the extent of mismatch has evolved over time, and how important different dimensions of mismatch are (e.g. regional and occupational). To analyse mismatch at a disaggregated level we use vacancy data collected by the Ministry of Economic Affairs and Employment, which in turn collects data from local employment offices.⁹

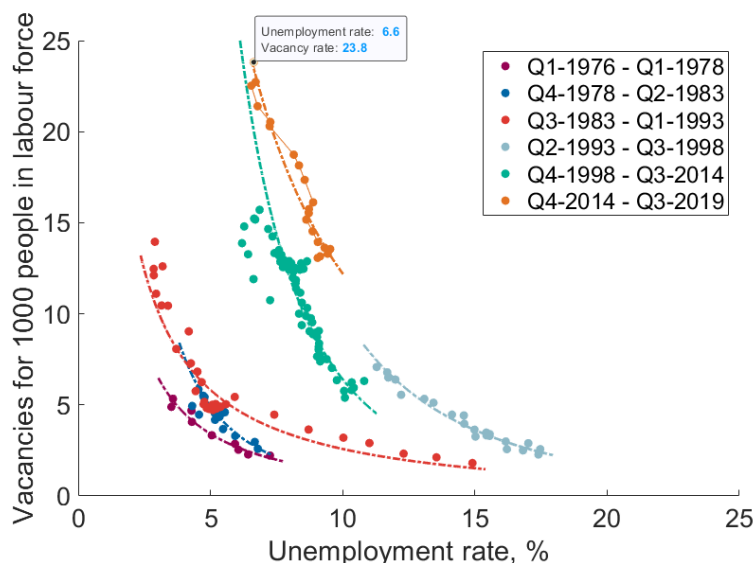
This section will largely look at mismatch indicators which require rather granular data. The pitfalls of the administrative data should, however, be kept in mind as changes may be driven by developments in job posting activity or changes in classification. Overall the relative ratio of vacancies in the two datasets is quite stable over 2013–2018.

In addition to vacancies, we also use information on the number of unemployed and the number of employed individuals. The former data also originates from local employment offices, while the latter comes from Statistics Finland's Employment statistics.

Figure 3.2.1 presents the most common descriptive graph of labour market mismatch. The Beveridge curve plots the relationship between the vacancy rate and the unemployment rate over time, where both rates are defined relative to the size of the labour force. As in any graph depicting some relationship as a curve, there are two things of importance: movements along the curve, and movements of the curve itself.

⁹ The other possible data source is Statistics Finland's survey. Although it is potentially better as it is not affected by how much employers use public employment offices as a means of finding workers, its main limitation is that disaggregation (by region, for example) only works at a relatively high level.

Figure 3.2.1. The Beveridge Curve with statistical fits, 1976-2019.



Sources: OECD, Statistics Finland, EPC.

From a theoretical perspective, movements along the curve result from fluctuations over the business cycle. In recessions vacancy creation decreases and unemployment increases, and vice versa in expansions. Shifts of the curve itself can be interpreted as changes in matching efficiency. If the number of vacancies and job-seekers increases simultaneously, one interpretation is that the economy has become worse at matching the two together.¹⁰ This decrease in matching efficiency increases the unemployment rate at any given stage of the business cycle.

The distinction between structural and cyclical changes is somewhat complicated by the fact that a business cycle tends to produce a looping pattern in vacancies and unemployment. As the economy begins to recover from a recession, firms may open vacancies quite rapidly, but they are filled with a lag. This means that for some time, vacancies increase without a corresponding decrease in unemployment, creating a possibility of falsely identifying an increase in mismatch from the data. If, in the near future, unemployment will increase and vacancies decrease along the green fit line in Figure 3.2.1, it would seem plausible to conclude that the seeming outward shift in the curve over 2014-2015 reflect the rotation of the relationship over the business cy-

¹⁰ The Beveridge curve may shift for reasons related to economic conditions or for reasons related to changes in policies. A reduction in unemployment benefits, for example, would most likely incentivize the unemployed to intensify job-searching and will reduce unemployment for a given number of vacancies. In this framework such a policy reform would improve matching.

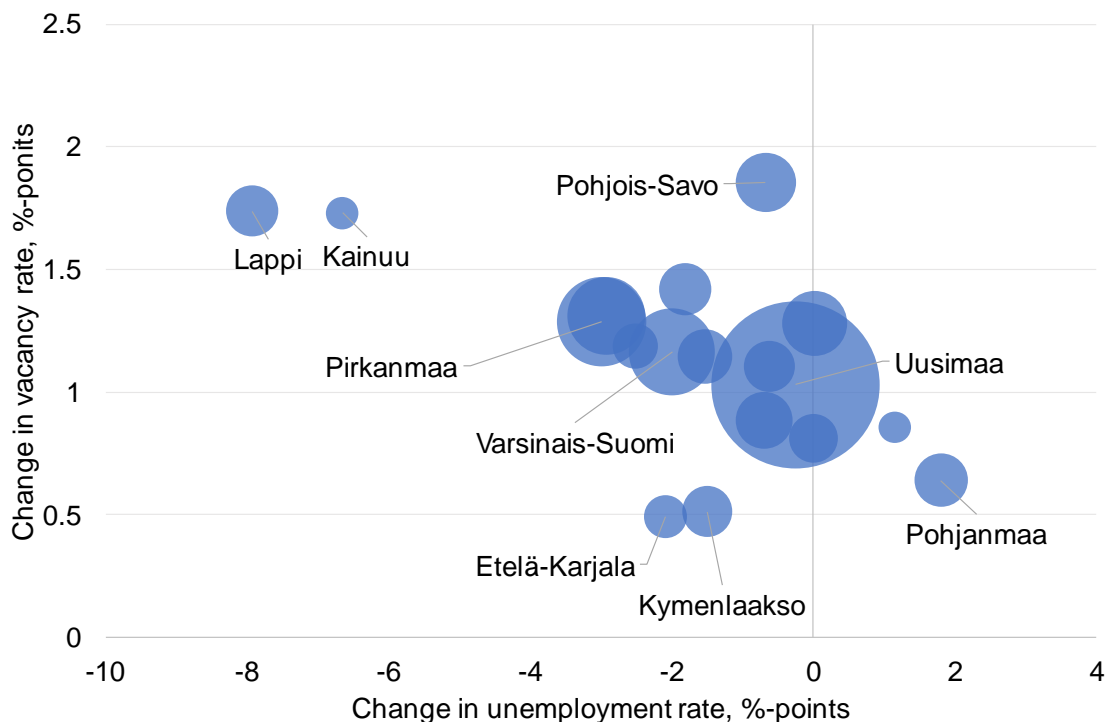
cle, and not any structural shifts. Furthermore, economists' analyses of mismatch using the Beveridge curve typically only use visual inspection and rarely any statistical testing regarding possible shifts of the curve.

Even if mismatch has not worsened in recent years, it may still be a significant component of Finnish unemployment, which even after years of expansion remains quite high. To gain a better understanding of mismatch problems, let's look at unemployment in different segments of the labour market.

To visualise the evolution of the Beveridge curve across regions over time, Figure 3.2.2 presents the change in the vacancy rate and the change in the unemployment rate over the last five years for each region, with bubble sizes representing the size of the labour force in the region. More specifically, the comparison is between 3-month averages around June 2014 and June 2019. The number of jobseekers and vacancies is available for the latter data point. The denominator of the vacancy and unemployment rates is labour force, measured at an annual level. Employment numbers are only available until 2017, but they are extrapolated to 2019 using the MoF's overall employment growth numbers and Statistics Finland's region-specific population forecasts of 15-64-year-olds.

The most important counties in terms of size (Uusimaa, Varsinais-Suomi and Pirkanmaa) and outlier observations are labelled in the Figure. The counties line up relatively well along a line stretching from Lappi and Kainuu with strong negative changes in the unemployment rate and a positive change in the vacancy rate to Pohjanmaa, where unemployment has increased and the increase in vacancies has been very modest. There are some exceptions, for example in Pohjois-Savo unemployment has barely decreased despite robust growth in vacancies. In a related contribution Pehkonen et al. (2018) look at a longer period of 2006-2016 and find that mismatch worsened especially in the seven largest sub-regional units (large cities and their surrounding commuting zones) between 2013 and 2016.

Figure 3.2.2. Change in unemployment rate and vacancy rate by region, 2014-2019.



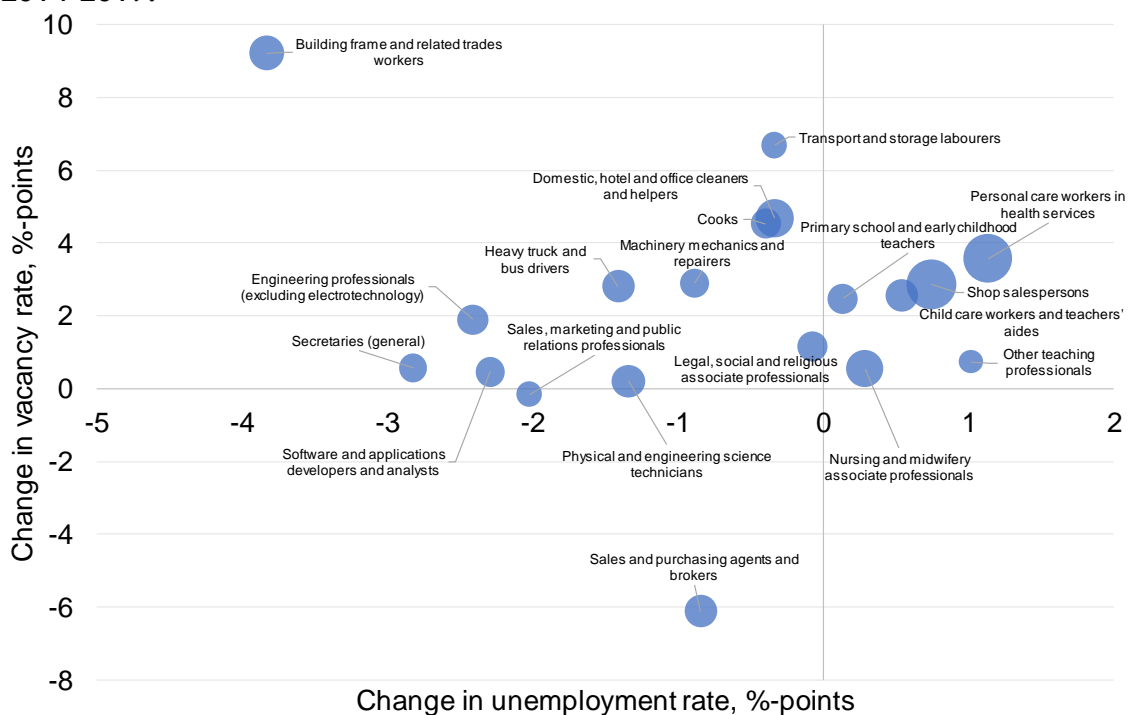
Source: Calculations by the secretariat. The regions are the 18 mainland counties. The data was obtained from Employment Services Statistics, collected by the Ministry of Employment and Economic Affairs. The data is at monthly level, and the comparison in the figure is between the January-October average of 2014 and 2019.

Figure 3.2.3 repeats this analysis, replacing regions with occupational classes as the labour market segmentation variable. In this classification the number of employed persons is only available until 2016. For the figure this is extrapolated until 2019 using the MoF's employment growth forecasts, assuming homogenous growth across occupations. Any heterogeneity in employment growth not captured would shift the points in the figure along the northeast-southwest-diagonal, as employment numbers enter the denominator of both rates.

For expositional purposes the figure only includes the 18 largest occupational classes, which together cover half of the labour force. The total number of occupational classes is 113. The occupations lying in the upper left and upper right quadrants are quite different. In the upper left quadrant, where vacancies have increased and unemployment decreased indicating a cyclical adjustment, we find occupations associated with private sector manufacturing and services, such as construction. In the upper right quadrant, where vacancies

and unemployment have both increased indicating deteriorating matching efficiency, we mostly find occupations associated with municipal service jobs, such as personal care workers in health services, child care workers and teachers' aides, and primary school and early childhood teachers.¹¹ The one large mostly private sector category in the upper right region is shop salespersons. As an additional check we repeated the exercise solely for Uusimaa and without Uusimaa, as it is the largest region and somewhat of an outlier in Figure 3.2.2. The results are quite similar in all cases, indicating that increased mismatch in municipal service jobs is a national phenomenon.

Figure 3.2.3. Change in unemployment rate and vacancy rate by occupation, 2014-2019.



Sources: The data on jobseekers and vacancies was obtained from Employment Services Statistics, collected by the Ministry of Employment and Economic Affairs. The data on employment was obtained from the Employment statistics (Työskäyntitilasto) of Statistics Finland at an annual level and only until 2016. Occupation-specific employment numbers

¹¹ Wallenius (2016) notes that the industrial classification in the Ministry data and the Statistics Finland data differs somewhat. Most relevantly for the current discussion, it seems that there is a non-trivial amount of vacancies in municipalities that are categorised as public administration in the Ministry data and as health and social work or education in Statistics Finland's data. Although Figure M3 uses an occupational classification rather than an industrial classification, the discrepancies documented by Wallenius raise the possibility that the increased vacancies of nurses and teachers may reflect classification standards in the Ministry data converging with those in Statistics Finland's data. This does not, however, seem to be the case. Extending Wallenius' analysis to cover the period analysed in Figure 3.2.1 indicates that the difference between the data sources is quite stable.

were then obtained by deflating the observed 2016 figures using actual and predicted aggregate employment growth. The comparison is between January-October averages for 2014 and 2019. Occupations were measured at the 3-digit level of Classification of Occupations 2010. The figure includes the 18 largest occupational categories, which together account for half of the labour force. The bubble sizes reflect the relative labour force sizes of the occupations in 2019.

As evident from the preceding discussion, there are many possible sources of labour market mismatch. There may be an imbalance between vacancies and job-seekers across regions, across occupational classes, across education types, and so on. Theoretically it is also possible that mismatch does not exist in any single segmentation, but in their interaction. An example would be a situation where regions R_1 and R_2 and occupations O_1 and O_2 have equal numbers of jobseekers and vacancies, but all vacancies for occupation O_1 are located in region R_1 , whereas all the jobseekers for that occupation are located in R_2 , and vice versa.

To gain some understanding of the relative significance of mismatch across different dimensions, we use two mismatch indicators (for background on the indicators see Layard et al. 2005). The first of these is defined as

$$M_1 = 1 - \sum_i \frac{N_i}{N} \left(\frac{U_i V_i}{U V} \right)^{\frac{1}{2}},$$

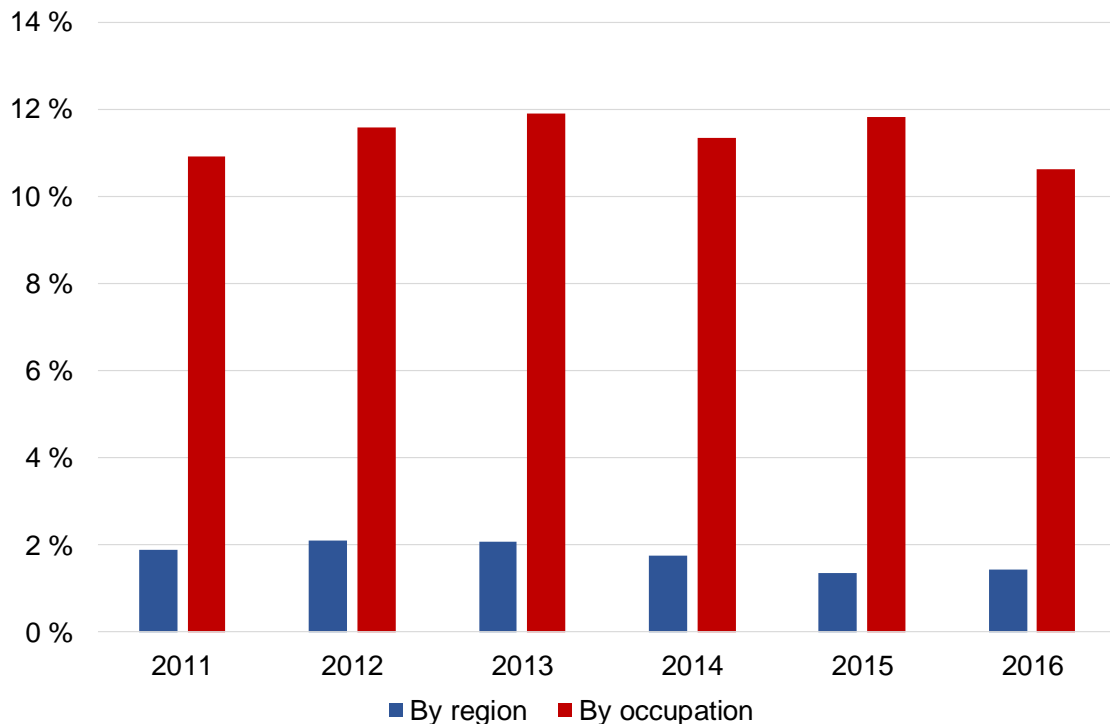
where N_i , U_i , V_i are labour force, unemployed, and vacancies in some labour market segment i , and the variables without subindices are population aggregates. The expression is obtained by assuming that labour market matching follows a Cobb-Douglas function with an elasticity parameter of 0.5 (elasticity of hires to vacancies). Furthermore, this expression assumes that all segments of the labour market follow the same matching function. Sahin et al. (2014) estimate this indicator for the US allowing for heterogenous matching efficiency.

This mismatch index takes values from 0 to 1 and can be interpreted as the degree of unemployment caused by mismatch along a specific dimension. To illustrate, if the country comprises two regions which both have the same unemployment-vacancy ratio, the mismatch index obtains a value of zero. If, on the other hand, the situation is such that all unemployed are in one region and all vacancies in another, the index obtains a value of one. When evaluating the mismatch index across different dimensions, it is possible that the sum of the mismatch index values exceeds unity.

Because the indicator requires information on employed, job-seekers, and vacancies, it can only be computed by region and occupation using publicly available data, and only for 2011–2016. The results are presented in Figure 3.2.4.

The regional classification is based on counties (*maakunta*). The occupational classification follows the Classification of Occupations 2010 at the 3-digit level. To give an example of the aggregation, nurses and midwives (excluding those in leadership positions) are aggregated when moving from the 4-digit level to the 3-digit level, and at the 2-digit level this group would be grouped with medical and pharmaceutical technicians.

Figure 3.2.4. Mismatch indicator M1 by region and occupation, 2011-2016. The data sources are the same as in Figures 3.2.2 and 3.2.3, and the indicator is defined in the text.



Source: Calculations by the secretariat

Regional mismatch at the county level is quite limited, accounting for less than 2% of total unemployment. Occupational mismatch at the 3-digit level is much more important, but still only accounts for slightly more than tenth of all unemployment. Furthermore, mismatch as measured by these indicators is quite stable over the analysis period. The unemployment rate went from 7.8% to 8.8% over this period.

We next turn to an alternative mismatch indicator, which is a function of the variance of unemployment rates:

$$M_2 = \frac{1}{2} \text{var}\left(\frac{u_i}{u}\right).$$

Because the indicator does not require information on vacancies, it is possible to calculate it for more numerous segmentations than the previous indicator. We look at four broad categories, assessing also different aggregation levels and interactions. The results are presented in Figure 3.2.5. Note that the y-axis varies between the figures. Data availability also varies across variables.

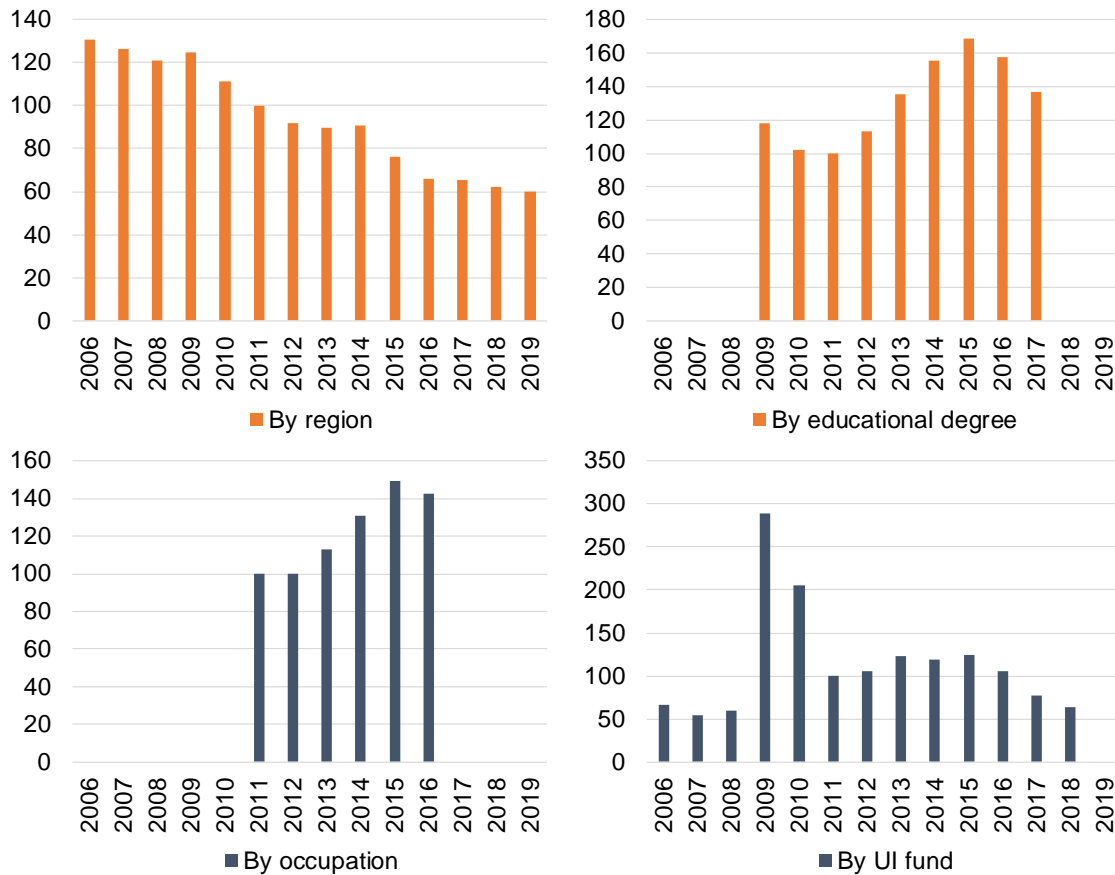
One thing worth noting is that this indicator tends to be cyclical. Some segments of the economy (different regions or occupations, for example) are differentially exposed to the business cycle. This means that variance in unemployment rates tends to increase in recessions and decrease in expansions.

The upper left panel presents the results by region (*maakunta*). The upper right panel presents the results by educational degree, measured at the 3-digit level of the National Field of Education 2016 classification, with 32 degrees in total. The lower left panel presents the results by occupation, with the same classification as in Figure 3.2.3. The figure in the lower right panel is more experimental. Here we use data on unemployment insurance funds (obtained from the financial supervisory authority FIN-FSA), defining the unemployment rate as the ratio of benefit recipients to fund members. The data has been harmonized to account for mergers in the funds over the period.

As the data spans relatively few years for educational and occupational segmenting, it is very difficult to draw any conclusions on structural changes for these variables. The increase up to 2015 and subsequent decrease in these indicators likely reflects effects of the business cycle. The indicator obtained using UI fund data is also very cyclical and is beginning to reach the minimum obtained before the Financial crisis.

It is still worth noting that regional mismatch has decreased quite steadily since 2009. The pattern is almost identical if sub-regional units are used instead of counties, as in the figure. Most of the regional variance observed is between counties, as subregions in a given county tend to have quite similar unemployment rates.

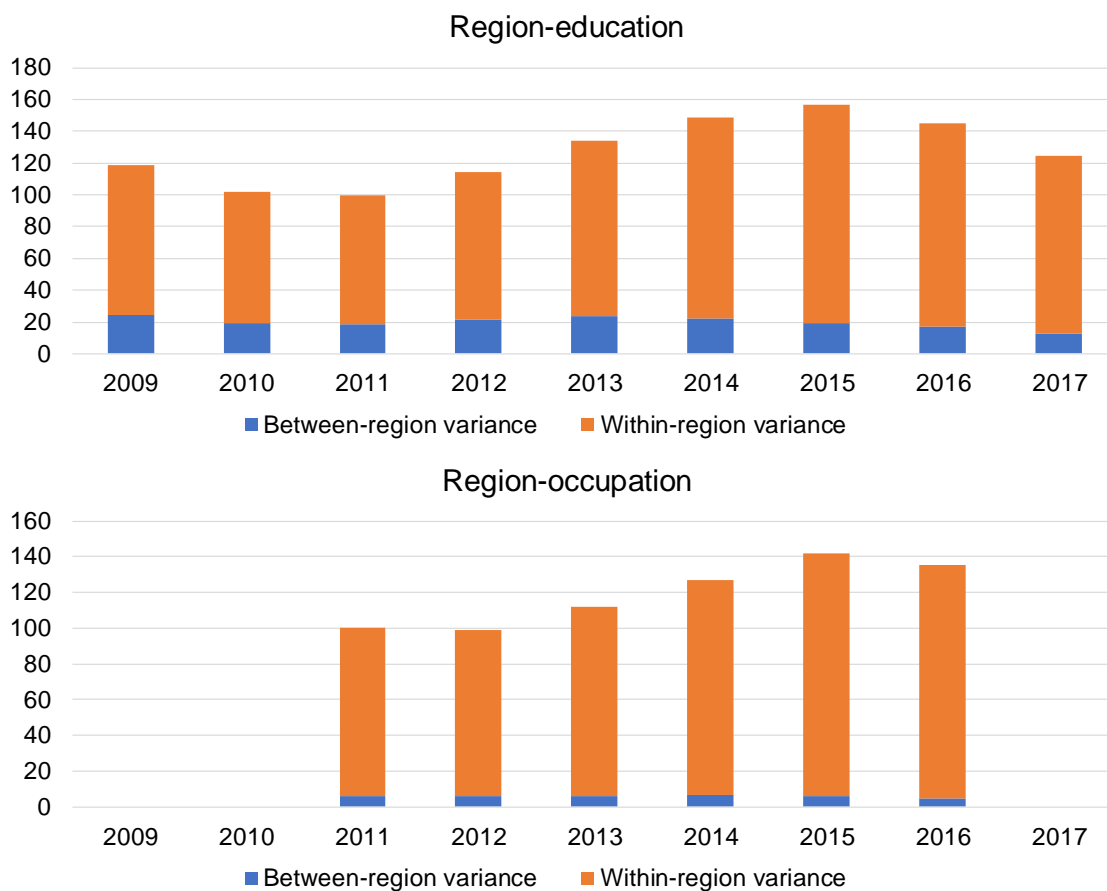
Figure 3.2.5. Mismatch indicator M2 by region, educational degree, occupation, and UI fund, 2011=100.



Source: Calculations by the secretariat. Data sources are listed in the text. Total variance is indexed to 100 in 2011.

Because the indicator is simply scaled variance, it possible to analyse the contributions of different factors using variance decomposition analysis. We contrast the regional dimension against two other dimensions: occupations and degrees. The unemployment rate is defined for each region-occupation (region-degree) group, and the variance of these unemployment rates is decomposed into variance between regions and variance within regions. The results are presented in Figure 3.2.6.

Figure 3.2.6. Variance decomposition of unemployment rates between region and education and region and occupation.



Source: Calculations by the secretariat. Data sources are listed in the text. Total variance is indexed to 100 in 2011.

There are two main findings we wish to highlight from the preceding discussion. First, regional mismatch in the labour market seems to be quite modest in Finland, accounting only for a small fraction of observed unemployment. Furthermore, it has steadily decreased, at least over the past 10 years. Second, occupational mismatch has worsened mainly in certain service occupations which tend to be in municipal employment. For example, vacancies for personal care workers in health care have increased, which is consistent with the public discussion on labour shortages in the care sector. Simultaneously, however, unemployment in these occupations has also increased. For the policy goal of reducing labour market mismatch in Finland, understanding this phenomenon better could be of great importance.

3.3. Recent evaluations of the Finnish labour market

In this section we wish to highlight some recent contributions to the study of the Finnish labour market and discuss their potential implications for labour market policy. Three of these are research reports commissioned by the Council.

Kyyrä et al. (2019) evaluate the previous government's activation model, which reduced unemployment benefits by 4.65% for inactive job-seekers. Activity was monitored in three-month periods, the requirement being to have done 18 hours of paid employment, participated in employment services for five days, or earned 241 euros as a self-employed person. The study reports that around one third of all benefit recipients faced sanctions due to inactivity, with older jobseekers being more likely than others to see their benefits cut.

The implementation of the programme does not easily lend itself to impact evaluation as it did not involve comparable control groups not affected by the activation requirement. This is problematic as at the time of the implementation overall employment growth was relatively strong.

There are some indications of behavioural change. Participation in labour market programmes by unemployment insurance recipients increased relative to 2016 and 2017, with participation bunching around the activation requirement of 5 days. There is also bunching at the hours requirement, although no comparisons can be made with earlier years. An increased share of job-seekers also earned small amounts of labour income after the activation model was implemented.

One potential comparison group is temporarily laid-off workers, for whom activation is only monitored after three months in unemployment. Taking a differences-in-differences approach, the authors compare the changes in activity in these groups in 2016 (before the activation model) and 2018 (after the activation model), finding that exits from unemployment increased more rapidly for the non-temporarily-laid-off unemployed. The key potential confounder is the business cycle, which may treat these two groups differently.

There are two key conclusions to all this. First, the report emphasizes the need to implement policy programmes and policy reforms so that their effects

can be evaluated afterwards. This requires creating a control group not affected by the change at all or affected by the change only with a lag.

Second, although no definitive answer can be given on the employment effects of the model due to deficiencies in its implementation from a research perspective, there are indications of positive effects on participation in labour market programmes and possibly employment especially among unemployment insurance recipients. The current government has moved to repeal the inactivity sanctions of the model. If it were to err on the side of caution, it would take compensatory measures to improve employment, especially if it believes that participation in labour market programmes, for which the evidence of the effects of the activation model is strongest, promotes employment.

The basic income experiment of 2017–2018 was another labour market policy programme of the previous government for which first evaluations were obtained this year (Hämäläinen et al. 2019). The basic income experiment was a true randomised field experiment with well-defined treatment and control groups, so the effects of the experiment can be credibly identified. The challenge is then understanding what the results of the experiment tell us about individuals' decision making in the Finnish labour market.

The target population of the experiment was individuals who had received basic-level unemployment benefits (basic unemployment allowance and labour market subsidy) in November 2016. Participants in the experiment received an unconditional transfer, the net value of which was equivalent to these basic-level benefits. The optimisation problem of the participants was changed through two channels. First, participation tax rates decreased because the basic income was not means-tested. Second, because of the conditionality programme participants did not face the standard job search requirements for the unemployed. If job search requirements increase exit rates from unemployment, the two key mechanisms of the experiment worked in opposite directions.

One important caveat, however, is that participants with children had the incentive to apply for regular unemployment benefits because these include child supplements, and the basic income did not. The regular unemployment benefits also included supplements for participating in active labour market programmes, which also incentivised childless participants to apply for unemployment benefits.

According to the preliminary results based on the first year of the experiment, no statistically significant changes were found in the main outcome variable, days in non-subsidised employment. Interestingly the decrease in participation in labour market programmes and reciprocity rates of regular unemployment benefits was quite small for those selected to receive the basic income. This can at least partially be explained by the aforementioned issue concerning benefit supplements.

The final evaluation report of the experiment will be published in April 2020.

Asplund et al. (2018) evaluate the effects of wage subsidies on individuals' labour market post-subsidy outcomes. Because experimental and quasi-experimental variation is lacking for this policy in Finland, the authors use a matching approach.

The authors find modest positive effects for subsidised employment in the private sector and zero effects for employment in public or private non-profit organisations. As the authors report, similar results have been found in other countries as well.

We will next discuss three research reports the Council commissioned this year concerning labour markets.

Palviainen (2020) uses the EUROMOD microsimulation model to study the evolution of tax and benefit systems in Denmark, Sweden, Germany and Finland over the decade preceding 2017. Among these countries Finland stands out as having increased participation tax rates over the period. The most significant decreases in participation tax rates were seen in Sweden under the *arbetslinjen* policy. Levels of participation tax rates remain elevated in Denmark, where the monetary disincentives for work are counterbalanced by flexibility in the labour market and active labour market policies.

The study also looks at the potential dynamic effects of policy changes and finds that, on the basis of commonly used values for participation elasticities, the dynamic effects partially, but not fully, offset the static effects on the income distribution. Overall, the changes to tax and benefit systems seem to have had only a modest effect on inequality in the countries studied. The effect of the Swedish policy reforms on risk of poverty is likely to have been approximately zero over the period. At the same time, however, the actual risk of poverty has increased by several percentage points. This suggests that the

main drivers of inequality, at least in Sweden, have not been changes in the tax and benefit system, but other factors such as immigration.

Tuomala & Pekkarinen (2020) study the effects of flexible care allowance (*joustava hoitoraha*), which is a transfer for part-time workers with small children. The employment rate of 25-34-year-old women in Finland is low relative to other Nordic countries. Part of the reason may be due to the home care allowance, which is a somewhat exceptional programme in a Nordic context and has been documented to have negative labour supply effects. The purpose of the flexible care allowance is to encourage parents (mostly mothers) to take up part-time employment and stay attached to the labour market.

The authors find that the introduction of the transfer led to an increase in transitions from non-employment to part-time employment, as well as a small increase in transitions from full-time employment to part-time employment. The mean impact on working days in a year was only approximately 2 with no impact on annual earnings. The effects seem to be quite heterogeneous across different sectors of the economy, indicating that the possibilities for part-time work are not equal among parents.

Kyyrä (2020) estimates the labour supply effect of unemployment subsidy using a Finnish reform of 2012. Finland, like many other countries, has a two-tier system of unemployment compensation. There are two forms of unemployment assistance, unemployment allowance (*peruspäiväraha*) and labour market subsidy (*työmarkkinatuki*). Unemployment insurance (*ansiopäiväraha*) is comprised of unemployment subsidy plus an earnings-related part. Eligibility for unemployment insurance requires membership in an unemployment insurance fund and a sufficient number of employment months prior to the current unemployment spell.

Unemployment assistance was raised by 21.8 % in January 2012. This was a considerable increase in the level of the benefit, as the inflation-adjustment would only have been 3.8 %. The purpose of the reform was to reduce poverty and marginalisation.

Because of the link between unemployment insurance and unemployment assistance, all unemployed persons were affected by the reform. This makes evaluation of the effects of the reform difficult. Kyyrä's approach is to compare exit rates from unemployment just before and after implementation of the reform on January 1, 2012. The preferred estimate obtained is a reduction

in the unemployment exit, among the labour market subsidy recipients, rate of 9 % due to the reform, which translates into a duration elasticity of 0.4 with respect to the benefit level.

It is notable that Uusitalo & Verho (2010) find an elasticity of 0.8 using an unemployment insurance reform of 2003, which suggests that the labour supply response with respect to benefit levels is lower among unemployment assistance recipients.

The link between unemployment assistance and unemployment insurance raises the fiscal cost of increasing disposable incomes among the unemployed with the lowest incomes. The current government's increase in unemployment assistance increased unemployment benefit expenditure by EUR 63 million, of which EUR 15 million was allocated to unemployment insurance. Furthermore, general housing allowance and minimum social assistance were estimated to decrease by EUR 14 million in total (HE 39/2019). This decrease comes mostly at the expense of those on unemployment assistance, as they are much more likely to receive these benefits (compared to those receiving unemployment insurance). Thus, in a policy reform with the explicit aim of increasing unemployment assistance, a sizeable fraction of the net fiscal cost is due to an increase in unemployment insurance.

This coupled with the evidence (albeit quite tentative) that the labour supply of those on unemployment assistance reacts less strongly to changes in benefit levels suggests that in the future the link between unemployment assistance and unemployment insurance could be reassessed.

3.4. Council views

The Council shares the view that increasing the employment is an appropriate policy target for helping finance the welfare state.

The unemployment rate of some 6% makes the attainment of the target of 60.000 new jobs more plausible. Increase of employment could however be more difficult than during the previous government term. Pool of unemployed people is quite heterogeneous and there would be need for targeted measures.

Ex ante evaluation of the employment effects of policy reforms is always challenging. The current government's decision to explicitly link such evaluations to spending decisions, in particular the possible reversal of spending decisions already made, raises the significance of these evaluations to unprecedented levels.

The Council emphasizes that the assessment of attainment of the employment target of creating 60,000 jobs through policy measures must include a comprehensive assessment of all the government's policy changes that have a non-trivial effect on employment, including policy changes with negative employment effects.

We also acknowledge that the evaluation required by the government programme is challenging and demanding, and we hope the government provides sufficient resources for the task and guarantees its independence from political influence.

The first half of the measures to achieve the employment target should be in place by August 2020. According to its programme, the government stands ready to reassess its spending decisions if the employment effects fall short of the target. As the increases in employment are the main source in financing the permanent spending increases, we believe the government should inform the public as to how it plans to evaluate the fulfilment of the latter half of its employment target.

The Council continues to encourage implementing labour market policy reforms in such a way that their effects can be evaluated ex post to inform future decision-making.

A set of recent studies examine the employment impacts of various policy reforms. While the results vary, they all seem to suggest that these reforms did not have large impacts on employment outcomes. Achieving major changes in employment appear to require fairly substantial policy changes.

4. Fiscal policy

The economy was believed to be at or just past the peak of the business cycle when the current government began drafting its programme in the spring of 2019. Economic growth was expected to slow towards its long-run level and the employment rate reached 72%, one of the targets set by the previous government. The general government was still running a deficit, with the structural deficit estimated to be 0.7% of GDP in 2018.¹² In addition, long-run sustainability problems had worsened as new forecasts predicted a shrinking population.

In its programme, the government set the main targets of its economic policy to be reached by 2023: an employment rate of 75% and general government finances to be in balance. It was also stated that policy decisions would aim at decreasing inequality, narrowing income gaps, and putting Finland on a path towards achieving carbon neutrality by 2035.

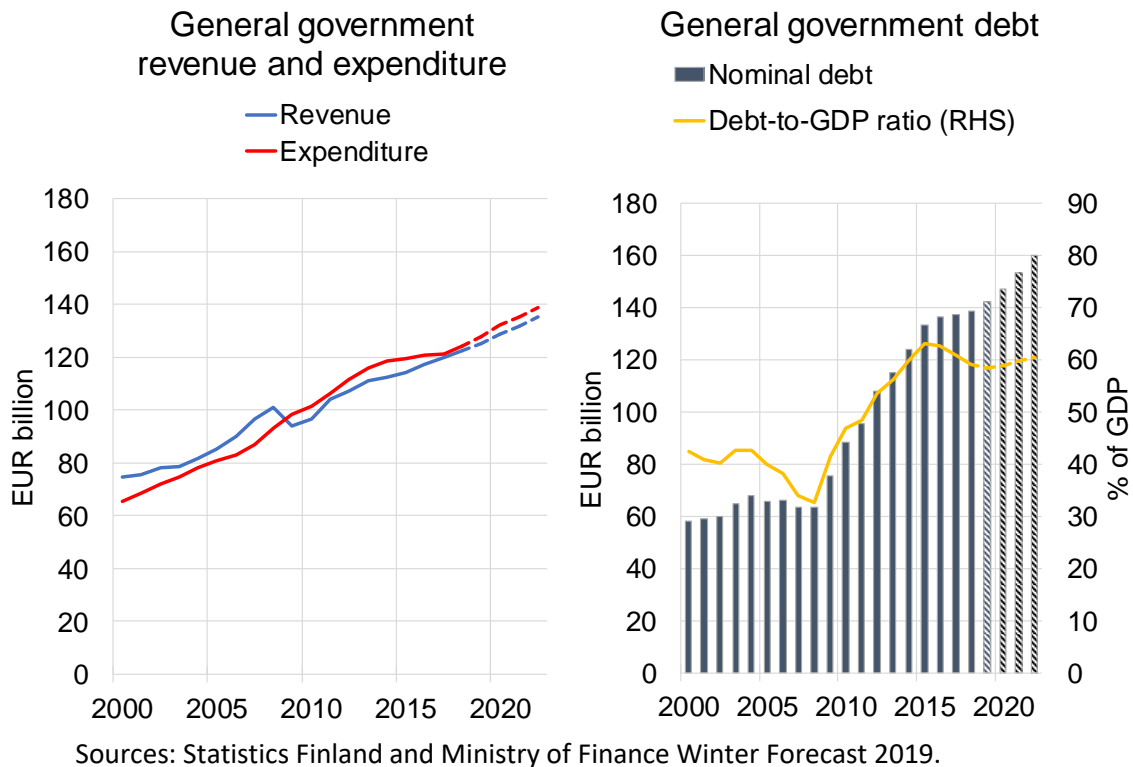
More detailed information on the economic targets was published in October 2019 in the General Government Fiscal Plan for 2020-2023. The government set net borrowing targets for central and local government and pension and social security funds, with net borrowing at zero at the general government level in 2023. According to forecasts published in the autumn of 2019, this goal will not be reached without making new decisions that would have a substantial impact on public finances. The current forecast for the structural balance in 2023 is -1.3% of GDP, while the target set by the government in 2019 is -0.5% of GDP. The debt-to-GDP ratio is also forecast to start rising at the end of the government term.

According to current forecasts, general government expenditure will grow slightly faster than nominal GDP in 2020. Growth in general government expenditure decelerated over the period 2015-2017: the deficit fell, and the

¹² In its spring 2019 forecast, the Ministry of Finance estimated a structural balance of -0.7% of GDP in 2018. In the winter 2019 forecast, the estimate was -0.9% of GDP.

debt-to-GDP ratio declined, see Figure 4.1. The deficit started to increase again in 2018 and expenditure is forecast to grow faster than revenue for 2020-2022. According to the General Government Fiscal Plan, general government expenditure will be 52.9% of GDP and the revenue-to-GDP ratio will be 51.6% in 2023.

Figure 4.1. General government finances are not in balance in the medium term.



The ratio of general government debt to GDP started declining in 2016 from a level of 63%. In 2018 the debt to GDP ratio is expected to be slightly below 59%. With increased deficits in central and local governments, the decline is forecast to turn into an increase in 2020.

Given the latest forecasts, the structural balance will be -1.4% to -1.3% of GDP, below the medium-term objective (MTO) of -0.5% of GDP over the whole government period. Also, general government expenditure in 2020 will rise faster than the reference rate set in the preventive arm of the Stability and Growth Pact.

In this chapter we discuss the government’s overall fiscal policy. We describe the government’s discretionary fiscal measures and assess the fiscal policy

stance. This sets the scene for our discussion of fiscal risks and the sustainability of public finances in the next chapter.

4.1. Discretionary fiscal measures and fiscal policy stance

In its programme, government announced a plan to permanently increase central government expenditure by EUR 1.4 billion by 2023, compared to a no policy change scenario, and launched a future-oriented investment programme of temporary spending of up to EUR 3 billion in 2020-2022. The increases in expenditure will be financed by for example by raising taxes, by using the higher tax revenues associated with an increase in employment, and by selling central government financial assets.

The government published its first General Government Fiscal Plan in October, together with the budget bill for 2020. With these documents, the government announced that permanent spending increases would be front-loaded and start for a large part already in 2020, while tax revenue will increase gradually towards the end of the government term.

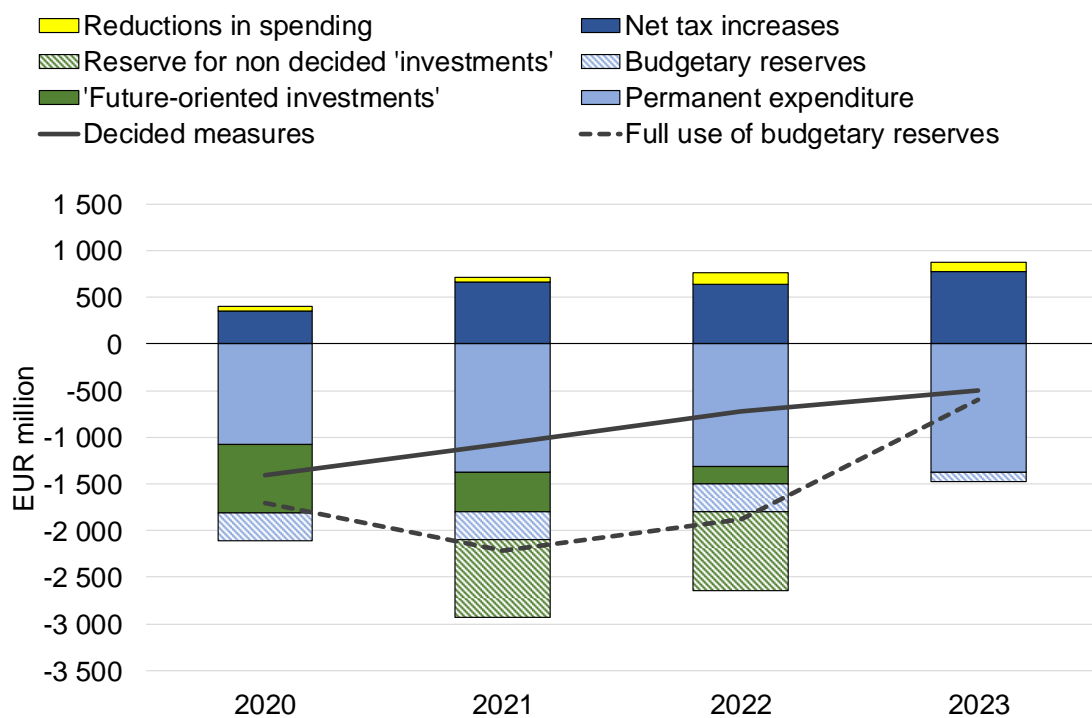
Figure 4.1.1 illustrates the impact of the new measures on the central government budget. The expenditure increases in the figure are divided into permanent and temporary spending, following the convention used in the government programme. The reductions in spending, or reallocation of funds within the central government spending limits, are marked in yellow. The net tax increases exclude adjustments to the income tax schedule due to inflation and wage growth.¹³

The solid line in Figure 4.1.1 shows the effect of the discretionary measures in comparison to a situation with no policy changes, i.e. the situation described in the technical General Government Fiscal Plan of April 2019. The new measures worsen the budget balance in 2020 by EUR 1.4 billion. New tax increases and decreases in one-off spending in 2021 and 2022 will improve the budget balance. Compared to the no policy change path, this bottom-up perspective shows that the new fiscal policy decisions will be expansionary in

¹³ All numbers presented refer to static estimates. They represent the direct effects of tax changes on revenue in the absence of any behavioural effects. For example, they do not account for possible changes in labour supply induced by changes in income taxes.

2020-2023. The expansionary effect decreases gradually due to net tax increases. The figure also shows the reserves agreed inside the central government spending limits, marked with striped bars. Spending limit reserves are normally used fully through supplementary budgets. The government has left exceptionally large reserves for 2021 and 2022, to be spent on future-oriented investments. If all the reserves are used, fiscal policy will become more expansionary in 2021 and 2022.¹⁴ The reserves for non-decided investments are not included in the forecasts by the Ministry of Finance.

Figure 4.1.1. The effect of new measures on the central government budget balance (EUR million), as compared to a path with no policy changes.



Sources: General Government Fiscal Plan for 2020-2023; calculations by the Economic Policy Council.

The darker blue bars in Figure 4.1.1 show the static effect on central government revenue of the discretionary tax policy measures decided by the new government in 2019. The comparison is again with a situation with no changes. In terms of the size of their effect in 2020, the two largest tax decisions are the increase in fuel tax and the continuation of the temporarily higher income tax rate levied on high-income individuals, both of which increase revenue by over EUR 100 million. Additional tax revenue increases are

¹⁴ This comparison describes the effect of policy changes relative to a no policy change path. The change in fiscal stance can also be measured with reference to the implied annual changes in net lending or the structural balance, see Figure 4.1.2.

due to higher excise duties and reductions in tax credits for domestic help. By 2023, higher taxes and excise duties on energy fuels and tobacco will increase revenue by almost EUR 700 million. Lower taxes on electricity and other minor items will reduce revenue by approximately EUR 250 million.

When the measures taken by the previous government that come in force in 2020 are also taken into account, central government expenditure is forecast to rise by EUR 2.2 billion in 2020 and by a further EUR 1.2 billion in 2021, while the respective revenues will increase by EUR 1.3 billion and EUR 1.4 billion. Defence material expenditure will increase by EUR 1.5 billion in 2021.

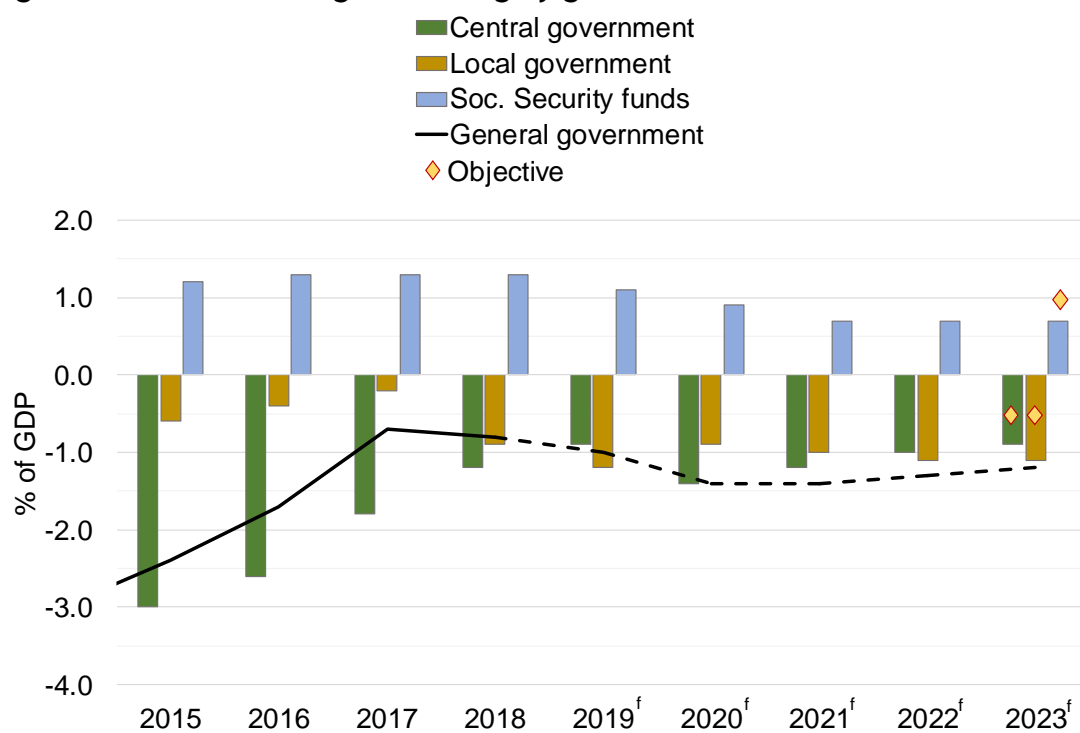
Local government expenditure started to rise in 2018, while revenue remained broadly constant. As revenue and expenditure growth are forecast to remain constant in 2019 and beyond, the annual deficit of local government will remain between EUR 2 billion and EUR 3 billion. The increases in expenditure are mostly due to higher age-related spending and the withdrawal of reductions in holiday bonuses. Investment expenditures are also rising. Government decisions to strengthen education and social and healthcare services will add to the tasks and obligations of municipalities. To compensate for these additional costs, state subsidies are forecast to increase by almost EUR 1 billion in both 2020 and 2021.

Social security funds and pension funds are both defined as being a part of the Finnish general government. The funds have accumulated a remarkable amount of financial wealth, but growth in their interest income is forecast to slow in the future due to lower yields in financial markets. The surplus of the pension funds is also expected to decline due to higher upcoming expenditure on pensions. The enhanced employment situation has also increased the buffer fund of the employment fund. To avoid exceeding the ceiling of EUR 1.76 billion set for the fund, the contribution rates will be decreased in 2020. The aggregated decrease of 0.5 percentage points will lower the aggregate tax rate by approximately 0.2 percentage points. The cut in contribution rates is divided equally between employees and employers.

The general government's debt-to-GDP ratio in 2019 is forecast to deteriorate after four years of improvement. The reversal is due to the increasing deficit of central government and the decreasing surplus of the pension funds. The improvement in the local government balance in 2020 is offset by unfavoura-

ble developments in both central government and the pension funds. The general government deficit-to-GDP ratio is forecast to reach 1.4 % in 2020 and 2021 (see Figure 4.1.2).

Figure 4.1.2. Net lending/borrowing by government sector.

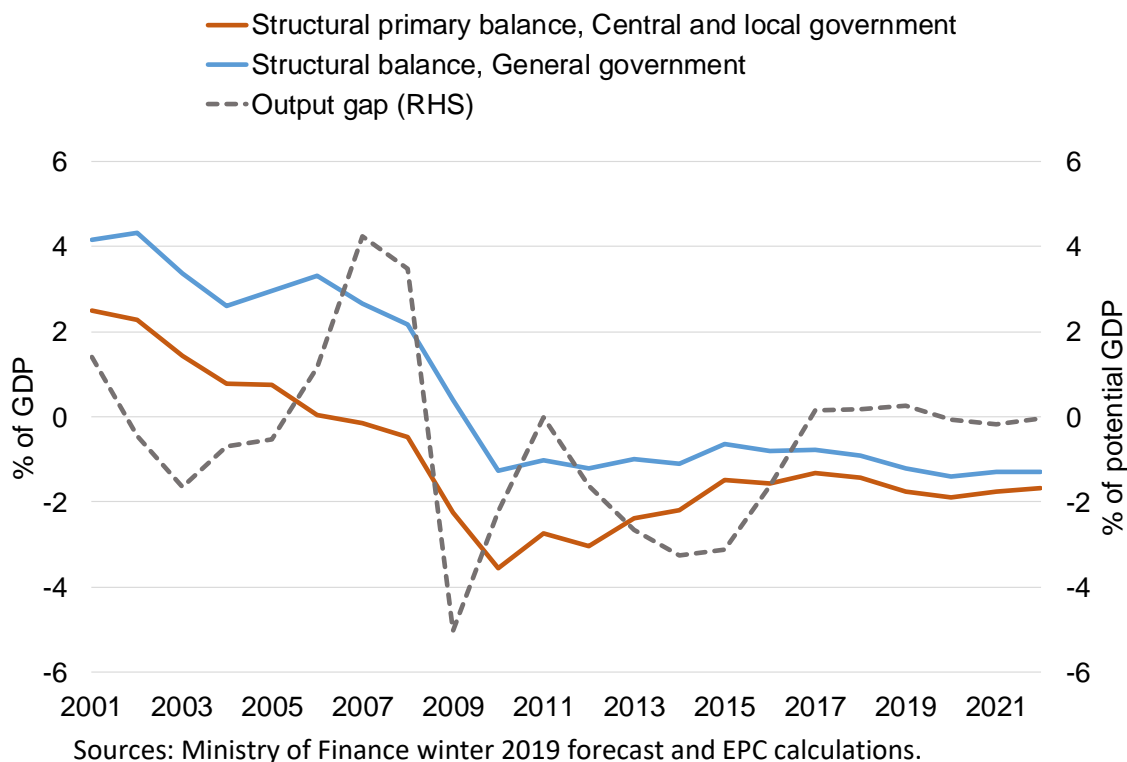


Sources: Statistics Finland and Ministry of Finance Winter Forecast 2019.

An indication of the effect of decisions on general government net borrowing can be derived by controlling for the business cycle and one-off revenues and expenditures when calculating net borrowing. Changes in the resulting structural balance are often used as an indicator of the fiscal stance: fiscal policy is expansive when the structural balance is worsening and contractionary when it is improving.

The blue line in Figure 4.1.3 shows the evolution of the general government structural balance. According to the winter forecast of the Ministry of Finance, it worsened by 0.3 percentage points in 2019 and will deteriorate by a further 0.2 percentage points in 2020. While the general government structural balance indicates a slightly expansive fiscal policy in this period, the annual worsening of the combined primary structural balances of central and local government by only 0.1 percentage points indicates a rather neutral fiscal stance. The reason for the difference is the decreases in social security fund surplus.

Figure 4.1.3. Changes in structural balances indicate rather neutral fiscal stance.



Measuring the fiscal stance by the change in the structural balance is not straightforward as there are several factors that need to be taken into account. The adjustment that controls for the business cycle is based on an estimate of the output gap¹⁵, which is used to purge the annual net lending to GDP ratio of business cycle effects using the budget balance semi-elasticity estimated by the OECD (2014). The aim is to remove the cyclical components of revenue and expenditure items from the headline net lending figures. Unfortunately, due to revisions in both statistics and forecasts output gap estimates tend to be revised annually, which naturally also affects the estimates of the structural balance.

Figure 4.1.4 decomposes changes in general government net borrowing into changes due to policy measures, cyclical effects, and changes in social security and pension fund balances. The improvement in the general government financial position in 2013-2015 was due to discretionary fiscal measures (the blue bar), which were offset by decreases in social security funds' surpluses

¹⁵ The output gap measures the deviation of actual GDP from its potential level. A negative output gap indicates that the economy is performing below its potential capacity. See Section 2.2.

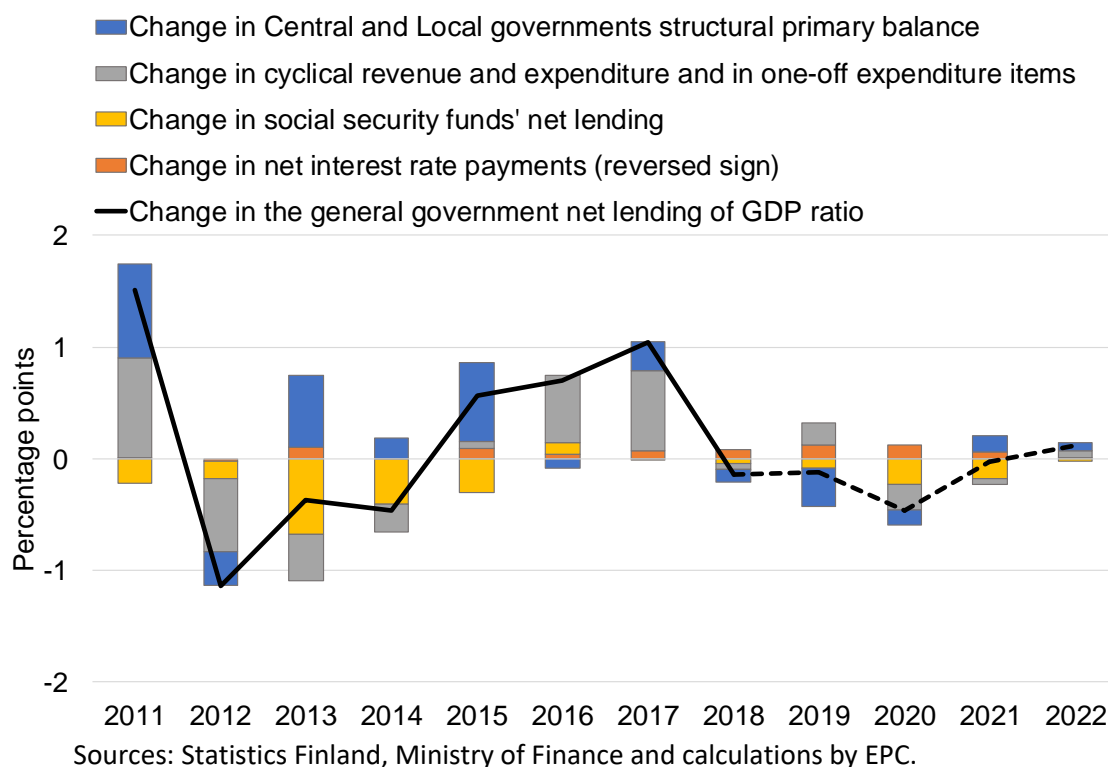
and the worsening economic situation (the grey bar). Economic growth improved all components in 2016-2017. From 2018 onwards, cyclical conditions are stable and the deterioration in net borrowing is due to the government policy and decreasing surplus of the pension funds.

One significant tax policy measure is the decision to increase the depreciation allowances regarding new investments for three years, 2020-2023. The maximum depreciation percentage is raised from 25 to 50 per cent. The government estimates that the tax revenue loss due to this measure will be approximately 200 million € during 2020 and slightly more in the subsequent years after firms have been able to adjust to the new policy.

Määttänen (2019) provides a summary of recent international research on the impacts of similar measures in other countries as well as an evaluation of the likely impacts of larger depreciation allowances in the Finnish context. While few firms actually used a similar policy that was in place in Finland in 2015-2016, recent international evidence suggests that greater depreciation opportunities led to surprisingly large investment increases in the UK and the US. Määttänen concludes that such policies can be seen as fairly effective for increasing investments. Should they fail to stimulate investments, they would not lead to large tax revenue losses either.

One argument is that if the additional tax incentive is temporary, as is the case in Finland, the impact will be mostly related to the timing of investments, not on their long-run level. Thus, the policy should be assessed as a part of fiscal stimulus package. We have argued elsewhere that there is not much need for short-run stimulus in the next few years. When thinking about permanent reforms to the corporate income tax system, tax policies would need to be developed from a more general social welfare perspective.

Figure 4.1.4. Decomposition of the change in general government net lending.



Box 4.1 Fiscal multipliers

In a recent article, Ramey (2019) surveys the literature on fiscal multipliers, i.e. the short- and long-term effects of fiscal policy on output. This literature, which has received increased attention over the last decade, is surveyed in more detail in a background memo produced by the secretariat (Seuri 2019a).

One argument often presented in support of counter-cyclical fiscal policy is that fiscal measures have a larger effect on output in a recession than in an expansion. There is some evidence to support this intuition, but the results are somewhat fragile with respect to technical assumptions concerning the estimation of cyclically-dependent multipliers.

The other big question for policy makers and researchers is whether it is tax or spending decisions that have the largest output effects. In recent years, the consensus view on spending multipliers has narrowed to around 0.6 – 1.0 in normal conditions, although multipliers outside this range can occur in some circumstances. The multiplier indicates the percentage change in output following a shock to fiscal policy equivalent in size to one

per cent of output, so a multiplier of 0.6 implies that increasing government spending by 1% of GDP would lead to an increase in GDP of only 0.6%.

In estimating tax multipliers, empirical studies increasingly rely on so-called narrative identification. Taking this approach, exogenous tax shocks are identified using information from outside the usual time series of GDP, taxes, revenue, and other macroeconomic variables. The information may come from government documents, for example when the government outlines tax changes and gives reasons for making those changes. The approach consistently finds quite large tax multipliers (2-3) across different countries and different methods of taxation. Studies applying more traditional approaches such as those favoured by Blanchard & Perotti (2002) or DSGE models find much lower multipliers of around or below unity. The differences will hopefully soon be reconciled in the literature.

There are theoretical reasons to believe that fiscal multipliers depend on the specific circumstances prevailing in the economy at the time, and there is empirical support for at least some of the theoretical predictions. Most relevant for Finland, fiscal multipliers tend to be lower in small open economies. Furthermore, Finland's membership of the euro means that if expansionary fiscal policy raises inflation then this does not result in a depreciation of the currency, but rather a loss in cost competitiveness.

One approach to understanding the fiscal multiplier in different contexts is to look at how fiscal multipliers have varied across time. This type of analysis is implemented by Ahonen (2019) using Finnish data. It seems that the multiplier of government expenditure has remained constant over the past few cycles.

4.2. The government's objectives and fiscal rules

The economic policy of the current Government Programme aims at increasing wellbeing and prosperity. The key economic policy objectives for the government term are listed as:

- To raise the employment rate to 75% by the end of 2023 and the number of people in employment by a minimum of 60,000.

- To balance Finland's general government finances in in 2023, given normal global economic circumstances.
- Government decisions to decrease inequality and narrow income gaps.¹⁶
- Government decisions to put Finland on a path towards achieving carbon neutrality by 2035.

The government programme seems to suggest that the economic objectives are structural in nature. This makes the aim of balancing the general government finances appear to be a target for the structural balance, albeit relative to the world economy instead of the more usual domestic business cycle conditions. While the objectives set in the general government fiscal plan appear precise, the reference to the normal state of the world economy makes this target hard to define, over and above the usual difficulties of data revisions and other technical issues. Despite these concerns, the message of the economic objectives is rather clear – the government is aiming for a balanced budget. The government commits to change its policy if it risks missing its targets. The attainment of the targets is also constrained by the statement that policy aims at decreasing inequality, narrowing income gaps, and putting Finland on a path towards achieving carbon neutrality by 2035.

Finland's fiscal policy rules are adopted from the rules of the Stability and Growth Pact. They aim to ensure that net borrowing is no greater than 3% of GDP and that the debt-to-GDP ratio remains below 60%. The rules are technical in nature and only give guidance once problems begin to escalate. While there is agreement that the Finnish public sector has a considerable long-run sustainability problem, there is no consensus on what fiscal policy actions are required to tackle it. Addressing this lack of consensus would help the government set short- and medium-term targets in a way that would support the need for increased age-related expenditures in the future.

More exact fiscal targets for the government term were released in October in the General Government Fiscal Plan for 2020-2023. According to these targets, the central government budget deficit should be at most 0.5% of GDP, the local government deficit at most 0.5% of GDP, the earnings-related pension fund surplus around 1% of GDP, and the other social security funds

¹⁶ The income gap is defined as the gap in income between different income groups, e.g. between the top 20% of income earners and the bottom 20%.

should be in approximate balance at the end of the parliamentary period. Taken together, the targets for the different sectors imply that the general government finances should be in balance.

As required by the Stability and Growth Pact, the government has set a medium-term objective (MTO) for the general government structural balance of -0.5% of GDP. To support the achievement of the MTO, the government has set annual targets relative to GDP for nominal net borrowing, general government expenditures and general government debt. These annual objectives are given in Table 4.2.1.

If the annual objectives are achieved by 2023 then attainment of the MTO will most likely be secured. However, the objectives are far from the path implied by current forecasts, which expect the net borrowing-to-GDP ratio in 2023 to be -1.2%. Also, the forecast expenditures greatly exceed the corresponding objective for 2023. Over EUR 3 billion of further adjustments would therefore be needed to bridge the gap between the objectives and the current forecast. The level of adjustment needed can be calculated from the objective for the ratio of general government expenditures to GDP. Achieving a target ratio of 50.7% requires a reduction in expenditures of 2.4 percentage points from the 2020 level. Disregarding any possible effect on GDP growth, the stated objective translates into a fall in annual expenditure by between EUR 1 to 2 billion.

Table 4.2.1. Annual objectives published in the Stability Programme in October 2019.

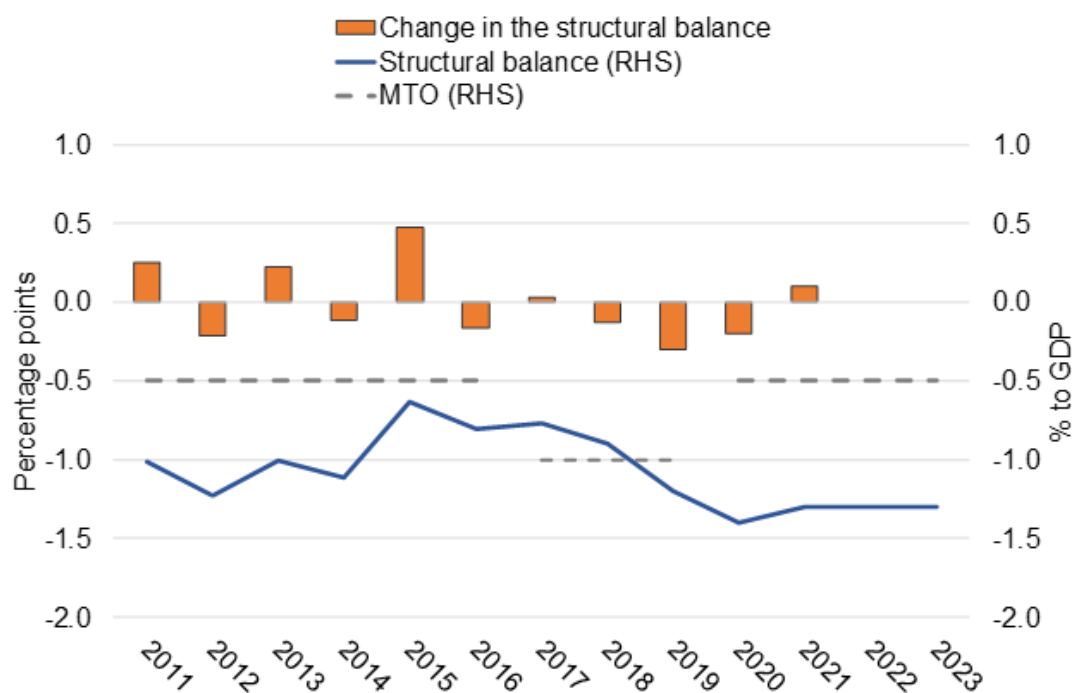
General Government, % of GDP	2019	2020	2021	2022	2023
Net lending (+) / borrowing (-)	-1.0	-1.4	-1.0	-0.6	0.0
Expenditures	52.7	53.1	52.1	51.4	50.7
Gross debt	58.8	58.8	58.7	58.6	58.1

Source: General Government Fiscal Plan 2020-2023.

The MTO is set in terms of the structural balance, so whether it is achieved or not depends on the estimate of the output gap and the nominal budget balance. The Ministry of Finance currently predicts that the structural balance will be -1.2% of GDP in 2019 and -1.3% of GDP in 2023. In its previous report, the EPC commented that the MTO target should be set at a level tighter than -0.5% of GDP to support fiscal sustainability. A discussion updating this argument is in Section 5.

Recent estimates by the Ministry of Finance show that the MTO was almost reached in 2015, when the structural balance was -0.6% of GDP (see Figure 4.2.1). After 2015, the structural balance has deteriorated, mostly due to reductions in taxes that were implemented in 2016-2019. As Finland had introduced major structural reforms to pensions and the competitiveness pact, a temporary deviation from the MTO was granted by the European Council in the spring of 2017 based on Regulation (EC) 1466/97. Flexibility was granted for a period of three years. In total it reduced the MTO target by 0.5 percentage points, i.e. the structural balance was allowed to reach a maximum of -1.0% of GDP in 2017-2019. In 2018 the structural balance remained within this limit, but from 2019 onwards the structural balance is forecast to stay at or below the level of -1.2% of GDP. Without new measures or favourable changes in either revenues or estimates of the output gap, Finland will breach the preventive arm of the Stability and Growth Pact.

Figure 4.2.1. General government structural balance deviates from its target level of -0.5% of GDP.



Source: Ministry of Finance Autumn Forecast 2019.

The preventive arm of the Stability and Growth Pact aims at ensuring sound budgetary policies over the medium term. It sets the parameters for fiscal planning, considering cyclical developments in the economy (which increases

the complexity of its rules). To avoid breaching the -3% threshold for net borrowing, the structural balance should be at or above the MTO, or at least on an adjustment path towards it. In support of the adjustment, the preventive arm also contains an expenditure benchmark: increases in spending by general government should not exceed the medium-term potential economic growth rate. If they do, they must be matched by additional discretionary revenue measures. According to the latest forecast, growth in general government expenditures will exceed this rate in 2020.

Adherence to the preventive arm of the Stability and Growth Pact is evaluated once statistics for the year are released. The non-adherence forecasted for 2020 will therefore be recognised in 2021, and policy changes will consequently have to be implemented in autumn 2021.

From the perspective of the credibility of economic policy, it is problematic to present a fiscal plan that *ex ante* does not respect commitments made under the Stability and Growth Pact. While the government has laid out a set of targets that are in line with reaching the MTO by 2023, current economic policy does not indicate that these rules will be followed. The multiannual objectives, published in the General Government Fiscal Plan for 2020-2023, indicate only a possibility of decreasing the ratio of general government expenditure to GDP, which in turn runs counter to the government's stated objective of permanently increasing spending.

It should be emphasised that the Stability and Growth Pact does not preclude increasing the level of permanent expenditure. The purpose of the rules is to ensure that increases are achieved in a fiscally sustainable way that does not lead to sudden jumps in the deficit. The expenditure benchmark similarly permits permanent expenditures to increase as intended, but only at a slower pace or when accompanied by new discretionary measures.

4.3. Central government spending limits and the budget bill for 2020

Central government on-budget spending, i.e. spending by ministries, government institutions and agencies, is partly constrained by spending limits.¹⁷ The spending limits cover about 80% of budgetary items, and do not apply to expenditures that depend on cyclical conditions, interest on central government debt, financial investment expenditure, and expenditures related to transmitted payments and external funding contributions. Changes in the criteria for cyclical expenditures are included in the spending limits, e.g. unemployment benefits, housing allowances and basic social assistance. Excluded from the ceiling is the compensation paid to municipalities for tax policy changes that affect their revenue, e.g. changes in the bases for labour or income taxes.

At the beginning of the parliamentary term, the government decides on a limit for central government spending that will apply for the following four years. This decision follows spending limit rules, which are defined in the government's programme. The current spending limit is for central government spending in 2023 to be EUR 1.4 billion (in 2020 prices) higher than in the technical spending limits decision of April 2019.

The government set the spending limits for 2020-2023 on 7 October 2019. For 2020 the limit is EUR 47.8 billion. This includes the EUR 1 billion increase in permanent spending and the EUR 0.7 billion temporary investment programme. The procurement of fighter jets will increase the expenditure ceiling by at most EUR 1.5 billion in 2021-2024. The spending limits for 2021 and 2022 include a reserve for future oriented investments of EUR 840 million for 2021 and EUR 850 million for 2022. The ceiling includes reserves for unexpected expenditures in 2020-2022, and an annual supplementary budget provision of EUR 300 million in 2020-2022 and EUR 100 million in 2023.

Expenditures outside the spending limits are expected to grow from EUR 10.2 billion in 2020 to EUR 10.7 billion in 2023. The growth is mainly due to compensation to municipalities for changes in taxation.

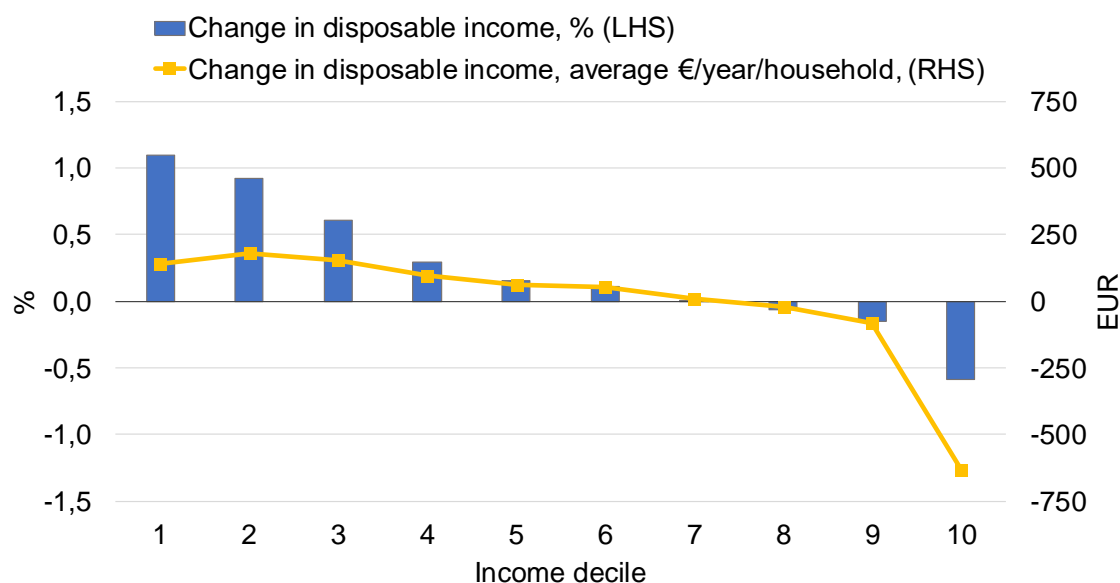
¹⁷ Central government spending that is not included in the budget consists of spending by universities and Yle (the Finnish public broadcasting company), spending by limited liability companies controlled by central government and operating outside of financial markets, and spending by funds owned by central government.

The government submitted its 2020 budget proposal to parliament on 7 October 2019. Planned expenditures are EUR 57.6 billion, which is EUR 2.1 billion more than in the budget for 2019. The increase in spending inside the ceiling is due to increased permanent expenditures, the “future-related investments” programme and the statutory index adjustments. Compared to 2019, the largest increases are in appropriations to the Ministry of Education (+EUR 0.4 billion), the Ministry of Transport and Communications (+EUR 0.6 billion) and the Ministry of Finance (+EUR 1 billion). Reductions in employer social security contributions will reduce central government expenditure in 2020 by approximately EUR 360 million. As a result, appropriations to the Ministry of Social Affairs and Health fall by EUR 0.3 billion. The appropriations for interest expenditure also decrease by 0.3 billion. Debt-servicing costs in 2020 fall to EUR 0.9 billion and total central government debt is estimated to remain close to EUR 109 billion.

The growth in gross debt is moderated by the deficit being partly financed by sales of financial assets by central government. The government plans to finance the temporary spending increase in 2020-2022 by sales of up to EUR 1.3 billion, on top of which the General Government Fiscal Plan indicates annual income from asset sales of EUR 400 million. The financial assets and liabilities of central government are discussed in depth in Chapter 5.

The effects of the 2020 budget bill on income inequality are in line with the government’s targets. Figure 4.3.1 presents the effects of the budget bill by income decile, as calculated by the Parliamentary Budget Office. The budget bill’s direct effects on disposable income are decreasing by income. The income increases in the lowest deciles are driven by increases in pensions, while the top decile decrease is mainly due to the continuation of the solidarity tax. The assessment includes changes in transfer spending, direct taxes, and indirect taxes. It is worth noting, especially with respect to the discussion in the previous chapter, that these figures include inflation-adjustment of tax brackets and changes in payroll taxes.

Figure 4.3.1. Direct effects of the 2020 budget bill on disposable income.



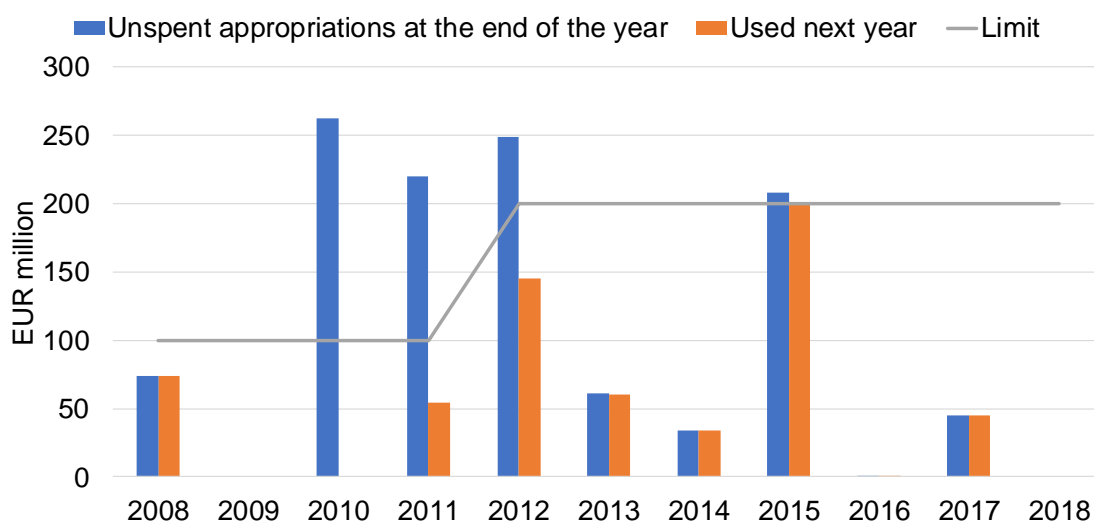
Source: Calculations by the Parliamentary information service.

4.4. Spending limits rule

The new government updated the rules of the spending limit framework. While the main set of rules remained unaltered, two additional items of flexibility were added to the spending limit: 1) the option to increase central government spending by EUR 500 million in two subsequent years if the economic situation is exceptional, and 2) the option to use any remainder on one-off expenditure items in the following year, assuming that the spending limits have not been completely exhausted by supplementary budgets.

Under the previous spending rules, annual rollover was limited to EUR 200 million. In addition, one-off expenditure items such as investment projects could be carried over to the following year if there was a material change in their timing. In the past 10 years, unused appropriations inside the ceilings have varied between EUR 0-262 million and rarely exceeded the limits that were set, see Figure 4.4.1. Relaxation of the limits under the new rules suggests a possible degree of fiscal impropriety, with budgets susceptible to small increases without the need for formal appropriations. However, relaxing the limits may help to alleviate problems related to spending before the end of the year. The level of unallocated reserves for 2020 is EUR 400 million, which could have been set as a rollover limit.

Figure 4.4.1. Unspent appropriations and their use in the following year.



Source: Ministry of Finance (2019a).

The new set of rules includes an escape clause in the form of an exceptional situation mechanism. This will be triggered if conditions in the global economy or the euro area have a seriously negative impact on Finland's economy, or if Finland experiences a serious economic downturn due to temporary disturbances that are independent of the government's actions. The mechanism allows for up to EUR 1 billion to be allocated to one-off expenditure in 2020–2022 without reference to the spending limits, although one-off expenditure must not exceed EUR 500 million in any one year. Economic conditions are considered to be exceptional if the euro area experiences a fall in GDP of at least 0.5 per cent over two consecutive quarters and a cumulative increase in the euro area's seasonally adjusted unemployment rate of at least 0.5 percentage points over three consecutive months. Signs of a serious economic downturn in Finland would be a fall in GDP of at least 1.0% over two consecutive quarters and a rise in the unemployment rate of at least 0.5 percentage points over three months.

Since 1990, exceptional situations, which are described in the clause, have occurred in Finland in 1990-1991 and 2009. In its current form, the spending limit framework with spending ceilings has been in place since 2004, so what happened in 2009 gives an example of how the ceiling limits work in a crisis. As the ceilings set upper limits on the total amount of specific expenditure items in the central government budget, they in principle limit the ability of the government to fiscally stimulate the economy in a financial crisis. In the budget bill for 2009, unallocated reserves inside the ceiling were set at EUR 121 million and the reserve for supplementary budgets was EUR 300 million.

When GDP started to decline in 2009, the government reduced taxes, made loans to business, instigated structural changes inside the ceilings, and allowed automatic stabilisers to stabilise the economy. The government used all the free reserves inside the spending limits in 2009, but not in 2010. One measure for fiscal stimulus is the change in the structural balance. Using current estimates, the structural balance deteriorated by 1.7 and 1.6 percentage points in 2009 and 2010, indicative of a fiscal stimulus of some EUR 3 billion in each year.

These experiences suggest that the ceiling system does not necessarily prevent the government from stimulating the economy. In addition, according to some recent findings in the literature, stimulating through reductions in taxes may be more efficient than increases in expenditure.¹⁸ In principle, there should be a similar clause regarding exceptionally *positive* economic developments, indicating a desire to contain spending growth more when the economy is at a risk of overheating.

4.5. “Future-oriented investments”

In addition to permanent spending increases, the government programme includes a sizeable temporary spending package under the label of “future-oriented investments”:

‘During the parliamentary term, the Government will implement a one-off programme of future-oriented investment that supports the attainment of the Government Programme’s objectives and long-term sustainability of general government finances. Within this investment programme, up to EUR 3 billion will be targeted at one-off investments and socially important experimental schemes. The measures are non-recurrent and they will not increase central government expenditure in 2023. The measures will be funded for the most part through property income so that they will not lead to an increase in the debt burden in 2023.’

Of the maximum EUR 3 billion available, the budget proposal for 2020 includes spending of EUR 750 million, with the General Government Fiscal Plan specifying EUR 439 million for 2021 and EUR 175 million for 2022. In total,

¹⁸ For discussion, see for example Alesina et al. (2015).

about a quarter of the overall package will be spent in the first year of the government's term. About half of the measures are yet to be included in the General Government Fiscal Plan.

The package is an incongruous collection of different items directed towards different ministries. The EUR 750 million for 2020 is divided up amongst 85 separate items, with the median allocation being only around EUR 3 million.

The two largest future-oriented investments for 2020 were the agro-environmental subsidy (*ympäristökorvaus*) at EUR 88 million and payments to less favoured areas (*luonnonhaittakorvaus*) at EUR 42 million. Together, they accounted for about one sixth of all the future-oriented investments in 2020. The purpose of the first is to steer agriculture towards more environmentally-friendly production methods, the second simply to “ensure that agricultural production continues in Finland” (Ministry of Agriculture and Forestry 2017). For the latter in particular, it is doubtful that this counts as “one-off investments” or “socially important experimental schemes”.

We wish to make three points about the future-oriented investments:

- 1) Many of the items included in the package do not bear close resemblance to investments. While many such items may be beneficial, it is misleading to label the entirety as an investment package.
- 2) For many of the items in the package, it is not clear why they should be temporarily financed for 2020–2022. The government programme outlines EUR 235 million to be spent on additional students and counsellors in vocational education over this period. However, only EUR 80 million of this has been decided in the General Government Fiscal Plan. The government's approach introduces unnecessary uncertainty and fluctuations in funding for many important publicly provided services.
- 3) It is unclear why the government has decided to fund its future-oriented investments with sales of financial assets rather than taking on additional debt. Both measures decrease the net wealth of the public sector. Decisions concerning the size and composition of the central government financial asset portfolio should be made separately, based on considerations such as whether government ownership may alleviate market imperfections.

4.6. Council views

The government's fiscal policy is moderately expansive when compared to a path with no policy changes. Given that the current cyclical situation is fairly neutral or positive, this implies a procyclical increase in both temporary and permanent spending in 2020. Given the fact that there is a need for long-term reasons to consolidate public finances, the fiscal policy stance can be considered to be too lax.

The government has announced that it is aiming for a balanced budget by 2023, while the current forecast for the general government budget is a deficit of -1.4% of GDP in 2023. The government has yet to announce a plan for how it will balance the budget.

According to current forecasts, the increases in permanent and temporary spending in 2020 and 2021 mean that government spending will rise faster than allowed under the Stability and Growth Pact.

Increasing the government deficit when the business cycle has just passed its peak reduces the scope to make fiscal policy more accommodative in the event of a possible future downturn.

Government has introduced an escape clause into the spending limits, that allows spending increases if the Finnish or European economy is hit by a severe downturn. The Council welcomes this well-defined flexibility but reminds that discretionary spending measures are slow to implement and economy tends to react on increases in public spending rather faintly.

The government's package of "future-oriented investments" can be criticised on several grounds. First, it is misleadingly labelled as many of the items included do not bear close resemblance to investments. Second, it is unclear why many of the items in the package should be funded via a temporary programme instead of on a more permanent basis. Third, decisions concerning government assets should be made on the basis of strategic considerations for or against government ownership, not the need to fund particular packages.

However, the very low, or even negative interest rates that the government currently faces, lower the cost of the deficits relative to what they have been in the past. In addition, low interest rates would be an argument for undertaking necessary investment sooner rather than later to benefit from the low

financing costs. It would be useful to have a plan for such investments so that the opportunity could be seized. Any such investments would, naturally, need to pass normal benefit-costs tests.

5. Fiscal sustainability and fiscal risks

Fiscal sustainability is broadly defined as the ability of a government to maintain its current spending, taxation and other policies without threatening insolvency. In countries facing an acute debt crisis insolvency, or inability to borrow funds to cover a budget deficit, it is a very immediate problem. This is currently not the case for Finland, as the government is able to borrow at very low interest rates. For Finland the problem is fiscal sustainability in the longer run.

A key factor in determining longer-run fiscal sustainability is the projected evolution of the debt-to-GDP ratio under current policies. Such projections are based on assumptions concerning demographic developments, use of publicly funded transfers and services, employment rate, and so on. These projections are naturally subject to uncertainty, but they point to a significant sustainability problem for Finland. Uncertainty as such is not a reason for not to act; prudent policies are such that government finances are sustainable also when negative risks are realized.

According to the Ministry of Finance's assessment, a permanent adjustment of the public budget in the order of 5% of GDP is required to balance expected future expenditures with expected future revenues. The government programme's permanent tax increases do not match up to its permanent spending increases, and the government plans to make up for the shortfall by increasing employment. If the employment target is met, the government will not have improved fiscal sustainability, but merely avoided its further deterioration. The government therefore postpones the required fiscal adjustment further into the future. Such postponement increases risks and shifts the burden of adjustment to toward younger and future generations.

In this chapter we discuss several topics on fiscal sustainability: the general government balance sheet and its risks, medium- and long-run fiscal sustainability, and how changes in fertility and employment affect public finances.

5.1. The general government balance sheet

The starting point for an assessment of fiscal sustainability is the information on the net asset position contained in the general government balance sheet. Fiscal sustainability is determined by the accumulation of assets and liabilities in the past, and assumptions about how the assets and liabilities will evolve in the future. Government decisions that have an immediate effect on assets and liabilities also influence future expenditure and revenue flows.

The general government balance sheet records the financial assets and liabilities of general government. The situation in 2018 is given in Table 5.1.1. Liabilities are divided into financial and pension liabilities; assets are classified according to their liquidity. The value of financial liabilities is based on market values and covers all forms of government financial liabilities. Pension liabilities are the present value of accrued pension rights.

Table 5.1.1. General government balance sheet for 2018.

EUR billion					
Liabilities			Financial assets		
Debt securities	114.9		Currency and deposits	18.0	
Loans	31.1		Debt securities	39.1	
Other liabilities	23.0		Market equities	156.8	
Financial liabilities	168.9	-	Liquid assets	213.9	= Net debt -45.0
Pension liabilities*	714.5		Loans	24.7	
			Other equities	32.7	
			Other assets	13.0	
Total	883.4	-	Total	284.2	= Net liabilities 599.2

Sources: Financial Accounts by Statistics Finland, EPC and Tikanmäki et al. (2019).

* Pension liabilities are the current value of accrued pension rights at the end of 2017, calculated using a real discount rate of 2.5% to 2028 and 3.5% from 2029 onwards.

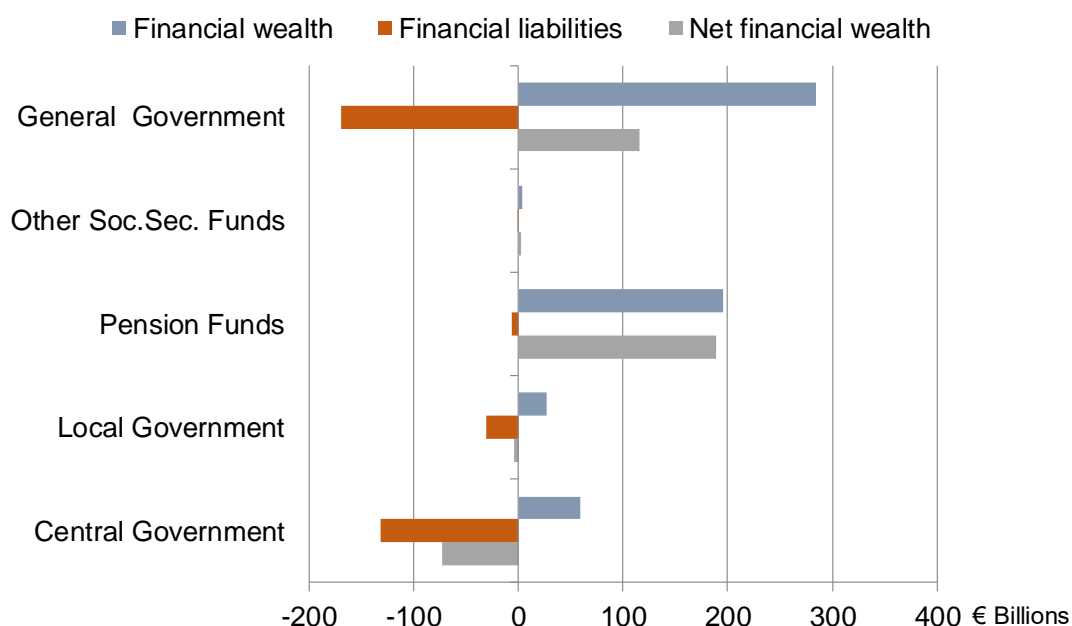
The value of general government financial assets exceeds the market value of government financial liabilities, meaning that the general government net debt position is negative. The total value of financial assets is slightly above EUR 284 billion, while the total value of gross debt and liabilities is EUR 146

billion. Most of the financial assets are held by pension funds and have been accumulated to cover the funded part of accrued pensions.

The largest liability items on the balance sheet are public debt and pensions. The market value of government debt and other financial liabilities is EUR 170 billion. Pension liabilities are comparatively much larger at EUR 714 billion. As they refer to pensions to be paid in the future, their current value is sensitive to assumptions made about the discount rate. The liabilities in Table 5.1.1 refer to 2017 and are based on a discount rate of 3.5%. Total general government liabilities are almost EUR 900 billion, of which approximately 80% are pension liabilities.

The decomposition of net financial wealth in 2018 by government sector is presented in Figure 5.1.1. Financial assets are mainly held by pension funds and financial liabilities mainly held by central government. The negative net wealth position of central government has to be financed annually, while the interest earned by the assets of pension funds is used to pay pensions.

Figure 5.1.1. Net financial wealth by sector of general government in 2018.

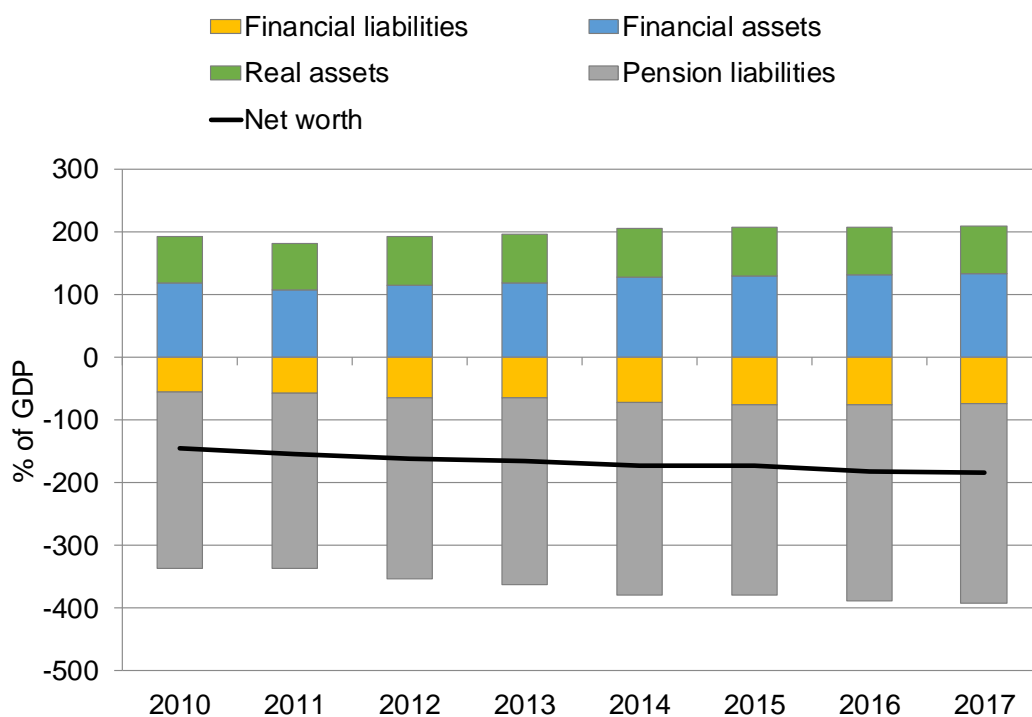


Sources: Financial Accounts by Statistics Finland, EPC.

General government net liabilities are almost EUR 600 billion, obtained from Table 5.1.1. by subtracting total assets from total liabilities. General government net worth can further be defined as net liabilities plus real assets, which mostly consist of land, buildings and structures. Almost two thirds of real assets are owned by local government and one third by central government.

The evolution of general government net worth for 2010-2017 is shown in Figure 5.1.2. The numbers are based on financial accounting data from Statistics Finland and information from the Finnish Centre for Pensions.¹⁹ General government net worth in 2017 was -185% of GDP. The value of financial and real assets was 209% of GDP, but large financial and pension liabilities totalling 393% of GDP made the net worth position highly negative. From 2010, the general government net worth to GDP ratio has gradually deteriorated as pension liabilities have steadily risen. Growth in financial liabilities slowed in 2017 and 2018 but was offset by slower growth in real assets.

Figure 5.1.2. The evolution of general government net worth.



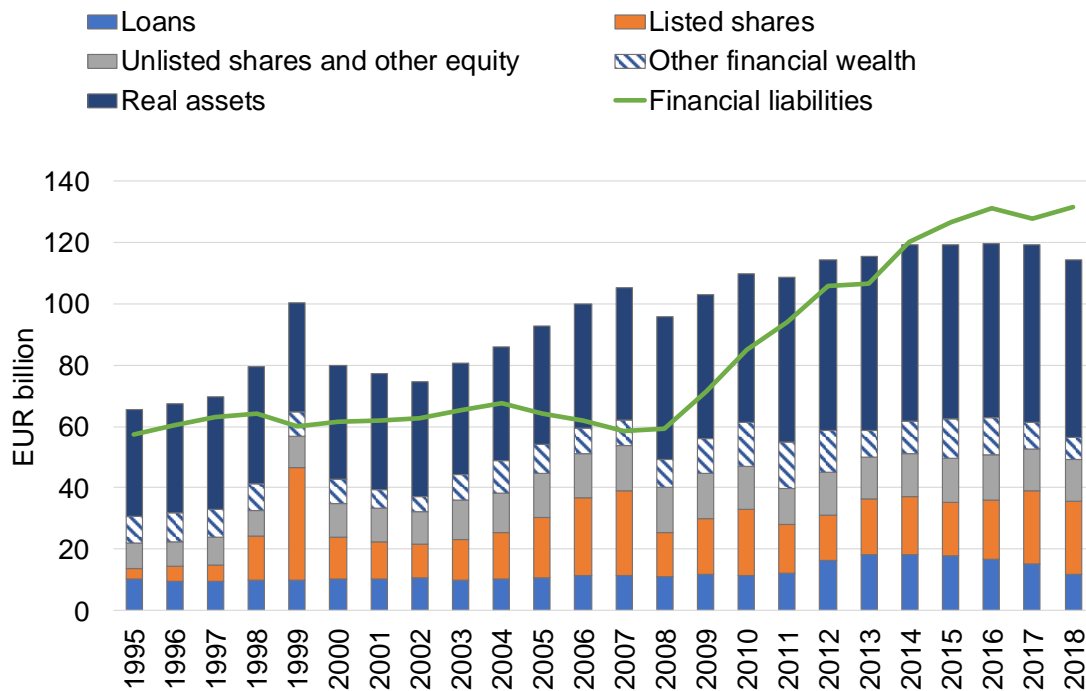
Sources: Financial Accounts by Statistics Finland, EPC and Tikanmäki et al. (2019).

Figure 5.1.3 charts the evolution of the stock of central government assets and liabilities. From 2010, financial wealth has been stable at approximately EUR 60 billion. The largest financial asset item is listed shares, which totalled almost EUR 24 billion in 2018. Shares in unlisted companies and other equity have remained in a range of EUR 13-15 billion over the last 15 years. The stock of loans owned by central government has been decreasing. Repayment of such loans has helped central government finances, especially in 2018. The figure also shows the deteriorating net financial position of the government

¹⁹ Data on pension liabilities is not available for the years 2013 and 2016. Missing values are interpolated linearly.

sector from positive net wealth of EUR 3.4 billion in 2007 to negative net wealth of EUR -75 billion in 2018. The net wealth of central government turned negative in 2015.

Figure 5.1.3. Central government financial and real assets and financial liabilities.



Sources: Financial Accounts by Statistics Finland and EPC.

The stock of shares owned by central government tends to rise annually as the market value of listed and unlisted companies increases. The government earns dividend income from these companies and may sell some or all of the stocks it owns. If a company is considered to be of strategic interest then the government typically wants full or partial control over decision making. Such control can be exercised by holding sufficient voting power at the company's shareholder meeting. Selling assets reduces this voting power. However, private equity holders may see risks in government ownership in that company decisions are steered in directions that are not compatible with their best interests, which could then adversely affect the company's market price. Decisions on whether to buy or sell shares in listed or unlisted firms should therefore be based on an appropriate ownership strategy.

The current government has indicated that it will sell financial assets of EUR 1.3 billion to finance its programme of increased temporary expenditure in

2020-2022. In terms of net wealth, the sale of assets is only neutral if the revenue from sales is used to finance investments in real assets. The so-called 'future-oriented investments' do not accumulate real assets in full, meaning that net wealth in the future will be even more negative. Any deficit must at least initially be financed through new debt or by selling assets, i.e. by a reduction of net wealth.

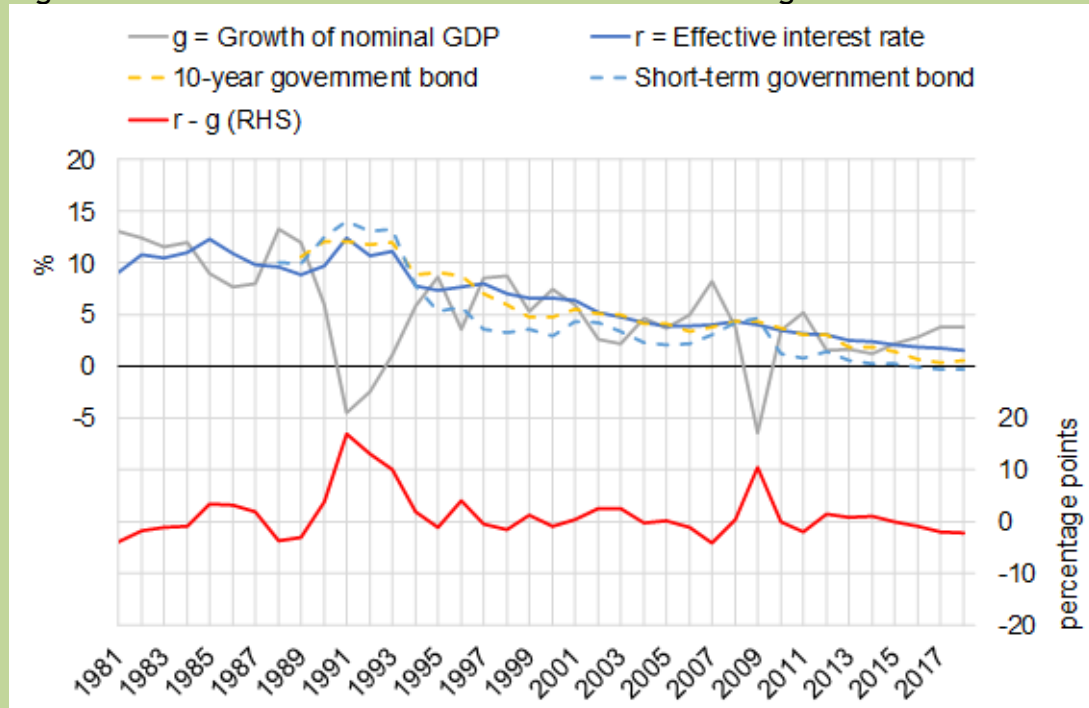
Box 5.1 Fiscal sustainability and low interest rates

There is no single definition of long-run fiscal sustainability, but some stability in the public debt-to-GDP ratio is typically required in the long term (e.g. Blanchard et al. 1990). The evolution of the debt-to-GDP ratio is determined by two factors: the size of future deficits and the burden of inherited debt. Without surplus, any existing nominal debt stock must be refinanced at prevailing interest rate. On the other hand, for a given nominal debt stock the debt to GDP ratio is reduced by growth in nominal GDP. The fiscal burden of the existing debt stock is therefore determined by the difference between the nominal interest rate on government bonds and growth in nominal GDP. (Blanchard et al. 1998)

Blanchard (2019) drew attention to two facts in his presidential address to the American Economic Association. First, any debt-to-GDP ratio is sustainable if the difference between the nominal interest rate on government debt and GDP growth is negative. If the numerator in the ratio grows slower than the denominator then debt as a proportion of GDP will be stable as long as future deficits do not explode. Second, the difference between the nominal interest rate and GDP growth has historically often been negative, and there are reasons to believe that it will remain negative in the future. In this situation public debt has no fiscal cost. It may, however, have welfare costs, and imply intergenerational reallocation of consumption opportunities.

The rate of interest on government bonds has generally decreased throughout the developed world, and this holds equally for Finland. Whereas the yield on 10-year government debt was around 4 per cent before the financial crisis of 2008/9, it is currently only slightly below zero. At the same time, the growth rate of nominal GDP has declined. Figure B1 shows the nominal GDP growth rate, effective nominal interest rate on central government debt, and the difference between these for Finland since 1980.

Figure B5.1. Nominal interest rates and nominal GDP growth in Finland.



Sources: Statistics Finland and EPC.

Blanchard (2019) adjusted his series on US nominal interest rates to account for two factors: tax revenue from interest income and changes in the average duration of government debt. The first adjustment is needed because higher interest rates imply higher tax revenue insofar as interest income is taxed by the government. This tax revenue reduces the government's net financing costs. The second adjustment is needed because changes in the average duration of government debt change the government's net financing costs in ways that are not visible when looking solely at yields of a given duration.

We do not account for these factors in the figure above, but we believe that their effect would be limited. Finnish government debt is nowadays mainly held by foreign investors and the central bank, from whom the government does not collect taxes on interest income. It may be that tax revenue on interest payments was more important in earlier years, in which case the $r-g$ series would be lower at the beginning.

The government debt office has data on the maturity of government debt since 2002. The average maturity was quite stable at around four years until 2010, after which it increased to the current level of close to six years.

Changes in the average duration are already incorporated in the effective nominal interest rate series.

Although nominal interest rates are currently below the rate of nominal GDP growth and set to remain so in the foreseeable future, it seems unlikely that this will continue to hold forever. Furthermore, it seems plausible that the nominal interest rate would react to the level of government debt, although the magnitude of the response is difficult to pin down. It should also be noted that there is pressure on the debt to GDP ratio to rise in the future, even if the burden of inherited debt is relieved by the differential between the nominal interest rate and nominal GDP growth. This is because the number of people entering old age and requiring publicly funded health and social care is greater than the number of people entering the labour market. A final caveat is that general government has relatively large holdings of financial assets in Finland. The general trend towards lower interest rates therefore reduces revenue from government assets.

5.2. Fiscal risks

The government needs resources to provide public goods and promote economic growth in the longer term. Sound public finances are necessary in normal times to stabilise the economy and to help the economy recover from particularly difficult times. Changes that affect the public sector balance sheet can hinder the governments' ability to fulfil these functions. With appropriate fiscal risk management, public finances can be made more robust. Fiscal risk management should also be considered when formulating fiscal rules.

The stock-and-flow accounting framework for public finances provides an overview of the prevailing fiscal risks. The annual flows of government spending and receipts for 2019 are presented in Table 5.2.1. Using this framework, it is easy to see how fiscal risks could arise in the form of either one-off or persistent increases in expenditure or one-off or persistent decreases in revenue. Below the primary balance line, interest expenses and income are both affected by interest rate risk. Interest income is also subject to exchange rate risk, since government asset portfolios are distributed internationally but liabilities are mostly denominated in euros.

Table 5.2.1. General government expenditure and revenue forecast for 2019.

EUR billion					
Revenue			Expenditure		
Direct taxes	38.9		Consumption	55.2	
Other taxes	34.2		Capital expenditure	10.5	
Social sec. contrib.	28.3		Social security	43.8	
Other income	22.1		Other	26.7	
	123.5	-		125.7	= Primary balance* -2.2
Interest revenue	1.7		Interest expenditure	2.0	
Total	125.2	-	Total	127.7	= Net lending -2.5

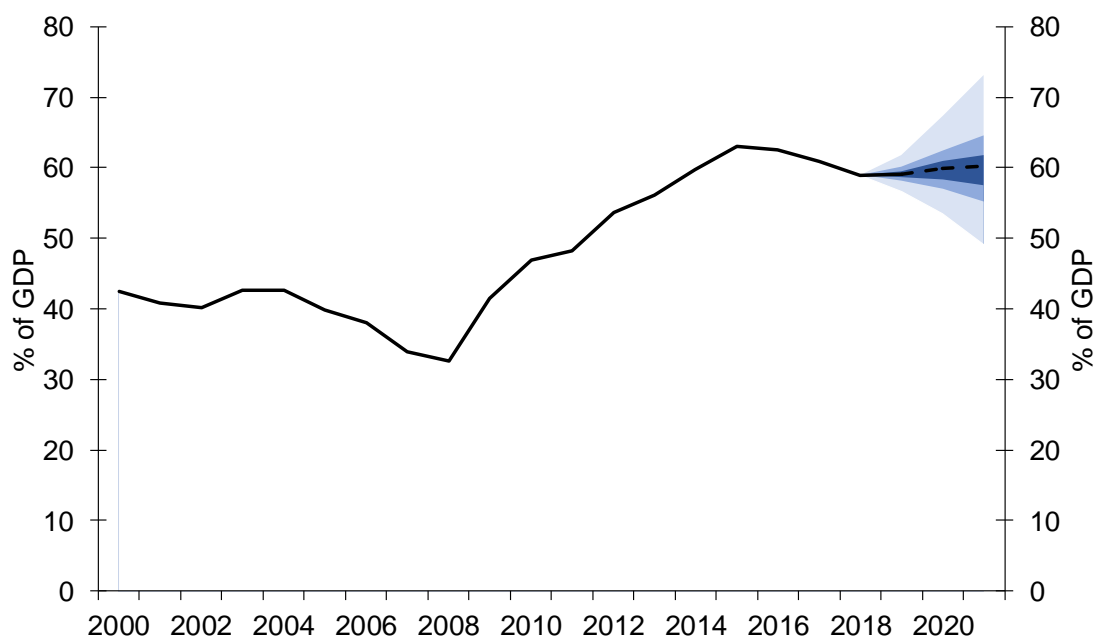
Sources: Ministry of Finance Autumn 2019 forecast and EPC calculations.

*Net lending less interest revenues and interest expenditures.

Balance sheet risks arise because of events or changes in trends that affect assets or debt liabilities. They may also occur if the government takes on additional liabilities to finance private sector entities, or if there are changes in the existing value of assets or liabilities.

The main short and medium-term risks associated with revenue and expenditure flows are macro risks, i.e. risks of unexpected economic events. The normal level of macro risk for fiscal variables can be illustrated with econometric tools, see Box 5.2. The probability distribution of the general government debt-to-GDP ratio under exogenous fiscal policy is presented in Figure 5.2.1. The fan chart based on the simulated paths shows how uncertainty increases with time. The simulations show the debt-to-GDP ratio being below 60% in 2021 with a probability of 53%. Also, there is a 72% probability that general government net borrowing will be above the -3% threshold.

Figure 5.2.1. A model-based forecast for the general government debt to GDP ratio in 2019-2021 and the respective 25%, 50% and 90% confidence intervals.

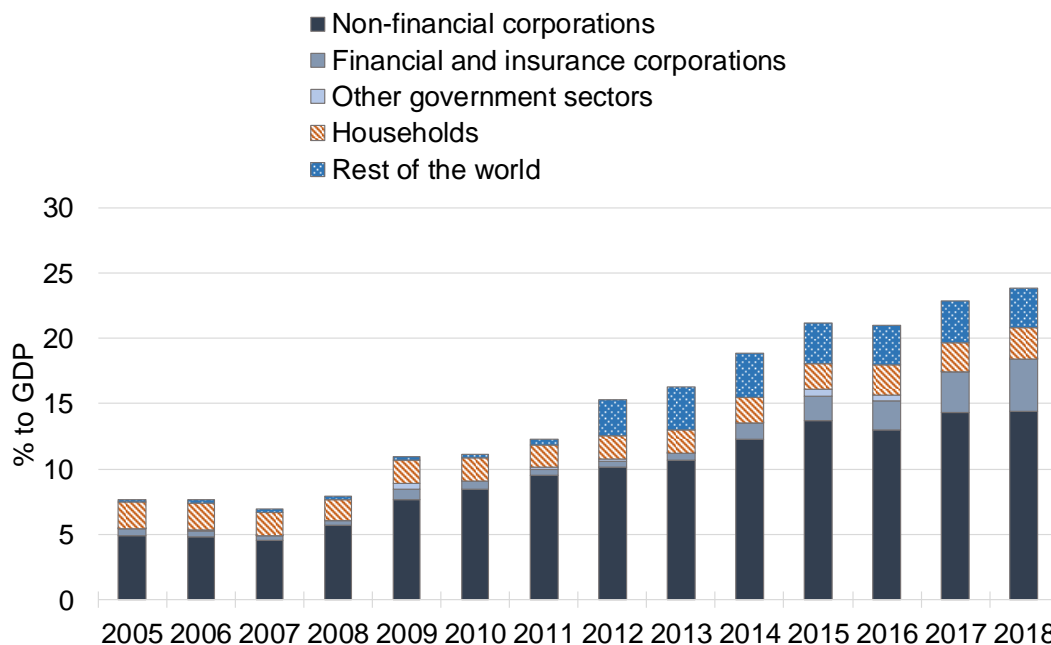


Sources: Statistics Finland and EPC.

The risks faced by central government are presented in the annual risk report of the Ministry of Finance (2019b). The report gives an extensive overview of the risks surrounding central government finances. To give a picture of medium-term sustainability, the report also includes a stress test scenario for adverse economic developments in the international economy. The result is that Finland's buffers are not sufficient to cope with the stresses resulting from such adverse developments. While the results of the stress test are informative, they cannot be used to measure the overall risk for public finances. Such a measure would need to quantify the government's exposure to risk and the probability of the government making losses. The probability that the risk materialises is important to quantify accurately, especially when addressing the risks associated with contingent liabilities.

The contingent liabilities of central government are well documented and reported by the Ministry of Finance. In 2018 they were EUR 56,6 billion, almost 24% of GDP. Over half of the stock, EUR 30.3 billion, was guarantees to Finnvera. Other large items are the guarantees to the Housing Fund of Finland (EUR 14.5 billion) and liabilities related to the European Financial Stability Facility (EUR 7 billion). The development of the stock of contingent liabilities since 2005 is depicted in Figure 5.2.2.

Figure 5.2.2. Total stock of central government guarantees has steadily increased.



Source: Statistics Finland.

By giving guarantees central government is taking on part of the business risk of Finnish industry. According research conducted by Ali-Yrkkö and Kuusi (2019) the export guarantee-related activities of Meyer and Nokia, the two biggest clients of Finnvera, create value added accounting for roughly 0.6% of Finnish GDP. Compared to these numbers, the stock of guarantees seems to be rather large. However, from the fiscal risk perspective it is more fruitful to focus on the risks associated with guarantees.

In 2019 the Council commissioned background research on the risk involved in the contingent liabilities of Finnvera and the Housing Fund of Finland. In their research report, Junttila and Raatikainen (2020) find that the Finnish export guarantee system enables the risk to be diversified through the guarantees given to large international firms that buy the products of Finnish companies. The system is an example of efficient international diversification, and in the Finnvera guarantee portfolio case it is essential for the reduction of the overall risk profile. However, the systemic risk is huge. The worst case, a risk triggered by an international financial crisis, would increase over 4 billion euros, and at each level of tail loss probability (5%, 1%, and 0.5%). It is also worth noting that such a risk would also affect the value of central government financial assets and the buffers accumulated by the Housing Fund of Finland.

Box 5.2 Fiscal risks in the short run – a VAR approach

Economic forecasts are important in the fiscal policy planning process. While traditional point forecasts give a view of the most probable path of future economic developments, a good understanding of the risks surrounding the forecast is important. Good forecasts commonly include a scenario describing possible economic outcomes if one or more of the background assumptions fail.

However, these forecasts are often unable to describe the uncertainty of the projected path. In particular, the uncertainty of the future state of public finances should be discussed more comprehensively. This box presents a time-series approach to address the uncertainty of public finances. We build a simple Vector Auto Regressive (VAR) model with an external regressor for the Finnish economy and assume that the key inputs of fiscal sustainability in the short term come from joint distributions and persist over time. With this set-up we are able to assess the probability of certain debt and deficit outcomes.

The evolution of the public debt stock over time can be described using a simple formula:

$$D_t = (1+i_t)D_{t-1} - PS_t,$$

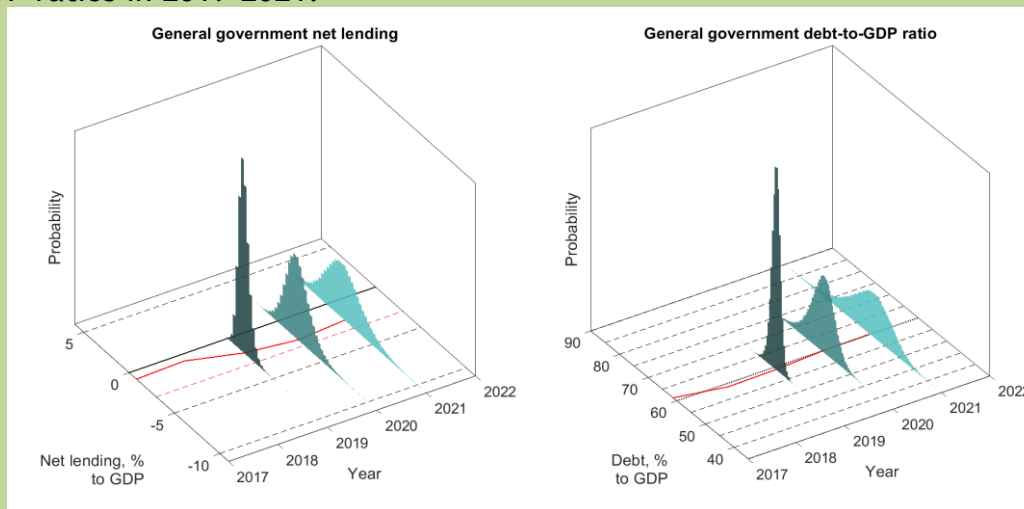
where D_t is public debt at the end of year t , i_t is the government implicit interest rate and PS_t is the primary surplus in year t . The primary surplus is defined as total public sector revenue less other expenditures. The sources of uncertainty in this set-up are the future effective interest rate and the uncertainty of government revenue and expenditures. Over forecast horizon of three years, real growth in government expenditures, less interest rate payments, is restricted by spending limits, while government revenues are linked to changes in the tax base. The effective interest rate on government debt depends on domestic economic developments and also on world interest rates.

The statistical uncertainty of the domestic economy can be assessed with an empirical application of the VAR method. Our simple set-up includes three variables: domestic real GDP growth, domestic inflation, measured by the GDP deflator, and the government implicit interest rate, with external information on world interest rates in the form of the 3-month Euribor rate. The

economic intuition behind this system is straightforward: the Finnish economy is affected by changes in European interest rates, while domestic conditions do not affect Euribor rates in the medium term.

The estimated VAR model is used to form a set of 200,000 simulated projections for the model economy for the years 2019-2021.¹ The simulated paths for GDP growth and the GDP deflator are used to calculate nominal GDP, which is the base for tax revenue and other revenue.

Figure B5.2. Probability distributions of the government debt and deficit to GDP ratios in 2019-2021.



Sources: Statistics Finland and EPC calculations.

The probability distribution of the general government deficit-to-GDP and the debt-to-GDP ratios under exogenous fiscal policy are presented in Figure B5.2. The histograms of the simulated paths show how uncertainty increases with time. While the uncertainty of the mean forecast for the first year can be concluded to be quite small, the same cannot be said about the third year. The mean forecast for the debt-to-GDP ratio shows an increase and the ratio will be above the 60% threshold in 2021 with 52% probability. The general government deficit also increases. The 3% deficit threshold in the EU rules will be met with 97% probability in 2019 and with 72% probability in 2021.

¹The forecasts are based on a bootstrapping technique, where 1) the shocks, estimated from the data, are resampled, 2) new model parameters are estimated and 3) a forecast is projected based on estimated parameters and on actual data as the starting point. In this set-up the projected developments of the Finnish economy depend solely on the modelled time series and their interaction in the years 1980-2018. As all other information is abstracted away, the projected path cannot be considered a forecast. However, this set-up helps us to discuss fiscal risks in the medium term and assess the probability of the required additional consolidation in forthcoming years.

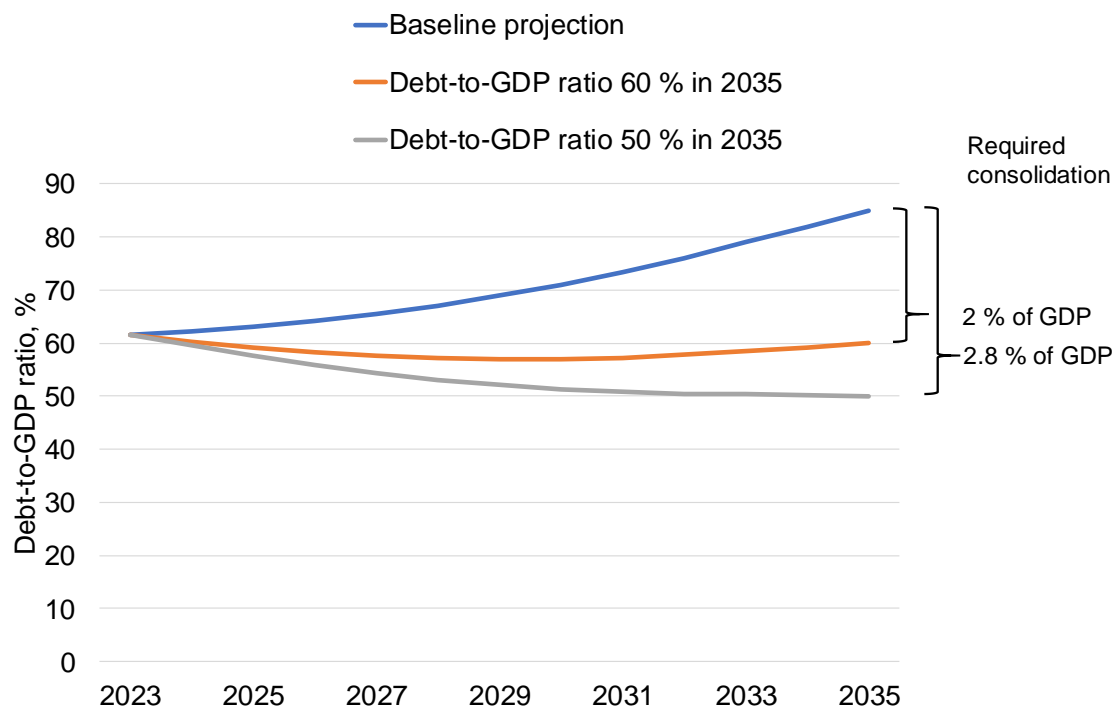
5.3. Medium- and long-run sustainability of public finances

In the previous section we discussed the sustainability of public finances in the short run. While the short-run fiscal risk indicators did not suggest any immediate need for consolidation, there is also a need to look at the sustainability of public finances over a longer period. Using the long-run projections of the sustainability calculations of the Ministry of Finance, we assess the sustainability of public finances over the period 2023-2035, i.e. over the following three parliamentary terms. Public finances are sustainable if there is no need for policy change over the defined period, and in our analysis that translates into a required short-run consolidation that keeps the debt-to-GDP ratio below 60% in 2035.

Figure 5.3.1 presents the results of our medium-term sustainability analysis. In the baseline projection, the debt-to-GDP ratio reaches 85% in 2035. In order to keep the debt-to-GDP ratio below the 60% threshold, public finances should be consolidated by 2% of GDP over the present government term. However, given the projected increase in age-related expenditures in 2030, the debt-to-GDP ratio would be on an increasing path in 2035. With more consolidation, say by 2.8%, the debt-to-GDP ratio would decrease to 50% and remain on a declining path.²⁰

²⁰ Naturally, a sizeable fiscal consolidation in the short run would have non-negligible short-run effects on GDP growth. These effects are not included in the calculations.

Figure 5.3.1. Debt-to-GDP ratio is projected to grow in the medium run.



Sources: EPC calculations based on the sustainability assessment by Ministry of Finance made in August 2019.

The long-run sustainability gap indicates that a permanent adjustment is needed in the primary budget balance (as a percentage of GDP) is needed to ensure that the present value of future taxes is sufficient to cover the present value of future expenditures (plus the cost of serving existing net debt). The sustainability gap estimate depends on projected population growth and various other factors, and so needs to be regularly updated.

The government estimated in autumn 2019 that the long-run sustainability gap is almost 5% of GDP. The long-term sustainability gap, or in European Commission phraseology the S2 indicator, has four elements: future growth in age-related spending, future costs of existing public debt, structural primary deficit in the base year of the calculation and future changes in property income. The breakdown of the sustainability gap estimate is in Table 5.3.1.

Table 5.3.1. Decomposition of the S2 sustainability indicator.

Present value of interest expenditure on initial debt	0.4
Primary deficit in base year	0.7
Change in capital income	-0.1
Changes in aged-related expenditure	3.7
S2 sustainability gap	4.7

Sources: Background material for the Ministry of Finance Autumn 2019 forecast.

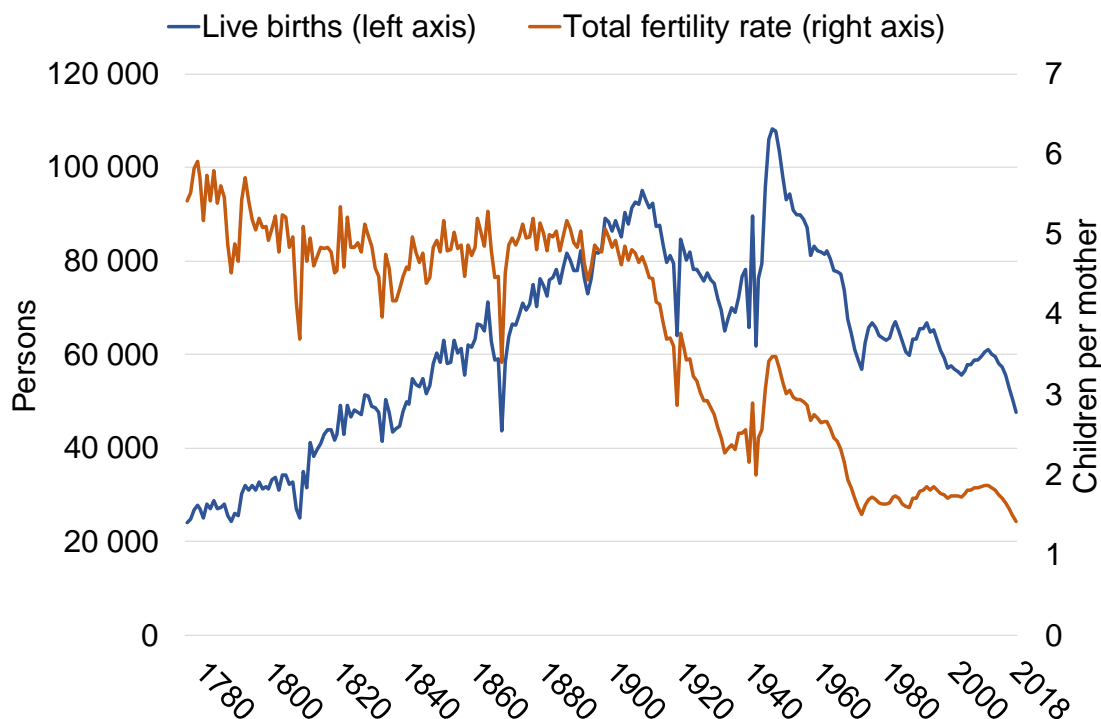
The Finnish sustainability gap is driven by projected increases in age-related expenditures. When these expenditures start to increase in the 2030s and 2040s, the general government deficit will also increase and there will be greater accumulation of debt. If general government finances were consolidated by the amount of the S2 indicator over the term of the government, public finances would be in surplus and the debt-to-GDP ratio would be on a downward path. The increasing expenditure would eventually decrease the surplus, but the debt-to-GDP ratio would stabilise. In the long run, government finances would be in balance. A fiscal consolidation of 4.7% of GDP over a few years would have non-negligible effects on the domestic economy. The path indicated by the S2 indicator is only theoretical, but does give a clear view of the pressures that government finances will face in future.

5.4. Fertility changes and the sustainability gap

Finland is an ageing country. Population forecasts have underestimated the increase in longevity for decades, but recent surprises have come at the other end of the distribution. The number of births declined for the 8th year in a row in 2018, and monthly data available since then suggests that the trend is continuing through 2019. The number for 2018 was 17% lower than was forecasted in 2015, and already 2.5% lower than the forecast made in the same year.

The extent to which these developments reflect tempo effects (postponements of childbirth) or quantum effects (people having less children over their lifetime) is still uncertain. Hellstrand et al. (2019) argue that recent changes are mainly due to quantum effects.

Figure 5.4.1. Development of births and fertility in Finland.



Source: Statistics Finland.

In this subsection, we use Statistics Finland’s population forecast and the Ministry of Finance’s sustainability gap framework to evaluate the impact of fertility changes on the sustainability gap.²¹

Changes in fertility affect the structure of the population, which feeds into the use of services, GDP growth and employment. The impact on the employment rate is calculated mechanically using age-specific employment rates.²² The calculations thus abstract from any impact that the age structure may have on productivity (for a recent contribution see Aksoy et al. 2019), and any short-run effects that fertility changes may have on the labour supply through up-take of maternal and paternal leave.

The total fertility rates for 2017 and 2018 were 1.49 and 1.45. Our baseline scenario has a total fertility rate of 1.45 and implies a sustainability gap of 4.2% of GDP. It bears noting that the recent decrease in the total fertility rate

²¹ To make these evaluations we first replicate the population forecast model because Statistics Finland only provides a single scenario, and we also need to construct an alternative scenario. Our replication of the population forecast is close but not perfect. The difference in the sustainability gap measure using the original and replicated population forecast is less than 0.1 % of GDP.

²² This method was suggested by the Council in its 2017 report and has now been adopted by the Ministry of Finance.

is already incorporated in the sustainability gap framework, with the assumption that it will be permanent. The alternative low-fertility scenario is based on a total fertility rate of 1.2. The low fertility scenario hence describes a counterfactual where the fertility rate falls even further.

Before presenting the results, it should be noted that fertility changes have heterogeneous effects on different government sectors. To understand this, consider how changes in fertility change the outlook for public finances. The public sector collects taxes mainly from the working-age population, either directly through labour income taxes or indirectly through consumption or corporate taxes. The public sector uses these taxes to fund benefits and public services, which are typically targeted at the old and to a lesser extent at the young. In the very long run, decreasing fertility will reduce the size of all age groups so both revenue and expenditure will be lower. However, there will be a discrepancy in the short and medium term. Because the sustainability gap framework discounts monetary flows in the distant future more than in the near term, the discrepancy leads to a deterioration in the sustainability gap.

The pension system is most sensitive to changes in fertility. The Finnish pension system is for the most part a pay-as-you-go scheme, where the current generation of workers pays for current pensions. Thus, a negative fertility shock will reduce the revenue of the pensions funds with a lag of about 20 years, while decreasing their expenditure with a longer lag (around 70 years), which increases the sustainability gap for the pension system. As the revenue-expenditure age profiles of municipalities is similar, so is the effect on fiscal sustainability. Municipalities collect taxes from labour income to fund social and health care services, which are consumed mostly by the elderly population.

For central government, however, a decrease in fertility may even improve fiscal sustainability in the calculations. This is because (in the sustainability gap model) education services are funded by general government, and a negative fertility shock will decrease education expenditure with a relatively short lag.

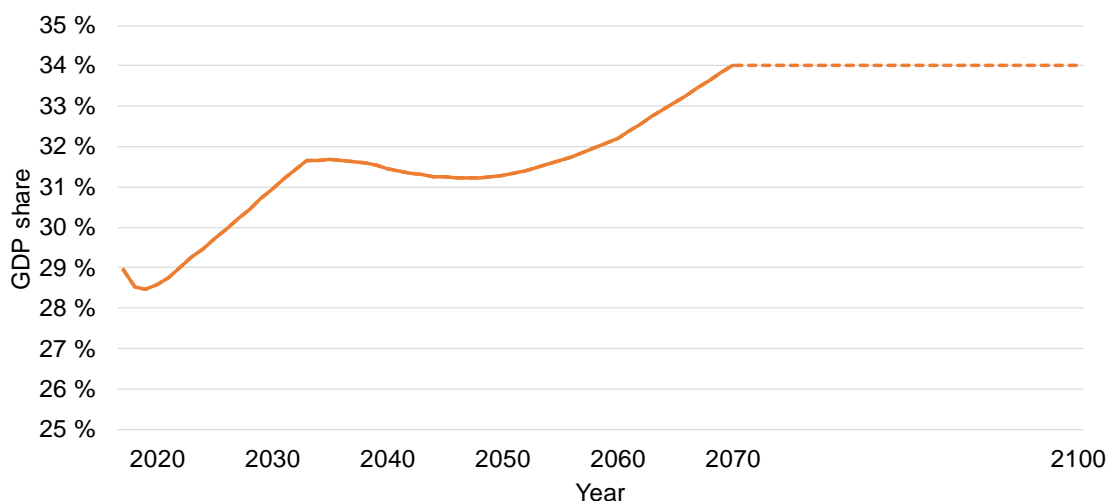
The decrease in fertility increases the sustainability gap by approximately 0.3 % of GDP. Although this is economically significant, it is not very large relative to the sustainability gap already in existence. Fertility changes do not seem to have a large impact on the outlook for public finances unless they are very large. This result concerns the public sector as a whole. Different government

sectors, and different municipalities, are affected in different ways by changes in fertility.

There are some technical issues, however, regarding assessing the effects of changes in fertility on the fiscal sustainability of the current sustainability gap framework which warrant further attention.

The sustainability gap framework models demographic changes only up to a certain point in time, after which the GDP share of all expenditures and revenues is fixed. The current modelling horizon extends until 2200. Figure 5.4.2 shows the development of age-related expenditures (as a share of GDP) in the baseline scenario. The dotted line is the implied GDP share used in the sustainability gap calculations for years after 2070.

Figure 5.4.2. Evolution of the GDP share of age-related expenditures in the SOME model.



Source: Calculations by the secretariat. The dashed line represents the assumption of a constant GDP share of expenditures after the end of the modelling horizon.

In the calculations presented above, in 2070 the first age cohorts reduced by lower fertility are around 50 years old. This means that the negative fertility shock has not passed through the entire age distribution, which in turn implies that longer modelling horizons are likely to produce different sustainability gap effects. The 50-year-olds in 2070 still have many years left as both workers and as pensioners and recipients of social and health care services.

To assess the significance of this issue, we extend the modelling horizon until 2085. To do this we use employment rate projections by ETK (the Finnish

Centre for Pensions), as the Ministry of Finance model only includes employment rate projections until 2070. These two employment projections differ for the pre-2070 period. This difference will be explored below, but at this stage it suffices to note that in what follows the effect of fertility changes on the sustainability gap is explored using the ETK series in both the baseline and the counterfactual low-fertility scenario. Also in extending the population forecast we follow the ETK's assumptions by halving the rate of decrease in age-specific mortality rates from 2070 onwards.

Extending the modelling horizon while holding fertility constant increases the sustainability gap assessment by 1.2% of GDP.²³ The increase in the sustainability gap is understandable in the light of Figure 5.4.2, where age-related spending is on an upward trajectory in 2070. The negative shock to fertility increased the sustainability gap by 0.3 % of GDP when the modelling horizon was 2070. With the horizon extended until 2085, the effect is roughly doubled. The relatively short modelling horizon thus understates the impact of fertility changes on the sustainability gap.

There is another perspective which is indicative of the problems associated with the 2070 modelling horizon. The aforementioned results are obtained by shocking fertility from 2018 onwards. This follows the implementation of the MoF, although their calculations place the fertility shock in 2018. In addition to the modelling horizon endpoint of 2070, there is another date which is important in the sustainability gap framework. The base year of the model is set at $t+4$ years, which is currently 2023. This is the starting point of the model in the sense that values for this year are obtained from the MoF's medium-term forecast, and it is only after this date that the sustainability gap model itself begins operating.

In simulations using the sustainability gap framework, it is customary to simulate changes only after the base year. This holds, for example, for the employment rate sensitivity analyses discussed in the previous subsection. If one were to simulate changes occurring before the base year, in principle the medium-term forecast for the base year should also be altered.

Because the sustainability gap framework has a very long-term perspective, timing issues do not generally matter. Returning to the employment rate example, the MoF's implementation of the employment rate increase raises the

²³ MoF (2018) recently extended its modeling horizon from 2060 to 2070, which increased the sustainability gap assessment by 1.0% of GDP.

employment path gradually from 2024–2032, and fully from 2033 onwards. Our simulations suggest that raising the employment path fully already in 2024 has a very negligible effect on the results. Similarly, in our discussion of the previous government’s social and health care reform (EPC 2018) we noted that temporary spending changes have very small effects on the sustainability gap.

Fertility changes are, however, an exception. Timing the fertility shock in 2024, which would be in line with existing practices of simulations within the sustainability gap framework, actually reverses the sign of the effect on the sustainability gap when using the 2070 modelling horizon: a postponed decrease in fertility reduces the sustainability gap in the current implementation of the model. This is because with a later decrease in fertility, the effects of smaller cohorts on the total labour supply are smaller and dominated by the decrease in education expenditure. The sensitivity of the sustainability gap estimate with respect to the timing of the fertility shock is again indicative of the restrictiveness of the 2070 modelling horizon. With a longer horizon the timing of the shock continues to matter, but the 2024 shock now has the correct sign.

We recommend the MoF to extend the modelling horizon of the sustainability gap framework to 2085 or even 2100, at least when analysing the effects of fertility changes.

Finally, we wish to highlight one issue which we already touched on in our previous report. This issue is not related to fertility changes but came up in the estimations presented above.

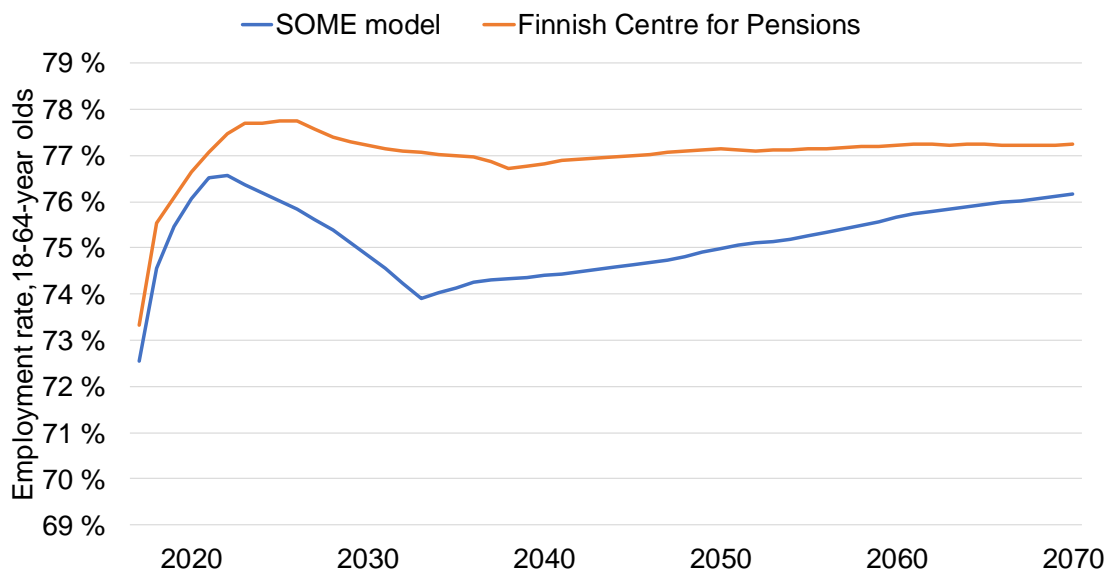
There is a baseline difference between ETK’s employment figures and those of the MoF. Partly the difference in the figures is understandable. ETK is tasked with assessing the sustainability of the pension system, so its employment projections are made for the population paying pension contributions and gaining pension rights. The MoF model, in turn, is calibrated to the MoF medium-run projections, where the employment rate is based on the concept used by Statistics Finland.

There are two main differences between the two concepts. First, only work done by 17-67-year-olds falls within the compulsory pension system. For technical reasons the lower threshold is 18 years in ETK’s model. The upper

threshold is set to increase to 68 years in 2025, and to 69 years in 2031. Second, a small minority of employed 18-66-year-old individuals are not liable to make pension contributions, for example unpaid spouses of self-employed individuals. To take into account this latter reason, ETK also provides a series where their model's employment figures have been adjusted upwards by a constant to better match the concept of Statistics Finland.²⁴ These adjusted figures for 18-64-year-olds should be comparable to those used within the SOME model.

Figure 5.4.3 presents this comparison. For “realised” years up to 2018, and for a few years hence, the series are very similar. A stark difference arises from 2021 onwards, as the SOME model projects decreased employment until 2033 with a gradual recovery afterwards. This issue was already noted by the Council in its last report, although without reference to ETK's figures. This issue was also raised in the recent report of the National Audit Office (2019).

Figure 5.4.3. Employment assumptions of the Ministry of Finance and the Finnish Centre for Pensions.



Sources: Ministry of Finance and Finnish Centre for Pensions.

Although this issue is not directly related to demographic changes, the MoF and ETK should discuss and hopefully reconcile their differences concerning the projected path of the employment rate. The more than 2 percentage point

²⁴ Because the SOME model projects pension expenditure and funding, this model also contains a corresponding adjustment factor. In the SOME model the ratio of contributors to the earnings system to all employed persons is 98%. In the ETK figures the ratio between ETK's model figures, which pertain to contributors to the earnings system, and the adjusted series, is 95.3 %.

decline in the employment rate assumed by the Ministry of Finance for 2023–2033 seems peculiar, and even more so when taking into account the fact that currently the Ministry forecasts the output gap to be zero in 2023.

5.5. Employment growth and fiscal sustainability

The government programme states that “[the employment rate target] is the most important individual element in the revenue base of the Government Programme”. Indeed, the government places a strong emphasis on employment growth as a means of attaining its target of a zero deficit by 2023. Against this background it is useful to discuss the relation between changes in the employment rate and changes in the primary balance-to-GDP-ratio (PB/GDP). A separate memo produced by the secretariat (Seuri 2019b) analyses this derivative using three approaches, all used regularly to support policy-making: a back-of-the-envelope calculation, a microsimulation approach, and the sustainability gap framework. What follows summarises the findings of the memo.

It should be emphasized that all approaches make several contestable assumptions and contain uncertainty. The purpose of the discussion is therefore not to find an absolutely correct ratio, but to broadly evaluate the realism of the government’s assumption concerning it, and to discuss the relevant mechanisms at play.

A simple back-of-the-envelope calculation implies that a one percentage point increase in the employment rate reduces the PB/GDP ratio by about 0.8 percentage points. About three quarters of this effect is due to increased revenue and one quarter due to decreased spending on unemployment benefits. This calculation assumes that i) GDP grows at the same rate as employment, ii) tax revenue grows at the same rate as employment, which is equivalent to assuming the marginal aggregate tax rate is the current aggregate tax rate, and iii) spending on unemployment benefits is proportional to unemployment. The first assumption is partly an assumption concerning the quality of employment growth, which the government, according to its programme, will monitor.

The microsimulation approach can improve on this calculation in three ways. First, it can take into account the observable characteristics of the unemployed when determining their wages. The unemployed have, on average, less

education than the average person in employment, which means that they are likely to earn lower-than-average wages if employed. This depresses the positive tax revenue effect of employment growth. Second, it models the tax system in a detailed manner, which due to the progressivity of the income tax system may imply different tax revenue effects compared to the back-of-the-envelope calculation. Third, the microsimulation approach can to some extent account for the effects of reduced unemployment on other benefit expenditure, mainly the general housing allowance and minimum social assistance.

The microsimulation model itself models only direct taxes and transfer spending, and to obtain the derivative of PB/GDP with respect to the employment rate, some extrapolation is required. There is no definite right answer to how this extrapolation should be carried out, but the assumption made in the background memo is that employer social security contributions and corporate income tax revenue grow at the same rate as the wage sum, and consumption taxes (broadly defined) grow at the same rate as disposable income.

The preferred specification in the background memo using predicted wages of the unemployed and the aforementioned extrapolation finds that the derivative of the PB/GDP-ratio with respect to the employment rate is about 0.4. Most of the reduction in the fiscal effect relative to the back-of-the-envelope calculation is explained by lower wage growth and linking part of the tax revenues to disposable income instead of GDP, with the role of the more detailed modelling of taxes and transfers in the microsimulation being smaller.

Turning to the sustainability gap framework, the MoF (e.g. 2019) has reported that increasing the employment rate by one percentage point decreases the sustainability gap by about 0.4 percent of GDP, and this result replicates successfully.

Does the government itself make any assumptions concerning this ratio between changes in the employment rate and changes in the PB/GDP ratio? Yes, although only implicitly. The baseline forecast used by the government in drafting its programme, the permanent tax and spending decisions stated in the programme, and the employment and fiscal targets of the programme together imply an assumption that a one percentage point increase in the employment rate reduces the PB/GDP ratio by about 0.5 %. This is quite close to the figure obtained using the sustainability gap and the microsimulation extrapolation.

It is surprising that the sustainability gap approach and the microsimulation-extrapolation approach arrive at a very similar conclusion, given their differences. The sustainability gap estimate assumes that the average wage rate is not influenced by the increase in employment, which, given the observable characteristics of those currently unemployed, seems like an overly optimistic assumption.

On the other hand, there are two mechanisms which insert fiscal pessimism into the sustainability gap framework relative to the microsimulation approach.

The first concerns pension contributions and pension expenditure. The sustainability gap model is a model of long-run fiscal sustainability, and as such it takes into account the fact that increased pension contributions are in the longer term matched by increased pension expenditure.

The second mechanism present in the sustainability gap framework and not present in the microsimulation approach is the mechanical link between spending and GDP. The sustainability gap framework models the very long run, and in the very long run one needs a balanced growth path. A balanced growth path means that all demand components of the nominal GDP grow at the same rate. If this were not so, over time the structure of the economy would change radically. If, for example, public spending grew at a slower rate than GDP, the GDP share of the public sector would eventually converge to zero.

This means that in the sustainability gap framework an increase in the employment rate increases GDP per capita, which in turn increases most components of public spending; the increase for health care spending is even marginally larger than one-to-one. This mechanism depresses the budget-balancing effect of employment growth.

These two mechanisms by which employment growth increases public expenditure in the sustainability gap model highlight the fact that it is a long-run model. As such an effect on the sustainability gap does not necessarily translate one-to-one as an effect on the current primary balance. The government's targets relate employment growth to the primary balance in 2023, and from this perspective the future increases in spending, such as pension expenditure, seem irrelevant. At the same time, however, the major underlying problem in Finland is not the primary deficit in four years' time but long-run

fiscal sustainability, and from this perspective these mechanisms are very important.

There remain two major caveats, however, concerning the fiscal effect of employment growth which the government should monitor. First, if a large share of the government's target is achieved by an increase in part-time employment, this depresses the positive fiscal effect of employment growth. Second, the calculations assume that employment growth is not funded by the public sector. Naturally, if the jobs created are funded by the government, either through wage subsidies or through public employment, their fiscal effect is less positive.

One way to express the fiscal effect of employment growth using the baseline calculations is that the effect per employment month is around EUR 2,350 using predicted wages and back-of-the-envelope extrapolation (the direct fiscal effect as estimated using microsimulation is around EUR 1,500). The average wage subsidy in 2018 per employment month was about 1,000 euros.²⁵ However, the earnings of those using wage subsidies are probably still lower than other workers who were previously unemployed. And wage subsidies may also crowd out other employment. Thus, the mechanical fiscal effect of subsidised employment is at most approximately half of that of non-subsidised employment, but the overall fiscal consequences – taking especially crowding out into account – may well be much less positive.

²⁵ We thank the Ministry of Employment and Economic Affairs for information required to generate this figure.

5.6. Council views

Finland has a significant long-run fiscal sustainability problem caused by reducing share of working-age population and increasing share of old-age population. These changes reduce tax revenue and increase spending on publicly funded transfers and services such as health care and pensions.

In the most recent forecast by the Ministry of Finance, Finland's debt-to-GDP-ratio is expected to exceed the 60% in 2022. This means that Finland is expected to cross the Stability and Growth Pact's 60% threshold.

According to the long-run projections without policy changes, the debt-to-GDP ratio is projected to increase by more than 20 percentage points in the next 15 years.

The government has decided to increase permanent expenditures by EUR 1.4 billion, and to fund these increases by tax increases and employment growth. It is problematic that the government does not even aim to increase the government's fiscal capacity which is set to reduce considerably in the next two decades.

The government appears to have made a realistic assumption concerning the effect of employment growth on primary balance when drafting its programme. The fiscal benefits of employment growth are reduced if employment growth is disproportionately part-time, or especially if the new jobs are funded by the government either through wage subsidies or public employment.

A significant part of the improvement in the general government primary balance from employment comes via an increase in pension contributions, which in the longer term is matched by an increase in pension expenditure. This source of revenue cannot be used to finance central government expenditure.

The government's decision to avoid taking on debt by selling government assets to fund the so-called package of future-oriented investments is very questionable. While increasing debt and selling assets both reduce the net worth of the general government, sales of government-owned assets should be based on strategic decisions concerning the justifications of its role as an investor.

Furthermore, many items in the investment package bear closer resemblance to running expenses than investments, and as such they should be financed through permanent tax increases rather than decreases net wealth.

The stock of central government contingent liabilities is large in international comparison. These contingent liabilities increase the tail risk significantly.

The recent reduction in fertility has received much attention. While it is true that a reduction in cohort sizes increases the sustainability gap, this effect is modest relative to the sustainability gap already in existence and does not change the broad picture of long-run fiscal sustainability.

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