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Overview of central government risks and liabilities Autumn 2022

Financial Markets

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Sami Napari, Helka Kärkkäinen, Sakari Lehtiö, Markku Puumalainen, Jukka Hytönen, Johannes Räsänen

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Abstract

Central government liabilities have been on a rising trend for many years. They have increased not only in terms of nominal value but also in relation to the size of the economy. The crises of the past few years have intensified this long-term trend.

Just before the start of the financial crisis in 2008, central government debt totalled EUR 54 billion, representing 28 per cent of GDP. At the end of 2021, central government debt amounted to about EUR 129 billion, which is over 51 per cent of GDP.

Central government contingent liabilities have also shown strong growth over a long period. At the beginning of the last decade, the government's guarantee and collateral liabilities totalled about EUR 23 billion, or about 12 per cent of GDP. At the end of 2021, liabilities amounted to EUR 64 billion, bringing the debt-to-GDP ratio to over 25 per cent.

Significant growth in liabilities over a long period, combined with moderate long-term growth prospects, have weakened the central government's risk-bearing capacity. Moving forward, it would be important to strengthen the sustainability of general government finances to ensure Finland is prepared to face new negative economic shocks in the future.

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Tiivistelmä

Valtion vastuut ovat olleet pitkään kasvu-uralla. Ne ovat kasvaneet paitsi nimellisarvoisesti niin myös suhteessa talouden kokoon. Viime vuosien kriisit ovat osaltaan voimistaneet tätä pidemmän aikavälin kehitystä.

Valtionvelka oli finanssikriisin kynnyksellä vuonna 2008 54 miljardia euroa, mikä oli 28 prosenttia suhteessa kokonaistuotantoon. Vuoden 2021 lopussa velan määrä oli jo noin 129 miljardia euroa ja yli 51 prosenttia suhteessa bruttokansantuotteeseen (bkt).

Myös valtion ehdolliset vastuut ovat olleet pitkään voimakkaassa kasvussa. Viime vuosikymmenen alussa valtion takaus- ja takuuvastuut olivat noin 23 miljardia euroa eli noin 12 prosenttia suhteessa bkt:hen. Vuoden 2021 lopussa vastuut olivat jo 64 miljardia euroa, mikä oli yli 25 prosenttia suhteessa kokonaistuotantoon.

Vastuiden voimakas ja pitkään jatkunut kasvu yhdistettynä maltillisiin pidemmän aikavälin kasvunäkymiin ovat heikentäneet valtion riskinkantokykyä. Jatkossa olisikin tärkeä vahvistaa julkisen talouden kestävyyttä, jotta Suomella olisi valmiudet kohdata uusi negatiivinen talouden sokki tulevaisuudessa.

Asiasanat	rahoitusmarkkinat, talouspolitiikka, julkinen talous, valtiontalous, taseet, valtion tase, talousarvion ulkopuoliset vastuut, takausvastuut		
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Översikt över statens finansiella åtaganden och risker Hösten 2022

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Referat

Statens ansvarsförbindelser har ökat redan under en längre tid. De har ökat både nominellt och i förhållande till ekonomins storlek. Denna långvariga utveckling har stärkts av kriserna de senaste åren.

Statsskulden var 54 miljarder euro före finanskrisen 2008, vilket var cirka 28 procent i förhållande till totalproduktionen. I slutet av 2021 uppgick skulden redan till cirka 129 miljarder euro och över 51 procent i förhållande till bruttonationalprodukten (BNP).

Statens villkorade åtaganden har också ökat kraftigt under en längre tid. I början av förra årtiondet uppgick statens borgensförbindelser och garantiansvar till cirka 23 miljarder euro, det vill säga cirka 12 procent i förhållande till BNP. I slutet av 2021 uppgick åtagandena redan till cirka 64 miljarder euro, vilket är cirka 25 procent i förhållande till bruttonationalprodukten.

Den kraftiga och långvariga ökningen av åtagandena i kombination med måttliga tillväxtutsikter på längre sikt väcker oro för statens risktäckningskapacitet. I fortsättningen är det viktigt att stärka hållbarheten i de offentliga finanserna, så att Finland klarar av en eventuell ny negativ chock i ekonomin i framtiden.

Nyckelord	finansmarknaden, finanspolitiken, offentlig ekonomi, statsfinanserna, balansen, statens balansräkning, ansvar utanför budgeten, borgensansvar		
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Contents

SUMMARY

In recent years, the economy has been affected by severe crises. First, the COVID-19 pandemic that started in spring 2020 hit the economy hard. However, the recovery of the economy from the COVID-19 crisis was eventually fast, until the economy took another downturn due to the war of aggression initiated by Russia and the resulting energy crisis. The economy is predicted to decline again in 2023 or, at best, reach zero growth.

The crises have left their mark on the development of central government liabilities and risk position. At the end of 2019, central government debt totalled approximately EUR 106 billion and the debt-to-GDP ratio was 44.3%. A year later, debt had increased by more than EUR 18 billion and the debt-to-GDP ratio exceeded 52%. At the end 2021, debt already exceeded EUR 128 billion. The sharp growth of indebtedness has continued with debt totalling nearly EUR 139 billion at the end of October 2022.

The central government risk position has not impaired solely due to the crises of the recent years but there is a much longer-term trend underlying the growth in liabilities. Central government debt has been increasing considerably both in terms of nominal value and relative to GDP for more than a decade. In 2008, central government debt amounted to EUR 54 billion, or 28% of GDP. This means that debt has grown approximately 2.5-fold over the past 14 years in terms of euros and also almost doubled relative to GDP.

The central government risk position and risk-bearing capacity are affected not only by direct liabilities but also by contingent liabilities. These, too, have been growing strongly for a long time. At the beginning of last decade, central government guarantee liabilities amounted to around EUR 23 billion or around 12% relative to GDP. At the end 2021 year, guarantee liabilities totalled EUR 64 billion or more than 25% relative to GDP.

The largest liabilities and strongest growth in liabilities are associated with the operations of the state-owned specialised financing company, Finnvera, and with housing financing. As regards Finnvera, central government liabilities in effect totalled more than EUR 33 billion[1]

1 This figure also includes central government guarantees for export credit funding. The credit risk arising from export credits is covered by an export credit guarantee, which means central government liability in this respect is not doubled but could be realised at different times as a result of various factors.

at the end of June 2022, while the corresponding figure for the Housing Fund of Finland was more than EUR 18 billion. In total, liabilities related to these have increased by around EUR 31 billion in just over ten years.

Risks associated with central government guarantee liabilities are increased by the fact that these liabilities are highly concentrated in certain industries and enterprises. The risks involved in this became visible in the context of the COVID-19 pandemic. The cruise industry is among the industries that have been hit hardest by COVID-19. It accounts for a significant share of Finnvera's export financing liabilities, and this had a negative impact on the entire Finnvera Group's financial performance in 2020.

So-called implicit liabilities are also significant for the central government risk position. These are not legally binding on central government but, due to political and societal factors, central government is nevertheless expected to bear ultimate responsibility for them. One of the key implicit liabilities pertains to the banking sector. Severe banking crises has shown that their societal costs are, or they are considered to be, so high that states have been forced to take support measures to ensure the continuity of financial services.

Finnish banks fared well through the pandemic year 2020. The rapid recovery of the economy, driven by monetary stimulus policies and support measures taken by central government, made 2021 a favourable year for the Finnish banking sector. The profitability and capital adequacy of banks have remained above the average in European comparison. This gives Finnish banks good preconditions to withstand even a major decline in the operating environment.

Another key implicit liability is related to local government. Finnish municipalities have extensive self-government and are responsible for their own financial liabilities. Municipalities are, however, part of general government finances. This is why any extensive problems in local government finances might be reflected in central government finances, too.

As is the case with central government, municipal indebtedness has also increased considerably in recent years. Local government debt amounted to slightly more than EUR 19 billion at the end of 2021. The local government loan amount has increased almost fivefold over the past 20 years.

The extensive, long-term increase in central government liabilities, combined with the moderate medium-term and longer-term growth prospects, has weakened the risk-bearing capacity of central government. Central government's capacity to withstand a negative macroeconomic shock can be examined by conducting a stress test for

general government finances. The stress test carried out for this overview is based on the scenario created with the so-called KOOMA model of the Ministry of Finance's Economics Department. The scenario describes a situation where the geopolitical situation remains tense and energy prices continue to rise. This leads to a more general increase in prices, a deterioration of consumer confidence and a decline in consumption. Uncertainty and rising interest rates reduce private investments and the economy drifts into a recession. In the scenario, the economy declines by a total of 5.4% in 2023–2025 when compared with the baseline.

Already difficult at the outset, the status of general government finances in Finland shows a considerable further decline in the stress scenario. In 2024, deficit increases by approximately 2.0 percentage points relative to GDP when compared with the baseline. In 2025, deficit would already be 2.5 percentage points above the baseline. The debt-to-GDP ratio rises to approximately 84% towards the end of the examination period in 2025.

Central government assets are also of significance with regard to central government capacity to bear risks. The scenario examined the impacts of price movements in the financial market on central government financial assets and net debt position. In the scenario employed, central government financial assets decrease by EUR 6 billion in 2023 due to declining share prices. In the scenario, stock markets do not recover during the examination period and central government financial assets remain approximately EUR 12.5 billion below the baseline. The decrease in asset values is also reflected as a decline in the central government net debt position. Central government net debt was still negative before the financial crisis but since then has increased to around 15–20% of GDP. In the scenario, the net debt-to-GDP ratio increases further to 35%.

The scenario excludes a banking system crisis or a deep debt crisis in euro area countries from the examination. However, the possibility of such tail risks cannot in reality be fully excluded and they are also likely to influence one another. The negative impacts of a more extensive banking and/or central government debt crisis on general government finances would be many orders of magnitude greater than in the stress test scenario used in this overview.

In recent years, the Ministry of Finance Overviews of Central Government Risks and Liabilities have raised concerns about the strong increase in central government liabilities and the weakening of risk-bearing capacity. This concern has increased further due to the recent years' crises and their repercussions. In the years ahead, it would therefore be important to strengthen the sustainability of general government finances to ensure Finland's good capacity to face any new negative economic shocks.

1 Introduction

The economy has faced exceptional crises in recent years. First the COVID-19 pandemic that started in spring 2020 and then the war of aggression initiated by Russia in Ukraine have sown uncertainty and impaired the economic outlook. For their part, the crises have exacerbated the development of central government indebtedness that has gone on for a long time already. At the end of 2021, central government debt amounted to nearly EUR 129 billion, or more than 51% relative to GDP. The sharp growth of indebtedness has continued in 2022, too. The change in indebtedness in just over ten years has been significant. Just before the financial crisis in 2008, central government debt amounted to EUR 54 billion, or 28% of GDP.

In addition to the increase in direct liabilities, the central government risk position has been impaired by a significant increase in central government guarantees. In the period from 2010 to the end of 2021, guarantee liabilities increased by EUR 41 billion, whereas at the end of 2021, the guarantee portfolio totalled approximately EUR 64 billion.

With regard to the overall risk position of central government, implicit contingent liabilities may also be significant. These are not as such legally binding on central government but, due to societal or political factors, central government may have to bear ultimate responsibility for them. In addition to the implicit liabilities of the banking sector, a key set of implicit liabilities pertains to local government. Although responsible for their own financial liabilities, municipalities are part of general government finances. This is why any extensive problems in local government finances might be reflected in one way or another in central government finances, too. Starting from 2023, the financial liabilities of the new level of administration – wellbeing services counties – must also be taken into account.

As is the case with central government, municipal indebtedness has also increased considerably. Local government debt amounted to more than EUR 19 billion at the end of 2021, with the amount having increased almost fivefold over the past two decades.

As a whole, the increase in the amount of central government liabilities has been significant. This is problematic concerning central government risk-bearing capacity, especially as at the same time the longer-term outlook for economic growth is moderate.

The structure of the overview is as follows. Chapter 2 describes the overall operating environment of the economy and the related risks. Chapter 3 focuses on central government financial assets. Chapter 4 discusses government liabilities, starting from direct financial liabilities. Chapter 5 focuses on contingent liabilities of central government, with explicit contingent liabilities discussed first. These are legally binding on central government. The remaining part of the chapter concentrates on implicit contingent liabilities. The last chapter of the overview gives the results of the stress test of general government finances.

2 Operating environment

- In 2021, the global economy rebounded from the downturn caused by the COVID-19-ridden year. However, COVID-19, even in a less severe from, may still cause problems for global economic growth. Russia's large-scale attack to Ukraine in February 2022 significantly changed the economic development prospects and outlook especially in Europe.

- The release of pent-up demand and the rising energy prices boosted inflation in 2021 and the price increase rate has accelerated in 2022 due to Russia's war of aggression. Central banks have raised their policy interest rates significantly to curb inflation, which has also led to the rapid increase in short-term market interest rates.

- Inflation, rising interest rates and increasing general uncertainty are likely to slow down global economic growth and drive the European economy into a recession in the final quarter of 2022 and the first quarter of 2023. The crisis sensitivity of the financial system has increased.

- Recession and inflation may cause social and political tension in Europe next winter. It is possible that a new influx of refugees will flow from Ukraine to other European countries, which will increase expenditure pressure in the general government finances of the EU Member States. The economic and political relations between Western Europe and Russia have been badly damaged due to the war of aggression and it is currently difficult to see how and when they could be restored.

The economic operating environment and its changes affect not only policy decisions but also the direct or indirect risks associated with central government assets and liabilities. The operating environment outlined for central government asset management in the overview comprises the macro-economy and the financial market.

2.1 Economies have moved from the COVID-19 crisis to the energy and inflation crisis

During 2022, the COVID-19 crisis has moved to the background although the pandemic has not disappeared. Thanks to vaccinations, the disease has been largely brought under control but as the autumn proceeded, the number of cases rose again and China was forced to rely on restrictions to contain the pandemic.

During 2021, there was quick recovery in economic activity from the COVID-19-ridden year 2020. According to the International Monetary Fund's (IMF) estimate, the global economy grew by up to 6% in 2021. It is estimated that in 2020, global economic activity contracted by approximately 3%. Both figures are highly exceptional in the global economy in recent decades. In 2022, growth is estimated to settle at slightly over 3% and recent indicators show that growth has started to slow down across a broad spectrum in different economic areas. Due to the war and the energy crisis, the outlook for the euro area is clearly more subdued than in the global economy on average. According to the IMF's forecast, economic growth in the euro area would be only 0.5% in 2023 and 1.8% in 2024.

Inflation started to accelerate when total demand exceeded supply and various supply bottlenecks emerged in most sectors. The strong recovery of demand was also clearly reflected in the prices of raw materials and freight. In addition, Russia started to restrict its energy deliveries to the EU in autumn 2021, which contributed to increasing pressure on energy product prices and inflation. Especially natural gas price development has been extremely exceptional in 2022 and has been reflected in consumer prices of electricity, which have risen to unprecedented levels, in particular in Central Europe. There is also strong volatility in prices and lately, gas price forecasts for the next few months have become more moderate, thanks to good inventory levels.

In October 2022, the annual inflation rate in the euro area was 10.6%. Inflation excluding food and energy, or so-called core inflation, was 6.7%. The price of energy increased by 41.5% in one year. Inflation has been developed at very different rates in different euro area countries, ranging from more than 20% to 7–8%. Due to the mild recession predicted for 2023 and high reference levels, inflation is expected to slow down unless unexpected changes take place in energy prices as a result of supply problems or restrictions.

When inflation accelerated in the euro area, the European Central Bank (ECB) started, like other central banks and in line with its core task, to tighten its monetary policy in July 2022 by raising the interest rate for basic financial operations for the first time in more

than ten years. Other policy interest rates were also raised and the ECB announced a new monetary policy instrument (*Transmission Protection Instrument, TPI*)[2].

Russia's war of aggression in Ukraine, which began in February 2022, has changed not only the prevailing geopolitical setting but also the overall economic picture and outlook in Europe. Trade between Western Europe and Russia has plummeted as a consequence of sanctions and will decline further in the next few months as oil and oil product import bans enter into force. It is currently difficult to see how and within which timeframe the economic relations between Western Europe and Russia could be restored.

Since March 2022, the sanctions packages[3] prepared by the European Commission increased the number of products, people and organisations subject to the sanctions and tightened sector-specific restrictions[4] on the operations of Russian and Belarusian companies and organisations. As the war of aggression continues, more sanctions will be imposed by the EU, the United States and other so-called Western economies. Impacts on the Russian economy cumulate gradually and erode the country's ability to provide wellbeing for its citizens. According to the IMF's forecast[5], Russia's real GDP per capita in rubles will not reach the 2021 level even in 2027.

The steep rise in the retail prices of energy has forced governments in different countries to use public funds to support people's purchasing power. Efforts are also made to restrict the market price of gas and Russia's crude oil export price with various price caps, prepared by the European Commission.

The increase in the price of electricity and gas has also increased prices on the electricity futures market, where electricity producers protect their production with derivative products. The increase in the prices of futures has also raised the collateral requirements for trading on the Nasdaq Commodities exchange to an exceptionally high level. The level has decreased from the peak at the end of August 2022 but if the prices continue

2 In practice, this is a new purchase programme targeted at the government bonds of the euro area and used in stabilising the long-term interest rate market and keeping the interest rate differences of Germany and other Member States under control. The programme does not have ex ante restrictions but it can only be used if the economic policy of the Member State in question meets predefined criteria.

3 A good summary of sanctions against Russia can be found on the European Commission's website: https://finance.ec.europa.eu/eu-and-world/sanctions-restrictive-measures/sanctions-adopted-following-russias-military-aggression-against-ukraine_en.

4 For example, the exclusion of certain Russian banks from the SWIFT information network or the usage restriction of the EU Member States' ports.

5 World Economic Outlook, October 2022.

rising towards the winter, electricity producers are threatened by a liquidity crisis. For the functioning of the Finnish economy and society, it is critical that the functioning of the electricity market is ensured under all circumstances.

In its third supplementary budget for 2022, Parliament approved the State of Finland's EUR 10 billion loan and guarantee programme, which is intended for financing the collateral requirements imposed by the derivative markets of companies producing electricity in Finland during the companies' liquidity crisis. The aim is to ensure that the liquidity and operating capacity of operators that are crucial for the functioning of the electricity market (production of more than 100 MW or a company critical for the security of supply) can be secured in a situation where financing and collateral arrangements are not available on the market.

The State's loan programme is intended to be a lastrecourse programme and Municipality Finance and the Municipal Guarantee Board, for example, have a EUR 5 billion loan programme of their own, intended for municipal electricity companies to secure their liquidity (requires 100% guarantee from the municipality). To meet collateral requirements, Finland's largest electricity company Fortum has also agreed on a bridge financing arrangement through Solidium, a holding company wholly owned by State of Finland, for EUR 2.35 billion. On 26 September 2022, Fortum announced it had decided to draw EUR 350 million from this facility.

2.2 Financial markets

Inflation started to accelerate in the euro area in early 2021 as the economy recovered rapidly from the plight caused by the COVID-19 crisis. On the fixed-income markets, the effects could be seen only about one year later. The 10-year bond interest rate of the State of Germany turned positive only in January–February 2022, when inflation in the euro area was already slightly over 5%. After the first months of the year, Germany's long-term interest rate has risen more rapidly and is now around 2%.

The rise has taken place throughout the entire interest rate term structure after the ECB started raising policy interest rates in July; these raises quickly transfer to short-term market interest rates. The 12-month Euribor rate, a key interest rate for housing loans in Finland, has risen higher than Germany's 10-year interest rate is already nearly 3%.

Rising interest rates may increase the likelihood of various difficult-to-predict events. After a long period of zero interest rates, the rapid rise in interest rates may come as a surprise to some market operators, companies or households, catching them unprepared. In developing markets, where the US dollar is a typical debt currency, the impacts of the rise

in interest rates are also intensified by the forceful strengthening of dollar during the past year.

The international financial system is an extremely complex entity where the impacts of sudden changes may be transmitted from one sector to another through unexpected channels. The crisis sensitivity of the system has clearly increased in 2022.

2.3 Risks in the operating environment

According to the latest forecasts and economic indicators, the global economy and European economies are headed towards a recession. The inflation impulse has been strong and has led to a fast decline of purchasing power, a rise in interest rates and a deterioration of economic confidence. However, the recession is predicted to be relatively mild[6]. The problem is that post-recession growth is also expected to remain fairly moderate. In its latest World Economic Outlook[7], the IMF predicts that the global economy would grow by approximately 2.6% in 2023 and slightly faster in 2024–2025. Between 2000 and 2019, global economic growth was on average 3.8% so according to forecasts, the next few years will remain clearly below this.

Russia's war of aggression with its repercussions cast a shadow over the economic outlook especially in Europe and the IMF's forecasts predict near-zero growth in 2023 and slow recovery after that. The steep rise of inflation and energy prices has caused political and social tension that may come to a culmination during a recession. In 2023, general government finances in Europe will likely be subject to more expenditure pressure, especially if Russia's military actions and measures against Ukraine's basic economic infrastructure lead into a new major influx of refugees. In the euro area, there are countries with indebtedness already at an alarmingly high level and in the world of rising interest rates, also debt sustainability risks and the likelihood of related market disruptions increase.

The European banking sector is, on average, in a reasonably good condition in the light of the key indicators and the ECB has prepared for potential fixed-income market disruptions with a new purchase programme. Nevertheless, there is major uncertainty and the main uncertainty factor is naturally the duration and nature of Russia's war of aggression. At the moment, this is impossible to predict.

6 The IMF, the OECD, the World Bank and the European Commission expect global economic growth to be 2.2–3.0% next year.

7 World Economic Outlook, October 2022.

3 Central government financial assets

- According to the financial accounts, central government financial assets totalled EUR 101.2 billion at the end of 2021.[8] This is nearly EUR 5.4 billion less than in the previous year. The greatest fall took place in deposits, which decreased by EUR 2.9 billion. Stock markets have declined steeply due to the military actions initiated by Russia, which has further reduced central government financial assets. According to the financial accounts, central government financial assets totalled approximately EUR 92.6 billion at the end of the second quarter of 2022.

- The State Pension Fund's investments increased by more than EUR 2.6 billion in 2021, totalling approximately EUR 23.6 billion in late 2021. However, the downcast atmosphere on financial markets in 2022 has also had a negative impact on the State Pension Fund's investment assets, amounting to EUR 21.6 billion at the end of June 2022.

- Central government cash assets could be reduced when the COVID-19 pandemic settled down and they were approximately EUR 4.7 billion at the end of 2021. This is nearly EUR 3 billion less than at the end of 2020. However, uncertainty sown by Russia's military actions has again provided a reason to increase the cash buffer. The cash assets administered by the State Treasury totalled approximately EUR 6.5 billion at the end of the second quarter of 2022.

In this overview, financial assets include central government cash assets, major loan receivables, fixed-income investments, share assets and other investments. The scope of the review is determined by the liquidity perspective and on the basis of the amount of the assets.

In 2021, central government financial assets reduced for the first time in a decade (Figure 1). One contributing factor in the decrease of financial assets was the decrease

8 In June 2022, Statistics Finland made an adjustment to the financial accounts statistics, due to which ARA interest subsidy loans will be presented under general government financial assets and debt. Figures have been updated in the financial accounts statistics starting from Q1/2000.

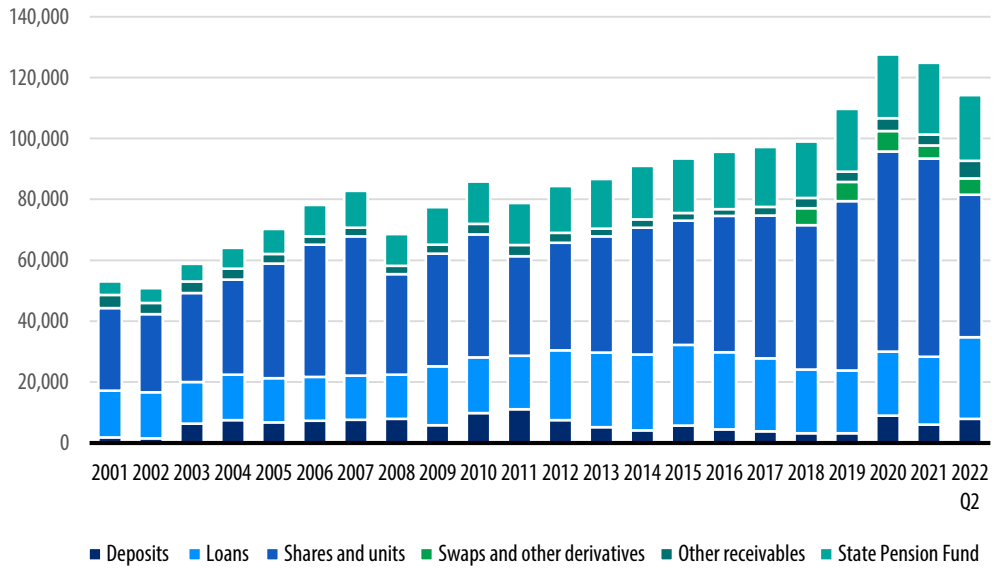
of central government cash assets. Due to the general uncertainty caused by the COVID-19 pandemic, central government increased its cash assets strongly in 2020 (for more detailed information about central government cash assets, see section 3.1). When uncertainty decreased in 2021, cash assets were reduced closer to the ordinary level.

The military actions initiated by Russia in Ukraine and their repercussions pushed stock markets into a steep decline in spring 2022. This has reduced central government share assets significantly during the first half of 2022. While central government share assets totalled more than EUR 65 billion at the end of 2021, the corresponding figure at the end of second quarter of 2022 was approximately EUR 47 billion. The financial market turmoil has also influenced the State Pension Fund's investment assets. At the end of 2021, the value of the State Pension Fund's investment assets was EUR 23.6 billion. At the end of June 2022, the corresponding figure was EUR 21.6 billion.

All in all, according to Statistics Finland financial accounts, in the second quarter of 2022 central government financial assets totalled around EUR 92.6 billion and around EUR 114 billion when also taking the State Pension Fund into account.

Of the central government financial assets shown in Figure 1, deposits and at least a part of central government share assets could be realised relatively quickly to finance central government liabilities and activities. However, the realisation of share assets entails a price risk, which is probably considerable in crises.

Figure 1. Development of central government financial assets, EUR million.
Sources: Financial accounts, State Pension Fund



3.1 Central government cash assets

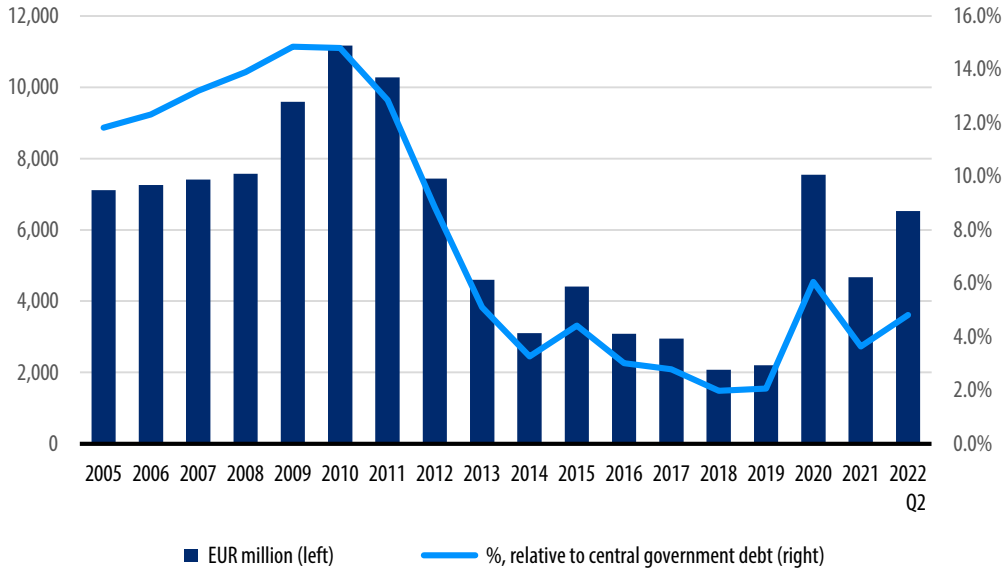
The general uncertainty and larger funding needs caused by the COVID-19 pandemic led to a significant growth of central government cash assets in 2020 (Figure 2).[9] When the pandemic settled down, central government cash assets could again be reduced: at the end of 2021, they totalled approximately EUR 4.7 billion and 3.6% in relation to central government debt. Nevertheless, uncertainty sown by Russia's military actions made it again necessary to increase the cash buffer. At the end of the second quarter of 2022, the cash assets administered by the State Treasury totalled approximately EUR 6.5 billion and 5.0% in relation to central government debt.

Central government is exposed to credit risk in cash asset investments and derivatives activity. This credit risk is minimised by diversifying the risk to counterparties and by requiring high credit ratings of counterparties. Credit risk is also controlled by setting limits for maximum investment based on the credit rating of the counterparty, whereas credit risk involved in derivatives is minimised by requiring collateral securing the market value of derivative contracts.

The credit risk involved in central government cash assets and derivatives activity can be estimated to be moderate at the moment. Derivatives-related credit risks have, in practice, been eliminated by means of collateral arrangements, and the credit risk arising from cash investments is limited strongly by the key role of the Bank of Finland in the placement of liquid assets. The credit risk arising from payment-related bank deposits is reduced by their short maturity.

9 Figure 2 focuses on cash assets administered by the State Treasury, which are relevant from the perspective of central government liquidity. Ensuring central government liquidity is the most important task of cash asset management.

Figure 2. Development of central government cash assets. Sources: General government financial accounts; State Treasury



3.2 State Pension Fund

The State Pension Fund (VER) is an off-budget fund used to prepare for funding government employees' pension expenditure and to level out the expenditure burden of different years over time. The pension contributions of employers and employees within the scope of the central government pension scheme are remitted in full to the fund, from which a sum amounting to 45% of the annual central government pension expenditure is then transferred to the Budget every year. The assets held by VER are central government assets but managed by the fund. The costs arising from these operations are paid out of VER assets. VER's revenue comprises the pension contributions and other fees paid to the fund and the investment returns.

At the end of 2021, the market value of VER's investments was around EUR 23.6 billion (Figure 3). Of these, 37.9% were fixed-income investments and 52.5% were equity investments. The size of the fund has grown significantly compared with the start of last decade. This is despite the fact that, since 2013, the transfer made from VER to the Budget has exceeded the pension contribution revenue received by VER. This has been owing to the high returns on investments made by VER. In 2012–2021, the nominal returns have averaged 7.1% and real returns 5.9%.

VER's financial assets and their returns entail market risks. The fund has taken measures to manage these risks by extensive diversification of its investment portfolio geographically and by type of securities. Regardless of extensive diversification, there has been strong fluctuation in returns between years (Figure 4). This fluctuation has been greatest in equity investments, and the large weight of equity investments in the investment portfolio is reflected in the variability of returns in the portfolio as a whole. The greatest variability of returns is naturally seen in conjunction with larger economic crises and market turbulences, with the latest example being the military actions initiated by Russia in spring 2022. Market movements have been considerable in 2022 and the value of VER's investment portfolio has decreased by approximately EUR 2 billion in the first half of 2022.

Figure 3. State Pension Fund's investment assets, EUR million. Source: State Pension Fund

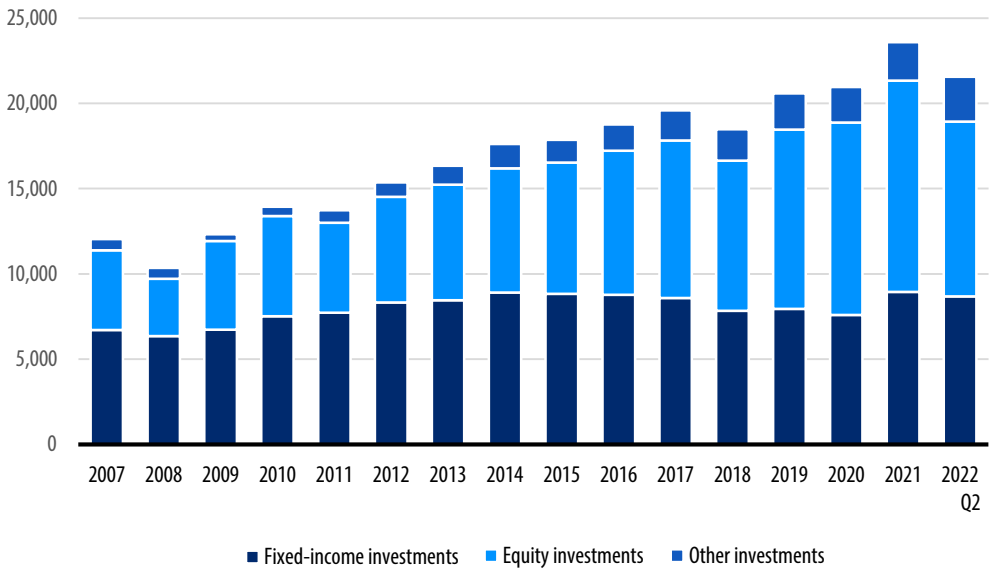
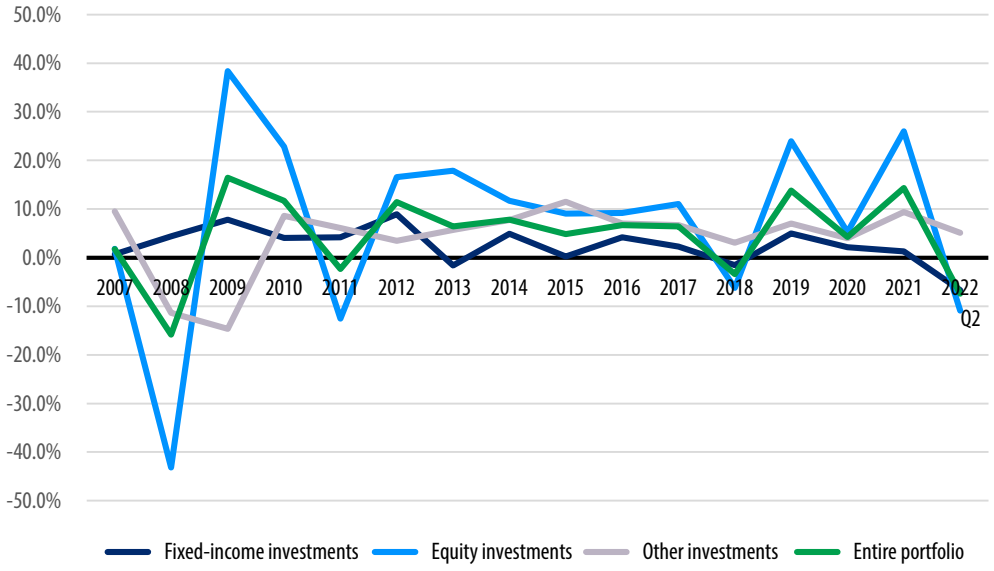


Figure 4. Annual returns on the State Pension Fund's investment activity. Source: State Pension Fund



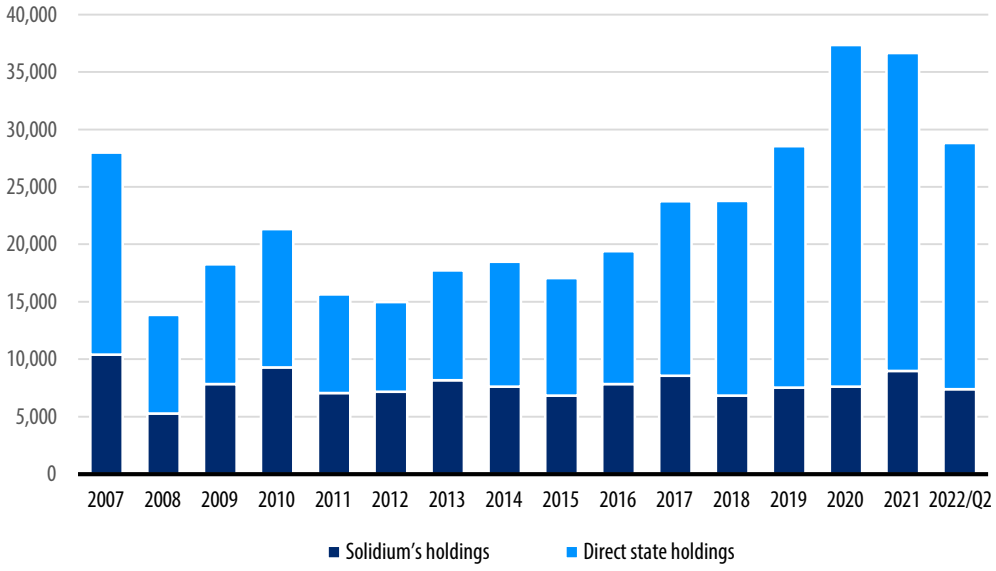
3.3 Other state holdings in listed companies

The value of state holdings (including direct state holdings and those of Solidium Oy) in listed companies was around EUR 36.7 billion at the end of 2021. At the end of 2021, the State of Finland had direct holdings in four listed companies (SSAB, Finnair Plc, Fortum Corporation and Neste Corporation). The state also has indirect holdings in listed companies through Solidium Oy. The value of Solidium's portfolio was approximately EUR 9 billion at the end of 2021.

The state's holdings in listed companies entail a price risk, with the value of the portfolio having seen a great deal of fluctuation between years (Figure 5).[10] The value of the state's holdings in listed companies rebounded quickly from the decline caused by the COVID-19 pandemic, but the extensively downcast atmosphere on stock markets in spring 2022 has again cut their value significantly.

10 A comparison between the years does not provide a direct indication of the price risk as it does not take the purchasing or selling of shares into account. The figures also include the Neste shares held by the Finnish Climate Fund.

Figure 5. Changes in the value of state holdings in listed companies, EUR million. Source: Prime Minister's Office



3.4 Loan receivables of the Housing Fund of Finland

The loan receivables of the Housing Fund of Finland comprise Arava loans granted for state-subsidised housing financing. Most of these loans have been granted to rental housing and right-of-occupancy housing corporations. The maximum loan period for Arava loans is 45 years. No new loans have been granted since 2007, which is why the loan portfolio of the Housing Fund of Finland has contracted significantly (Figure 6). State subsidies for housing financing are currently granted as interest subsidies and as guarantees for loans issued by credit institutions, which are discussed in section 5.1.2.

At the end of 2021, the loan receivables of the Housing Fund of Finland totalled EUR 2.8 billion, while the guarantee portfolio amounted to EUR 17.5 billion, which means that the housing financing liabilities totalled EUR 20.3 billion. At the end of June 2022, the loan receivables totalled EUR 2.61 billion and the guarantee portfolio amounted to EUR 17.95 billion, with the housing financing liabilities totalling EUR 20.6 billion. From the perspective of credit risk, both direct and indirect financing liabilities leave the central government in the same position.[11] In both cases, central government incurs a cost from

11 For a more detailed discussion of central government guarantee liabilities in housing financing, see section 5.1.2.

a customer's insolvency if payments obtained by realising the collateral are not sufficient to cover the unpaid loans. Risk management of direct and indirect lending is often also interlinked, as a significant share of social housing stock operators have both direct and indirect state-subsidised financing.

There are several reasons for the credit risk associated with Arava loan receivables. Long loan periods and back-loaded repayment schedules increase risks as the loans are not repaid at the rate at which the properties are exposed to wear and tear. The need for renovation financing will arise before an adequate proportion of the construction loans has been repaid. The highest external risk arising from the loan receivables is associated with areas suffering from depopulation where declining occupancy rates cause payment problems to rental housing corporations.

Of the loan receivables, nearly 29%, or around EUR 756 million, are located in high-risk municipalities (Figure 7).[12] The risk content of the loan portfolio increases further as the population concentrates in a small number of growth centres.

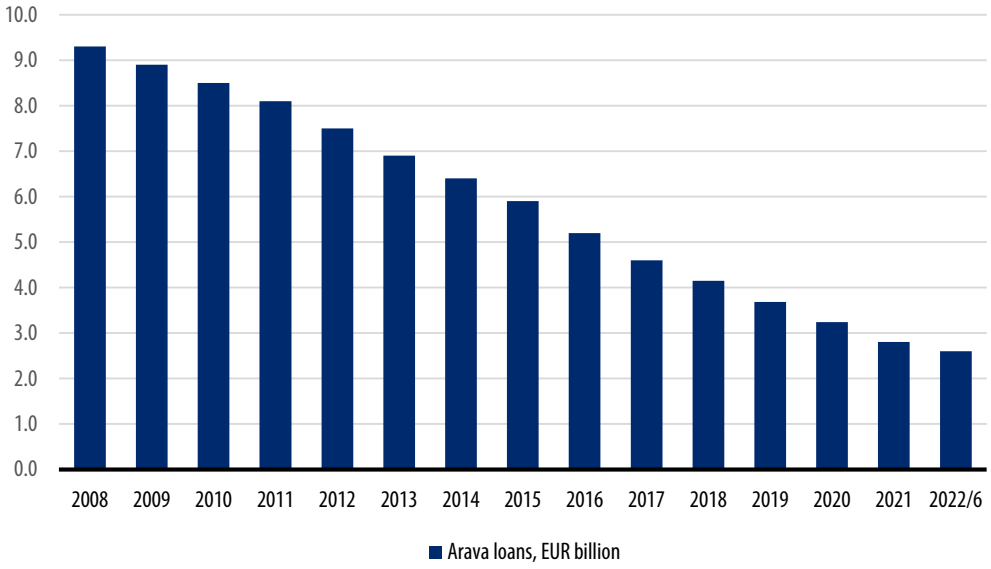
The high loan-to-value ratio (85–95%)[13] also increases the risk content of the Arava loan portfolio as there is no secure collateral margin in the financing. There has been a rapid decline in property values in areas affected by depopulation, which means that the properties held as collateral do not fully cover central government receivables in insolvencies.

The risks associated with the loan portfolio are managed through measures including state-supported restructuring measures and financing arrangements in which the aim is to minimise losses by taking managed and systematic measures instead of initiating bankruptcy proceedings and forced sales of collateral. Legislative amendments in force since 2019 have enabled more effective measures for reducing the financial problems and loan portfolio risks of rental housing corporations in areas affected by depopulation. In addition to EUR and percentage increases of support authorisations, the legislative amendments have made it possible to start restructuring measures more proactively, which has improved risk management related to the loan and property portfolio.

12 The State Treasury's risk classification model for municipalities takes into account the municipality's population projection, unemployment rate and tax revenue, vacancy rates of rental housing corporations, and late payments. Municipal mergers have resulted in municipalities that extend over increasingly large geographical areas, and a municipality in a good risk class can also contain areas with a high risk level.

13 The loan-to-value ratio of construction loans is 90–95% of the approved building and site costs in rental housing and 85% in right-of-occupancy housing.

Figure 6. Development in loan receivables of the Housing Fund of Finland, EUR billion. Source: State Treasury



So far, the Arava loan portfolio has generated a relatively low amount of credit losses from bankruptcies and forced sales of collateral. Losses from restriction and demolition remissions of debt associated with restructuring averaged less than EUR 1.2 million a year in the 2010s. Over the past three years, there has been a rise in the amount of remissions. In 2019, remissions totalled EUR 3.1 million, in 2020 EUR 4.9 million and in 2021 EUR 2.2 million. The rise in recent years was caused by increased problems in areas experiencing depopulation as well as by the option allowed by the 2019 legislative amendments to carry out proactive risk management measures.

Figure 7. Distribution of loan receivables of the Housing Fund of Finland by municipality risk class, 30 June 2022 (%). Source: State Treasury

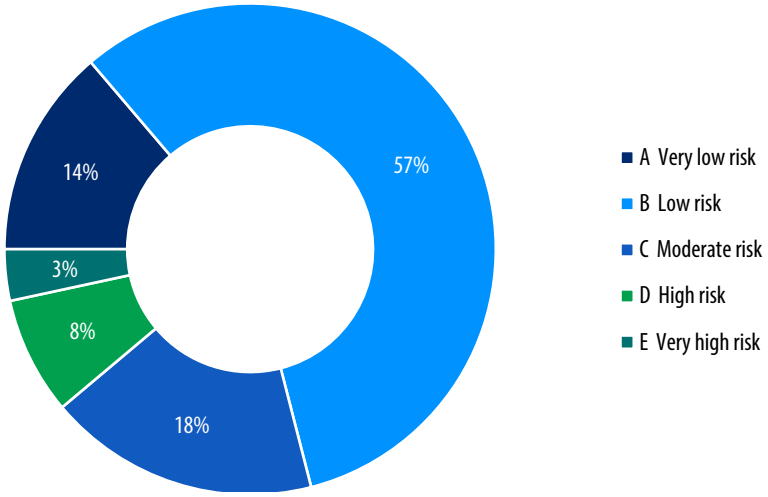
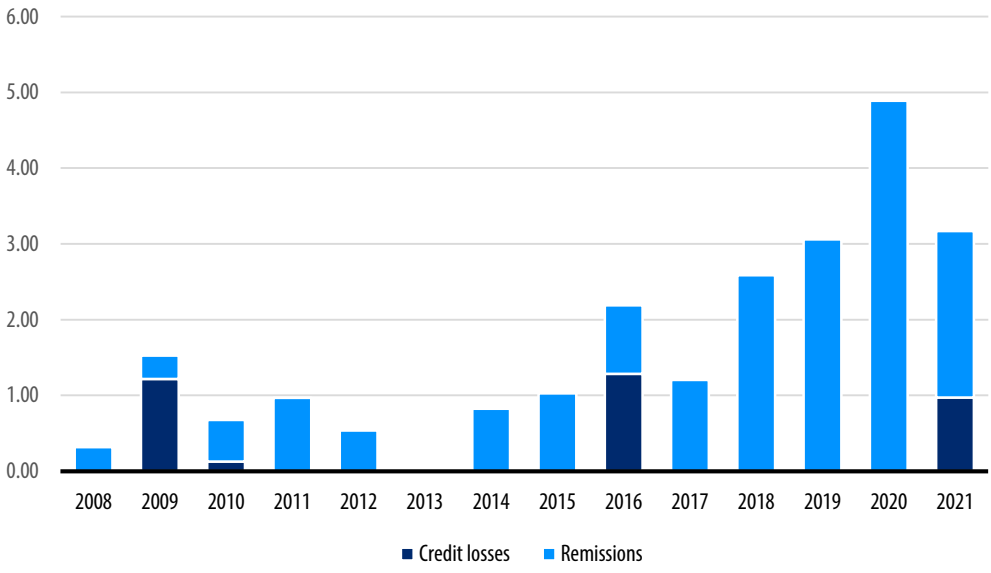


Figure 8. Credit losses and remissions related to Arava loan receivables in 2008–2021, EUR million. Source: State Treasury, the 2021 financial statements of the Housing Fund of Finland



3.5 Other loan receivables

In addition to financial assistance granted through the European Financial Stability Facility (EFSF), the European Stability Mechanism (ESM) and the International Monetary Fund, Finland and other euro area countries have also granted bilateral loans to Greece.[14] Within the framework of bilateral loan arrangements, Finland has loan receivables from Greece with a nominal value of around EUR 915 million.

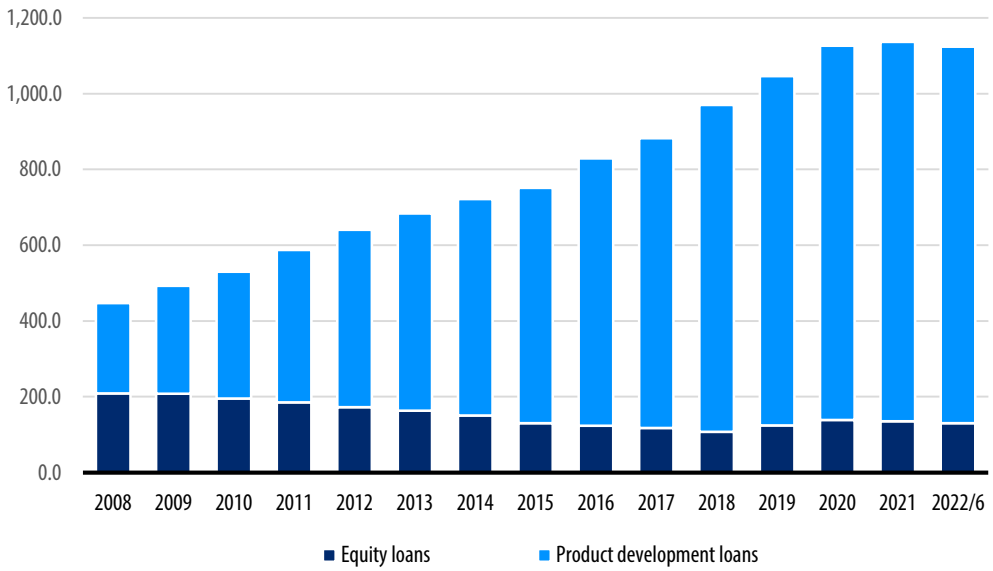
Central government loan receivables associated with product development loans granted by Business Finland totalled EUR 1,136 million at the end of 2021 (2020: EUR 1,126 million). When looking at loans in effect, it can be noted that the long period of loan portfolio growth ended in 2020. For ten years, until 2020, the annual increase averaged just under 8%. Business Finland's loan portfolio decreased by EUR 2 million in the first half of 2022, totalling EUR 1,124 million at the end of June. In the loan portfolio figures for the 2021 and 2022 review points, larger credit loss entries must be taken into account as a partially diminishing factor, resulting in some loan receivables being written down from the portfolio of loan receivables.

Most of the product development loans are provided as debt instruments. From time to time, Business Finland has also granted equity loans, which have accounted for around 11% of the loan portfolio in recent years.

Product development loans are risk loans, most of which are granted without collateral. Most of the financing goes to young growth-oriented companies that are only just launching their product development activities and have no revenue or only a little revenue in relation to expenditure. General changes in economic trends are reflected rapidly in product development lending risks. Non-performing loans and bankruptcies increase rapidly during downturns and economic crises. The economic impacts of the COVID-19 crisis can also be seen in the product development loan portfolio. In the first half of the years 2020–2022, the number of new bankruptcies of companies provided with product development loans was higher than during the corresponding period in earlier years. In 2010–2019, January–June saw an average of 26 new bankruptcies. The figure for the corresponding period was 42 bankruptcies in 2020, 52 in 2021 and 61 in 2022. One factor that has some influence on the higher bankruptcy figures in 2021 and 2022 is the more efficient debt collection policy.

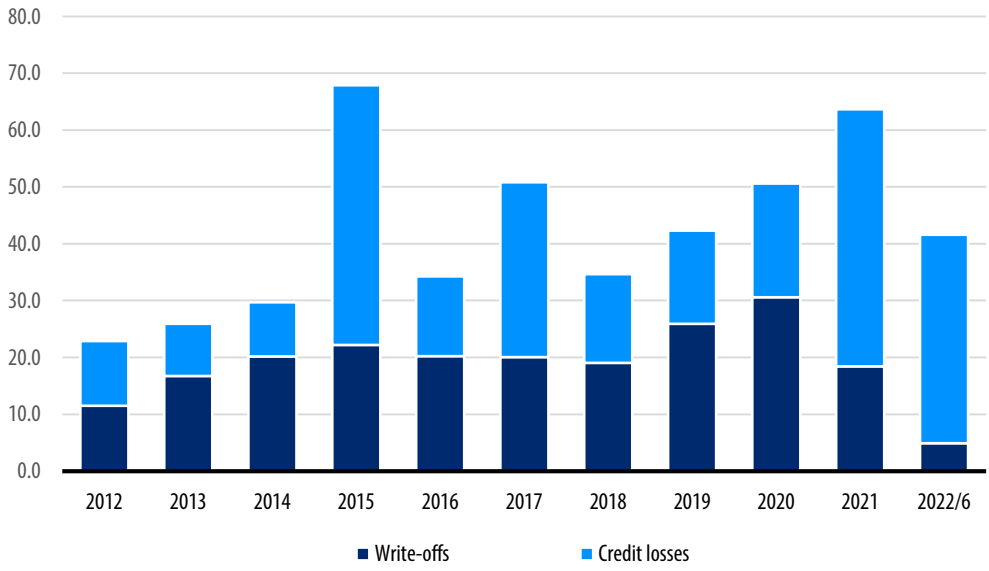
14 For more information (in Finnish and Swedish) about Finland's receivables and liabilities arising from the management of the euro area debt crisis, visit the Ministry of Finance website https://vm.fi/kansainvaliset-rahoitusasiat/euroalueen-vakaus/suomen-vastuut.

Figure 9. Business Finland's product development loan portfolio, EUR million. Source: State Treasury



In 2012–2020, the credit losses recorded on product development loans granted by Business Finland averaged just under EUR 40 million annually. Credit losses arise from decisions not to collect loans and from business insolvency. In 2021, credit losses and debt write-offs totalled EUR 63.7 million, representing an increase of approximately EUR 13 million year on year. During the first half of 2022, debt write-offs totalled EUR 41.6 million, whereas the figure for the corresponding period in 2021 was EUR 10.2 million.

Figure 10. Business Finland's credit losses on product development loans and debt write-offs, EUR million. Source: Business Finland



4 Direct financial liabilities of central government

- Central government debt has been growing substantially and in a trend-like fashion for a long time and the COVID-19 crisis as well as the war of aggression initiated by Russia and its repercussions have contributed to this indebtedness development. However, relative to GDP, debt decreased in 2021 but the debt-to-GDP ratio is expected to start increasing again.

- Central government debt amounted to nearly EUR 139 billion at the end of October 2022 and the debt-to-GDP ratio exceeded 51% at the end of 2021. In 2008, the corresponding figures were EUR 54 billion and 28%, respectively.

- Thanks to the low interest rate environment, interest expenditure on debt has been decreasing in recent years despite the growing volume of central government debt. Nevertheless, the situation is now changing as the ECB has started raising its policy interest rates. The higher interest rate level will increase interest expenditure on central government debt in the future.

4.1 Central government debt

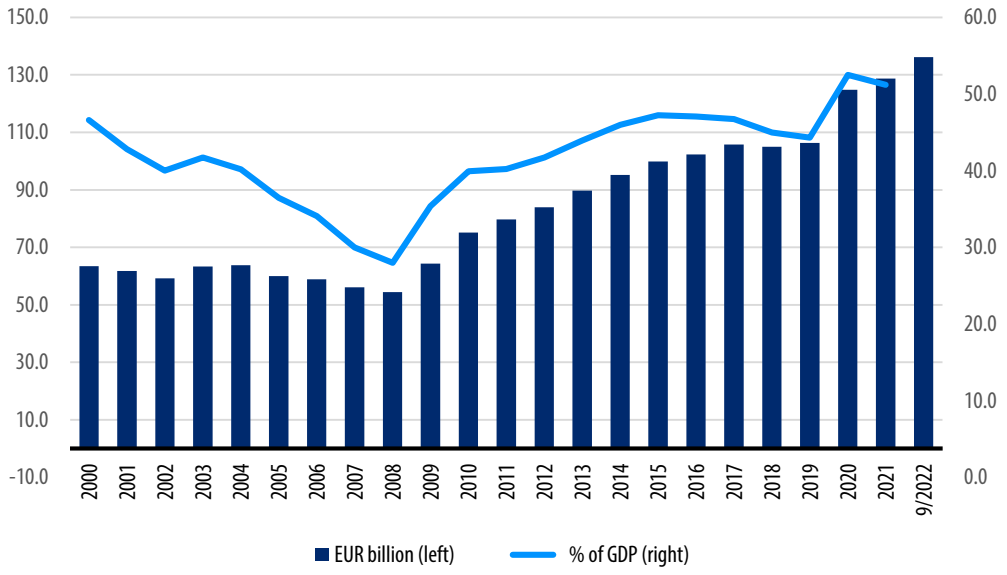
4.1.1 Changes in central government debt

Central government debt decreased in early 2000s driven by strong economic growth (Figure 11).[15] Debt was at its lowest, approximately EUR 54 billion, in 2008. However, after the financial crisis, indebtedness has grown quickly and continuously. At the end of 2021, central government debt amounted to nearly EUR 129 billion. In 2020, the COVID-19 pandemic significantly increased central government's need for funding and, during that year, debt increased by more than EUR 18 billion. Also after that, indebtedness has increased rapidly. At the end of October 2022, debt totalled nearly EUR 139 billion.

15 In this context, central government debt means on-budget and off-budget debt administered by the State Treasury. Indicators describing the debt structure are comprehensively available on such debt. Another commonly used debt concept is general government debt calculated and published by Statistics Finland.

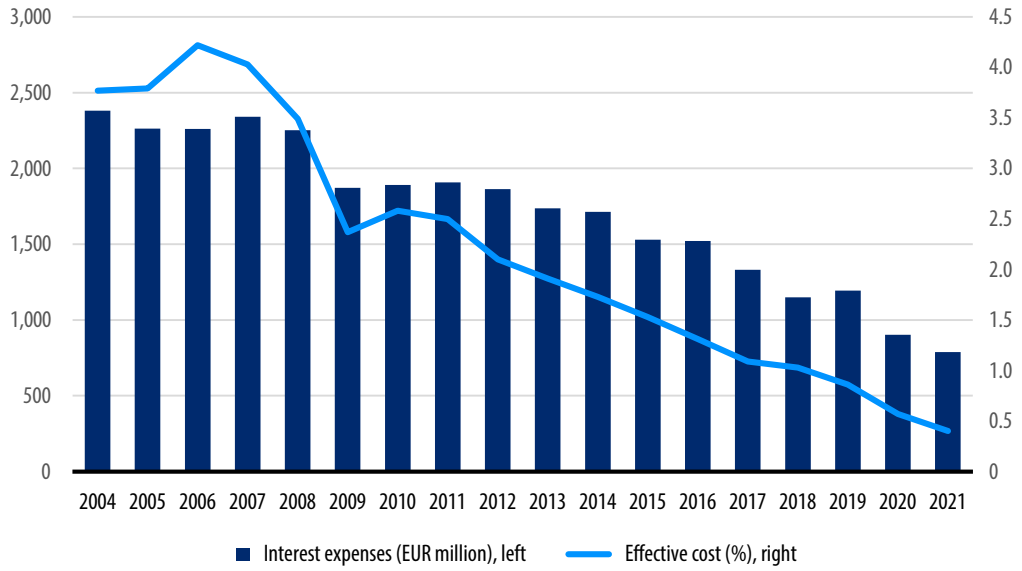
When assessing the risks of indebtedness, a useful approach is to examine debt relative to GDP. If GDP grows faster than debt, there is less cause for concern about the absolute level of debt. For Finland, however, the central government debt-to-GDP ratio has also been increasing significantly for more than a decade. The central government debt-to-GDP ratio fell below 30% at the end of 2008 but then started growing rapidly during the post-crisis years of weak economic growth and amounted to around 45% a decade later. The COVID-19 crisis further increased relative indebtedness and the central government debt-to-GDP ratio exceeded 52% in 2020. In 2021, the debt-to-GDP ratio decreased again and was 51.2% at the end of the year. However, this is only a temporary change and according to the Ministry of Finance's autumn forecast, the ratio will again start growing.

Figure 11. Changes in central government debt. Source: State Treasury



Despite the substantial increase in debt, interest expenditure on central government debt were declining for a long period of time. This was due to monetary stimulus policies, which kept market interest rates at a very low level for several years (Figure 12). However, in recent months, monetary policy has quickly become tighter, which has increased market interest rates considerably. Consequently, interest expenditure will be rising in the next few years. According to the Ministry of Finance's autumn 2022 forecast, central government's interest expenditure is expected to rise to EUR 2.3 billion in 2026.

Figure 12. On-budget interest expenses and effective interest costs of central government debt[16]. Source: State Treasury



4.1.2 Risks arising from central government debt

Central government debt involves many types of risks[17], of which financing risks and market risks are discussed in more detail in this section. Financing risks include risks associated with the availability or terms of financing and the resulting risk of insolvency or an increase in borrowing costs. This may be due to reasons including exceptional market conditions or the downgrading of the central government's credit rating.

Financing risks are divided into liquidity risk and refinancing risk. The review horizon for liquidity risk management is the next 12 months, whereas refinancing risk is reviewed over a longer period.

The starting point for refinancing risk management is to seek to distribute loan amortisation as evenly as possible over time and to use a broad range of funding channels. The amortisation profile for central government debt is shown in Figure 13. Due to the

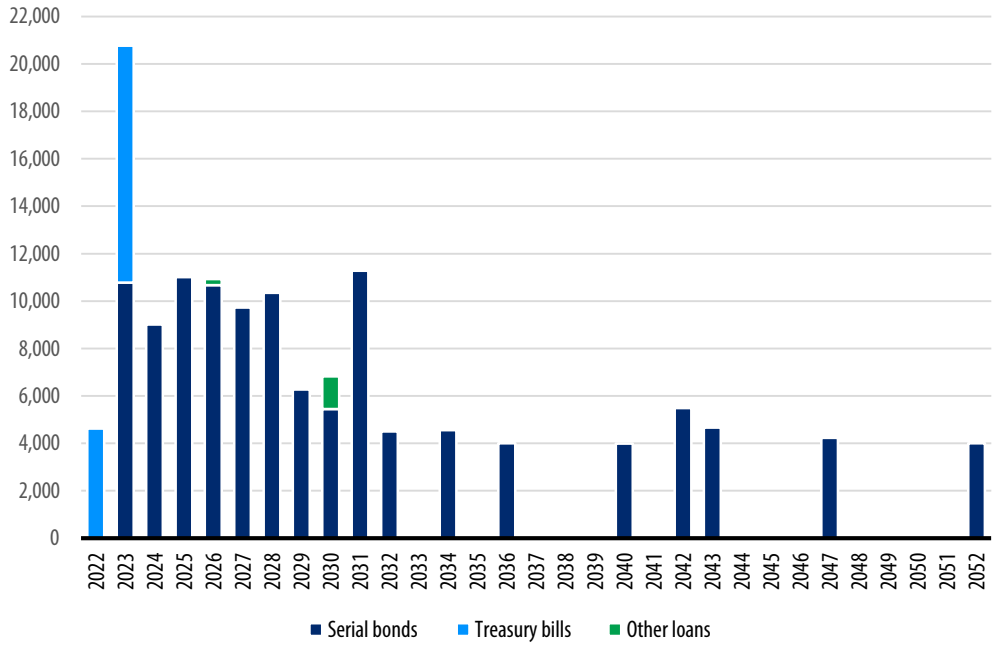
16 Effective costs refer to the average of the debt servicing costs weighted by the nominal value of the debt.

17 For more information about risks arising from central government debt and their management, visit https://www.treasuryfinland.fi/

high level of indebtedness, large amounts of loan will fall due for payment by central government in the next few years. First the COVID-19 crisis and then Russia's military actions with associated repercussions have increased the need for short-term funding, which is reflected in the figure as large amortisations of central government debt this year and next. Otherwise, yearly amortisations in 2024–2032 average around EUR 8.9 billion.

Refinancing risk can be examined by means of one- or five-year rollover indicators that show the ratio of debt to be refinanced within one year/five years. Finland is very similar to the key reference countries and the euro area on average in this respect, especially as regards the five-year rollover indicator (Figures 14 and 15). The one-year ratio for Finland is approximately 3 percentage points above the average for the euro area but in the same order of magnitude as for Germany, for example.

Figure 13. Amortisations of central government debt, EUR million[18]. Source: State Treasury, situation on 30 September 2022



18 Serial bonds are fixed-rate bullet loans on which the coupon interest is paid once a year. Treasury bills are discount-based debt instruments with maturity of a maximum of one year. Other loans include bonds issued under the EMTN programme, for example.

Figure 14. One-year rollover indicator, % of debt stock. Source: ESDM

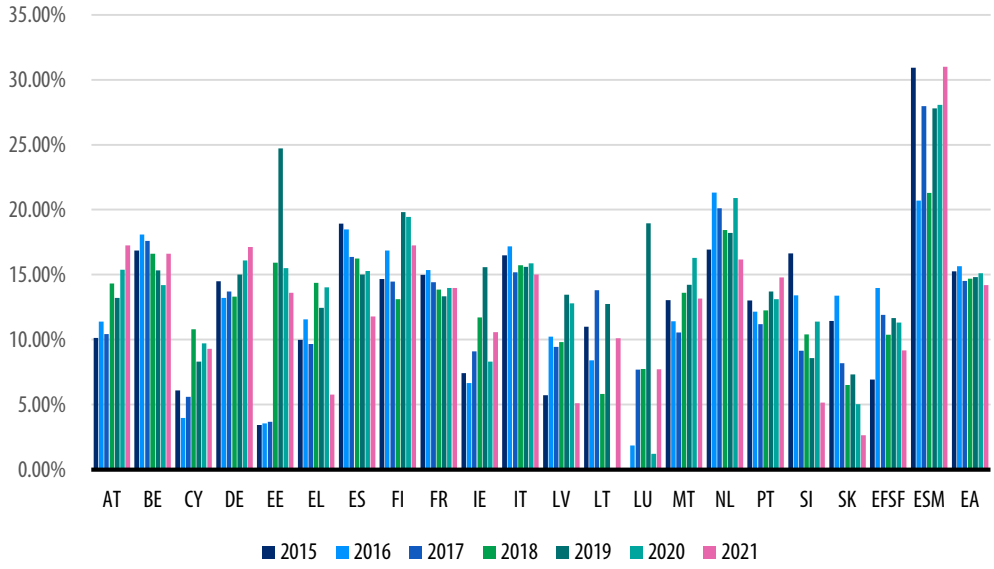
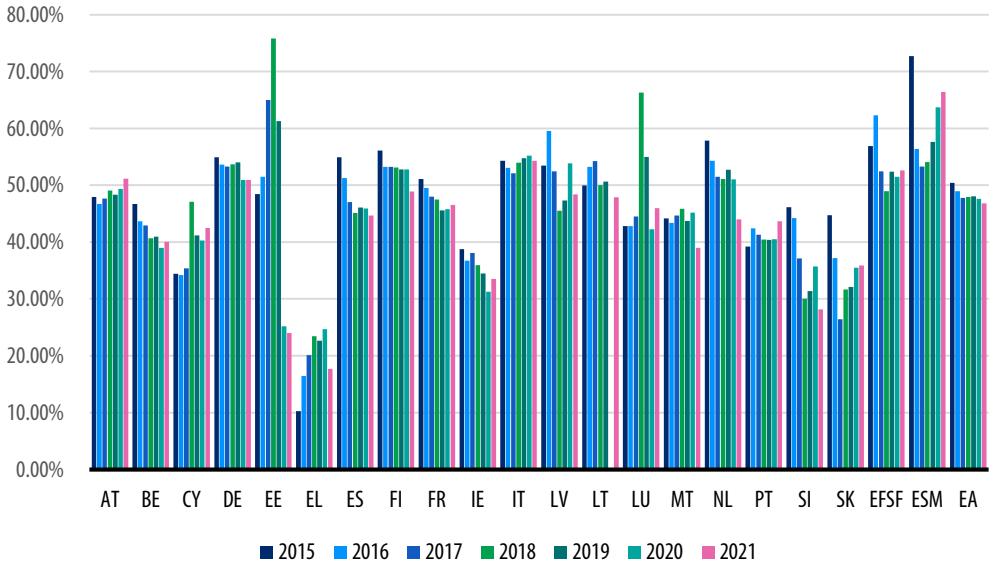


Figure 15. Five-year rollover indicator, % of debt stock. Source: ESDM



Market risk refers to the interest and exchange rate risk arising from a debt. Interest rate risk can be defined as a negative deviation from the expected long-term costs arising from a debt as a result of interest rate changes. Interest rate risk may be caused by changes in

general euro area interest levels or in a Finland-specific risk premium. Central government also issues debt in foreign currencies, but exchange rate risks are hedged through derivatives.

Figure 16 provides information on movements in the interest rate sensitivity of debt measured using the average time to repricing of the debt portfolio. This indicator gives the average time (year) during which the debt portfolio is repriced.[19] The shorter the repricing period, the faster interest rate changes are reflected in debt interest costs.

Figure 16 also shows the average maturity of the debt; this figure describes the average period during which the loans must be refinanced. Maturity illustrates the financing risk involved in the debt. In the context of the financial crisis, debt maturity extended from around four years to more than five years. After 2012, the average maturity was extended further, as central government began to issue 30-year bonds. The current average maturity of the debt portfolio is more than seven years.

In Finland, the average time to repricing the debt portfolio is shorter than in the majority of other euro area countries and differences from most other countries in this respect have also increased slightly. On the other hand, increases in Finland's average maturity of debt have been fairly much in line with most other euro area countries. The maturity of Finland's debt portfolio was around 18 months shorter than the euro area average at the end of 2015 and the difference was approximately 13 months at the end of last year.

The interest rate risk associated with debt can also be illustrated using so-called budgetary risk of debt. This involves examining the change in interest expenditure when the general interest rate level or Finland's risk premium rises permanently by one percentage point. An increase in the general interest level would increase the interest expenditure of central government existing debt so that in 2023, for example, the annual interest expenditure would be EUR 439 million higher than projected (Figure 19, situation on 31 October 2022). Similarly, a one percentage point increase in Finland's risk premium would increase the interest expenditure by EUR 187 million in 2023. The difference in the increase in expenditure results from the use of interest rate derivatives in interest rate risk management and in adjusting the interest rate risk position.

19 The average time to repricing is determined by the next interest rate review date for variable rate loans, whereas for fixed rate loans it is determined by the maturity.

Figure 16. Development of central government debt interest rate risk position. Source: State Treasury

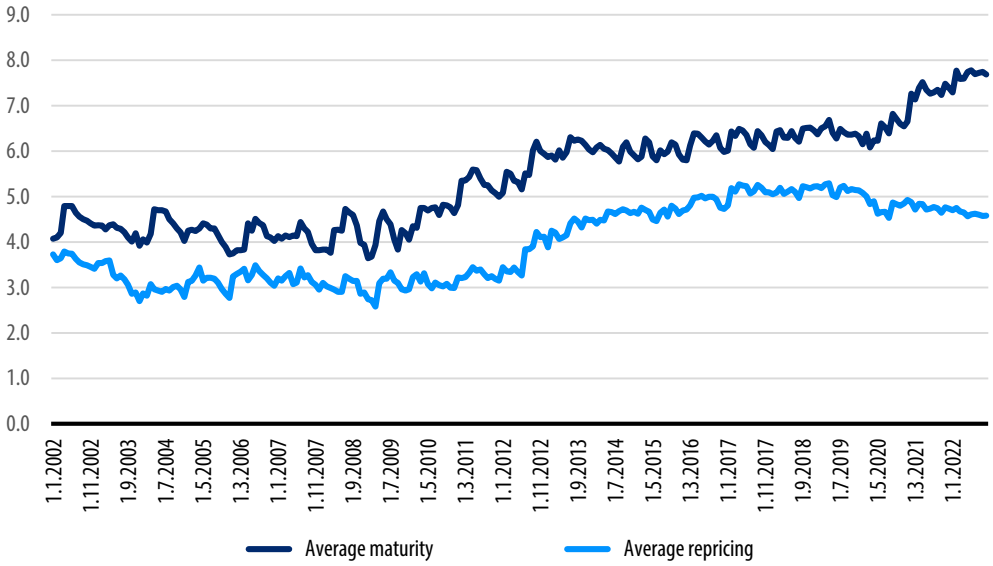
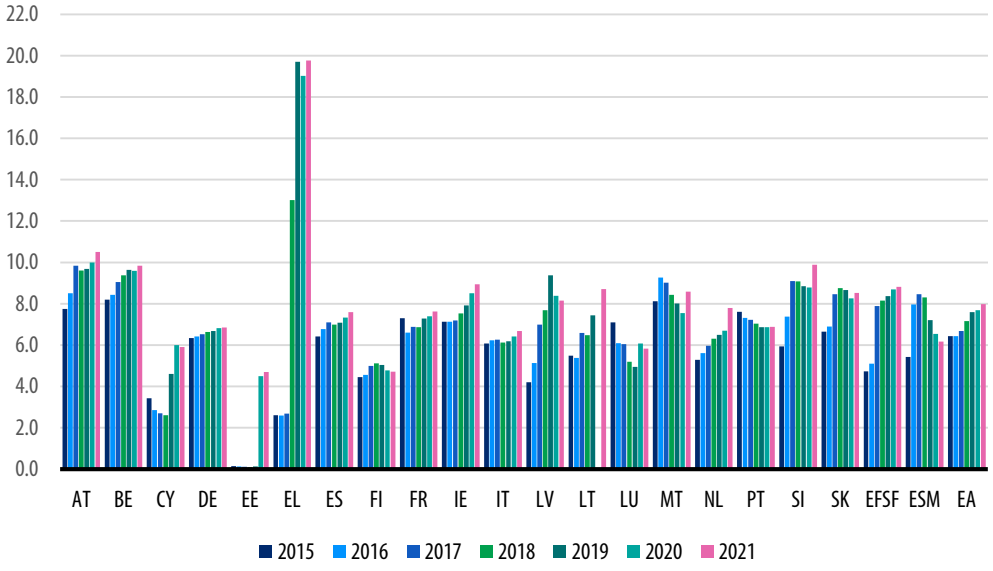


Figure 17. Average time to repricing of the debt portfolio, year[20]. Source: ESDM



20 The impact of derivatives is taken into account.

Figure 18. Average debt maturity, year. Source: ESDM

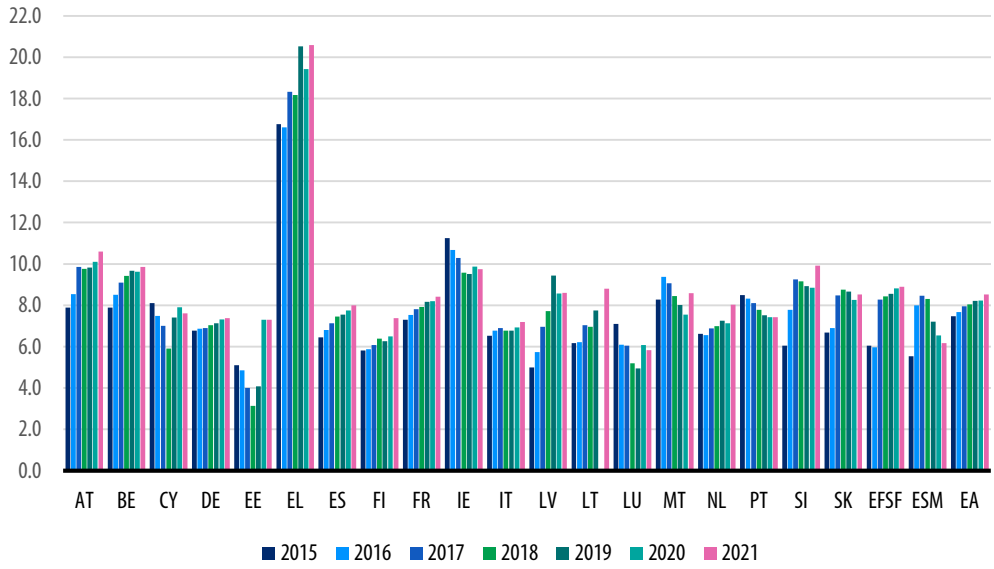
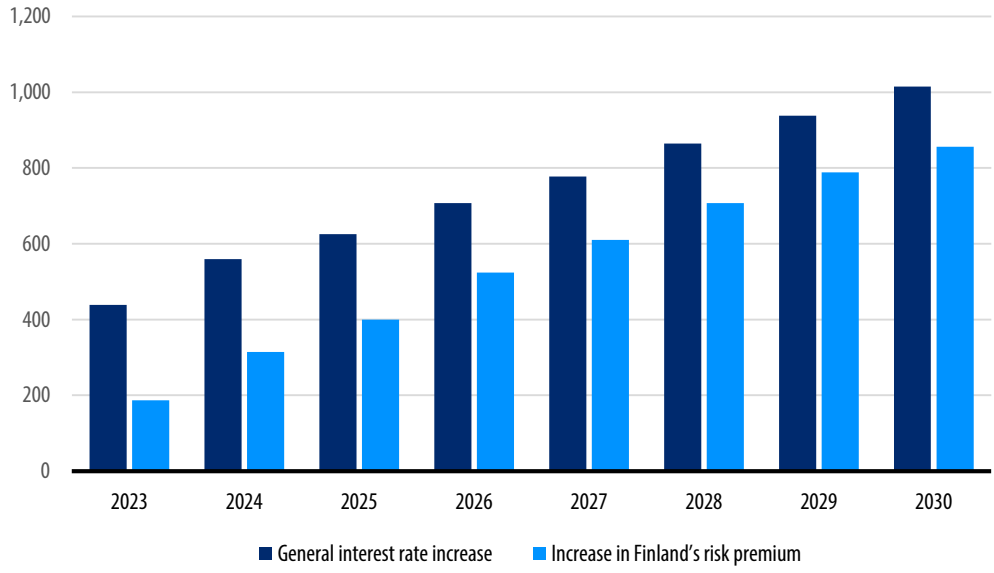


Figure 19. Budgetary risk arising from debt, EUR million. Source: State Treasury



4.2 Contractual liabilities associated with the Public-Private Partnership (PPP) model

In the Public-Private Partnership (PPP) model, a service provider (project company) funds, plans, carries out and maintains a project under a contract for 15 to 25 years, while the public-sector partner has the role of a customer and project supervisor.

The PPP model has been applied to road projects, for example (Table 1). In these cases, Parliament grants the Finnish Transport Infrastructure Agency a budget authorisation to carry out a PPP project. The authorisation includes the costs of the actual road construction and the service fee for road maintenance payable to the road infrastructure company. For this purpose, Parliament decides annually in the Budget on the appropriations needed to fulfil the contract.

The risks involved in a PPP model include, in addition to the financial risk, an increase in building costs, delays and quality issues in construction work, a quality and cost risk related to maintenance as well as a counterparty risk associated with the project company. All the projects in the table are in the maintenance phase. Any termination of the contract may also involve substantial termination costs.

The PPP model ties up central government funds for decades, making it more difficult for future Parliaments to launch new projects. Due to the partial payments involved in the PPP model, there also is a risk that investments exceed the level that would be appropriate in terms of sustainable general government finances.

Table 1. PPP projects in the Budget, EUR million

31.10.79 PPP PROJECTS	Authori-sation	2008–2022	2023–2026	2027–2030	2031–2034	2008–2040
E18 Muurla–Lohja	700.0	525.9	108.2	65.9	0.0	700.0
E18 Muurla–Lohja, service level increase	30.0	5.0	8.0	17.0	0.0	30.0
E18 Koskenkylä–Kotka	650.0	454.8	195.0	0.2	0.0	650.0
E18 Hamina–Vaalimaa	550.0	155.0	120.0	128.5	146.5	550.0
Total	1,930.0	1,140.7	431.2	211.6	146.5	1,930.0

4.3 Other multi-annual central government liabilities

Central government also has other multi-annual contractual liabilities under which it has a direct statutory payment obligation. By far the largest of these multi-annual liabilities in on-budget finances are central government pension liabilities.

Pension liabilities refer to the amount required to cover the future costs of pension benefits accumulated to date. Central government pension liabilities indicate the current value of central government pension commitment to former and present employees covered by the central government pension system. Central government pension liabilities totalled EUR 93.3 billion at the end of 2021.

Through the State Pension Fund (VER) described in section 3.2, central government has made arrangements to prepare for pension payments in the coming years and to even out annual pension expenditure. At the end of 2021, the ratio between the market value of the VER investment portfolio and the imputed central government pension liabilities was about 25%.

The funding base of central government pension expenditure involves risks associated with the prospect that the sum of wages and salaries, on the one hand, and the investment assets and returns on investment, on the other, will not develop as expected. The development of pension expenditure also involves uncertainties. While a decrease in the sum of wages and salaries would weaken VER's revenue base and reduce the assets available for investment, from the central government perspective it would cut direct labour costs and curb the growth in pension liabilities. The realisation of risks relating to the sum of wages and salaries and VER's investment returns may increase central government need for direct budget financing for central government pension payments.

Other multi-annual liabilities include the need for appropriations required by budget authorisations, which totalled EUR 10.9 billion in 2021.

The other multi-annual liabilities of off-budget entities and unincorporated state enterprises amounted to EUR 2.8 billion at the end of 2021.

5 Contingent financial liabilities of central government

- Central government guarantees in effect totalled EUR 64 billion at the end of 2021, representing growth of EUR 2.6 billion year on year. In 2010, the guarantee portfolio was EUR 23.1 billion. The largest liabilities in effect are associated with Finnvera's operations, housing financing and the management of international financial crises.

- The portfolio of guarantee liabilities has grown significantly not only in terms of euros but also in relation to GDP. In 2010, the ratio of guarantee liabilities in effect to GDP was 12.3%, whereas at the end of 2021, the corresponding figure was 25.4%.

- Risks related to guarantee liabilities are increased by concentration risks associated with the largest sets of liabilities. For example, in export financing the shipping industry accounts for around 50% of total liabilities. The operations of the Housing Fund of Finland are also associated with considerable concentration risks. Risk development in housing financing is also materially affected by the population concentration trend and any changes taking place in it.

- Finnish banks fared well through the COVID-19 pandemic. The banks have a sufficient amount of capital and liquid assets and their business operations have been profitable. The key risks and uncertainties are related to future macroeconomic development and the effects of Russia's war of aggression.

- Municipal loan portfolio was slightly more than EUR 19 billion at the end of 2021. Municipal loan growth has been strong over the past couple of decades, as is the case for central government, too. In 2000, the loan portfolio of municipalities totalled around EUR 3.9 billion.

The first section of this chapter focuses on explicit contingent liabilities, which involve a legal obligation for central government. These include central government guarantees, capital liabilities related to international financial institutions, climate liabilities and nuclear liability. In the later sections, the chapter discusses implicit contingent liabilities, which may put the central government under an obligation because of societal or political

factors. These include implicit liabilities of the banking sector and local government as well as contingent liabilities associated with state-owned companies and environmental and chemical safety. Implicit liabilities are not automatically binding on central government; instead, it would be considered separately if central government assumes responsibility for them, taking into account aspects related to the functioning of society, among other things.

5.1 Central government guarantees

Central government guarantees[21] in effect totalled EUR 64.2 billion at the end of 2021, representing growth of EUR 2.5 billion year on year (Figure 20). At the end of June 2022, the amount of central government guarantees in effect was EUR 66.3 billion. The portfolio of guarantee liabilities grew significantly throughout the 2010s and the uptrend continues. In 2010, the guarantee portfolio was EUR 23.1 billion.

Guarantee liabilities have grown significantly also in relation to GDP. In 2010, the ratio of guarantee liabilities in effect to GDP was 12.3%, whereas at the end of 2021, the corresponding figure was 25.4%.

The largest liabilities in effect are associated with Finnvera's operations (EUR 33.3 billion), housing financing (EUR 18.3 billion) and the management of international financial crises (EFSF EUR 6.8 billion).[22] In 2021, Finnvera's guarantee portfolio increased by EUR 500 million, the housing financing guarantee portfolio by EUR 1.2 billion and the student loan guarantee portfolio by EUR 500 million.

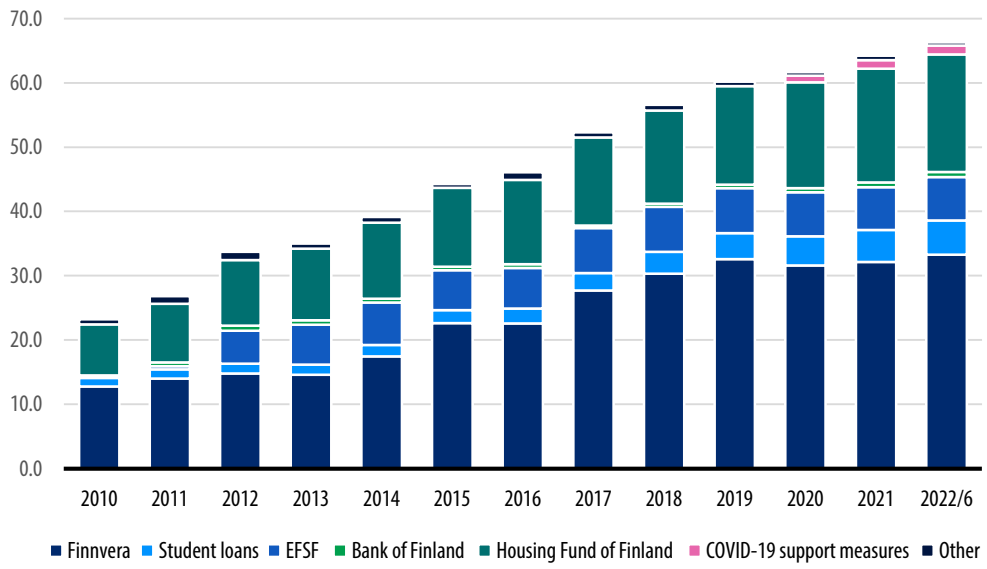
The maximum amount of central government guarantees available was EUR 135.4 billion at the end of 2021. The maximum is the maximum amount set out in the law or authorised by Parliament. For the guarantee authorisations given in the Budget annually, the maximum is the amount of guarantees in effect plus the amount of guarantees granted but not yet used. The maximum amount of central government guarantees available increased by EUR 200 million in 2021.

The following section provides a more detailed description of the most important central government guarantees in financial terms and the risks associated with them.

21 Central government guarantees mean legal commitments by central government to assume liability for the debt of another party. Guarantees also include legal commitments to cover losses arising from a specific activity.

22 The figures are data from the end of June 2022.

Figure 20. Development in the amount of central government guarantees in effect, EUR billion.
Source: State Treasury



The guarantee liabilities associated with Finnvera consist of 1) liabilities associated with export credit guarantee and special guarantee operations, 2) the domestic liability portfolio and 3) guarantees for funding. The liabilities in effect (drawn down and not drawn down) have been included in the guarantee amounts related to export credit guarantee and special guarantee operations. The statutory liability amount includes liabilities in effect and one half of the guarantees offered, using the exchange rate of the date on which the decision was made. The risk arising from repayments of export credits granted by Finnish Export Credit Ltd is covered by an export credit guarantee granted by the parent company, Finnvera. Funding acquired by Finnvera within the framework of the EMTN and ECP loan programmes has a central government guarantee. To the extent that the loan guaranteed by central government has been used to finance export credits, central government's liability for export credit guarantees and central government guarantees for funding is not doubled but these could be realised at different times as a result of various factors. The contingent liabilities reported in this overview are consistent with the figures in final central government accounts.

COVID-19 support measures comprise central government guarantees, granted due to the COVID-19 pandemic, to European Commission funding (the SURE instrument), for the European Investment Bank (the EU COVID-19 guarantee fund), for domestic shipping and aviation companies as well as the COVID-19 vaccination guarantee to insurance companies.

5.1.1 Finnvera plc

Finnvera's liabilities constitute a significant part of central government guarantees, which highlights the significance of the risk management related its operations. Three types of public export financing instruments are used in Finland: central government export credit guarantees, interest equalisation and export and ship credits. Export financing is provided through Finnvera plc, a specialised financing company fully owned by the State of Finland, and through Finnish Export Credit Ltd, a fully-owned subsidiary of Finnvera. In addition, Finnvera grants loans and guarantees to companies in Finland.[23] In terms of euros, the largest liabilities can be found in export financing.

Central government regulates the scope of public export financing activities by granting authorisations concerning the maximum liabilities specified in law. During 2021, no changes were made to authorisations and the authorisation increases made in 2020 were in effect. At the end of June 2022, the authorisations concerning the maximum liabilities for export financing were:

i. export credit guarantees granted by Finnvera plc and hedging arrangements: EUR 38 billion;
ii. Finnish Export Credit Ltd's export and ship credits: EUR 33 billion;
iii. interest equalisation authorisation: EUR 33 billion;
iv. guarantee authorisation for special risk-taking: EUR 5 billion[24];
v. maximum authorisation for the central government guarantee of Finnvera's funding programme: EUR 20 billion; and
vi. maximum authorisation for a potential government credit facility for Finnvera: EUR 3 billion.

As the authorisations have increased, total central government liabilities for export financing have grown substantially over the past few years, as shown in Figure 20 and Appendix 2.

In particular, financing agreements have been concluded on ships ordered by shipping companies to be completed in the future, the guarantees and offers for which will only be drawn down several years later. Consequently, the amount of credit drawn down, which could result in credit losses, is less than the gross amount of the liabilities. At the end of 2021, the gross amount of export credit guarantees and special guarantees was EUR 22.6

23 In domestic financing, liabilities are considerably smaller than in export financing. Liabilities in domestic financing have exceptionally increased in 2020 and 2021. The domestic loan and guarantee portfolio grew 9% in 2021, totalling EUR 2.6 billion at the end of the year.

24 Laid down in section 6 of the Act on the State's Export Credit Guarantees (990/2005).

billion, while the amount of liabilities drawn down was EUR 12.1 billion (in 2020, the corresponding figures were EUR 22.4 billion and EUR 11.8 billion, respectively).

Finnvera complements the financial markets and takes larger credit risks than commercially operating providers of financing. A key risk arising from export financing is related to credit risk. In this respect, a key role is played by diversification of liabilities, that is, the extent to which the risks in the portfolio concentrate in certain sectors, geographic areas and customers.

As seen in Figures 21–23, export financing operations are highly concentrated. The shipping industry accounted for around 50% of the total liabilities at the end of 2021 (Figure 21). Sectoral concentration has increased in recent years. In 2014, the share of the shipping industry in the total liabilities was still below 25%.

A regional analysis shows that the concentration of total liabilities is significant and has increased over the review period (Figure 22). In 2021, by far the largest share of the export credit guarantee liability portfolio was related to the United States. Finland's share increased clearly from 8% to 12% in 2021. At the same time, the United States' share decreased from 45% to 37%.

Export credit guarantee liabilities are also associated with significant risks arising from customer concentration (Figure 23). At the end of 2021, the three largest recipients of buyer financing accounted for approximately 40% of the total export credit guarantee liabilities, the 10 largest ones accounted for 63%, while the top 20 accounted for 76%. The customer concentration risks have increased clearly compared to 2014, although since 2018, there has been a downtrend and the share of the largest customers of the total export credit guarantee liabilities has decreased.

Figure 21. Sectoral distribution of export credit guarantees, EUR million. Source: Finnvera

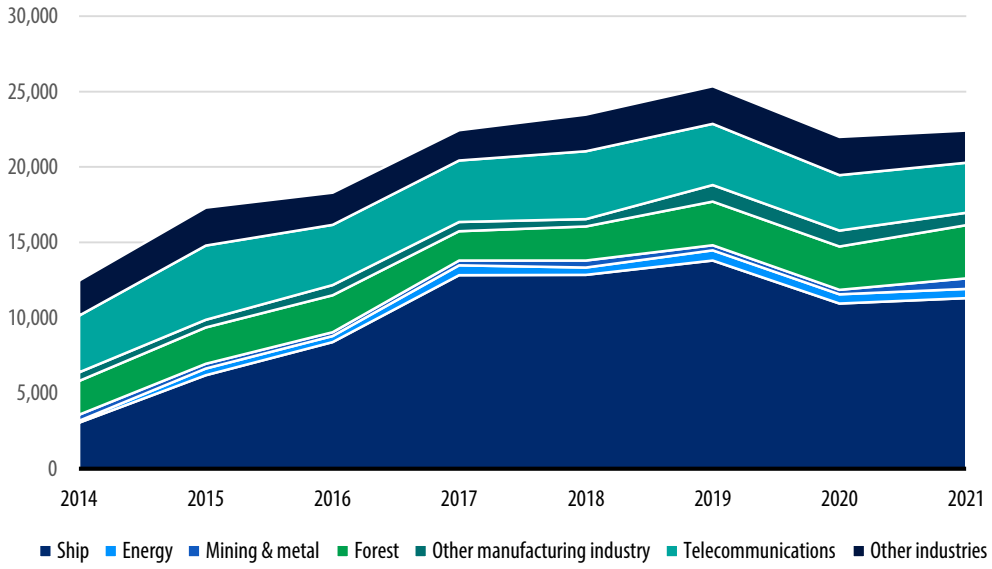


Figure 22. Export credit guarantees by country, %. Source: Finnvera

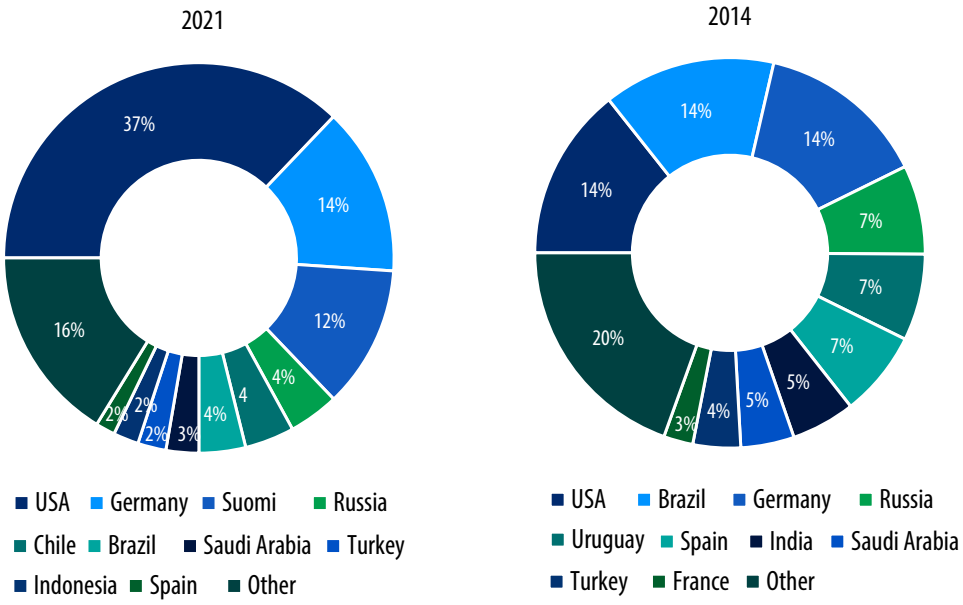
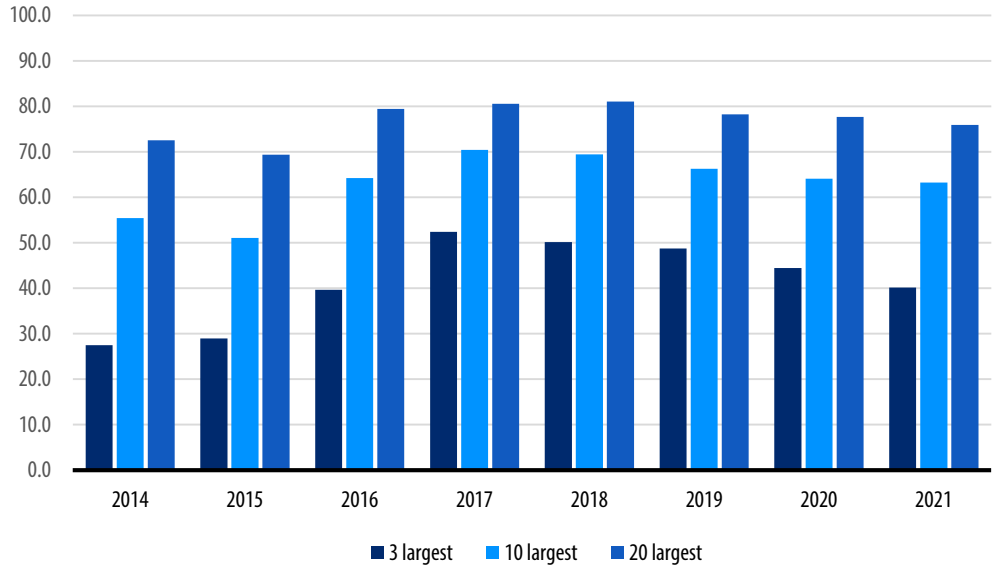


Figure 23. Customer concentrations of export credit guarantees, %. Source: Finnvera



The risks associated with the concentrations of sectors, countries and customers are partly overlapping. However, detailed information about risk overlaps is not generally available.

Based on the risk classification distribution, in 2021, the risk associated with the portfolio of export credit guarantee liabilities has remained close to the 2020 level but increased from the years preceding 2020. In 2019, approximately 66% of the liabilities in the portfolio belonged to the investment-grade risk class BBB or higher, but in 2020, the figure decreased significantly, to approximately 28%. In 2021, 30% of liabilities were in risk class BBB- or higher.

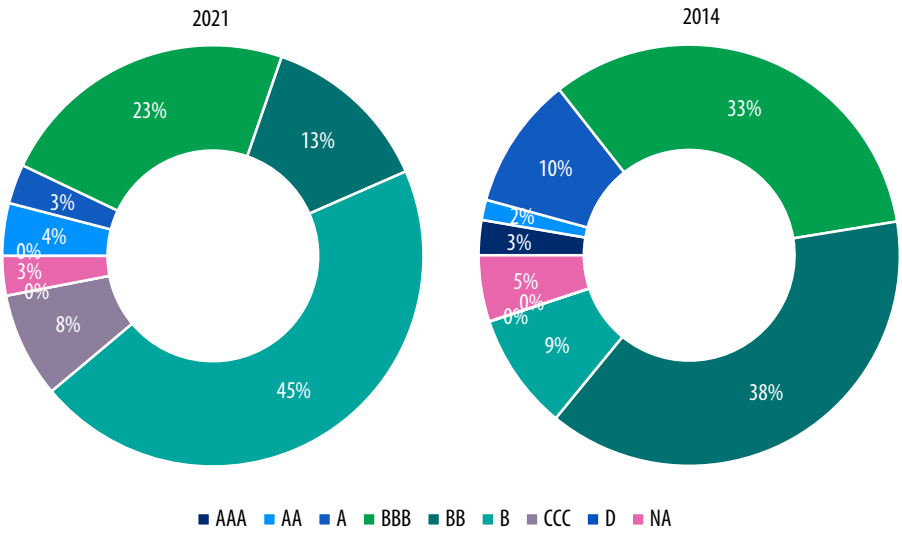
In addition to idiosyncratic shocks, concentration risks also expose export financing operations and risk management to so-called model risk. Model risk arises if realisations of loss likelihood risks correlate with each other. For example, over-capacity or a significant drop in demand in the shipping market may result in the realisation of larger credit losses than expected.

The COVID-19 pandemic has revealed in a concrete manner the risks relating to the concentrated structure of Finnish export financing. The pandemic had a major impact on the cruise industry, in practice fully suspending cruise operations for a while and significantly weakening the sector's outlook for the near future. This was reflected significantly in Finnvera Group's financial performance and resulted in the Group reporting a loss of EUR 748 million for 2020. Owing to the COVID-19 pandemic and, in compliance

with the IFRS 9 standard, declining risk classifications and macroeconomic projections, Finnvera made credit loss provisions totalling EUR 1.2 billion in export credit guarantee and special guarantee operations in 2020. In 2021, no new significant credit loss provisions had to be made in export credit guarantee operations and no material final losses were realised. Although the worst of the COVID-19 pandemic seems to be over, there have been no grounds for reversing the credit loss provisions made, according to Finnvera's half-year report for 2022. At the end of June 2022, the expected credit losses based on the balance sheet items totalled approximately EUR 1.6 billion.

Russia's ongoing attack to Ukraine has also had a significant impact on the Group's financial performance. The January–June 2022 result showed a loss of EUR 29 million (EUR +65 million in January–June 2021). The credit loss risk associated with export credit guarantee exposure in Russia has increased and in the first quarter of 2022, Finnvera recorded in the financial statements EUR 210 million in credit loss provisions for exposure in Russia. The total exposure in Russia decreased from EUR 977 million to EUR 536 million as a result of the arrangements and early repayments made in January–June 2022. The negative result caused by the loss provisions is covered by the reserve for export credit guarantee and special guarantee operations in Finnvera's balance sheet and as a fund payment from the State Guarantee Fund.

Figure 24. Risk classification distribution of export credit guarantees, %[25]. Source: Finnvera



25 Class AAA describes the lowest risk, whereas class D means that the risk is certain to materialise. Class NA contains risks with no risk classification, including sovereignty risks related to states.

In addition to credit risk, export financing is also associated with liquidity and market risks. To ensure the competitiveness of Finland's export financing, Finnish Export Credit commits to pre-agreed terms of credit (incl. Commercial Interest Reference Rates, CIRR[26]) over a long delivery time. At the same time, the competitive situation may make it necessary to offer the customer options with respect to loan withdrawal, terms of interest or currency.

Fixed-rate export credits carry an interest rate risk, which is transferred to central government by means of interest equalisation agreements. If the interest rate is set at a very low level in accordance with the OECD export credit agreement for competitiveness-related reasons, it may be impossible for central government to fully hedge against the interest rate risk without incurring losses, depending on the terms and conditions of the agreement and the market conditions.

Sudden major compensation claims related to export credit guarantee operations may lead to a high liquidity need. Simultaneously, market uncertainty may impair the availability of financing. In this respect, Finnvera has prepared for liquidity risk by making agreement arrangements with the State Guarantee Fund and the State of Finland.

Any losses from Finnvera's export financing operations are covered through two reserve funds, which had assets totalling EUR 826 million at the end of 2021. Losses from export credit guarantee operations are primarily covered out of the reserve for export credit guarantee and special guarantee operations in Finnvera's balance sheet, which amounted to EUR 79 million at the end of 2021. Secondarily, losses are covered by the off-budget State Guarantee Fund, which was worth EUR 747 million at the end of 2021.[27] If the two reserve funds turn out to be insufficient, Finnvera's losses are covered from the Budget.

Due to the uncertainty caused by the COVID-19 pandemic and the prolongation of the pandemic, the State of Finland decided to support the stability and international competitiveness of export credit guarantee operations. In the third supplementary budget for 2021, a provision was made for EUR 400 million to capitalise Finnvera's export credit guarantee and special guarantee operations. The capital injection was carried out by transferring the funds to the State Guarantee Fund, as a way of preparing for potential

26 The CIRR interest is based on the return on long-term government bonds, plus a fixed margin.

27 Provisions are also made for losses from domestic financing activities. In accordance with its credit and guarantee loss undertaking, the State of Finland has pledged to cover 80% of the losses arising from SME and midcap financing from the end of 2020. Any losses beyond this central government compensation will be covered out of Finnvera's reserve for domestic operations, which held EUR 399 million at the end of 2021.

future losses in export credit guarantee and special guarantee operations. To cover the negative separate result for export credit guarantee and special guarantee operations in 2020, Finnvera received an EUR 349 million fund payment from the State Guarantee Fund. At the same time, Finnvera was exempted from repaying, from the positive results of 2021 and the years following that, the fund payment received on the basis of the negative result of export credit guarantee and special guarantee operations in 2020, until the fund assets have returned to the pre-COVID-19 level.

After the positive result for the financial year 2021 and the capital injection received from the State of Finland, Finnvera's domestic and export financing reserves for covering potential future losses amounted to a total of EUR 1.224 billion at the end of 2021 and EUR 1.097 billion at the end of June 2022. At the end of 2021, the reserves consisted of non-restricted equity for domestic financing, amounting to EUR 399 million, as well as non-restricted equity for export credit guarantee and special guarantee operations and State Guarantee Fund assets, totalling EUR 825 million. The corresponding figures for June 2022 were EUR 423 million of non-restricted equity for domestic financing and EUR 674 million of non-restricted equity for export credit guarantee and special guarantee operations and State Guarantee Fund assets.

Risks associated with individual counterparties and concentrations are partially hedged against through reinsurance. At the end of 2021, the maximum compensation amount of Finnvera's reinsurance contracts in effect totalled approximately EUR 1.2 billion, or around 10% of the liabilities drawn down.

Finnvera's goal is to be self-sustainable, which means that the company's operating income must over the long term cover its operating costs and its share of the credit and guarantee losses. The review period of the self-sustainability goal is 10 years for domestic financing and 20 years for export financing. The self-sustainability goals were reached until 2019 but, after the loss provisions recorded in 2020, the self-sustainability goal for export financing was missed. Self-sustainability of export credit guarantee and special guarantee operations was, however, reached cumulatively when taking into account funds in the State Guarantee Fund accumulated in the activities of Finnvera's predecessor organisations.

Unlike for the financing of domestic operations, there is no specific capital adequacy requirement set for Finnvera's export financing in line with international practice. Ultimately, the State of Finland is liable for the losses of export credit guarantee and special guarantee operations that cannot be covered by accumulated reserves. The Ministry of Economic Affairs and Employment does, however, monitor developments in the liability and risk position and reserves as well as the capital and capital adequacy requirement. The capital requirement relating to credit risk is measured using Value at

Risk (VaR) method, which is used to calculated annual losses arising from credit and counterparty risks with a 99.5% confidence interval. Capital adequacy in export financing strengthened slightly in 2021, after the credit loss provisions made in 2020, and, taking into account the assets in the reserve for export credit guarantee and special guarantee operations and the State Guarantee Fund, was 3.4% at the end of 2021. In 2020, the corresponding figure was 1.3%.

5.1.2 Housing Fund of Finland

Central government currently has 11 off-budget funds. In terms of liabilities, the Housing Fund of Finland accounts for most of these funds' guarantee portfolio.[28]

The guarantee liabilities of the Housing Fund comprise the central government guarantees for loans granted for housing construction, renovation and purchases. Most of the loans granted for construction and renovation go to rental housing and right-of-occupancy corporations. The guarantee portfolio for private individuals comprises limited central government guarantees for housing loans granted by financial institutions.

In addition to guarantees, the contingent liabilities of the Housing Fund also include the interest subsidy payments of interest subsidy loans granted for the housing sector. Most of the loans with a state deficiency guarantee granted to corporations for housing construction and renovation are interest subsidy loans. Loans intended for first-time home buyers (ASP loans) account for the majority of the interest subsidy loans granted to private individuals. Grants for housing construction, housing stock and financial restructuring of rental housing corporations are also paid out by the Housing Fund of Finland.

Guarantee compensation based on guarantee liabilities and the expenses associated with securing loan receivables are paid out by the Housing Fund of Finland. If necessary, the Fund also uses its assets for its own loan amortisation and interest payments. The Housing Fund does not currently have any debt.

Long-term Arava loans granted to rental housing and right-of-occupancy corporations before 2008 account for most of the receivables in the balance sheet of the Housing Fund of Finland.[29] The Fund's revenue consists of Arava loan repayments and interests,

28 In addition to the Housing Fund of Finland, central government guarantees are also held by the Development Fund for Agriculture and Forestry, the National Emergency Supply Fund and the State Guarantee Fund.

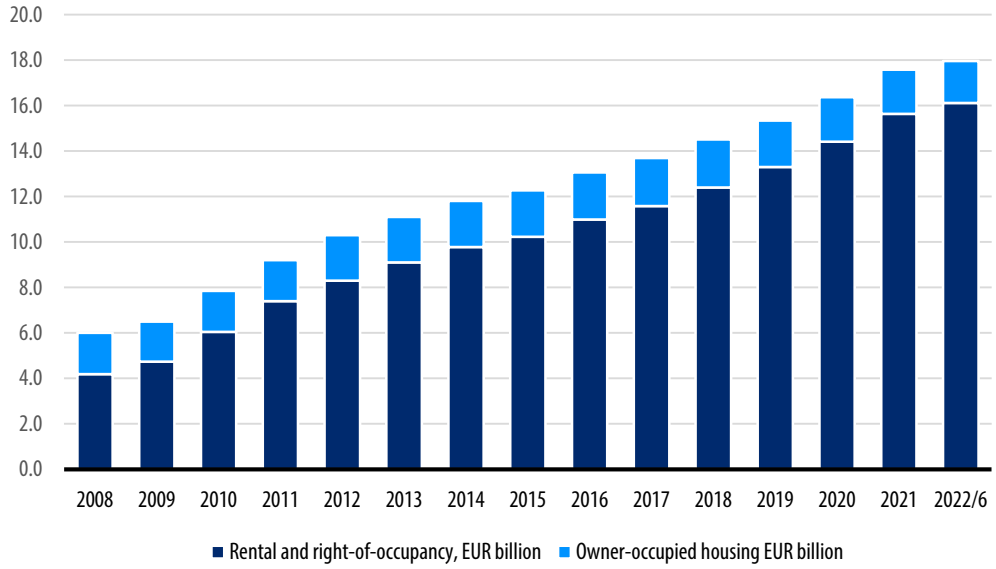
29 The receivables of the Housing Fund of Finland are discussed separately in section 3.5.

and guarantee fees associated with various central government guarantees. The Arava loan portfolio is decreasing while the guarantee portfolio and the interest subsidy loan portfolio are growing.

The housing financing guarantee portfolio has increased substantially over the past ten years (Figure 25). The guarantee portfolio totalled EUR 7.9 billion in 2010. By the end of 2021, it had grown to EUR 17.5 billion. Of this, guarantees for corporate loans accounted for EUR 15.6 billion and state guarantees for housing loans taken out by private individuals for EUR 1.9 billion. At the end of June 2022, the guarantee portfolio totalled EUR 17.9 billion. This year's (2022) increase comprised guarantees for corporate loans, which increased to EUR 16.1 billion in total. The amount of guarantees for housing loans taken out by private individuals was EUR 1.84 billion at the end of June 2022. As regards the guarantee portfolio for corporate loans, the guarantee portfolio for the financing of right-of-occupancy corporations totalled EUR 3.8 billion at the end of 2021 and EUR 4.1 billion at the end of June 2022. The proportion of financing for right-of-occupancy housing in the guarantees for corporate loans has increased from 15.5% in 2010 to 25.2% in June 2022.

The phasing out of direct housing financing by the state and substantial increases in guarantee authorisations have boosted the guarantee portfolio for housing lending. Between EUR 1.5 billion and EUR 1.7 billion a year was spent on housing construction guarantee authorisations in 2009 and 2010. In subsequent years in the 2010s, an average use of guarantee authorisations was EUR 1.1 billion each year. Since 2018, the use of authorisations has again risen to the level of EUR 1.5–1.8 billion. The authorisation for 2021 was just under EUR 2.1 billion, of which little under EUR 1.8 billion was used. The authorisation for 2022 is EUR 2.2 billion.

Figure 25. Development in housing financing guarantee portfolio, EUR billion. Source: State Treasury



The guarantees granted for housing financing are deficiency guarantees in which the property or apartment in question serves as the first-demand collateral. In case of insolvency, if the loan receivables cannot be covered by the realisation price of the collateral, the state will pay the financial institution a statutory guarantee compensation. A total of EUR 9 million in guarantee compensation in connection with corporate loans was paid in 2021. An average of around EUR 0.5 million in guarantee compensation for housing loans taken out by private individuals was paid each year in the 2010s. These payments totalled EUR 0.32 million in 2020 and approximately 1.0 million in 2021.

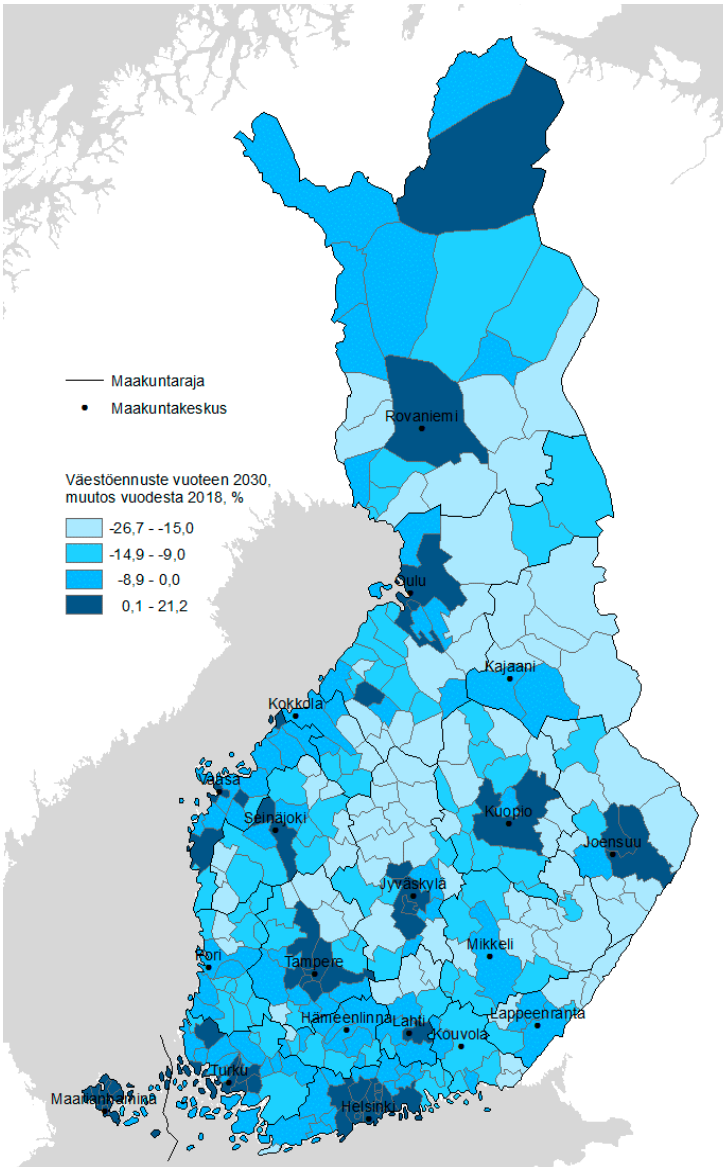
No guarantee fees are charged for most of housing financing. The guarantee fee revenue from guarantees for corporate loans totals EUR 0.3–1.1 million each year, while the figure for guarantees for private individuals is around EUR 3–6 million.

As a rule, the deficiency guarantees for state housing financing involve deliberate risk-taking as in housing construction loans, lending accounts for 85–95% of the construction costs, the loan periods may be as long as 45 years and repayment schedules are often back-loaded. With such terms, market-based financing would only be available with additional collateral.

Areas affected by depopulation where rental housing corporations struggle financially due to declining occupancy rates constitute a growing credit risk in housing financing. In June 2022, direct loans granted to high-risk areas totalled about EUR 0.76 billion, while

the guarantee portfolio for these areas amounted to about EUR 3.1 billion. This accounts for about 20.7% of the total liability portfolio for the financing of rental housing and right-of-occupancy corporations amounting to EUR 18.6 billion. In terms of euros, the liabilities in high-risk areas decreased by approximately EUR 0.14 billion from June 2021 and their relative share of the liability portfolio decreased by 1.5 percentage points. In 2020–2021, the liabilities in high-risk areas increased by EUR 0.7 billion and 3.1 percentage points.

Figure 26. Population change projections for individual municipalities from 2018 to 2030.
Source: Statistics Finland



The concentration of population has been an ongoing trend in Finland for many years, and this has been reflected in the declining occupancy rates and payment problems of rental housing corporations, especially in sparsely populated areas, small rural municipalities and minor industrial towns. The trend seen before the onset of the COVID-19 pandemic was the concentration of population into fewer and fewer centres, which predicts increasing risks for rental housing corporations in areas outside growth centres. The pandemic has increased remote working and interest in areas outside growth centres, too. At this point, it is difficult to estimate how the new ways of working made more widespread by the COVID-19 pandemic will influence people's relocation and developments in the housing market.

Shown in Figure 26, the population projection prepared in 2019 indicates that besides the Helsinki region, population growth will focus on a handful of regional centres. Since population in growth centre areas is partly also clustered around the actual centres, any examination based on municipal boundaries does not give an entirely reliable picture of, for example, development in periphery areas merged with growing regional centres.

The risks of state-subsidised rental and right-of-occupancy housing financing are managed by the Housing Finance and Development Centre of Finland (ARA) and the State Treasury. In recent years, risk management has emphasised the importance of preventive plans and actions at the level of municipalities and corporate entities, to ensure that the operators take into account the impacts of population development in the area when planning the housing stock. Restructuring measures for rental housing corporations laid down in special acts, the key ones of which are modification of loan terms, restriction and demolition remissions of debt and restructuring and demolition grants, can be used to support risk management in social housing financing. The aim of restructuring measures is to minimise central government's credit losses and to ensure the orderly continuation of a rental housing corporation's operations, where this has been assessed to be viable.

In risk management related to social housing financing, it is challenging that the restructuring measures, excluding restructuring grants, specified in legislation are primarily only suitable for direct lending. In financing provided through a guarantee liability, the loan agreement is concluded between a financial institution and a rental housing corporation. This makes it more challenging to undertake central government's risk management actions during the loans' life cycle than in direct financing and central government is unable to participate in the debt arrangements.

For a long time, the credit and collateral risks have, as a rule, concerned direct lending in housing financing, in other words the Arava loan portfolio, and only a small number of compensation claims concerning guarantees for corporate loans have been received. However, the risks associated with these guarantee liabilities are increasing and in the

future, the realisation of credit losses can also be anticipated in the portfolio of state-guaranteed loans. In addition to the occupancy rate gaps in properties, the risk is also increased by the fact that housing loans come with back-loaded payment schedules and the largest repayments take place at a time when the buildings are often in need of renovation. Furthermore, the collateral and market values of properties located outside growth centres have also declined and the trend can be anticipated to persist, which means that in insolvencies, the collateral does not necessarily provide adequate cover for loan repayment.[30]

The operations of the Housing Fund of Finland are also associated with concentration risks. At the end of June 2022, the three largest customers accounted for 27.1% (2021: 26.8%), the 10 largest customers for 46.2% (45.4%) and the 20 largest customers for 55.9% (55%) of the liabilities in the Fund's loan and guarantee portfolio.[31]

A special feature of financing of right-of-occupancy housing is that it involves risks on account of restriction regulations. Permanent restrictions involve collateral challenges that make it more difficult to take out renovation loans and to sell the properties. A government proposal submitted in late 2020 for a new act on right-of-occupancy housing contained a proposal for the opportunity, on certain conditions, to grant relief from usage and assignment restrictions, but the proposed amendments were rejected by Parliament due to a statement by the Constitutional Law Committee.

Most state-subsidised housing financing is interest-subsidised financing, in which the loan relationships are between customers and financial institutions. The state pays interest subsidies for the part exceeding the interest self-financing share laid down in the law. In

30 The declining trend was taken into account in a report completed in 2017 by the AAKE working group on development of housing stock and housing conditions outside growth centres. The report's recommendations have been used as a basis for legislative amendments enabling more effective and proactive support and financing arrangement measures in areas affected by depopulation.
Issues of central government housing financing were also considered in the parliamentary Audit Committee's report on areas of development in housing policy. TrVM 3/2018 vp – Parliament of Finland. Parliament required that an eight-year housing policy development programme be prepared and submitted to Parliament as a Government Report. The working group submitted its proposal for a housing policy development programme to Minister of the Environment and Climate Change in December 2020. On 16 December 2021, the Government submitted a report to Parliament on the development of housing policy. Valtioneuvoston selonteko: Asuntopoliittinen kehittämisohjelma 2021–2028 The file opens in a new tab pdf 469kB

31 The percentage of customer concentrations has been calculated from the combined loan and guarantee portfolio of rental housing and right-of-occupancy corporations. This total amounted to EUR 18.8 billion on 30 June 2022.

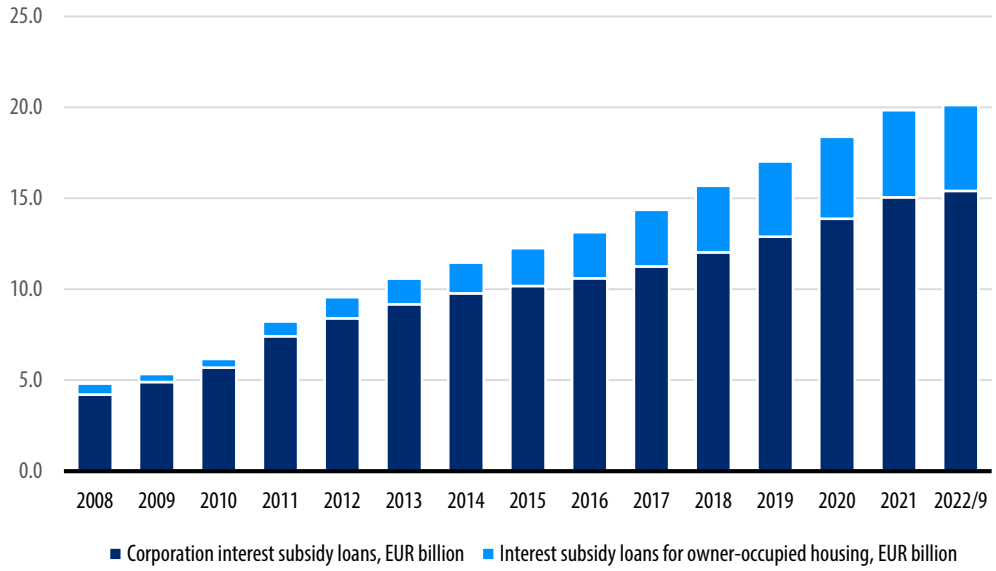
interest subsidy loans, the self-financing share varies between 1.0% and 3.8%. Interest subsidies are paid for periods ranging from 10 to 24 years.

The loan portfolio of interest-subsidised housing financing has grown from EUR 6.2 billion at the end of 2010 to EUR 19.8 billion in 2021 and to EUR 20.1 billion at the end of September 2022 (see Figure 27). Because of the low interest rates that prevailed in recent years, the interest subsidy payments for housing financing were only a couple of million euros each year. However, the substantial growth in interest-subsidised lending contains a potential interest rate risk for central government. Especially the general rise in interest rates and the low self-financing share of the interest rate paid in certain loan categories are increasing central government's interest rate subsidy costs. With an interest rate of 5% on an interest subsidy loan, the annual interest subsidy costs would amount to approximately EUR 285 million.[32]

Until 2021, growth in interest subsidy housing loans was particularly rapid in housing lending for private individuals who are first-time home buyers (ASP loans). The loan portfolio grew from EUR 346 million at the end of 2010 to EUR 4.8 billion at the end of 2021. In 2022, growth took a slight downwards turn and the ASP loan portfolio was approximately EUR 4.7 billion at the end of September 2022. The number of new ASP savings accounts opened has been high for a long time, which indicates that the interest-subsidised ASP loan portfolio will also stay at a high level in the next few years, too. In 2013–2019, the annual number of new accounts opened averaged around 34,500. During the peak year in 2019, the figure was approximately 39,250. In 2020, the number of accounts opened was around 37,750 and in 2021, the corresponding figure was around 35,850. The downtrend accelerated further in 2022, with little under 13,730 accounts opened during the first half of the year, while the corresponding figure in the same period in the previous year was 20,500.

32 Simulation of interest subsidy payments by the State Treasury.

Figure 27. Development in interest subsidy loan portfolio in housing financing, EUR billion.
Source: State Treasury



5.1.3 Student loans

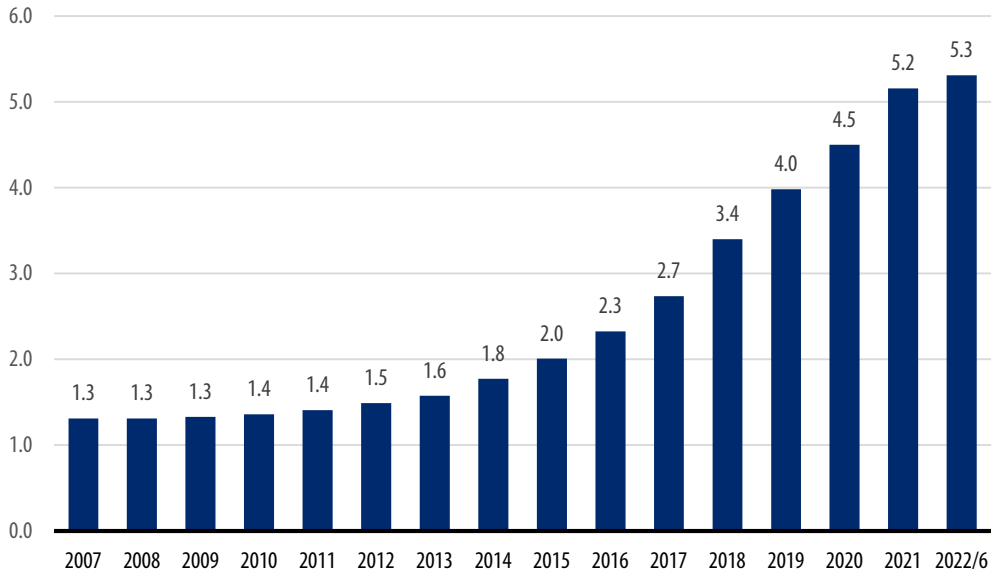
The state-guaranteed student loan portfolio has grown in recent years. This was underpinned by the student financial aid reform of 2017 which, among other things, increased the state guarantee amounts for student loans. Student loans have become increasingly popular as a student loan compensation has been introduced for those who have completed their studies within the pre-determined period of time. The loan portfolio totalled EUR 5.2 billion at the end of 2021, whereas at the beginning of the 2010s, the figure had been EUR 1.4 billion. In 2022, the guarantee portfolio has grown further and totalled EUR 5.3 billion at the end of June 2022.

The strong growth in the student loan portfolio has so far not been seen as any growth in guarantee liability receivables related to student loans subject to recovery procedures. The guarantee receivables amounted to EUR 122 million in 2021, whereas the corresponding figure for 2016, for example, was EUR 131.7 million. The year-on-year increase from last year is, however, EUR 5.4 million. The loan amount remitted to the banks under the state guarantee liability has increased by a few million euros in recent years and amounted to EUR 27.6 million in 2021. The corresponding figure at the end of 2020 was EUR 24.9 million and at the end of 2019 EUR 19.5 million. The annual revenue from recovery procedures has been slightly lower than the annual guarantee liability expenditure. The revenue totalled EUR 15.1 million in 2021 and EUR 14.7 million in 2020. The payment exemptions and

depreciations associated with recovery procedures amounted to approximately EUR 10.4 million in 2021.

The student loan portfolio has no customer-specific risk concentrations. At the end of 2021, a total of 511,932 persons had a student loan and the average loan amount was EUR 10,070. Both the number of persons with a student loan and the average student loan amount have increased from last year, when the figures were 485,258 and EUR 9,425 respectively.

Figure 28. Development in state guarantee portfolio for student loans, EUR billion.
Source: Social Insurance Institution of Finland (Kela), State Treasury



5.1.4 European Financial Stability Facility (EFSF)

The European Financial Stability Facility (EFSF) is a limited liability company founded in Luxembourg in 2010 by the EU Member States that belong to the euro area. Its purpose was to serve as a temporary crisis management mechanism by providing conditional financial assistance to Member States facing financing problems. The funding of EFSF is guaranteed by the euro area countries. The guarantee also covers interest and over-guarantee and no guarantee fees have been charged for it.

The maximum amount of the EFSF funding programme approved in February 2012 remains at EUR 241 billion and it has been used to provide financial assistance to Greece,

Ireland and Portugal. No new loans have been provided by the EFSF since 2013 and no financial assistance has been provided since 2014. Finland's share of guarantees in the funds raised by the EFSF, including interest and over-guarantees, totalled approximately EUR 6.64 billion at the end of 2021[33]. At the end of June 2022, the liability amounted to EUR 6.78 billion.

If a country has been granted financial assistance and is unable to repay the loans provided by the EFSF or make interest payments, Finland will have to make a contribution to the EFSF in accordance with its share of the guarantees. The EFSF's versatile funding strategy also involves operational risks as well as counterparty and market risks which may, to some extent, materialise regardless of the beneficiary's ability to pay.

Finland requested and received collateral to limit the risk associated with the financial assistance provided as part of the second EFSF programme for Greece[34]. The value of the collateral arrangement represents 40% of Finland's imputed share of the loan. The market value of the collateral for this programme concerning Greece totals around EUR 886 million.

5.1.5 Bank of Finland

The state guarantees granted to the Bank of Finland by the Government are part of the financial arrangements of the International Monetary Fund (IMF). The guarantee liabilities connected with the IMF financing comprise the member's quota, the NAB[35] arrangement and a bilateral loan, the total of which was EUR 7.4 billion at the end of 2021. The total amount decreased from the previous year's EUR 9.3 billion. However, that is not a comparable figure as at that time, there were temporarily both old and new agreements in effect and partly overlapping. The comparable figure for 2020, before the arrangements at the turn of the year, was EUR 8.2 billion. At the end of June 2021, the total guarantee amount was EUR 7.2 billion and at the end of June 2022, it was EUR 7.6 billion. Around EUR 640 million of the financing granted by Finland to the IMF was in use at the end of 2020 and the corresponding figure was around EUR 774 million at the end of 2021 and around EUR 786 million at the end of June 2022. No guarantee fees have been charged for the Bank of Finland's state guarantees.

33 For more detailed information on Finland's liabilities arising from the management of the euro area debt crisis, see the Ministry of Finance's Overview of Central Government Risks and Liabilities published in 2018. https://api.hankeikkuna.fi/asiakirjat/facaa610-f760-4db8-8015-915ec89ba918/db4a26ec-aee9-4b1d-acf3-5f32386952b2/JULKAISU_20180615121753.pdf.

34 Finland also received collateral for the programme concerning Spain, but the programme was financed via the European Stability Mechanism (ESM).

35 New Arrangements to Borrow

Central government guarantees associated with the member's quota and the NAB arrangement are issued in the IMF's accounting currency, the Special Drawing Right (SDR). Any compensation to the Bank of Finland on the basis of the central government guarantee would be paid in euros. Consequently, the euro-denominated value of the guarantee depends on the EUR/SDR exchange rate effective at the time.

The IMF financing involves, first and foremost, credit risks associated with the beneficiary countries' solvency. To limit these credit risks, debt sustainability analyses are carried out before any financing is granted, various economic policy conditions are imposed on lending and financing is provided in tranches, with disbursement tied to the implementation of an adjustment programme. The status of the IMF as a preferred creditor also reduces the credit risk associated with the financing granted by the IMF. During its history, the IMF has used crisis financing write-downs mainly in the poorest member countries as part of more extensive debt relief programmes.

5.1.6 Other guarantees

In 2017, Parliament gave the Government authorisation to grant Terrafame Ltd an absolute government guarantee to a maximum amount of EUR 107 million. No counter collateral was required for this guarantee, which served as a counter collateral for environmental guarantees related to waste processing. Within this authorisation, the Government gave a EUR 68 million state guarantee as a counter guarantee for the bank guarantee obtained by Terrafame Ltd. Collateral arrangements made in 2018 and 2019 reduced central government guarantee liabilities and the liability expired in May 2021. Guarantee fees have been paid for the guarantee.

As was noted at the beginning of section 5.1 above, the COVID-19 pandemic has increased central government guarantee liabilities. In April 2020, a guarantee programme of a maximum of EUR 600 million was granted under the second supplementary budget for shipping companies that are critical for security of supply. Under the authorisation in force until the end of 2020, three shipping companies were granted a total of EUR 139.5 million in guarantees under the guarantee programme for shipping companies. The amount of guarantees in effect was EUR 127 million at the end of 2021 and EUR 126 million at the end of June 2022. At the end of September 2022, the amount of shipping company programme guarantees in effect was EUR 90 million. When the problems caused by the COVID-19 pandemic have started to fade, the guarantee liabilities associated with shipping company guarantees have decreased faster than estimated.

Due to the exceptional situation caused by the COVID-19 pandemic, in March 2020, Parliament authorised a guarantee of a maximum of EUR 600 million as collateral for a loan

taken out by Finnair Plc. In May 2020, the Government authorised a central government guarantee of EUR 540 million for the Finnair loan. The amount of guarantee in effect at the end of June 2022 was EUR 540 million. Guarantee fees have been charged for the shipping company guarantees and the Finnair guarantee.

Central government has also taken on new COVID-19-related guarantee liabilities through the crisis management instruments established within the EU. To cover any losses of the European Investment Bank, an EU guarantee fund in response to COVID-19 was created, with Finland's share of the liabilities amounting to EUR 371 million. The guarantee liabilities in effect amounted to EUR 275 million at the end of 2021 and EUR 289 million at the end of June 2022. To mitigate unemployment risks, the EU Member States established the SURE instrument, for which Finland's calculated guarantee liability totals EUR 432 million.

The maximum authorisation for the COVID-19 vaccination guarantee, one of the liabilities related to the COVID-19 crisis, is EUR 300 million. The guarantee amount in effect was EUR 27 million at the end of 2021 and EUR 29 million at the end of June 2022.

In September 2022, the Government approved, authorised by the second supplementary budget for 2022, an EUR 8.7 million back-to-back guarantee given to the European Investment Fund. The guarantee is part of the InvestEU financing arrangement, in which the State of Finland's monetary investment enables the granting of the European Investment Fund's guarantees for lending to finance banks' green transition and energy solutions. The back-to-back central government guarantee (EUR 8.7 million) is a way of preparing for compensating credit losses of the investment loans guaranteed by the European Investment Fund to the extent that they cannot be compensated from the EUR 91.3 million cash sum that Finland has deposited as collateral for the loan programme.

5.2 Capital liabilities

Capital liabilities refer to callable capital remitted to international financial institutions (IFIs) in the event that capital is required to cover their losses or to prevent their insolvency. By far the most significant capital liability is to do with the European Stability Mechanism (ESM). Finland's share of the callable ESM capital is EUR 11.12 billion.

Table 2. Central government capital liabilities, EUR billion. Sources: Financial statements, Ministry of Finance, Ministry for Foreign Affairs

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Asian Development Bank (AsDB)*	0.4	0.38	0.41	0.44	0.44	0.49	0.42	0.42	0.4	0.42
African Development Bank (AfDB)*	0.35	0.33	0.35	0.38	0.38	0.35	0.36	0.36	0.78	0.82
Inter-American Development Bank (IDB)**	0.13	0.14	0.18	0.22	0.25	0.22	0.23	0.23	0.22	0.23
European Bank for Reconstruction and Development (EBRD)	0.3	0.3	0.3	0.18	0.3	0.3	0.3	0.3	0.3	0.3
World Bank Group (WBG)***	0.79	0.87	0.97	1.15	1.29	1.09	1.13	1.2	1.07	1.21
European Investment Bank (EIB)	2.82	2.82	2.82	3.1	3.1	3.1	3.1	3.1	3.1	3.69
Council of Europe Development Bank (CEB)	0.06	0.06	0.06	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Nordic Investment Bank (NIB)	1.01	1.01	1.01	1.09	1.09	1.09	1.09	1.09	1.09	1.48
European Stability Mechanism (ESM)	11.14	11.14	11.14	11.14	11.14	11.14	11.14	11.14	11.14	11.12
Total	17.01	17.06	17.25	17.77	18.05	17.85	17.84	17.91	18.17	19.34

* Capital expressed in SDR (**USD), translated into euros at the closing exchange rate for the year.
*** Includes the International Bank for Reconstruction and Development (IBRD), the International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA).

5.3 Other contingent contractual liabilities

Central government is responsible for the achievement of emissions targets in the Effort Sharing sector not covered by the EU Emissions Trading System (EU ETS). The main Effort Sharing sector emission sources are transport and agriculture, individual heating of buildings, work machinery, waste management and F-gases. According to the checked emissions inventory data for 2020, Finland met its current Effort Sharing sector emission reduction obligation for 2020 (-16% compared to the 2005 level by 2020).

In July 2021, the EU adopted the European Climate Law, which contains a decision to increase the EU emission reduction target set for 2030. Instead of the previous ambition level of 40%, the EU is to reduce its net greenhouse gas emissions by at least 55% by 2030, compared to the 1990 level. On 14 July 2021, the European Commission adopted its Fit for 55 package of legislative proposals. The key aim of the twelve legislative proposals is to deliver the transformational change needed to achieve the higher emission reduction target set for 2030.

The Fit for 55 package contains the Commission's proposal for the EU's new emission reduction target for the Effort Sharing sector and for how each Member State will contribute to this collective target. As a result of the Effort Sharing Regulation trilogue negotiations between the Council of the European Union, the European Parliament and the European Commission, Finland's new Effort Sharing sector emission reduction obligation has preliminary been agreed to be 50% from the 2005 level by 2030, instead of the current target of 39%.

Reaching the new higher ambition level for the Effort Sharing sector emission reduction obligation requires additional Effort Sharing sector measures by Finland. The new national Medium-Term Climate Change Policy Plan for 2030, published in June 2022, outlines additional measures that would, according to the scenario impact assessments conducted to support the plan, be sufficient to reach the new 50% obligation. However, these impact assessments involve various uncertainties related to the operating environment and policy measures. If the development of emissions levels were less favourable than expected in the 2020s, as a result of stronger-than-predicted economic growth, for example, central government would be forced to adopt new actions aiming to cut emissions. In this case, it would also be possible, but only to a limited extent, to use Kyoto flexible mechanisms to transfer ETS allowances or surplus Land Use, Land-Use Change and Forestry (LULUCF) sector allowances to the Effort Sharing sector to meet its obligation.

In addition to the obligation of the Effort Sharing sector, in the 2021–2030 period, central government will be responsible for the achievement of the emission obligation of the LULUCF sector. At the moment, central government is committed to keeping

the calculated greenhouse gas removals of the LULUCF sector at least at the level of its calculated emissions. Should the LULUCF sector turn into a net calculated emissions source by 2030, the calculated emissions of the LULUCF sector may need to be compensated for by additional emission reductions in the Effort Sharing sector. In addition, the EU Member States may also trade with each other in LULUCF units.

In their trilogue negotiations on amending the LULUCF Regulation, conducted in November 2022, the Council of the European Union, the European Parliament and the European Commission reached a preliminary compromise, which will result in a stricter LULUCF obligation for Finland. The new obligation is estimated to be largely in line with the 2035 carbon neutrality target adopted by Finland. Based on the scenario calculations made to support the preparation of the LULUCF sector climate measures, Finland's currently agreed measures would not be sufficient to reach this new net removal obligation; additional measures will be needed. The additional measures required by the target are outlined in the Climate Plan for the Land Use Sector published in August 2022.

On the basis of the emissions inventory flash estimate, published in May 2022, the LULUCF sector changed from a (significant) carbon sink into an emission source in 2021, for the first time ever. This change can be considered a significant risk factor for the achievement of Finland's LULUCF EU obligation and the 2035 carbon neutrality target as due to it, Finland's net emissions took an upturn and exceeded the 2005 level in 2021. In other words, the change underlines the need to quickly implement measures that strengthen the LULUCF sector carbon sink, in order to ensure that the 2030 LULUCF obligation and the 2035 carbon neutrality target remain within Finland's reach and that the missing carbon sink does not need to be replaced by taking more expensive Effort Sharing sector measures or by purchasing LULUCF units from the EU's internal market. The Climate Plan for the Land Use Sector already includes ideas for additional LULUCF sector measures but other additional measures may also be needed. Additional measures and the need for them are to be reviewed once the analysis of the factors underlying the LULUCF sector's change from a carbon sink into an emission source is completed during autumn 2022.

Another contingent contractual liability that is legally binding on central government concerns nuclear operations as set out in the Nuclear Liability Act (484/1972). Nuclear liability refers to the liability of the operator of a nuclear installation for damage to a third party by radiation resulting from a nuclear incident. The liability of an operator of a nuclear installation situated in Finland in respect of nuclear damage caused and suffered in Finland is unlimited. The Nuclear Liability Act is based on international conventions amended by protocols in 2004. The protocols and the resulting amendments to the Nuclear Liability Act entered into force at the beginning of 2022. The relevant government proposal for amending the Nuclear Liability Act was submitted to Parliament in September 2021. The legislative amendments increased the liability of operators of

nuclear installations used in energy production for damage caused and suffered outside Finland from EUR 700 million to EUR 1.2 billion.

The maximum liability amount for transport liabilities and the liability of installations used for purposes other than energy production was set at EUR 80–250 million. In addition, in line with the government proposal, provisions were laid down concerning a special insurance guarantee which the Government could, if the conditions laid down in the provisions are met, grant to cover such personal injury that presents later than 10 years but no later than 30 years from a nuclear incident.

Under the Nuclear Liability Act, the State of Finland has secondary liability for nuclear damage if those incurring loss or damage cannot be compensated under the nuclear installation operator's insurance. Increasing the liability amounts of operators of nuclear installations used for energy production will reduce central government's share of liability as the operator's liability increases.

As part of the new Own Resources Decision, the European Union made a decision on a so-called recovery instrument and its financing. Loans taken out due to the recovery instrument would increase the European Union's liabilities by EUR 750 billion (at 2018 prices). Finland's calculated share of this is estimated to be around EUR 13 billion. To be realised after 2027, Finland's payments relate to the recovery instrument's support in the form of grants, of which Finland's share is estimated to total EUR 6.6 billion.

5.4 Implicit liabilities of the banking sector

Prudential and crisis resolution legislation imposes minimum obligations for banks. By fulfilling these obligations, banks are expected to either be able to continue their operations also through difficult circumstances in their operating environment or, if this is not possible for an individual credit institution, the continuation of society's critical functions could be ensured by employing an orderly crisis resolution procedure. Deposit guarantee legislation in turn safeguards enterprise and household access to deposits up to a specific limit in case of bank insolvency issues[36].

36 For more information on banks' crisis resolution procedure and deposit guarantee scheme, see the Overviews of Central Government Risks and Liabilities published in 2019 and 2021. More information about the Financial Stability Authority's authorisations and crisis resolution instruments can be found in the Overview of Central Government Risks and Liabilities published in 2021. A more detailed description is given on the Financial Stability Authority's website at https://rvv.fi/en/frontpage.

Central government has no statutory obligation to guarantee the continuity of banks' operations or their liabilities held by their creditors. The history of banking crises both in Finland and Europe has shown, however, that the direct and indirect societal costs of severe banking crises are, or they are considered to be, so high that the public sector has been forced to take support measures to ensure the continuity of financial services essential to society.[37] This has applied in particular to situations where multiple banks have experienced difficulties at the same time and the functioning of the entire financial system has been in jeopardy. Situations like this can be referred to as the realisation of implicit liabilities in the banking sector.

5.4.1 Situation of the banking sector in Finland[38]

Finnish banks fared well through the COVID-19-ridden year 2020. The feared wave of enterprise bankruptcies did not materialise and non-performing loans remained at a moderate level as the economic downturn was less severe than anticipated. In European comparison, the loan portfolio quality of Finnish banks is better than average and the share of non-performing loans in Finland in June 2022 clearly under the European average level. Impairment provisions made during the COVID-19 pandemic could be used also last year and this year (2022).

The banks' own assets exceed the requirements by approximately EUR 16 billion. This is 6.6% of risk-weighted receivables. Consequently, the capital adequacy is on average very strong, although it varies from bank to bank. The liquidity position is also on average good. The so-called LCR figure calculated for banks, comparing liquid assets to debt falling due soon (net cash flows), was 158% in June. This ratio should exceed 100% so there is an ample margin.

During the first half of 2022, the operating profit of the banks decreased slightly as a result of financial market instability but the combined operating profit still amounted to EUR 2.6 billion (EUR 3.3 billion in 2021). Net interest income is still the most important revenue item and, with the rise in interest rates, it has increased slightly. On the other hand, increasing interest rates dampen the demand for loans and if interest rates rise steeply, it may result in higher credit losses.

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37 The literature contains plenty of research on the costs incurred by general government finances from financial crises, including https://www.ecb.europa.eu/pub/economic-bulletin/focus/2018/html/ecb.ebbox201806_04.en.html.

38 The primary sources for this section are the Financial Supervisory Authority's publications: https://www.finanssivalvonta.fi/markkinoiden-vakaus/valvottavien-taloudellinen-tila-ja-riskit/ (in Finnish).

5.4.2 Outlook and risks

On average, Finnish banks have good capital adequacy, profitability and liquidity. The key risks and uncertainties are associated with the global and domestic macroeconomic environment and sudden and drastic risk pricing changes in financial markets.

According to the basic view of forecasting institutions, in 2023–2024, the Finnish economy first drifts into a mild recession and then returns to a path of fairly slow growth. The view is based on assumptions of increasing stability in the energy markets and slower inflation, in which case the ECB could end its cycle of tightening monetary policy. Interest rates could start to decrease, lighter financing conditions would support economic recovery and consumer and enterprise confidence in future would become stronger.

Obvious risks cast a shadow over the outlook. First of all, it is currently impossible to predict when Russia's war of aggression ends or how it will develop. As a result, uncertainty in the energy markets is likely to continue. The slowing down of global economic growth and a recession in Europe seem likely but there is a risk that inflation remains more permanently at a level that does not make lighter monetary policy possible. This would be a kind of stagflation, which would be very undesirable for the financial sector. Higher loan interest rates, lower household purchasing power and an impaired employment rate would dampen the demand for loans and impair the profitability of banks, together with impairment losses. Higher household indebtedness is a definite risk factor in this outlook.

The outbreak of the COVID-19 pandemic in February 2020 and Russia's large-scale attack to Ukraine two years later are examples of sudden surprises, which the majority of market operators were not prepared for and which consequently led to steep price changes on the markets. In the basic outlook, such surprises do not exist and investment price development follows real economy more or less steadily. This is obviously not very likely but on the other hand, surprises are, by definition, impossible to predict. In an environment of a very unstable geopolitical situation, higher debt levels and declining macroeconomic development, the crisis sensitivity of the financial system has increased. Surprises may also arise from outside the financial sector.

5.5 Local government

Under section 121 of the Constitution of Finland (731/1999), Finnish municipalities have extensive self-government. Central government is not responsible for the municipalities' financial liabilities. Local government finances are, however, part of general government finances and therefore also closely connected with central government finances. Any problems in local government finances would also impact central government finances in one way or another.

The total combined annual contribution margin of municipalities has generally been positive but, apart from the past few exceptional years, insufficient to cover depreciation and net investments. This has resulted in an increase in municipal indebtedness. The annual contribution for 2020 was exceptionally high and enough to clearly cover depreciation and net investments. The annual contribution for 2021 was also high, enough to clearly cover depreciation and remaining only a little below net investments. As a result, municipal indebtedness increased only by EUR 90 million from 2020.

However, at the same time, municipalities have been forced to increase their local tax rates. The weighted average local tax rate for all Finnish municipalities has risen from 18.12% in 2004 to 20.02% in 2022.

5.5.1 Municipal loan portfolio

According to their final accounts for 2021, the municipalities' loan portfolio grew by only EUR 90 million during the year, amounting to EUR 19.12 billion at the end of 2021 (Figure 29). However, municipal loan growth has been strong over the past couple of decades, as is the case for central government, too. In 2000, the municipal loan portfolio totalled EUR 3.85 billion.

At the end of 2021, the total loan portfolio of municipalities and joint municipal authorities stood at EUR 23.4 billion. The total local authority corporation[39] loan portfolio amounted to EUR 42.4 billion over the corresponding period.

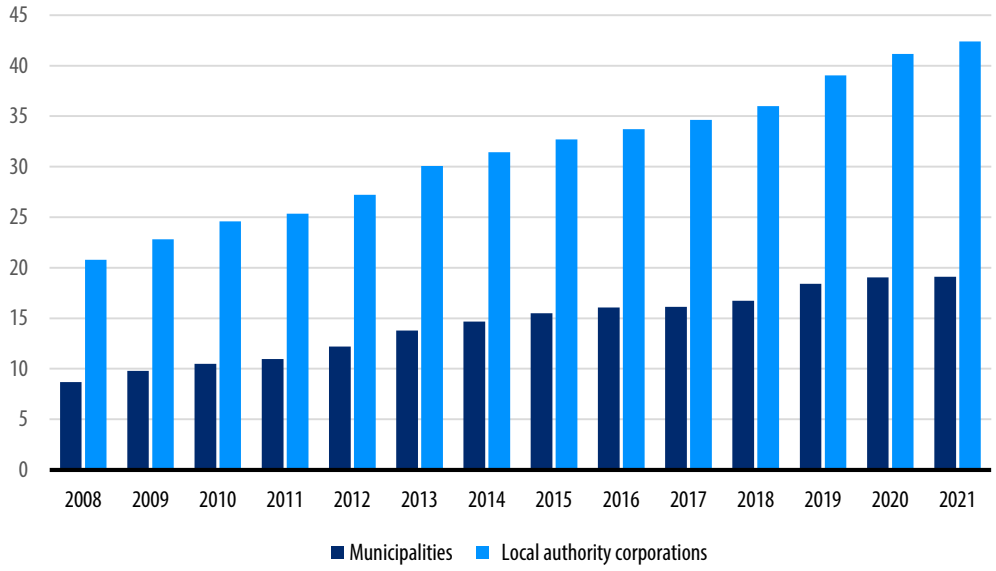
Around 45–55% of the municipalities' loans are provided by Municipality Finance Plc. Currently, approximately 65% of new municipal-sector loans and 80% of financing for central government-subsidised social housing construction come from this company. Municipality Finance is a credit institution owned by the municipalities, municipal entities, the local government pension institution Keva and the State of Finland (16%). Other funding providers include commercial banks and the European Investment Bank.

The Municipal Guarantee Board guarantees Municipality Finance's funding. Under the Act on the Municipal Guarantee Board, the member municipalities are jointly and in proportion to their population figures responsible for the funding of such Board expenses

39 Under chapter 1, section 5, subsection 1 and chapter 1, section 6 of the Accounting Act, the group (corporation) relationship between a municipality and another entity is based on control. A group relationship may be formed on the basis of the majority of voting rights or some other type of actual control.

and commitments which cannot be otherwise covered by the Board. The member municipalities of the Board comprise all of the municipalities of mainland Finland.

Figure 29. Development in municipal and local authority corporation loan portfolio, EUR billion. Source: Statistics Finland, State Treasury



The guarantees provided by the Municipal Guarantee Board have grown on a par with the operations of Municipality Finance. The amount of funding guaranteed by the Board has nearly tripled in just over ten years: it was EUR 17.5 billion in 2011 and EUR 40.7 billion in 2021.

The mission of the joint funding system of Municipality Finance and the Municipal Guarantee Board is to ensure access to financing in all market conditions. The clean credit history of Finnish municipalities and legislation that addresses the financial problems of individual municipalities have supported the credit standing of the Finnish municipal sector in the financial market.

Consequently, there are no major differences between municipalities in the pricing of the loans taken out through the joint municipal funding system. This may involve risks as financially weaker municipalities can also borrow money on reasonable terms and loans may then be used also to maintain liquidity rather than to make financially sound investments.

The risks are managed using an assessment procedure based on the final accounts of municipalities, which allows the Ministry of Finance to monitor the finances of individual municipalities and, if necessary, provide them with guidance. Very weak finances and lack of restructuring potential may result in a municipality being merged with another municipality with a more sustainable financial position.

However, the inability of a municipality to repay its loans is very unlikely and would be the result of highly exceptional circumstances. If a municipality were in such financial hardship that loan repayment is impossible, the lender would incur a credit loss both within the joint municipal funding system or within the scope of operations of private credit institutions.

On the whole, it is unlikely that the municipal loan portfolio would currently constitute a material risk factor for local government finances or, indirectly, for central government. However, it is the rate of growth in indebtedness that is a cause for concern. The increase in loans is being translated into a decline in the municipal equity ratio and a weakening of the indicator measuring relative indebtedness.

The ability of the municipalities to borrow money regardless of their capacity to manage their finances may pose an additional risk to local government finances. Easy access to loans may lead to unnecessary investments and falsely optimistic estimates of the annual costs of investments.

The Finnish health and social services reform will result in changes to the loan and asset amounts of the local government sector. The most significant entity will be the transfer of real estate assets relating to healthcare and medical care as well as related loan liabilities to the wellbeing services counties. Their amount is anticipated to be around EUR 5.1 billion at the beginning of 2023. The loan portfolio transferred from hospital districts operating as joint municipal authorities will account for most of this amount.

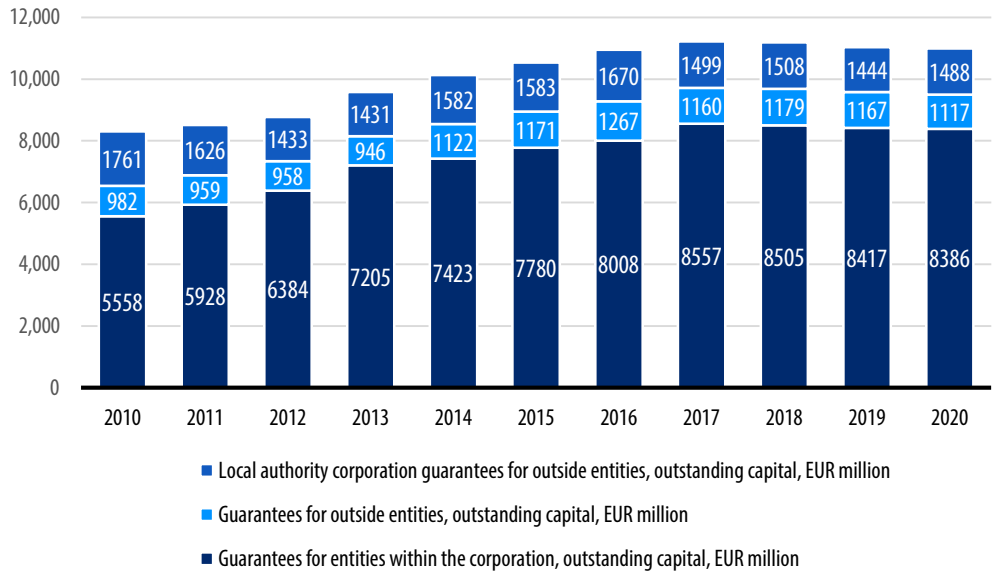
5.5.2 Municipal guarantees[40]

Final accounts for 2020 show that municipal guarantees totalled EUR 8.4 billion, of which around EUR 1.1 billion was for entities outside the same local authority corporation (Figure 30).[41] Changes in municipal guarantees in recent years have been minor.

The amount of guarantees provided by joint municipal authorities was significantly lower. In 2020, their guarantees for entities in the same local authority corporation totalled EUR 643 million and for others more than EUR 17 million.

An examination of municipalities' guarantee practices reveals that small municipalities, in particular, have given significant guarantees in relation to their fiscal capacity. Realisation of the guarantee liabilities could jeopardise the municipality's functions. In some municipalities, the guarantee liabilities equate as much as a full year's operating expenses in health and social services. If a guarantee liability is realised, municipalities typically cover the losses by taking out a loan.

Figure 30. Development in municipal guarantee portfolio, EUR billion. Source: Statistics Finland



40 Includes information from 2020. At the time of writing this overview, the guarantee information for 2021 were not yet available.

41 The analysis above does not include the municipalities' liabilities arising from the guarantees issued by the Municipal Guarantee Board.

5.5.3 Municipal Public-Private Partnership (PPP) projects

In recent years, municipalities have made use of the Public-Private Partnership (PPP) model as an alternative procurement model for investments. In addition to loans, such projects have also often been financed through real estate leasing. The estimated value of PPP projects carried out under contracts concluded by municipalities and joint municipal authorities in 1997–2019 is almost EUR 1.7 billion. It is estimated that the use of the PPP model has become clearly more common in the past ten years.

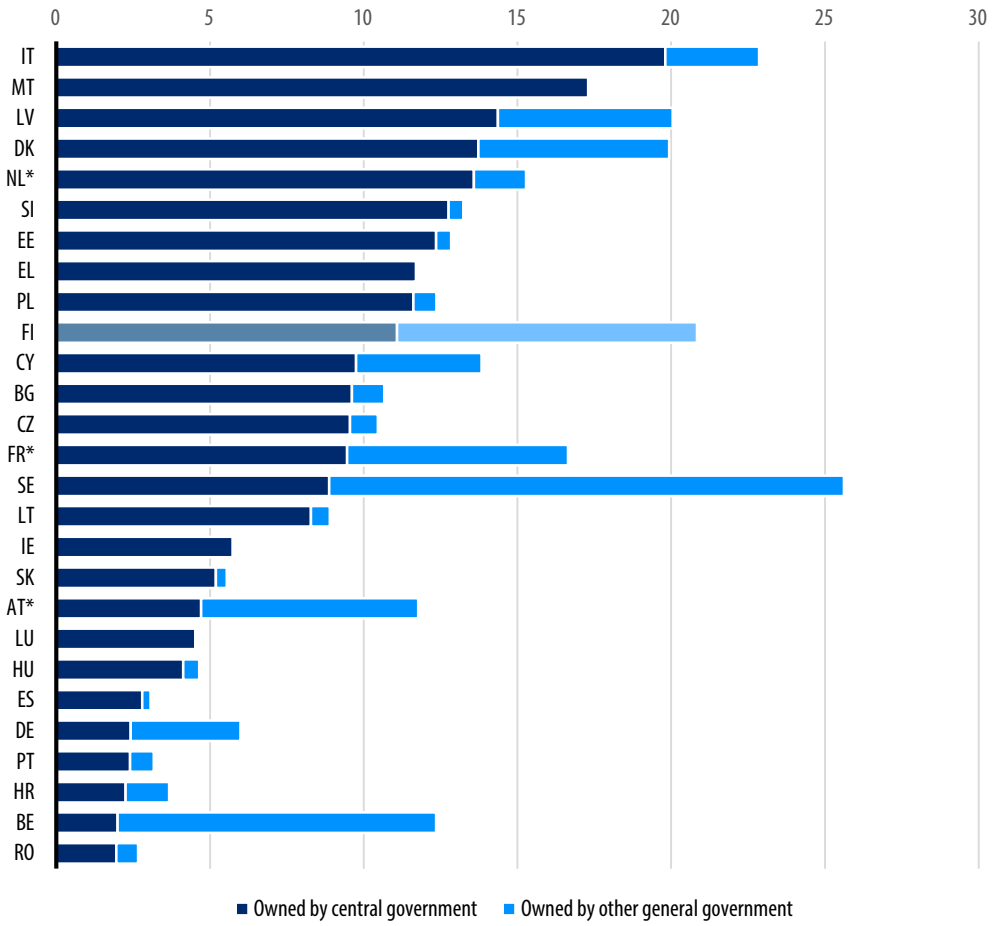
5.6 Implicit liabilities of state-owned companies

State-owned companies are part of central government financial assets (see chapter 3). However, they may also create financial liabilities for central government. Central government may need to provide loss-making companies or companies facing difficulties with capital injections or other financial support measures. Holdings in companies may also lead to the realisation of other types of liabilities, such as environmental damage. Both the COVID-19 pandemic (Finnair) and energy market instability resulting from Russia's attack to Ukraine (Fortum) have provided examples of risks arising for central government from company ownership.

The State of Finland owns 68 companies directly.[42] According to enterprise statistics of Statistics Finland, the state had a direct or indirect controlling interest in 226 companies in 2020. Information about the debt of Finland's publicly-owned companies in relation to GDP can be found in Figure 31. When the debts between state-owned public companies are consolidated, the debt-to-GDP ratio in 2020 was to approximately 13.6%, or EUR 32 billion. Of this total, around EUR 13.6 billion is debt owed by state-owned financial institutions and around EUR 18.6 billion owed by companies operating in other sectors. Loss-making companies had debt amounting to around EUR 13.3 billion.

42 Government Annual Report 2021

Figure 31. Debt of publicly-owned companies relative to GDP in 2020 (*information from 2019).
Source: Eurostat, non-consolidated debt



5.7 Liabilities associated with environmental damage

The purpose of secondary environmental liability systems is to prepare for compensating costs arising from environmental damage, the prevention and management of related risks, for implementing environmental restoration measures and for paying compensation for environmental damage to those incurring loss or damage in situations where the party causing the damage is insolvent or unknown or cannot be reached. In Finland, these systems comprise the compulsory insurance based on the Environmental Damage Insurance Act (81/1998) and the Oil Pollution Compensation Fund. In addition, central government budget financing is a last-recourse source of financing. The systems also include a support system in accordance with a Budget appropriation for old contaminated areas to identify their degree of contamination and to decontaminate them. In addition,

municipalities provide financing for the restoration of old contaminated soil and groundwater sites.

Since 2013, central government budget financing has been provided for the management of serious environmental risks and the prevention of dangerous situations relating to environmental contamination in eight different cases. All of the cases are related to financial difficulties of enterprises and the enterprises have typically gone bankrupt. In 2013–2021, financing granted from the Budget totalled approximately EUR 153 million. Of this, the amount granted due to environmental damage caused by the Talvivaara mine is clearly the most significant at around EUR 127 million.

This has shown that the existing secondary environmental liability systems and collateral for environmental damage do not cover all situations and are less than optimal. The new Environmental Damage Fund is to start operating on 1 January 2025. Its aim is to create more comprehensive secondary liability systems for environmental damage so that operators' environmental obligations are met as extensively as possible without central government intervention.

6 Stress scenario

- Finland's capacity to withstand a negative macroeconomic shock has declined. Recent years' crises and their repercussions have contributed to the increase in general government deficits and the sharp growth of general government indebtedness.

- In a situation examined by the stress test where the geopolitical situation remains tense and its repercussions drive the economy into a recession, Finland's general government finances decline significantly. In the scenario, deficit in relation to GDP in 2025 is 2.5 percentage points above the baseline. The debt-to-GDP ratio rises to 84% towards the end of the examination period in 2025.

In this overview, the impacts of a sudden downturn on general government finances are simulated with a stress test. The test uses a scenario to examine the impacts of an economic downturn and the realisation of contingent liabilities on the key figures of general government finances. The trend identified by the stress scenario is not a forecast. The purpose of the scenario is to illustrate the potential impacts of a serious economic and financial market shock on general government finances.

The stress test is based on a scenario which has been created with the so-called KOOMA model[43] of the Ministry of Finance and in which a more drastic rise of energy prices impairs international demand and household confidence, causing a deep recession in 2023–2025.[44] The baseline is the Ministry of Finance's real economy and general government finances forecast of autumn 2022.

43 The KOOMA model is a New Keynesian general equilibrium model developed in the Ministry of Finance's Economics Department.

44 The scenario follows the more serious development scenario of the ECB's summer 2022 forecast, adjusted according to Finland's situation with the aid of the KOOMA model.

6.1 Stress test description and assumptions

In the stress test, the geopolitical situation remains tense and energy prices continue to rise in early 2023, which accelerates the increase in other prices, too. Consumer confidence weakens and private consumption decreases. Uncertainty and higher interest rates reduce private investments. Foreign demand declines and reduces exports. Price increases also result in significant increases in wages and salaries. The operating surplus of companies declines dramatically. The unemployment rate rises. The recession starts to pass during 2025 but the economy still remains clearly below the baseline. The recovery from the crisis takes place only in 2026, outside the scenario period. With regard to financial markets, the assumption is that share prices decline and are 20% below the baseline in 2025. On the other hand, rising interest rates increase interest and fund revenue in earnings-related pension funds.

In the scenario, the economy declines in 2023–2024 and returns to a low-growth track in 2025 (Figure 32). Cumulatively, the economy declines by 5.4% in 2025 when compared to the baseline. When compared to the COVID-19 pandemic, for example, the recession lasts longer. Relative to the baseline, the cumulative increase of consumer prices is 5.1% faster and the increase of wage and salary earnings is more than 6% faster. The unemployment rate rises to 9.4%, or three percentage points above the baseline. The scenario does not assume new discretionary measures with which central government could mitigate the effects of the recession. Table 3 contains information about the development of the key financial variables in the baseline and the scenario.

Figure 32. GDP growth, baseline and stress scenario. Source: Ministry of Finance

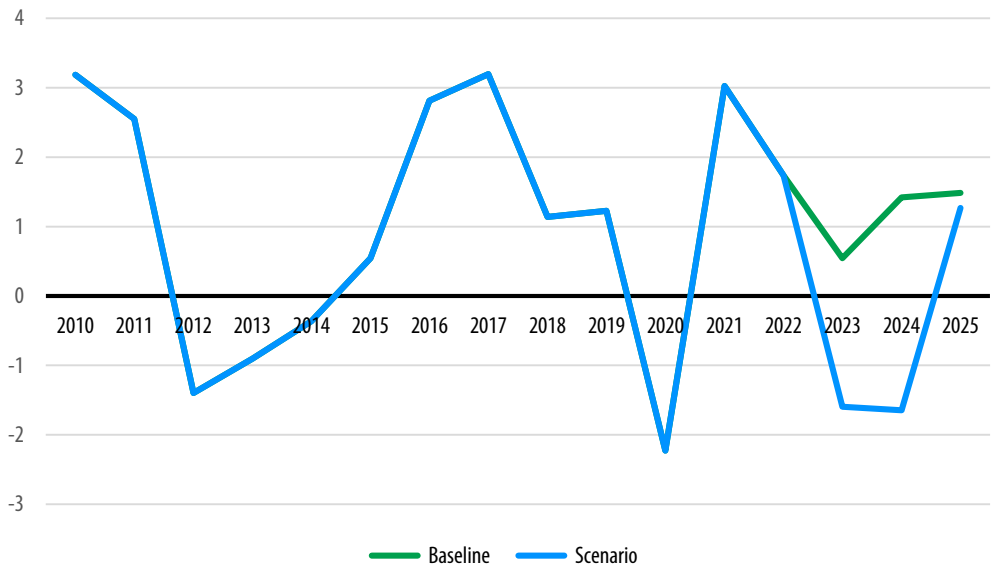


Table 3. Baseline and risk scenario variables. Source: Ministry of Finance

	Baseline			Scenario			Difference		
	2023	2024	2025	2023	2024	2025	2023	2024	2025
GDP, volume, change, %	0.5	1.4	1.5	-1.6	-1.6	1.3	-2.1	-3.1	-0.2
GDP, price, change, %	3.0	2.1	2.1	4.7	4.5	2.9	1.6	2.4	0.7
Private consumption, volume, change, %	0.8	1.4	1.6	-1.6	-2.3	0.3	-2.4	-3.7	-1.3
Private consumption, price, change, %	3.2	1.8	1.9	5.3	4.7	2.1	2.0	2.9	0.2
Consumer price index, change, %	3.2	1.8	1.9	5.3	4.7	2.1	2.1	2.9	0.2
Index of wage and salary earnings, change, %	3.5	3.0	3.0	4.5	7.6	3.9	1.0	4.6	0.9
Sum of wages and salaries, change, %	3.3	3.3	3.4	4.0	6.3	2.9	0.7	3.0	-0.5
Operating surplus, change, %	4.7	4.7	4.1	-1.2	-10.4	10.7	-5.9	-15.0	6.6
Unemployment rate, %	6.7	6.5	6.4	7.0	8.3	9.4	0.3	1.8	3.0
Bond interest rate (10 years), %	1.8	2.0	2.3	3.4	4.7	5.7	1.6	2.7	3.4
Share prices, annual change, %							-9.7	-5.3	-4.9

6.2 Impacts on general government finances indicated by the scenario

The reactions of general government finances to the economic development described in the scenario is estimated with the aid of a scenario model for general government finances[45]. This scenario does not assume any discretionary fiscal policy measures; instead,

45 The scenario model for general government finances is a general government finances forecast model developed in the Ministry of Finance's Economics Department.

revenue and expenses change according to macroeconomic changes and automatic stabilisers are allowed to function unhindered.

Table 4 provides a summary how the key indicators describing general government finances develop in the baseline and the scenario. Economic development according to the stress scenario would weaken general government budgetary position drastically. According to the scenario, general government budgetary position would weaken especially in 2024 and 2025. Deficit in relation to GDP would be approximately 2 percentage points worse than the baseline in 2024 and already around 2.5 percentage points worse than the baseline in 2025. Deficit would increase especially in central government where expenses would increase considerably more than revenue. The budgetary position of local government (municipalities and wellbeing services counties) also weakens in the scenario. On the contrary, the budgetary position of earnings-related pension providers improves with higher interest and fund revenue (national accounts deficit does not take into account the impact of asset value changes on the budgetary position).

In the scenario, general government deficit is financed with debt, resulting in an increase in general government debt. The general government debt-to-GDP ratio would be a little less than three percentage points above the baseline in 2023 and more than six percentage points above the baseline in 2024. Towards the end of the examination period, in 2025, general government debt would rise to approximately 84% in relation to GDP.

Table 4. General government indicators in relation to GDP, baseline and scenario. Source: Ministry of Finance

	Baseline			Scenario			Difference		
	2023	2024	2025	2023	2024	2025	2023	2024	2025
General government (consolidated) revenue, relative to GDP, %	52.5	51.8	51.7	53.4	53.6	53.5	0.9	1.7	1.8
General government (consolidated) expenditure, relative to GDP, %	54.7	54.1	54.1	55.7	57.8	58.5	1.1	3.8	4.3
General government budgetary position, relative to GDP, %	-2.2	-2.2	-2.4	-2.3	-4.3	-5.0	-0.1	-2.0	-2.5
General government debt, relative to GDP, %	71.2	72.7	74.1	73.9	79.0	83.5	2.7	6.2	9.4

The decrease in economic growth reduces central government tax revenue. The decline of household income decreases the income tax collected by central government and the lower profitability (operating surplus) of companies reduces corporation tax revenue. The rapid rise of prices and wage and salary earnings, in turn, increases general government expenditure. Social benefits paid out by social security funds and general government consumption expenditure (mostly employee compensation and intermediate consumption) react to rising prices and wage and salary earnings. On the other hand, the increase in wage and salary earnings and prices also increases income tax and VAT revenue. In addition, the rising number of the unemployed increases benefit expenses, as do index adjustments. Earnings-related pension funds have a significant amount of assets, nearly 100% of GDP (at the end of 2021). Consequently, rising interest rates have a major impact on the revenue accrued by earnings-related pension funds. The change in interest rates also influences the costs of general government debt.

Total general government expenditure increases (compared to the baseline) by approximately EUR 2 billion in 2023, little under EUR 9 billion in 2024 and nearly EUR 12 billion in 2025. The most significant expense growth takes place in social benefits. Towards the end of the examination period, in 2025, social benefits paid increase by nearly EUR 5 billion compared to the baseline. Interest expenditure is estimated to increase by EUR 1.7 billion and consumption expenditure, or wages, salaries and goods purchases, increase by little under EUR 4 billion in 2025 when compared with the baseline.

In the scenario, general government revenue increase by EUR 1.8 billion in 2023, EUR 3 billion in 2024 and EUR 4 billion in 2025, compared to the baseline. Revenue increases mainly as a result of the increase in property income and social security contributions received. Direct taxes received decrease by EUR 1.8 billion in 2025. Direct taxes decrease mainly due to the collapse of corporation tax revenue. Taxes on production and imports remain almost unchanged.

6.3 Contingent liabilities in the stress scenario

Central government has a significant amount of guarantees and other contingent liabilities. The COVID-19 pandemic and the drastic price changes in the energy markets have also brought about new liabilities. The role of contingent liabilities is examined in the stress test by focusing on Finnvera and the Housing Fund of Finland, as was done in the previous years' scenarios, too. Liabilities related to these account for the largest share of central government contingent liabilities. In the stress scenario, the Housing Fund's interest subsidy loans are treated according to the new statistics compilation method adopted this year, in which they are included in general government debt as determined in national accounts.

The scenario assumes that the recession would cause problems in a sector for which Finnvera has granted guarantees, pushing two or three of the largest guarantee customers into insolvency. The purpose of the assumption is to illustrate the concentration risk associated with export financing exposures; it has nothing to do with the solvency of the largest customers.

According to the scenario, the collateral provided covers around half of the largest guarantee customers' guarantee receivables but, even then, the total losses would amount to EUR 1.4 billion. The losses would wipe out both of the export financing risk buffers. If the State Guarantee Fund were depleted, this would increase general government deficit, erode the cash assets and push up borrowing needs, as the State Guarantee Fund is connected via the liaison account with the overall cash assets of central government.

In the scenario, the Fund and Finnvera are provided with capital injections totalling EUR 1.4 billion in 2023.

As regards the Housing Fund of Finland, the scenario assumes that a fall in housing prices pushes a large individual customer with an exposure of EUR 1.4 billion into insolvency. The realisation of property collateral covers 50% of the liabilities, which means that credit losses total EUR 700 million. However, the realisation of the large housing stock may take time so the entire EUR 1.4 billion guarantee liability transfers to the Housing Fund of Finland and increases general government deficit by the same amount. The Housing Fund has cash assets totalling approximately EUR 3.0 billion; no budget financing is therefore required to cover the guarantee liabilities nor is there any need for a capital injection. Although the realisation of the guarantee liabilities does not have direct budgetary implications, it results in a reduction in central government cash assets, as the cash reserves of the Housing Fund are also connected via the liaison account with the overall cash assets of central government, forcing central government to borrow EUR 700 million to keep cash assets at a sufficient level.

In total, contingent liabilities would cause losses of EUR 2.1 billion at the 2025 level after the realisation of the collateral. Realisation of the contingent liabilities does not directly increase general government debt as the dissolution of the reserves does not have any debt impacts and the cash flow required for the capital injection to Finnvera can be covered by the realisation of the Housing Fund's property collateral. However, keeping central government cash assets at the baseline level requires additional borrowing totalling EUR 2.1 billion. Nevertheless, the debt-to-GDP ratio in the general government debt statistics does not increase through the Housing Fund of Finland as the insolvency of the large individual customer result in an equal reduction in related guarantees, which are included in general government debt, in line with the new statistics compilation method.

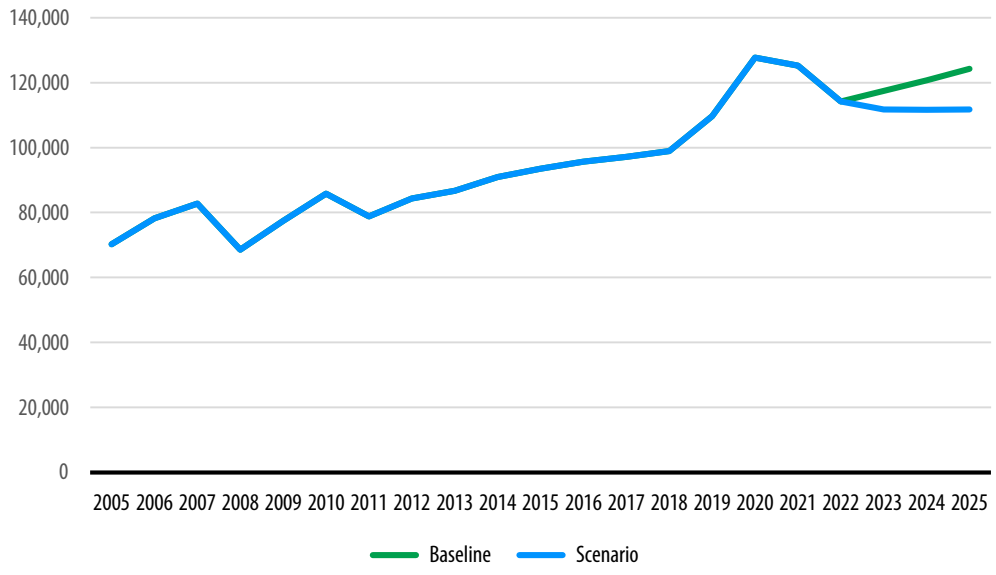
6.4 Impacts on central government financial assets indicated by the scenario

In an economic crisis, the development of central government assets also plays a role. Financial market uncertainty and price movements affect the value of central government holdings. In the second quarter of 2022, central government had financial assets totalling

EUR 114.2 billion, of which EUR 21.6 billion was held by the State Pension Fund of Finland[46] and the remainder by other central government units.

In the baseline, the ratio of central government share assets to GDP is assumed to remain unchanged. In the scenario, in 2023, central government financial assets decrease due to a collapse in share assets by EUR 6 billion, or around 7% relative to the baseline. In the scenario, stock markets do not recover and central government financial assets remain approximately EUR 12.5 billion, or approximately 10%, below the baseline. The shock is not assumed to affect other central government receivables.

Figure 33. Development in central government financial assets in the stress scenario, EUR million.



6.5 Development of general government finances in the scenario

In early 2020s, Finland and the global economy have faced already two significant shocks: the COVID-19 pandemic and the energy crisis resulting from the war of aggression initiated by Russia. The war started just when the economic impacts of the pandemic

46 In the sectoral classification of the national accounts, the State Pension Fund belongs to earnings-related pension providers, not central government. In this examination, the Fund's assets are regarded as central government assets.

were waning and the Finnish economy was on a strong recovery track. In 2021, the state of Finland's general government finances was already improving and it is also expected to improve further still this year before a new downturn. In the scenario, the deepening and prolongation of the crisis stop this development and as a result, deficit and the debt-to-GDP ratio take another upturn.

Compared with the baseline, general government budgetary position weakens by around 2.5 percentage points relative to GDP towards the end of the examination period (Figure 34). The general government debt-to-GDP ratio rises to almost 84%, which is approximately 8.5 percentage points above the baseline (Figure 35). For the most part, the weakening influences central government deficit. The annual financing balance of earnings-related pension funds improves although their value decreases.

Table 5 shows the decomposition of factors influencing the general government debt-to-GDP ratio. The debt-to-GDP ratio is increased especially by the increase of the primary balance and the somewhat higher interest expenditure.

The realisation of guarantee liabilities deteriorates the situation further by worsening deficit and increasing the debt-to-GDP ratio. The buffers are already lower with regard to export credit guarantees, due to earlier loss provisions.

Central government net debt was negative before the 2008 financial crisis, which means financial assets exceeded debt (Figure 36). Since the crisis, the net debt-to-GDP ratio has risen to around 15–20%. In the scenario, central government net debt grows to around 35%.

Table 5. Decomposition of the debt-to-GDP ratio change

	Baseline			Scenario			Difference		
	2023	2024	2025	2023	2024	2025	2023	2024	2025
Debt-to-GDP ratio	72.7	74.1	75.2	73.9	79.0	83.5	1.2	4.8	8.4
Debt-to-GDP ratio change	1.5	1.4	1.0	2.7	5.0	4.6	1.2	3.6	3.5
• Primary balance of central government, local government and other social security funds	2.7	2.7	3.0	3.4	5.4	6.5	0.7	2.8	3.5
• Interest expenditure	0.7	0.8	0.9	0.9	1.2	1.5	0.1	0.4	0.6
• Other reasons	0.5	0.4	-0.2	0.5	0.4	-0.2	-0.0	-0.0	-0.0
GDP value change and residual	-2.5	-2.5	-2.6	-2.1	-2.0	-3.2	0.4	0.5	-0.5
Employees Pensions Act surplus (no influence on borrowing)	1.3	1.3	1.4	1.9	2.4	3.0	0.7	1.1	1.6

Figure 34. Impacts of shock on general government budgetary position, % of GDP

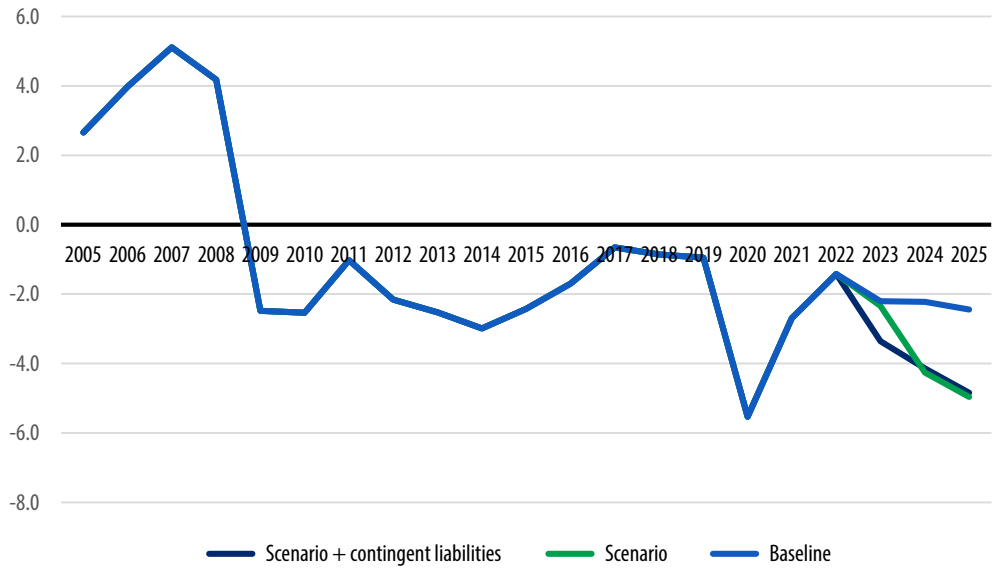


Figure 35. Impacts of shock on general government debt, % of GDP

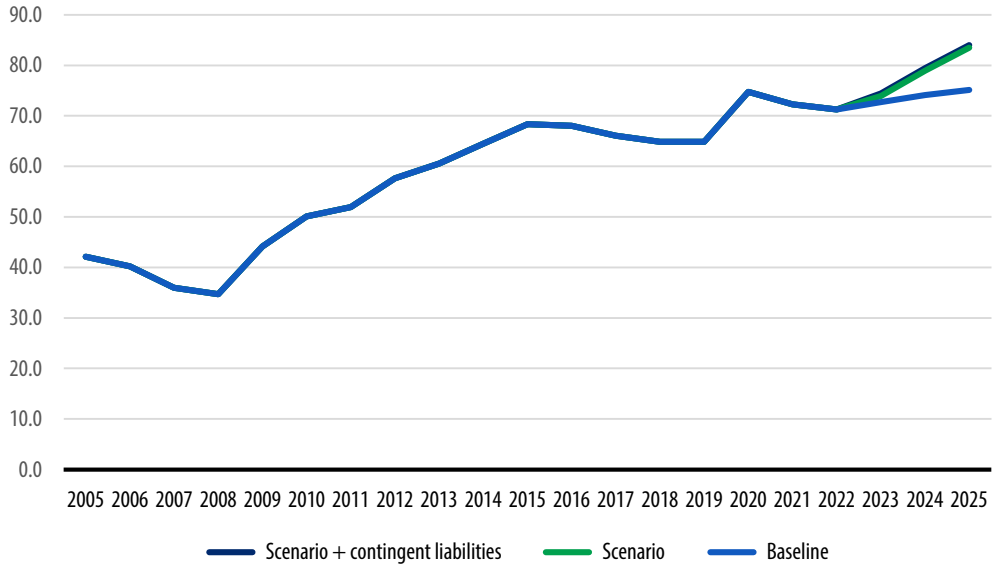
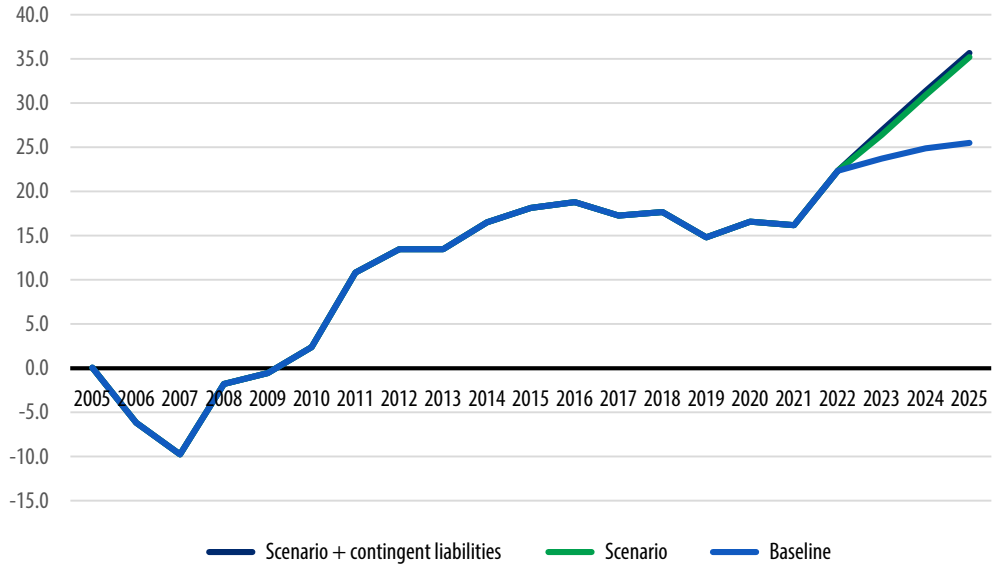


Figure 36. Impact of shock on central government net debt, % of GDP



Appendix 1. Classification of central government financial liabilities

Liability/ obligation	Direct Obligation in any event	Contingent Obligation if a particular event occurs
Explicit Legally binding	• budgetary expenditure • loan, interest • service fees under the PPP model • other statutory or contractual obligations	• central government guarantee (including export credit guarantee) • callable capital in international financial institutions • climate liabilities • nuclear liability
Implicit Societally / politically binding	• citizens' basic social security	• deposit guarantee and other support to the banking sector • capital injections to state-owned companies or ensuring their solvency • financial aid to the municipal sector • environmental liabilities, catastrophes, external and internal security

Source: Ministry of Finance

Appendix 2. Breakdown of central government guarantees in effect 2011–2021, EUR billion

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change 2020–2021
Finnvera*	14	14.8	14.6	17.5	22.6	22.6	27.7	30.3	32.6	31.6	32.1	1.60%
Export credit guarantee operations	10.4	11.2	11	12.6	16.3	15.3	19	19.7	20.9	19.5	19.5	0%
Domestic liability portfolio	2.8	2.7	2.5	2.3	2.3	2.2	2.1	2	1.9	2.4	2.6	8.30%
Central government guarantees for funding	0.9	0.9	1.1	2.6	3.9	4.9	6.5	8.7	9.7	9.7	10	3.10%
Student loans	1.4	1.5	1.6	1.8	2	2.3	2.7	3.4	4	4.5	5	11.10%
EFSF	0.5	5.1	6.2	6.6	6.2	6.3	7	7	7	6.8	6.6	-2.90%
Bank of Finland	0.6	0.8	0.7	0.6	0.5	0.6	0.4	0.5	0.6	0.6	0.8	33.30%
Central government funds	9.2	10.2	11.2	11.8	12.3	13.2	13.8	14.6	15.5	16.5	17.4	5.50%
Housing Fund of Finland	9.1	10.2	11.1	11.8	12.3	13.1	13.7	14.5	15.3	16.4	17.5	6.70%
Development Fund for Agriculture and Forestry	0	0	0	0	0	0.1	0.1	0.1	0.1	0.1	0.1	0%
State Guarantee Fund	0	0	0	-	-	-	-	-	-	-	-	-
COVID-19 support measures										1	1.4	40%
Other	1	1.2	0.8	0.9	0.6	1.1	0.5	0.7	0.7	0.7	0.7	0%
Total	26.8	33.7	35	39.2	44.2	46.1	52.1	56.6	60.2	61.7	64.2	4.10%

* The liabilities in effect (drawn down and not drawn down) have been included in the guarantee amounts related to export credit guarantee and special guarantee operations. The risk arising from repayments of export credits granted by Finnish Export Credit Ltd is covered by an export credit guarantee granted by the parent company, Finnvera. Funding acquired by Finnvera within the framework of the EMTN loan programme has a central government guarantee. To the extent that the loan guaranteed by central government has been used to finance export credits, central government's liability for export credit guarantees and central government guarantees for funding is not doubled but these could be realised at different times as a result of various factors.

Sources: State Treasury, Ministry of Finance, Ministry of Economic Affairs and Employment

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