MINISTRY OF FINANCE

Overview of Central Government Risks and Liabilities, Autumn 2019

Publications of the Ministry of Finance – 2020:6

Economic Policy

Publications of the Ministry of Finance 2020:6

Overview of Central Government Risks and Liabilities, Autumn 2019

Ministry of Finance, Helsinki 2020

Ministry of Finance

ISBN: 978-952-367-058-7

Layout: Government Administration Department, Publications

Helsinki 2020

Description sheet

Published by	Ministry of Finance		January 2019
Authors	Juho Kostiainen, Sakari Lehtiö, Sami Napari, Markku Puumalainen (edit.)		
Title of publication	Overview of Central Government Risks and Liabilities, Autumn 2019		
Series and publication number	Publications of the Ministry of Finance 2020:6		
Register number	VM030:00/2018	**Subject**	Economic Policy
ISBN PDF	978-952-367-058-7	**ISSN (PDF)**	1797-9714
Website address (URN)	http://urn.fi/URN:ISBN:978-952-367-058-7		
Pages	88	**Language**	English
Keywords	economic policy, general government finances, central government finances, central government's balance sheet, off-budget liabilities, guarantee liabilities		

Abstract

The good economic development in recent years has strengthened the general government finances, but at the same time, the risks of general government finances have grown. Direct government liabilities have grown considerably in ten years. In 2008, central government debt amounted to EUR 54 billion, compared to EUR 105 billion at the end of 2018. During the same period, government contingent liabilities have grown strongly and the growth does not appear to be subsiding. Central government guarantees and collateral in effect totalled EUR 57 billion at the end of 2018. The corresponding figure in 2010 was EUR 23 billion. The risk level of guarantee liabilities increases due to their concentration in certain sectors and companies.

In addition to direct liabilities, guarantee liabilities and collateral, central government's risk position is influenced by implicit liabilities. They are not legally binding on central government, but due to social factors, central government is expected to bear the ultimate responsibility for them. The key implicit liabilities are those pertaining to the banking sector and local government. Finland's banking sector involves structural factors that increase its sensitivity to disruptions. These are the banking system's relatively large size, concentration and close links with other Nordic countries. These special features have gained strength in recent years. Local government's implicit risks have also increased due to the growth in municipalities' financial liabilities. At the end of 2018, municipalities' debt was EUR 17 billion, having been EUR 5.5 billion in the early 2000s. In addition, guarantees granted by municipalities have grown significantly.

The growth in government liabilities and modest growth prospects, driven by structural factors in the form of weak productivity development and ageing population, have reduced the leeway for central government in the event of a macroeconomic disruption. Particular attention should thus be given to indebtedness and growth in contingent liabilities and their risk management. There is also a need for structural reforms that support the development of employment and productivity.

Publisher	Ministry of Finance
Distributed by/ Publication sales	Online version: julkaisut.valtioneuvosto.fi Publication sales: vnjulkaisumyynti.fi

Kuvailulehti

Julkaisija	Valtiovarainministeriö		Tammikuu 2020
Tekijät	Toimituskunta: Juho Kostiainen, Sakari Lehtiö, Sami Napari, Markku Puumalainen		
Julkaisun nimi	Katsaus valtion taloudellisiin vastuisiin ja riskeihin, syksy 2019		
Julkaisusarjan nimi ja numero	Valtiovarainministeriön julkaisuja 2020:6		
Diaari/hankenumero	VM030:00/2018	**Teema**	Talouspolitiikka
ISBN PDF	978-952-367-058-7	**ISSN PDF**	1797-9714
URN-osoite	http://urn.fi/URN:ISBN:978-952-367-058-7		
Sivumäärä	88	**Kieli**	englanti
Asiasanat	talouspolitiikka, julkinen talous, valtiontalous, valtion tase, talousarvion ulkopuoliset vastuut, takausvastuut		

Tiivistelmä

Viime vuosien hyvä talouskehitys on vahvistanut julkisen talouden tasapainoa, mutta samanaikaisesti julkisen talouden riskit ovat kasvaneet. Valtion suorat vastuut ovat kasvaneet huomattavasti kymmenen vuoden aikana. Vuonna 2008 valtiolla oli velkaa 54 miljardia kun vuoden 2018 lopussa sitä oli jo 105 miljardia. Samaan aikaan valtion ehdolliset vastuut ovat kasvaneet voimakkaasti eikä kasvu ole näyttänyt laantumisen merkkejä. Valtiontakausten ja -takuiden voimassa oleva määrä oli vuoden 2018 lopussa 57 miljardia. Vuonna 2010 vastaava luku oli 23 miljardia. Takausvastuiden riskisyyttä lisäävät niiden keskittyminen tietyille toimialoille ja yrityksille.

Valtion riskiasemaan vaikuttavat suorien ja takaus- ja takuuvastuiden lisäksi ns. piilevät vastuut. Ne eivät ole valtiota oikeudellisesti velvoittavia, mutta yhteiskunnallisista tekijöistä johtuen valtion odotetaan kantavan niistä viimekätisen vastuun. Keskeisiä piileviä vastuista ovat pankkisektoriin ja paikallishallintoon liittyvät vastuut. Suomen pankkisektorissa on rakenteellisia tekijöitä, jotka kasvattavat sen häiriöherkkyyttä. Näitä ovat pankkijärjestelmän suuri suhteellinen koko, keskittyneisyys ja tiiviit kytkökset muihin Pohjoismaihin. Nämä erityispiirteet ovat viime vuosina vahvistuneet. Paikallishallinnon piilevät riskit ovat myös kasvaneet kuntien talousvastuiden kasvun myötä. Vuoden 2018 lopussa kuntien lainakanta oli 17 miljardia kun se vielä 2000-luvun alussa oli 5,5 miljardia. Lisäksi kuntien myöntämät takaukset ovat kasvaneet merkittävästi.

Valtion vastuiden kasvu sekä vaatimattomat kasvunäkymät, jonka taustalla on rakenteellisia tekijöitä heikon tuottavuuskehityksen ja ikääntyvän väestön muodossa, ovat pienentäneet valtion liikkumatilaa mahdollisessa makrotalouden häiriötilanteessa. Velkaantumiseen ja ehdollisten vastuiden kasvuun ja niiden riskienhallintaan tulisikin kiinnittää erityistä huomiota. Myös rakenteellisille uudistuksille, jotka tukevat työllisyys- ja tuottavuuskehitystä, on tarvetta.

Kustantaja	Valtiovarainministeriö
Julkaisun jakaja/myynti	Sähköinen versio: julkaisut.valtioneuvosto.fi Julkaisumyynti: vnjulkaisumyynti.fi

Presentationsblad

Utgivare	Finansministeriet		Januari 2019
Författare	Juho Kostiainen, Sakari Lehtiö, Sami Napari, Markku Puumalainen (edit.)		
Publikationens titel	Översikt över statens finansiella åtaganden och risker, hösten 2019		
Publikationsseriens namn och nummer	Finansministeriets publikationer 2020:6		
Diarie-/ projektnummer	VM030:00/2018	**Tema**	Finanspolitiken
ISBN PDF	978-952-367-058-7	**ISSN PDF**	1797-9714
URN-adress	http://urn.fi/URN:ISBN:978-952-367-058-7		
Sidantal	88	**Språk**	engelska
Nyckelord	Finanspolitik, offentlig ekonomi, statsfinanserna, statens balansräkning, ansvar utanför budgeten, borgensansvar		

Referat

De senaste årens gynnsamma ekonomiska utveckling har förstärkt balansen inom den offentliga ekonomin, men riskerna inom den offentliga ekonomin har samtidigt ökat. Statens direkta exponeringar har ökat betydligt under de senaste tio åren. År 2008 var skulden 54 miljarder euro, men vid utgången av 2018 uppgick den redan till 105 miljarder euro. Statens ansvarsförbindelser har samtidigt ökat kraftigt, och ökningen visar inte några tecken på att avta. Statsborgen och statsgarantierna uppgick i slutet av 2018 till 57 miljarder euro. År 2010 var motsvarande siffra 23 miljarder. Riskerna med borgensåtagandena utökas av att de koncentrerats på vissa branscher och i vissa företag.

Statens riskposition påverkas förutom av direkta borgensåtaganden och garantier även av så kallade dolda åtaganden. De är inte juridiskt bindande för statens del, men samhälleliga faktorer gör att staten sist och slutligen förväntas bära det slutliga ansvaret för dem. De viktigaste dolda åtagandena hänför sig till banksektorn och lokalförvaltningen. Den finländska banksektorn lider av strukturella faktorer som ökar riskerna för störningar. Som exempel kan nämnas banksystemets proportionella storlek, koncentrationen och de starka kopplingarna till de övriga nordiska länderna. Dessa särdrag har förstärkts under de senaste åren. Lokalförvaltningens dolda risker har också ökat i takt med att kommunernas ekonomiska åtaganden ökat. Kommunernas lånestock uppgick i slutet av 2018 till 17 miljarder euro, medan den ännu i början av 2000-talet var 5,5 miljarder euro. Dessutom har borgen som beviljats av kommunerna ökat i betydande mån.

Statens ökade åtaganden och de blygsamma tillväxtutsikter som beror på strukturella faktorer, såsom svag produktivitetsutveckling och en åldrande befolkning, har minskat på statens marginaler vid eventuella makroekonomiska störningar. Man borde därför fästa särskild uppmärksamhet vid skuldsättningen och ökningen av ansvarsförbindelserna. Det finns också ett behov av strukturella reformer som stöder sysselsättnings- och produktivitetsutvecklingen.

Förläggare	Finansministeriet
Distribution/ beställningar	Elektronisk version: julkaisut.valtioneuvosto.fi Beställningar: vnjulkaisumyynti.fi

Table of Contents

SUMMARY

After years of recession which followed the financial crisis, the Finnish economy returned to a growth track in 2015. The strong economic growth seen in recent years has exceeded the long-term growth potential. Driven by economic growth, employment has increased and unemployment decreased, improving the general government budgetary position.

While the favourable economic development in recent years has strengthened the public finances, the risks associated with general government finances have grown. Whereas the nominal value of central government debt decreased for the first time in many years, the debt totalled almost EUR 105 billion at the end of 2018. The change in the debt amount has been significant over the last decade: in 2008, central government debt amounted to approx. EUR 54 billion. This growth is also notable if we look at central government debt in proportion to the size of the national economy.

Government contingent liabilities have also grown strongly, and this growth shows no signs of subsiding. Central government guarantees in effect totalled almost EUR 57 billion at the end of 2018, which represents an increase of EUR 4.5 billion year on year. In 2010, the guarantee portfolio remained at EUR 23 billion. The largest contingent liabilities are associated with Finnvera's operations (EUR 30.3 billion) and housing financing (EUR 14.5 billion), which are also to a significant degree responsible for the growth in Finland's guarantee portfolio in recent years. Additionally, the guarantee liabilities have increasingly concentrated in certain industries and companies.

The growth in contingent liabilities is explained by a number of underlying factors. At the time of the financial crisis, for example, reliance on central government guarantees was justified by the financial market disruptions. Government guarantees were also part of the range of measures taken in an attempt to promote economic recovery and a return to the growth track. The predominance of capital goods in Finland's export structure has also played a role, as public export finance is essential for the trade in these goods.

It is likely that the way in which contingent liabilities are addressed (or ignored) in fiscal policy rules has also contributed to the growth in these liabilities. Not only EU rules but also national fiscal policy rules strive to restrict excessive on-budget deficits and general government indebtedness. The current rules do not restrict the increase in contingent liabilities, however. A setting where the central government's direct liabilities are limited by means of different fiscal policy rules while contingent liabilities are ignored creates distorted incentives for decision-makers. They may increase contingent liabilities in an effort to avoid restrictions set by the fiscal policy rules for the direct liabilities, even if this were not appropriate from the economic perspective over the longer term.

In addition to debt and guarantee liabilities, the central government's risk position is influenced by implicit liabilities. While they are not directly legally binding, the central government is expected to carry the ultimate responsibility for them for political and societal reasons. One of the key implicit liabilities is associated with the banking sector. As the most recent example, the financial crisis showed that the societal costs of a large-scale banking crisis were considered so great that governments had to resort to major support measures in order to ensure the continuity of banking and financial services in the darkest years of the crisis.

Certain structural factors in the Finnish banking sector contribute to its sensitivity to disruptions and systemic risk. They include the large size of the banking sector in comparison to the national economy, a high degree of concentration in the banking system, and strong links with the other Nordic countries. Nordea's decision to relocate its head office to Finland underscores these special features further. An effort has been made to reduce taxpayers' liability in future banking crises through the EU Banking Union and new crisis resolution legislation on banks.

Another major implicit liability of the central government is related to local government. While Finnish municipalities have broad autonomy and the central government carries no statutory liability for their financial obligations, it is likely that large-scale problems in municipalities would nevertheless also have repercussions on central government finances.

The municipalities' financial liabilities have increased significantly in recent years. In 2018, the municipal loan stock grew by approx. EUR 600 million, reaching over EUR 16.7 billion at year end. As recently as the early 2000s, the loan stock was in the range of EUR 5.5 billion. Similarly to the central government, the municipalities have also increased their guarantee liabilities considerably during this period. In 2018, the municipalities' guarantee portfolio amounted to EUR 9.7 billion, whereas ten years previously, this figure was EUR 5.5 billion.

The effects of potential realisation of direct and contingent liabilities on general government finances are influenced by a number of factors, such as interdependencies between liabilities and general economic development. A stress test is one way of examining the risk-bearing capacity of general government finances.

The stress test carried out for this review is based on the macroeconomic risk scenario used by the European Banking Authority in its stress tests for banks. In this scenario, a shock caused by turbulence spreading through the financial markets to the real economy weakens Finland's economic growth by 8.4% during a three-year period relative to the baseline. The stress test examines the direct impacts of this shock as well as its conditional impacts through guarantee liabilities on the revenue and expenditure of central and local government as well as social security funds.

The results of the stress test indicate that the shock would have considerable adverse effects on the general government finances in Finland. The reduced revenue and, on the other hand, increased expenditure would weaken general government budgetary position by approx. EUR 10 billion, or approx. 4% relative to GDP. As a result of the increased deficit and reduced GDP, the nominal debt-to-DGP ratio would go up by 10.2 percentage points relative to the baseline towards the end of the period, exceeding the 60% debt criterion set out in the Stability and Growth Pact. The deficit criterion of 3% would also be exceeded. In addition to the direct impacts of the shock on general government finances, the realisation of government guarantee liabilities would lead to a significant reduction in buffer funds and, further, to a need to recapitalise them.

In the risk scenario, the shock is not expected to trigger a need to recapitalise domestic banks or other financial institutions or to reignite the euro area debt crisis in a manner that would lead to the realisation of Finland's guarantee liabilities connected with financial assistance facilities for euro area countries. However, the possibility of such tail risks cannot be fully excluded. Should the shock trigger a more extensive banking crisis or euro area debt crisis, the adverse effects on general government finances would be much greater than in the scenario used in this report.

When assessing the central government's ability to bear the risks of direct and contingent liabilities, it is important to also account for its financial assets. These assets work as a buffer against the liabilities and can be realised if necessary to meet the central government's financing needs. At the end of 2018, the central government's financial assets totalled almost EUR 85 billion. It is important to note, however, that only some of these assets can be realised rapidly to finance the central government's liabilities and activities. Such items mainly comprise those classified as investment assets.

The price risk associated with the assets is also highly relevant to the liquidity of financial assets and their ability to serve as a buffer for securing the continuity of central government activities. The stress scenario used in the review also looked at this perspective. In the first year of the scenario, the central government's financial assets would lose approx. EUR 13 billion of their value as a result of a drop in the prices of shares and real property. Partial recovery of the prices would reduce the losses to EUR 9 billion relative to the baseline towards the end of the period.

All in all, the stress scenario results indicate that, despite recent improvements in general government finances, the central government's ability to face an adverse macroeconomic shock is not particularly strong. The central government is clearly more indebted than before the financial crisis, which reduces its fiscal space (possibility of additional borrowing) in a potential crisis. This fiscal space is further reduced by the strong increase in the government's contingent liabilities. The modest growth prospects driven by such structural factors as weak productivity development and an ageing population contribute to reducing the central government's risk-bearing capacity.

Finland should consequently continue its efforts to reduce the growth in central government liabilities. In addition to direct liabilities, attention should also be paid to the growth and inherent risks of contingent liabilities. Structural reforms that would increase employment and support the Finnish economy's productivity development are also needed.

1 Introduction

Central government debt is today at a considerably higher level than before the financial crisis: it totalled almost EUR 105 billion at the end of 2018. In 2008, this figure was approx. 54 billion. During this period, there has also been a strong increase in government contingent liabilities. Central government guarantees amounted to approx. EUR 57 billion at the end of 2018, whereas they totalled EUR 23 billion in 2010.

No strong economic outlook is on the horizon as a buffer for the increased direct and contingent liabilities of the central government. On the contrary, government liabilities have increased at a time when medium and longer term growth forecasts indicate that Finland should prepare for slower economic growth than in recent years. Economic growth is slowed down by such factors as a decline in the working age population and the increased role of the service sector, which erodes the development of total factor productivity.

The risks associated with government liabilities are exacerbated by their interdependencies and links to general economic development. A serious macroeconomic disturbance would not only lead to an increase in the central government's direct liabilities but could also create an additional burden for the central government if contingent liabilities were triggered off. A disturbance would also be likely to reduce the buffer formed by the central government's financial assets due to a decrease in asset prices.

The concentration of government contingent liabilities adds to the risk. The guarantees issued by the central government show a strong concentration in certain customers and industries. This concentration has also increased in recent years, while the government's guarantee portfolio has grown significantly. A disturbance affecting a single customer or sector alone could trigger off significant contingent liabilities.

A precondition for the appropriate management of the risks inherent in the central government's assets and liabilities is their comprehensive and up-to-date reporting. Reporting on the central government's financial risks has been developed based on recommendations issued by a Ministry of Finance working group on risk management in 2015. The present review is the fifth in the series of reports addressing this issue.

This year's review has striven to add further depth to the description of risks associated with the central government's financial assets as well as with the direct and contingent liabilities. More detail has also been added to the stress scenario of general government finances since the last year. Among other thing, it accounts for the government's financial assets.

This review examines the key risks associated with the central government's balance sheet and off-budget liabilities. Chapter 2 describes the risks related to macroeconomic trends in Finland, while Chapter 3 focuses on the central government's liquid financial assets and their risks. Chapter 4 moves on to discuss government liabilities, starting with direct financial liabilities, and Chapter 5 focuses on the central government's contingent liabilities and the risks related to them. The review concludes with a stress scenario calculation for general government finances.

2 Macroeconomic risks

Forecasting economic prospects is essential for financial planning and decision-making. Forecasts strive to describe the most likely direction of economic development. However, forecasts always involve risks and uncertainties which, should they materialise, may lead to a more negative or more positive development than anticipated. The following section illustrates the uncertainty of forecasts and the risks associated with macroeconomic development.

2.1 Uncertainty of the forecast underpinning Budget 2019

Reasons for differences between forecasts and actual economic growth include false initial assumptions and an incomplete picture of the interactions between economic actors or sectors. Forecast errors can be presented as distributions symmetrically divided around the average.[1] The most significant forecast errors occur at turning points of economic cycles, which have the effect of increasing the width of the distribution.

The 2019 Budget was based on a forecast prepared in September 2018, in which GDP was expected to grow by 3% in 2018, with the growth slowing down to 1.7% in 2019. As contributing factors to the slower growth were seen a slowdown in construction investments but also uncertainties of the global economy, which were expected to have repercussions on exports and investments. Growth in all demand items was anticipated to continue, albeit at a slower rate. A more rapid rise in prices was also expected to dampen economic growth.

1 Forecast errors can be expected to be within the normal distribution.

Figure 1 contains a fan chart based on the forecast of September 2018. It shows the range in which the forecasts for 2018 and 2019 will fall with a probability of 80%. The figure also shows that the statistics describing past GDP development in 2016 and 2017 may still change. The accuracy of the annual GDP data has increased by an average 0.6 percentage points following their first publication in 2006–2017.

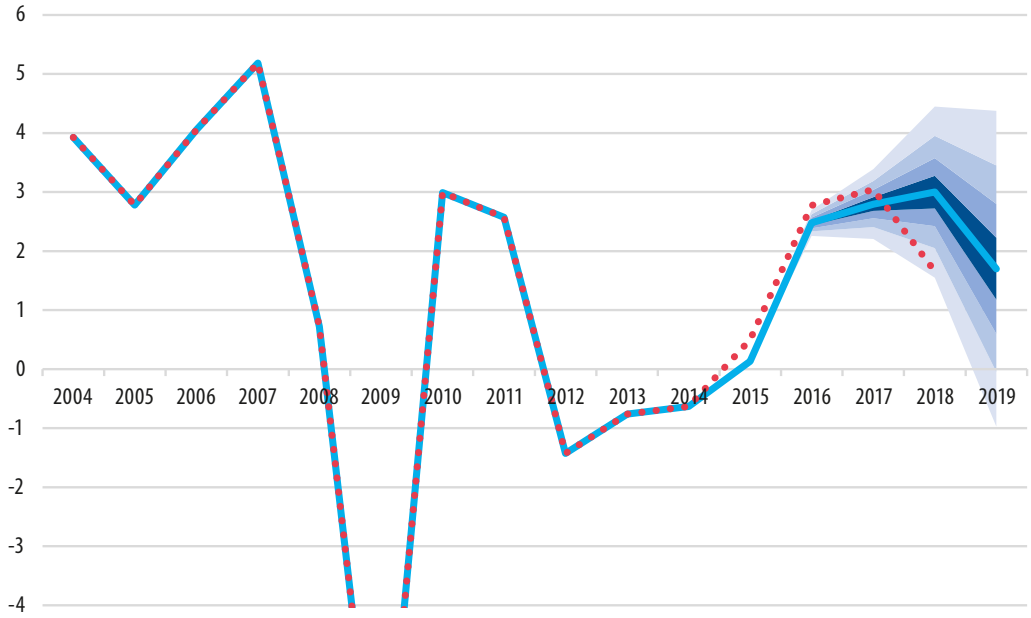
The fan chart is based on historical GDP forecast errors calculated for 1980–2018, in which the autumn forecasts are compared to the most recent published statistics. By applying these mean deviations to the assumed normal distribution, the 80% confidence interval for this and next year's forecasts shown in Figure 1 can be obtained. It is possible, however, that actual economic growth will not be within this distribution. The revised preliminary GDP data for 2018 indicated an economic growth of 1.7%, which is within the 80% confidence interval.

Figure 2 contains the probability distribution of the forecast for economic development in 2019 produced in autumn 2018.[2] Based on past forecast errors, we can see that the probability of 1.7% growth, which was forecast for 2019, being realised can be expected to be 19%. The probability of 0.7% growth (one percentage point less) being realised is 17%, whereas the probability of 2.7% growth (one percentage point more) also is 17% in 2019.[3]

2 The assumption in the calculation is that the forecast errors are based on normal distributions. The width of the distribution is defined by the mean deviation calculated on the basis of the statistical data. The mean value for the following year's forecasts is 0.1 and the standard deviation 2.1, as calculated for the period 1980–2018. In the calculation of the statistics, the large forecast error for 2009 has been left out. Figure 2 presents 98% of the distribution. Actual growth may not necessarily be within the distribution.

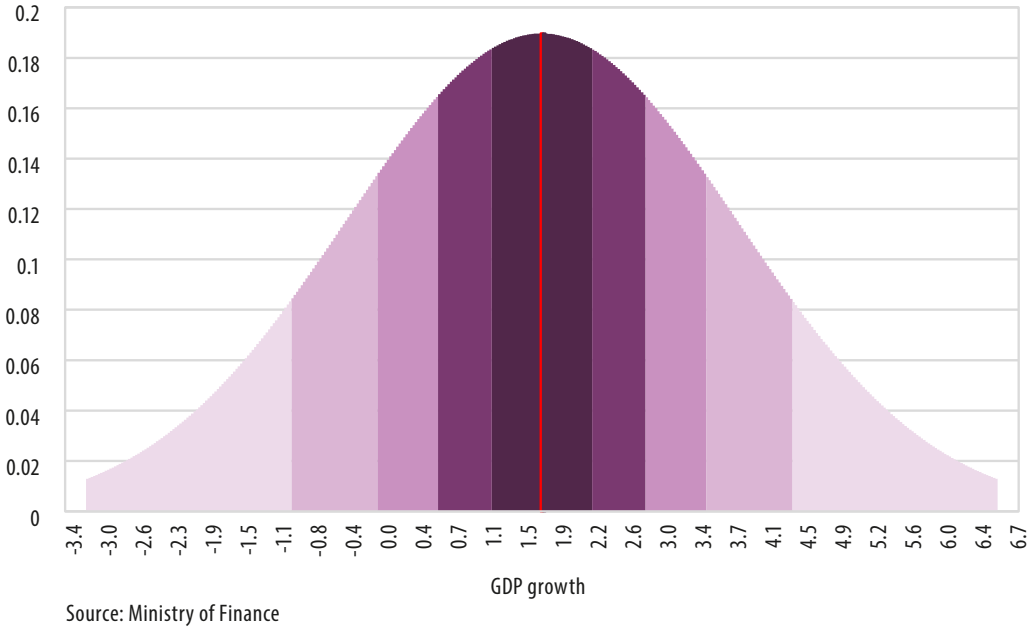
3 This ensues from the assumption that the underlying probability distribution is symmetric.

Figure 1. **GDP forecast for 2019 from September 2018 and the uncertainty associated with it**



Source: Ministry of Finance

Figure 2. **Probability distribution of the forecast for GDP growth in 2019 from autumn 2018**



Source: Ministry of Finance

In the forecast from September 2018, the risks of the economic outlook are skewed to the downside more than before. Escalation of the trade war between the United States and China was considered a key risk. Trade barriers between key economies have a broader impact than appears to be the case at first glance. Tariffs imposed by an individual state also have an adverse impact on its own industry. An escalation of the trade war would slow down world trade and thus also global economic growth. The growth prospects of the global economy would also deteriorate if China's indebtedness escalated in the conditions of contracting economic growth.

Trade war escalation and stagnation in the growth of world trade did indeed emerge as a significant factor dimming the outlook for growth both globally and in Finland in 2019. In autumn 2018, world trade was expected to grow by 4.6% in 2019, whereas the forecast from summer 2019 only put the expected growth in 2019 at 3.3%.

2.2 Effects of a global economy disruption on the Finnish economy

The impacts of a global economy disruption on the Finnish economy can be examined using the Ministry of Finance's KOOMA model. A convenient way of analysing the effects of international shocks is through export demand. The following calculation is based on the assumption that a negative international shock would reduce Finland's export demand by five per cent.

As a result of this shock, production would contract by more than one per cent due to a reduction in net exports. There would be a decline not only in exports but also in imports, which are partly used for manufacturing export products. Imports would decrease less than exports, however, as some of the imports are sold directly to consumers.

A negative demand shock would dim the outlook for export companies and domestic production. As export demand decreases, national economy is affected by overproduction, exerting a downward pressure on prices and wages. Consumer prices would drop slightly less than wages, and consequently real wage growth would be negative, weakening private consumption over the short term.

To sum up, an export demand shock would have significant effects on a small open economy like Finland. In addition to foreign trade, the effects of the shock would also be quickly reflected on household consumption and general government finances, reducing

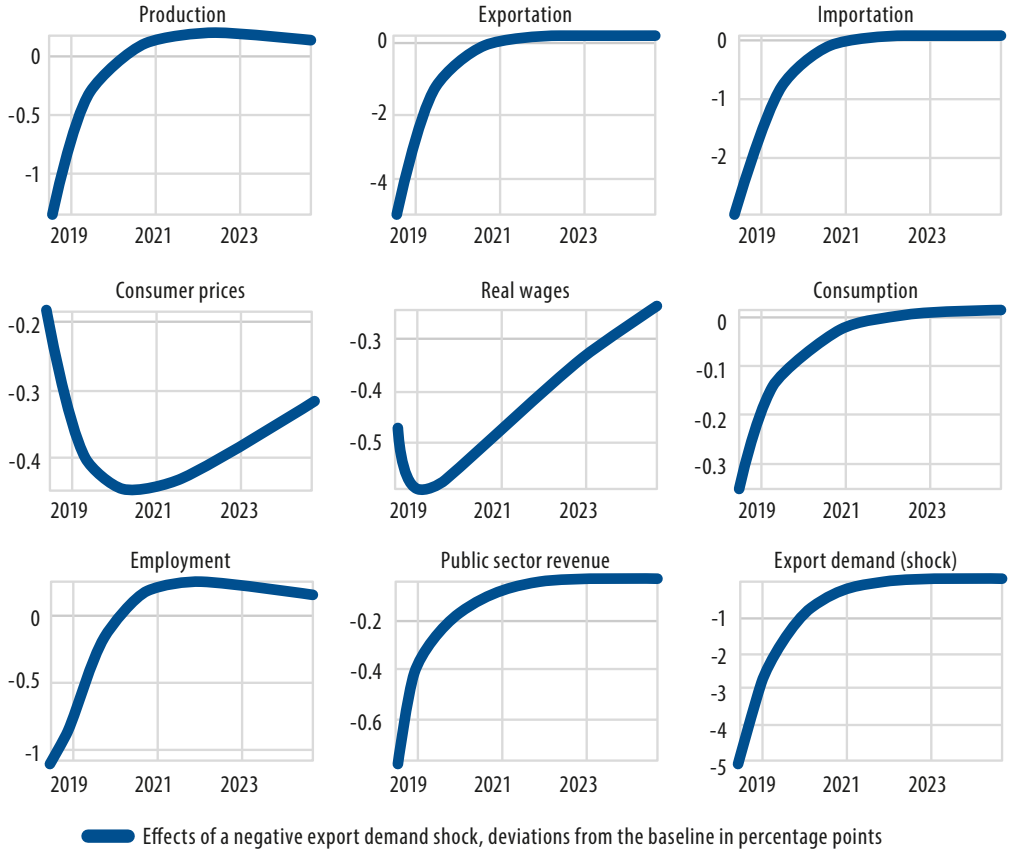
consumption and increasing central government debt.[4] In the calculation, the economy returns on track for fiscal balance. However, the rate of adaptation is affected by the assumptions used in the model regarding such factors as wage rigidity.

The calculation indicates that a slowdown in world trade by one per cent would have a minor effect on slowing GDP growth. While the Ministry of Finance's GDP forecast for 2019 does not show a corresponding reduction, domestic demand rather than exports is more prominent as a driver of growth, which is in line with the calculation presented above.

The effects of a shock in the global economy with repercussions on Finland are described in Chapter 6, which discusses the stress test for general government finances.

4 Chapter 6 takes a closer look at the knock-on effects of a disruption to international financial markets on general government finances.

Figure 3. Effects on the economy of a five per cent reduction in Finland's export demand



Source: Ministry of Finance calculations

3 Risks associated with central government financial assets

This Chapter examines central government financial assets and the risks associated with them. In this review, financial assets include central government cash assets, major loan receivables, fixed-income investments, shares and other investments. The scope of the review is determined by the liquidity perspective and on the basis of the amount of the assets. Special-assignment companies (except for Solidium Oy and Vake Oy) and state-owned real property are not included in this review.

Table 1 sums up central government financial assets at the end of 2018. According to Statistics Finland's financial accounts, central government financial assets totalled EUR 66 billion at the end of 2018. The State Pension Fund amounting to EUR 18.5 billion, which is included in the employment pension schemes in national accounts, is additionally regarded as part of central government assets, bringing the total up to EUR 84.6 billion.

However, it is important to note that only part of the central government financial assets shown in Table 1 can be realised relatively quickly to finance the government's liabilities and activities. They mainly comprise items classified as central government investment assets.

Table 1. Central government financial assets in 2018

Central government financial assets	2018
	EUR million
Total deposits	**3 050**
State Treasury cash assets	2 080
Others	970
Total loans	**12 652**
Arava	4 200
Business Finland	970
Loan to Greece under programme 1	1 005
EFSF*	3 401
Shares and participations	**41 369**
Listed shares	24 146
Unlisted shares and other participations	14 530
Fund units	2 693
Swaps and other derivatives	**5 540**
Other receivables	**3 529**
State Pension Fund (VER)	**18 486**
Total assets	**84 626**
Assets excluding the State Pension Fund	**66 140**

*Finland's share of the loans granted by the EFSF
Sources: Statistics Finland's financial accounts and State Pension Fund

3.1 Central government cash funds

Central government cash funds constitute the most liquid part of central government financial assets. The central government's cash funds according to the financial accounts totalled approx. EUR 3.1 billion and the cash assets administered by the State Treasury about EUR 2.1 billion at the end of 2018. The difference between the two figures is largely explained by the units included in them. For example, the cash funds of such entities as Solidium Oy, the Development Fund for Agriculture and Forestry and Senate Properties are included in the financial accounts but not in the State Treasury's figures. The cash funds managed by the State Treasury are relevant from the perspective of central government liquidity and its management.[5]

5 Ensuring central government liquidity is the most important task of the State Treasury's cash asset management.

Central government accounts contain a holding account through which off-budget funds can deposit their liquid funds in the government's joint cash reserves, enabling effective liquidity management also for the off-budget funds. The funds' receivables from the holding account were EUR 3.6 billion in 2018. The National Housing Fund, the State Guarantee Fund and the Financial Stability Fund had the largest receivable amounts.

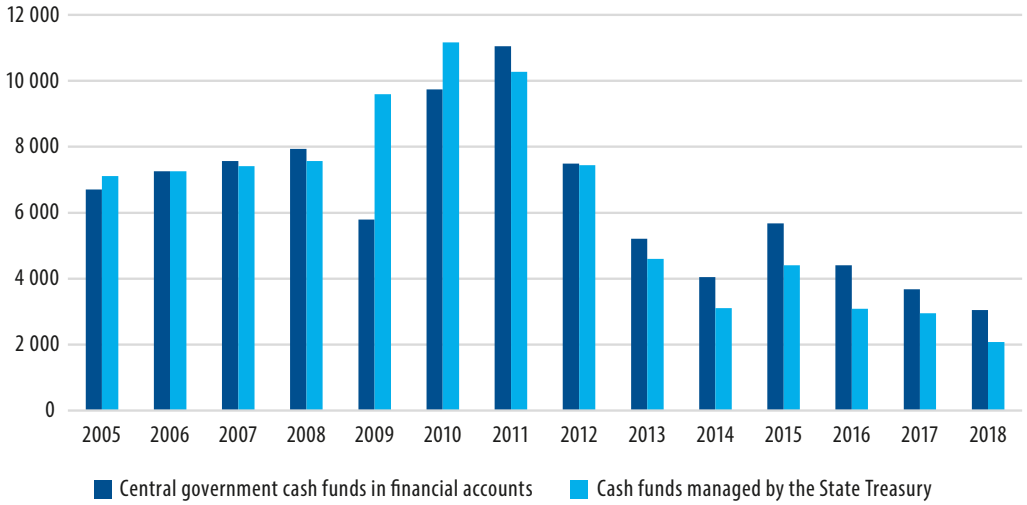
Based on its liquidity assessment, the State Treasury has reduced the amount of cash funds since 2011 (see Figure 4). In addition to the central government's good funding ability, a transition to liquidity-based cash fund management had contributed to this situation.

At the centre of short-term funding (less than a year) are government Treasury bills, which are zero-coupon instruments issued at a discount with maturity of a maximum of one year. The State Treasury issues Treasury bills in euros and dollars, and also in other currencies if necessary, based on the demand and financing needs through banks included in the Treasury Bill Programme Dealer Group. No exchange rate risk is associated with the debt instruments, as instruments in currencies other than the euro are exchanged to euros using derivatives.

An additional factor enabling the government to keep its cash funds down to a relatively moderate size is using a cash fund forecast system to support cash fund management. State agencies enter their revenue and expenditure forecasts for the following 12-month period in the Rahakas forecast system. The State Treasury uses this information in its liquidity management and when making decisions on funding.

Government cash funds are invested in financial market instruments with a remaining maturity of one day to a couple of months, which exposes the central government to a credit risk. This credit risk is minimised by such means as diversification, using so-called tri-party repo contracts, and selecting low credit risk options when investing cash funds, however taking the liquidity perspectives into account.

Figure 4. Development of central government cash funds 2005–2018, EUR million



Sources: General government financial accounts; State Treasury

3.2 State Pension Fund

The State Pension Fund (VER) is an off-budget buffer fund used by the central government to prepare for funding government employees' future pensions and to level out the pension expenditure of different years. VER's task is to invest the assets entrusted to it in a profitable and secure manner.

The pension contributions of employers and employees within the scope of the central government pension scheme are remitted in full to a fund, which transfers a sum amounting to 40% of the central government pension expenditure from the fund to the Budget every year. Since 2015, VER's transfers to the Budget have exceeded the pension contribution revenue received by it. Keva pays out the pensions that are part of the state pension scheme, using Budget appropriations.

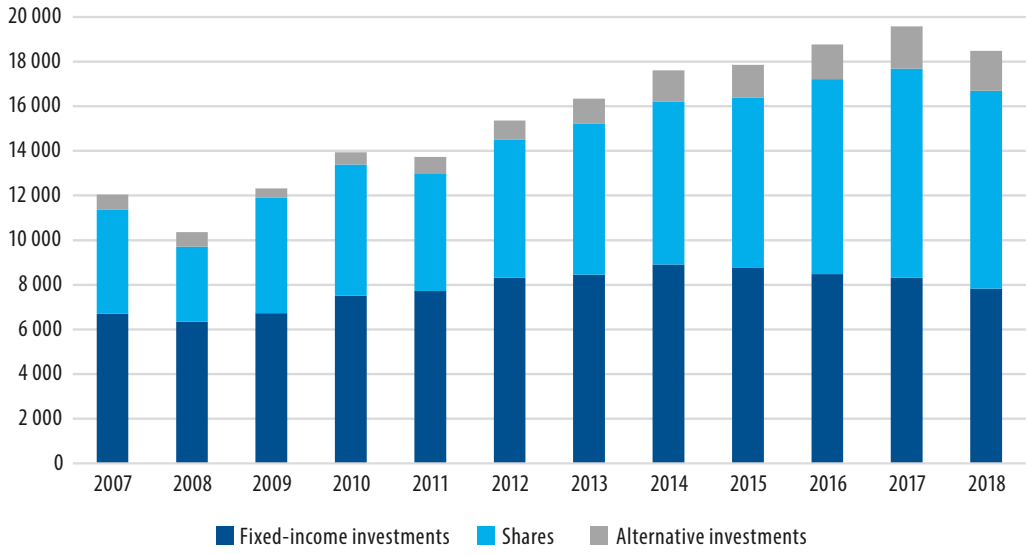
While the assets held by VER are government assets, they are in the name of the fund, which also manages them. The costs arising from these operations are paid from the assets managed by VER. VER's revenue comprises the pension contributions and other fees paid to the fund and the investment returns.

At the end of 2018, the market value of VER's investments was EUR 18.5 billion. 38.4% of them were fixed-income investments, 47.2% investments in equities, 9.9% alternative

investments and the remainder impacts of derivatives. The nominal returns over the past ten years have averaged 6.4%, or 4.5 percentage points higher than the average cost of central government debt. The total return on investments was -3.4% in 2018.

VER's financial assets entail market risks (currency, credit and interest rate risks, as well as a risk arising from the price of securities). The fund has taken measures to manage these risks by extensive diversification of its investment portfolio geographically and by type of securities. VER's investment portfolio had a volatility of 6.2% in 2018.

Figure 5. State Pension Fund's investment assets in 2007–2018, EUR million



Source: State Pension Fund

3.3 Other state holdings in listed companies

State ownership in Finnish listed companies is the responsibility of the Ownership Steering Department of the Prime Minister's Office. The market value of state holdings (including direct state holdings and those of Vake Oy and Solidium Oy) was approx. EUR 23.8 billion at the end of 2018. At the end of 2018, the state owned four listed companies directly (Altia Plc, Finnair Plc, Fortum Plc and Neste Plc). The holdings in Finnair, Fortum and Neste are considered to be of strategic interest for the central government. The market value of state holdings in these four companies (including Vake Oy) totalled EUR 16.9 billion at the end of 2018.

The state also has indirect holdings in listed companies through its investment company Solidium Oy. Solidium has shares in a total of 14 listed companies.[6] Solidium's portfolio had a market value of EUR 6.8 billion at the end of 2018. The total returns on Solidium's investments amounted to -13.1% in 2018.

The State Business Development Company (Vake Oy) was established in 2016. In December 2018, the Government made a decision to transfer to Vake approx. 8.3% of the shares in Neste Plc, 49.9% in Posti Group Plc, 16.7% in Vapo Oy, and the total shareholding of Nordic Morning Plc. In February 2019, a further 36.2% shareholding in Altia Plc was transferred to Vake. The total value of these holdings on the date of transfer was approx. EUR 1.6 billion.

Pohjolan Rautatiet Oy, a company fully owned by the Finnish government, was established in spring 2019. The central government transferred EUR 107 million worth of Neste Plc's shares to this company. In spring, the government also established the Foundation to Support Research Effectiveness and the special-assignment company Oppiva Invest Oy. Shares in Kemira Plc, Outokumpu Plc and SSAB Ab with a total value of approx. EUR 60 million were transferred from Solidium's investment portfolio to form the foundation's equity capital. Shares from Kemira Plc, Nokia Plc and Sampo Plc, the value of which was approx. EUR 80 million on the date of transfer, were transferred from Solidium to Oppiva Invest Oy.

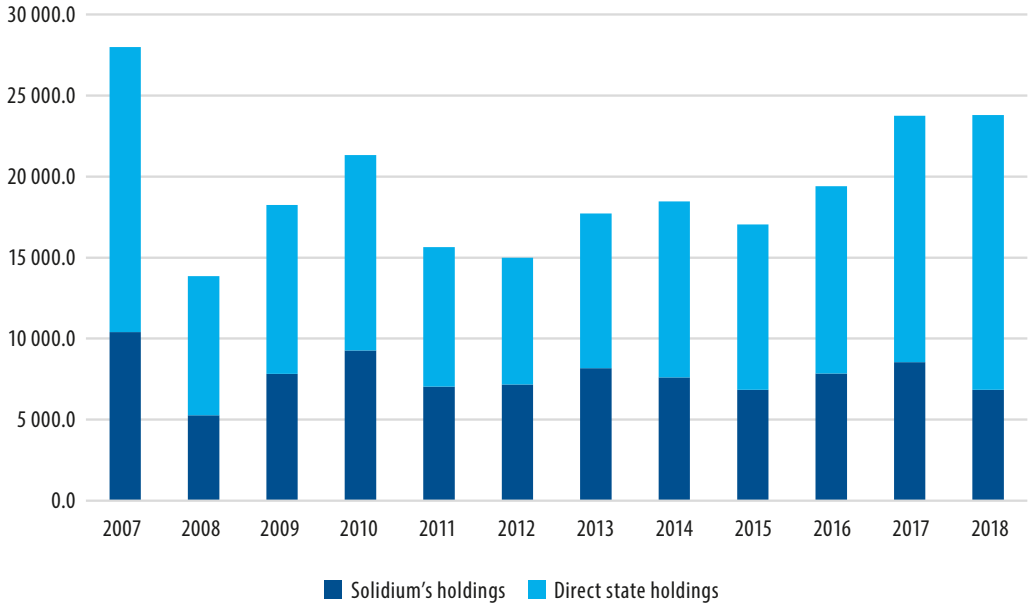
The value of the state holdings is exposed to a price risk. Over the period of the last 12 years, the portfolio value has fluctuated significantly from year to year (Figure 6).[7] The dividend revenue received by the state has also varied considerably.[8]

6 Elisa Plc, Kemira Plc, Konecranes Plc, Metso Plc, Nokia Plc, Nokian Renkaat Plc, Nordea Bank Plc, Outokumpu Plc, Outotec Plc, Sampo Plc, SSAB AB, Stora Enso Plc, Tieto Plc, Valmet Plc.

7 A year-to-year comparison does not give a direct indication of the price risk, as it does not account for share sales or purchases.

8 For more information about the distribution of and fluctuations in revenue from state holdings, visit https://vnk.fi/omistajaohjaus/valtion-osakemyyntitulot.

Figure 6. Changes in the value of central government holdings in listed companies 2007–2018, EUR million



Source: Prime Minister's Office

3.4 Loan receivables of the National Housing Fund

The loan receivables of the National Housing Fund comprise Arava loans granted for state-subsidised housing construction. Most of these loans have been granted to rental housing and right-of-occupancy corporations. The maximum loan period for Arava loans is 45 years. No new loans have been granted since 2007, which is why the National Housing Fund's loan portfolio has contracted significantly over the last ten years (Figure 7). State subsidies for housing financing are currently granted as interest subsidies and guarantees for loans issued by credit institutions, which are discussed in section 5.1.2.

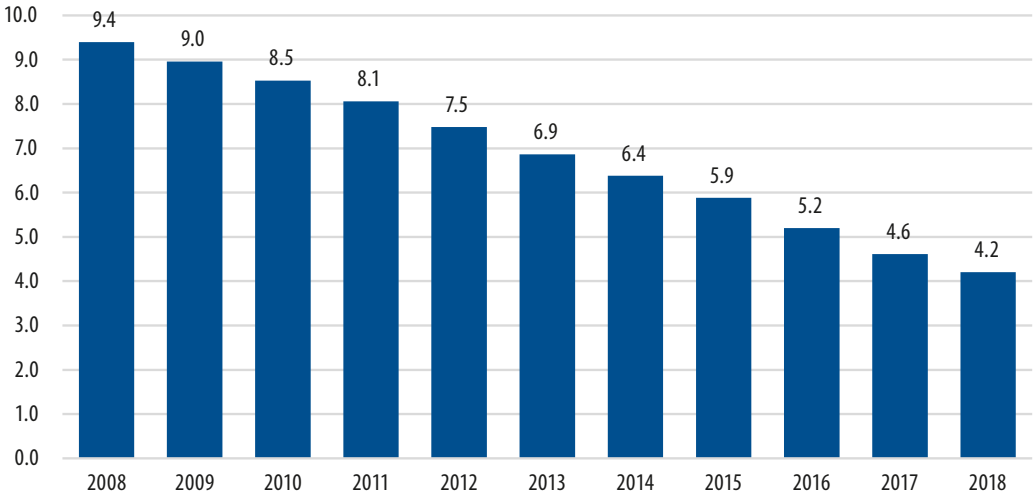
At the end of 2018, the loan receivables of the National Housing Fund totalled EUR 4.2 billion, while the guarantee portfolio amounted to EUR 14.5 billion, which means that the housing financing liabilities totalled EUR 18.7 billion. From the perspective of credit risk, both direct and indirect financing liabilities leave the central government in the same position.[9] In both cases, the government incurs a cost from a customer's insolvency if

9 For a more detailed discussion of government guarantees in housing funding, see section 5.1.2.

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 tail-end repayment programmes mean more 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 are associated with areas suffering from depopulation where declining occupancy rates cause payment problems to rental housing corporations.

Figure 7. Development in loan receivables of the National Housing Fund 2008–2018, EUR billion

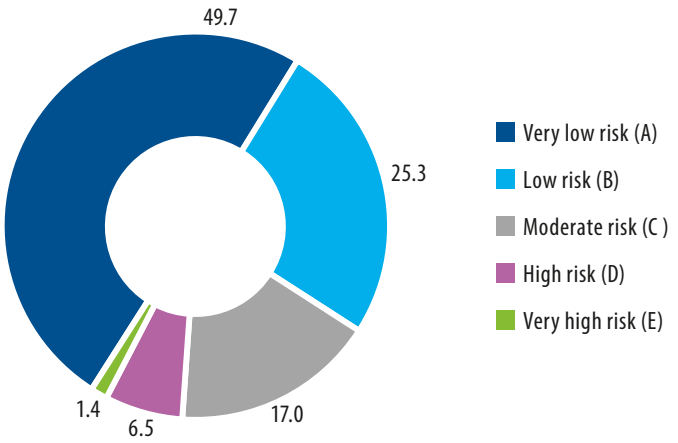


Source: State Treasury

Of the loan receivables, 25% or less than EUR 1 billion are located in high-risk municipalities (Figure 8).[10] The risk content of the loan portfolio increases further as the population concentrates in a smaller number of growth centres.

10 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.

Figure 8. Distribution of National Housing Fund's loan receivables by municipality risk class 31 March 2019 (%)



Source: State Treasury

The high loan-to-value ratio (85–95%)[11] 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 the state's receivables in insolvencies.

The risks associated with the loan portfolio are managed through 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 properties held as collateral. A report compiled by the AAKE working group was published in 2017, which reviewed the development of the housing stock and housing conditions outside growth centres. Based on the recommendations of this working group appointed by the Ministry of the Environment, legislative amendments were passed in 2018, which contain more effective measures for reducing the financial and loan portfolio risks of rental housing corporations in areas affected by depopulation.[12]

These legislative amendments increased the maximum amounts of restriction and demolition remissions of debt and reduced interest rates in loan groups where the interest rate level was high in comparison to the general interest rate environment. The terms of restructuring measures were also amended, and in the future, restructuring of loan

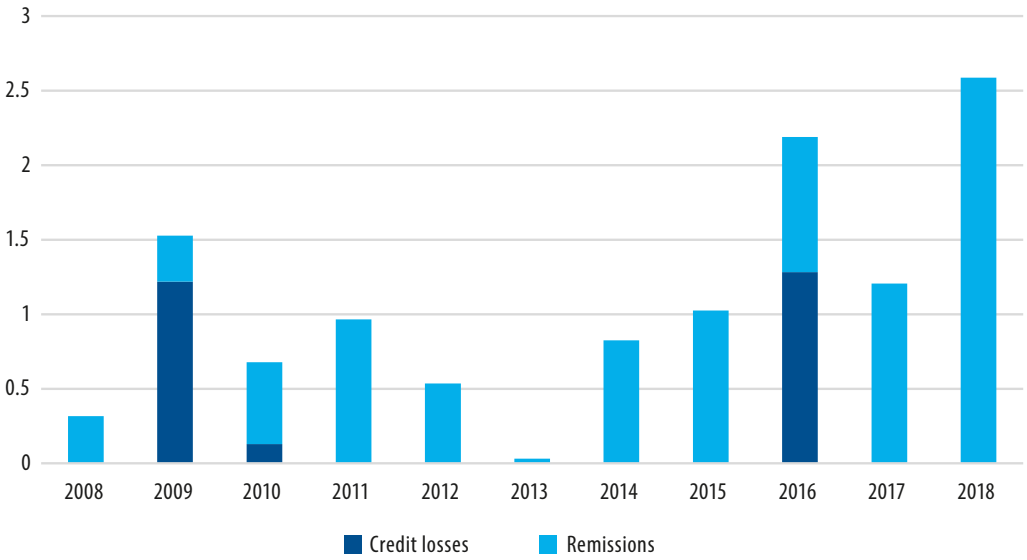
11 The loan-to-value ratio of construction loans is 90 –95% of the approved building and site costs in rental housing and 85% in right-of-occupancy housing.

12 Asuntokannan ja asuinolojen kehittäminen kasvukeskusten ulkopuolella (Developing the housing stock and housing conditions in areas outside growth centres). Ministry of the Environment reports 23/2017. YMra_23_2017.pdf (1.344Mt).

and real property portfolios can begin at an earlier stage, which promotes proactive risk management.

So far, the Arava loan portfolio has generated a relatively low amount of credit losses from bankruptcies and forced realisation of securities. The losses from restriction and demolition remissions of debt associated with restructuring have been on average less than EUR 1 million a year in the 2010s.

Figure 9. Credit losses and remissions related to Arava loan receivables in 2008–2018, EUR million



Source: State Treasury and the annual accounts of the National Housing Fund 2018

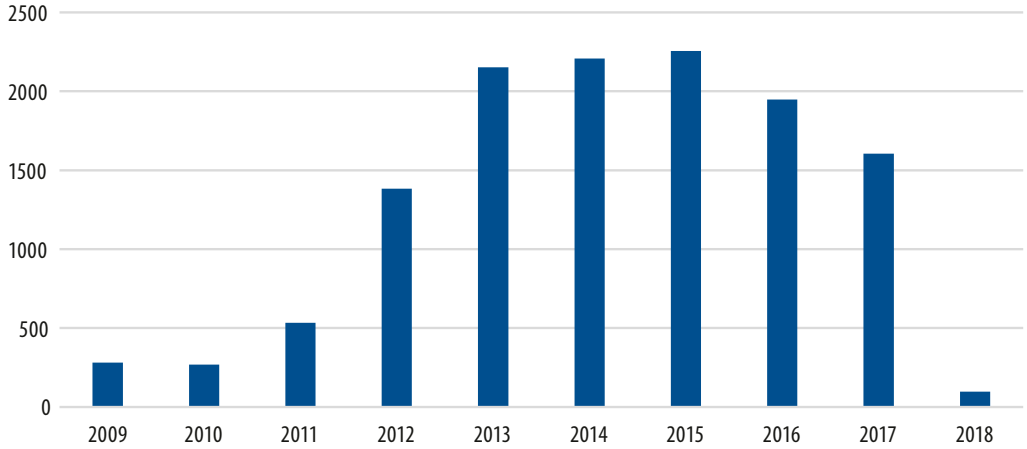
3.5 Other loan receivables

In addition to the National Housing Fund, the central government also has substantial loan receivables from the Greek Government and companies financed by the Innovation Funding Centre Business Finland. Under a temporary refinancing scheme for export projects between 2009 and 2012, Finnish Export Credit Ltd additionally provided refinancing of buyer credits for exports of Finnish capital goods issued on OECD terms by domestic and foreign credit and financing institutions. The refinancing was arranged as loans granted to Finnish Export Credit Ltd by the central government. The majority of these credits were repaid in autumn 2018. At the end of 2018, the amount of loan receivables related to export funding was approximately EUR 97 million.

In addition to financial aid granted through the EFSF, ESM and IMF, Finland and other euro area member countries have also granted bilateral loans to Greece.[13]After the debt crisis had spread to Greece in 2010, the Eurogroup decided to grant the country bilateral loans as part of more comprehensive financing arrangements. Within the framework of bilateral loan arrangements, Finland has loan receivables from Greece with a nominal value of about one billion euros.

Business Finland (formerly Tekes) provides companies with grants and loans for research and development projects to promote the development of internationally competitive products and services. The central government's loan receivables associated with product development loans granted by Business Finland totalled EUR 970 million at the end of 2018. The loan portfolio has grown substantially over the past ten years. In 2018, this growth was EUR 88 million (year-on-year increase of 10%).

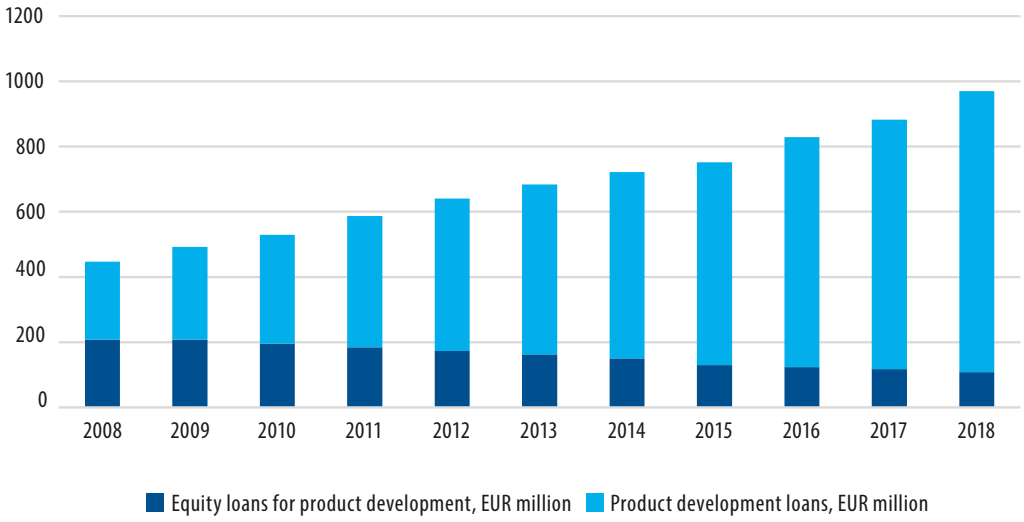
Figure 10. Central government's loan receivables from Finnish Export Credit Ltd, EUR million



Source: State Treasury

13 For more information about Finland's receivables and liabilities arising from the management of the euro area debt crisis, visit the Ministry of Finance's website at https://vm.fi/kansainvaliset-rahoitusasiat/euroalueen-vakaus/suomen-vastuut and last year's risk report https://api.hankeikkuna.fi/asiakirjat/facaa610-f760-4db8-8015-915ec89ba918/db4a26ec-aee9-4b1d-acf3-5f32386952b2/JULKAISU_20180615121753.pdf. Besides being a receivable for the Finnish government, EFSF loans are included in the central government's so-called EDP debt, which they increase. See also page 44 of this report.

Figure 11. Business Finland's product development loan portfolio, EUR million



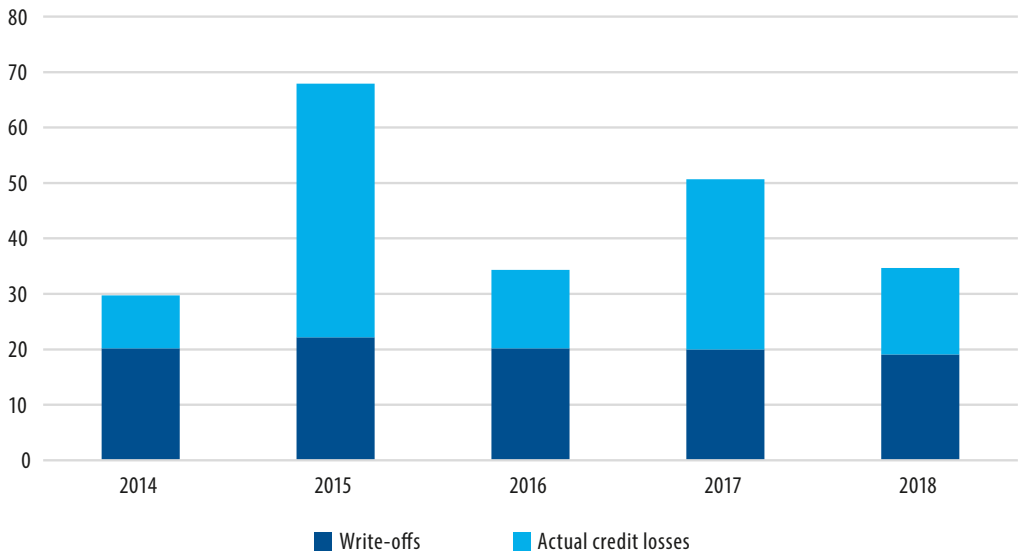
Source: State Treasury

Most of the product development loans are provided as debt instruments. New equity loans are no longer granted and for this reason, their proportion in the total loan portfolio has gradually declined.

Product development loans are risk loans and most of them are granted without collateral. Most of the financing goes to young growth-oriented companies that are only launching their product development activities and have little or no revenue to cover their expenditure.

In the 2010s, the credit losses incurred from product development loans granted by Business Finland have amounted to EUR 23–67 million annually. The credit losses arise from decisions not to collect loans and business insolvency.

Figure 12. Credit losses from Business Finland's product development loans and debt write-offs, EUR million



Source: Business Finland

4 Direct financial liabilities of central government

This Chapter contains a review of the central government's direct financial liabilities. The most important ones of them are central government debt, contractual obligations of Public-Private Partnership (PPP) projects and state pension liabilities based on statutory obligations.

4.1 Central government debt

4.1.1 Changes in central government debt

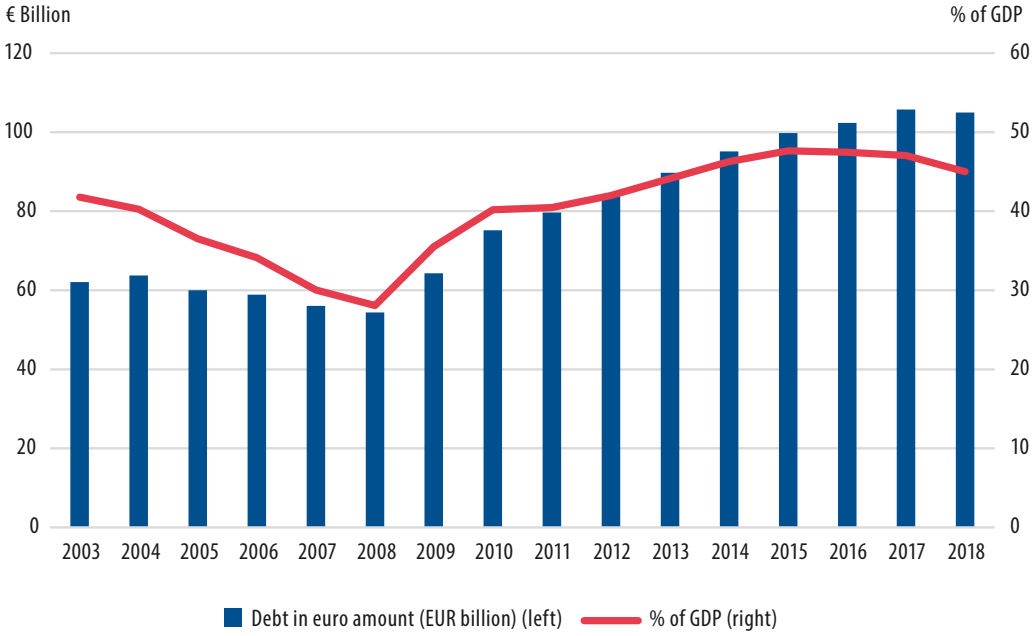
This section examines changes in central government debt on the basis of the concept used by the State Treasury for on-budget debt and off-budget entities. Within the framework of Ministry of Finance guidelines, the management of this debt is the responsibility of the State Treasury, and indicators describing the debt structure are comprehensively available.[14]

14 Another commonly used debt concept is general government debt calculated and published by Statistics Finland. For more information on the differences between these two debt concepts, visit the State Treasury's web pages on central government debt at https://www.treasuryfinland.fi/statistics-on-central-government-debt/.

Central government debt has grown substantially in recent years (Figure 13). While it totalled approx. EUR 54 billion in 2008, by the end of last year it was as high as approx. EUR 105 billion. This means that the debt burden has almost doubled over the past decade.

For the first time in eight years, the nominal value of central government debt decreased by approx. EUR 1 billion in 2018.

Figure 13. Changes in central government debt



Source: State Treasury

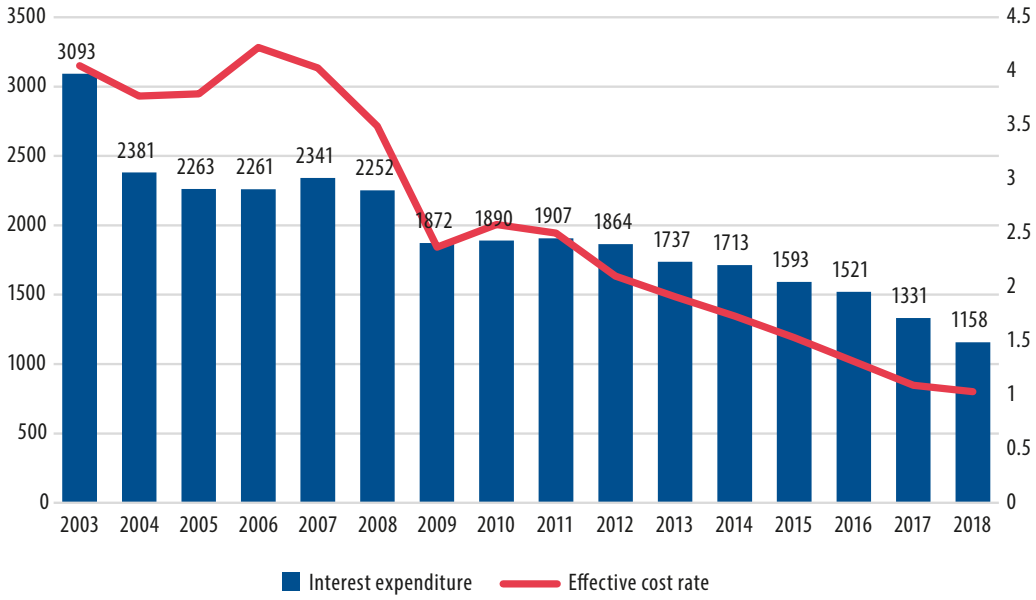
Central government debt also increased substantially relative to the GDP during the years of weak economic growth after the financial crisis. The central government debt-to-GDP ratio fell below 30% just before the financial crisis, only to start growing rapidly and exceeding the 47% limit in 2015. After that, the debt-to-GDP ratio has decreased: at the end of 2018, it was 45%.

Despite this increase, there has been no growth in interest expenditure during the investigation period (Figure 14). This is explained by the drop in market rates to historically low figures, which has considerably reduced the effective debt servicing expenses.[15]

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

For this reason, the interest expenditure arising from central government debt has been reduced by nearly one half as compared to 2008, even though the amount of debt has nearly doubled during the same period.

Figure 14. On-budget interest expenses (EUR million) and effective interest costs (%)



Source: State Treasury

4.1.2 Risks arising from central government debt

Central government debt involves many types of risks, of which financing risks and market risks are discussed in detail in this section. Financing risks include risks associated with the availability or terms of financing. Exceptional market conditions or the downgrading of the central government's credit rating may cause debt servicing expenses to increase or, ultimately, lead to insolvency.

The financing risk is divided into liquidity risk and refinancing risk. Liquidity risk means a situation where the sources of financing available to central government are insufficient to allow the central government to cost-effectively meet its payment obligations in the next 12 months.[16] Refinancing risk concerns a longer-term risk associated with the acquisition of new funding.

16 Central government cash assets are discussed in more detail in section 3.1.

Market risk refers to the interest and exchange rate risk arising from a debt. Interest rate risk means deviation from the expected long-term costs arising from central government debt as a result of interest rate changes. Interest risk may be caused by changes in the general euro area interest levels or Finland specific risk premium. The central government also issues debt in foreign currencies but exchange rate risks are hedged through derivative contracts. Consequently, there is no exchange rate risk associated with Finnish central government debt.

There are also other risks related to central government debt management (such as legal risks, operational risks, a credit risk and model risks). However, these risks are not discussed in detail in this report.[17]

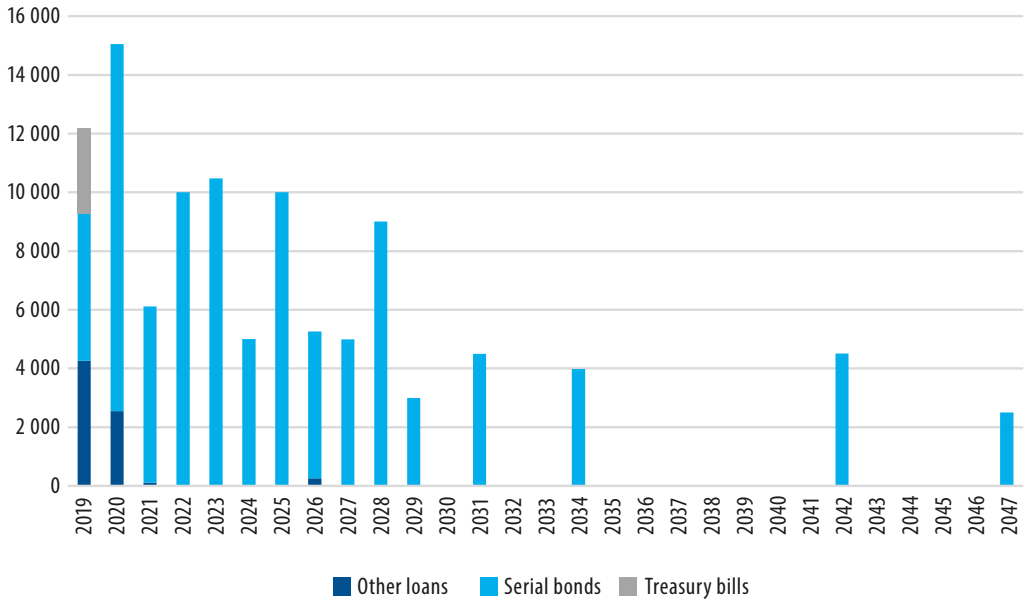
4.1.3 Risk position of central government debt

This section discusses the risk position of central government debt, focusing on the refinancing risk and the interest rate risk.

The refinancing risk of central government debt is managed by maintaining a sufficiently broad range of funding channels and by ensuring that the loan repayments are equally distributed between years to the extent possible. For information about the amortisation of central government debt over the coming decades, see Figure 15.

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

Figure 15. Amortisations of central government debt 2019–2047, EUR million[18]



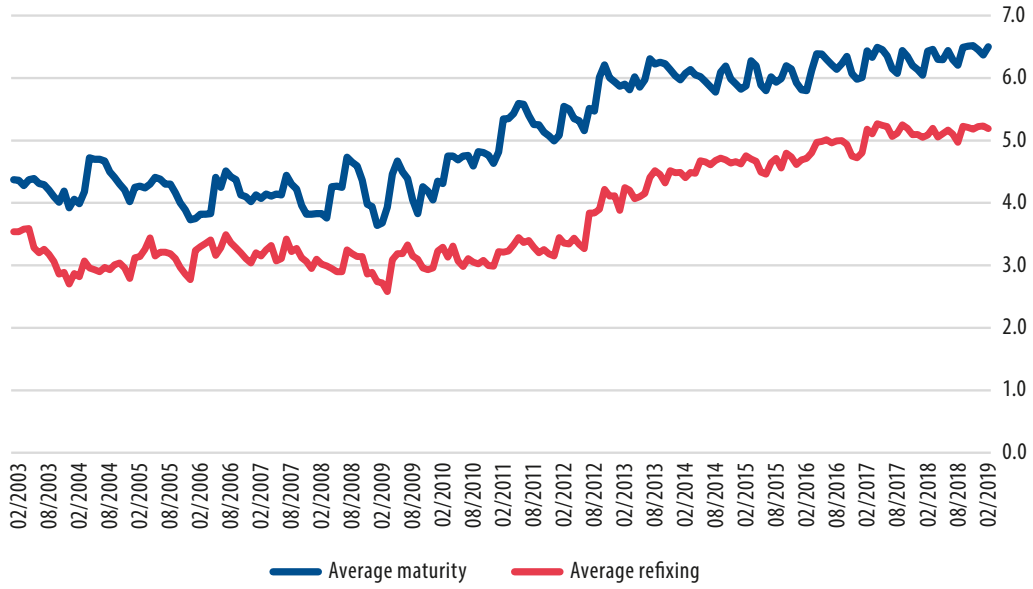
Source: State Treasury

Figure 16 provides information on changes in the interest rate sensitivity of central government debt (measured using the average refixing). This indicator gives the average time (in years) during which the debt portfolio is repriced.[19] The Figure shows that after 2012, the average repricing interval has been extended from three to five years. This can be interpreted to mean that the interest rate risk associated with central government debt has been reduced. Figure 16 also shows the average maturity of the debt; this figure describes the average period after which the loans must be refinanced. As we can see in this Figure, the average loan maturity has also increased, contributing to reducing the refinancing risk, which has been increased due to the higher amount of debt.

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, among other things, bonds issued under the EMTN programme.

19 The average repricing interval of variable rate loans is determined by the following interest rate review date, whereas for fixed rate loans, this interval is determined by the maturity.

Figure 16. Development of central government debt interest rate risk position, average maturity and average refixing

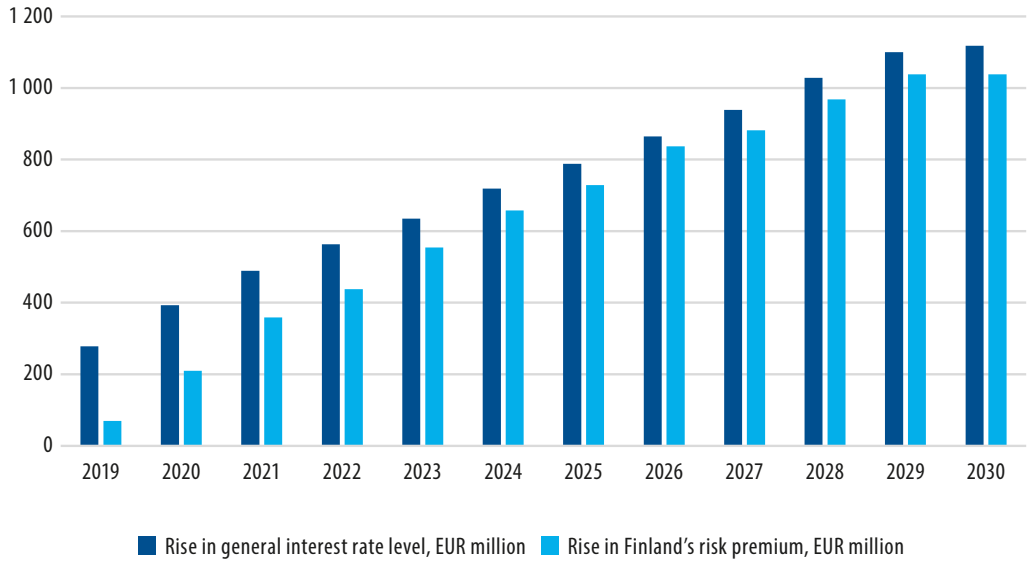


Source: State Treasury

The interest rate risk associated with central government debt can also be illustrated using the concept of budgetary risk; this involves examining the change in interest expenses when the general interest rate level or Finland's risk premium rises permanently by one percentage point. As shown in Figure 17, an increase in the general interest rate level would increase the central government's forecasted interest expenses when the current debt is repriced so that in 2020, for example, the annual interest expenditure would be about EUR 393 million higher than projected.[20] Similarly, one percentage point increase in the risk premium of Finland's central government debt would increase the interest expenditure by EUR 210 million. The difference in the increase of expenses between a situation where the general interest rate level goes up on the one hand, and where Finland's risk premium increases on the other, is based on separating the interest rate risk and the refinancing risk by means of derivatives. For more information on this issue, see the following Chapter.

20 Any increases in the amount of debt are not considered.

Figure 17. Changes in net interest expenditure when interest rates rise by one percentage point, 2019– 2030, EUR million



Source: State Treasury

The different natures of these risks is an argument in favour of preparing separately for increases in the general interest rate level and Finland's risk premium. The general interest level usually goes up during an economic upturn in Europe, which also gives a boost to the Finnish economy as a matter of course. This increases the tax revenue and allows the central government fiscal space. On the other hand, a rise in the risk premium of a country usually results from a situation where country-specific factors have affected the country's macroeconomic status and financial position adversely, leaving little fiscal space. In terms of budget risk, it is consequently justified to prepare for the refinancing risk, and thus a risk premium increase, by loan maturity that exceeds the average refixing.

4.1.4 Management of the interest rate risk and refinancing risk arising from central government debt

The State Treasury reviews interest rate risks on the basis of a 'Cost at Risk' analysis, or by examining interest rate cash flow variance. This includes systematic modelling of the interest sensitivity of the debt, and a comparison of the costs of different debt management strategies using analysis models. On the basis of the analyses, a strategic interest rate risk target is selected, which minimises the expected long-term interest expenditure at selected risk level.

Derivative instruments play a central role in the management of the central government's interest rate risk. They make it possible to manage the interest rate risk and the refinancing

risk separately. Interest rate swaps allow the State Treasury to concentrate on market demand and refinancing risk when issuing bonds, and to look at the interest rate risk perspectives separately. In other words, by using interest rate swaps, the State Treasury is able to manage the interest rate risk profile of the central government bond portfolio separately from the financing risk. As we can see in Figure 16, the average maturity, which describes the financing risk, is longer than the average refixing describing the interest rate risk.

If the derivative contract value is positive for Finland, a counterparty risk is associated with the contract. This risk is managed by demanding collateral of the counterparty. In line with the common market practice, collateral accepted by the State Treasury include Treasury bills and cash collateral provided by countries or financial institutions with a sufficiently high credit rating.

Until spring 2018, the State Treasury only had the authority to accept collateral in derivative operations. In spring 2018, the State Treasury was granted the authority to conclude so-called two-way collateral agreements, or both receive and provide collateral in derivatives transactions. A key factor in this was the new market practice. Changes in financial market regulation have increased the costs of derivatives operations based on one-way collateral arrangements. Many of Finland's reference countries have indeed switched over to using two-way collateral agreements or, alternatively, central counterparty clearing, or they are about to introduce these practices.

The transition to two-way collateral arrangements will have spillover effects on Finland's funding needs. The cash collateral provided in a two-way arrangement must be financed by borrowing if the central government is to retain its current liquidity. The impacts on gross debt depend on changes in the value of derivative net positions specific to each counterparty, and this, in turn, is affected by their sensitivity to interest rate fluctuations. A two-way collateral arrangement does not have effects on the central government's net debt position, however, as collateral provided by the central government is also a receivable for it.

In a two-way collateral arrangement, daily fluctuations in cash collateral should be accounted for when determining the size of the central government's cash buffer. The expert opinion is, however, that there will be no need for a significant increase in the size of the buffer fund, and the current fund size will be a sufficient buffer for market changes.

The overall aim of financial risk management is to ensure that central government is able to meet its payment obligations, irrespective of the market conditions. This can be achieved by maintaining sufficient cash funds and liquid investments in the short term. In the long term, it is important to ensure that there are no time-related financial risk concentrations and that the state does not rely too heavily on a small number of funding sources.

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 actor has the role of a customer and project supervisor.

The PPP model has been used in a small number of road projects (Table 2). In these cases, Parliament grants the Finnish Transport Infrastructure Agency a budget authority to carry out a PPP project. The authority 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 on the appropriations needed to fulfil the contract.

Generally speaking 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. 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 2. PPP projects in the central government budget, EUR million

Life cycle projects:	Authorities	2008–2023	2024–2027	2028–2035	2008–2035
E18 Muurla-Lohja	700.0	558.9	114.4	56.7	730.0
E18 Koskenkylä—Kotka	650.0	504.8	145.2	0.0	650.0
E18 Hamina—Vaalimaa	660.0	210.0	125.5	264.5	600.0
Fixed link to Hailuoto*	116.9	31.0	29.0	56.9	116.9
Total	**2126.9**	**1304.7**	**414.1**	**378.1**	**2096.9**

Source: Ministry of Transport and Communications

* The timeline of the fixed link to Hailuoto is not yet final. It will be specified in 2019.

4.3 Other multi-annual government liabilities

The central government also has other multi-annual contractual liabilities under which it has a direct statutory payment obligation. The largest by far of these multi-annual liabilities in on-budget finances is the central government pension liability (see Appendix 2).

Pension liabilities mean the amount required to cover the costs of pension benefits accumulated to date. Central government pension liabilities indicate the current value of the government's pension commitment to former and present employees covered by the government pension system.

The pension liabilities depend on the discount rate used in the present value calculation, the life expectancy of the insured, the retirement age and the number of those retiring due to disability. In practice, pension liabilities change annually: those employed continue to earn more pension, new people retire, and people entitled to pension die. Keva is responsible for calculating the central government's pension liabilities. They totalled EUR 92.1 billion at the end of 2018.

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 2018, the ratio between the market value of the State Pension Fund's investment portfolio and the imputed central government pension liabilities was about 20%.

The funding base of central government pension expenditure involves risks, which are associated with the prospect that the wage bill 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 wage bill would weaken VER's income base and reduce the assets available for investment, from the central government perspective it would cut direct labour costs and curb the growth of pension liabilities. Realisation of the risks associated with the wage bill and the returns on VER's investments would increase the need for direct on-budget financing in the payment of central government pensions.

Other multi-annual liabilities include the need for appropriations required by budget authorities (EUR 9.1 billion in 2018), leases concluded by central government agencies, accident and motor liability insurance compensations paid by the state, basic transport infrastructure maintenance contracts and purchasing contracts (EUR 5.7 billion in 2018). The other multi-annual liabilities of off-budget entities and unincorporated state enterprises are relatively small.

5 Contingent financial liabilities of central government

This Chapter reviews the central government's off-balance-sheet contingent liabilities. The first section focuses on so-called open contingent liabilities, which involve a legal obligation. They include government guarantees, callable capital in international financial institutions, climate responsibilities and nuclear liability. In the later sections, the Chapter looks at so-called implicit liabilities, which may put the central government under an obligation because of societal or political factors. They include the implicit liabilities of the banking sector and local government as well as those associated with state enterprises and environmental and chemical safety. Employee pension companies' pension liabilities can also be considered to create implicit liabilities for the central government. These liabilities are excluded from this review, however.

5.1 Central government guarantees

Central government guarantees[21] in effect totalled EUR 56.6 billion at the end of 2018, representing a growth of EUR 4.5 billion year on year (Figure 18). This amount has grown significantly throughout the 2010s. In 2010, the guarantee portfolio was EUR 23.2 billion.

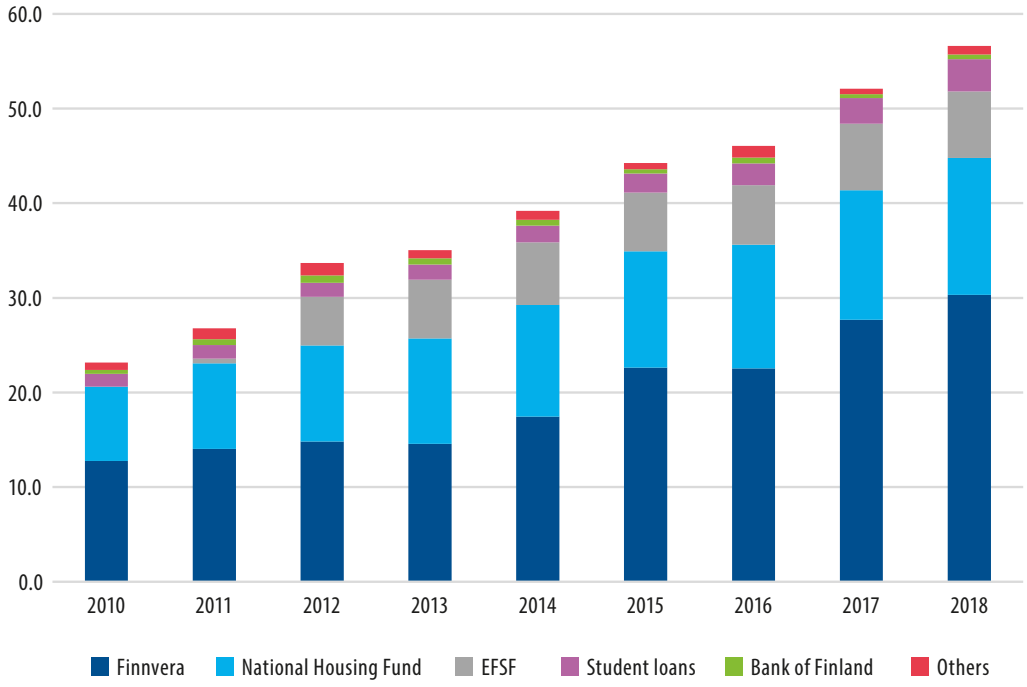
The maximum amount of central government guarantees available was EUR 105.5 billion at the end of 2018. The maximum is the maximum amount set out in the law or authorised by Parliament. For the guarantee authorities given in the Budget annually, the maximum is the amount of guarantees in effect plus the amount of guarantees granted but not yet used.

21 Government guarantee refers to a legal commitment by the state to assume liability for the debt of another party.

The largest liabilities are associated with Finnvera's operation (EUR 30.3 billion), housing funding (EUR 14.5 billion) and the management of international financial crises (EFSF EUR 7.0 billion). In 2018, the largest increase in guarantees examined in euro terms was seen in guarantees associated with Finnvera's operations, which grew by approx. EUR 2.6 billion (Figure 18 and Appendix 3). The housing financing guarantee portfolio increased by EUR 0.8 billion, and the student loan guarantee portfolio by EUR 0.7 billion.

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

Figure 18. Development in the amount of central government guarantees in effect, EUR billion



Source: State Treasury

The guarantees associated with Finnvera consist of 1) liabilities associated with export guarantee and special guarantee operations 2) the domestic liability portfolio, and 3) guarantees for funding. The liabilities in effect (used and unused) have been included in the guarantee and liability amounts related to export 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 guarantee granted by the mother company Finnvera. Finnvera's funding within the framework of the EMTN loan programme has a state guarantee. To the extent that the loan guaranteed by the government has been used to finance export credits, the government's liability for export guarantees and government guarantees for funding is not doubled, but as a result of various factors, they could be realised at different times. The contingent liabilities reported in this review are consistent with the figures in the central government's final accounts.

5.1.1 Export financing by Finnvera

Three types of public export financing instruments are used in Finland: government export guarantees, interest equalisation, and export and ship credit. Export financing is provided through Finnvera Plc, a special financing company fully owned by the state, and Finnish Export Credit Ltd, which is a subsidiary fully owned by Finnvera. Finnvera also provides financing to SMEs in Finland.[22]

The central government grants authorisations as a means of regulating the scope of public export financing activities. Prime Minister Rinne's Government has stated in its Government Programme that the sufficiency of Finnvera's authorisations will be ensured, taking the needs of risk management into account.

The export financing authorisations have been increased on several occasions over the past few years. At the end of 2018, the authorisations concerning the maximum liabilities for export financing were[23]:

- Export guarantees granted by Finnvera and hedging arrangements: EUR 27 billion;
- Export and ship credits of Finnish Export Credit: EUR 22 billion;
- Interest equalisation authorisation: EUR 22 billion;
- Authorisation for special risk-taking: EUR 5 billion;
- Maximum authorisation for the government guarantee of Finnvera's funding programme: EUR 15 billion[24] ; and
- Maximum authorisation for a potential government credit facility for Finnvera: EUR 3 billion. Under the latter facility, the government can grant loans to Finnvera if the company is unable to raise funds on reasonable terms in the capital market.

Due to the increased authorisations, total central government liabilities for export financing have grown substantially over the past few years, as shown in Figure 18 and Appendix 3. The increases in maximum export financing authorisations also indicate that central government liabilities will continue to grow in the coming years.

22 Liabilities for domestic SME financing have not increased in step with those relating to export financing. The domestic loan and guarantee portfolio totalled EUR 2.0 billion at the end of 2018.

23 Rather than being exhaustive, the list focuses on the liabilities with the greatest amounts. For example, the list does not include an EUR 0.8 billion authorisation for raw material guarantees.

24 In April 2017, the Government decided to increase the maximum guarantees for Finnvera's funding programme from EUR 6 billion to EUR 11 billion.

When assessing the extent of the liabilities and risks associated with export financing, we should note that the liabilities related to export guarantees and guarantees for Finnvera's funding may be realised as a consequence of different factors; however, they are not cumulative in the sense that the total full liabilities could be realised. The risk arising from repayments of export credits granted by Finnish Export Credit is covered by an export guarantee granted by the mother company, Finnvera. The risk-sharing rate of a bank guarantee for credit granted by a bank usually is five per cent. Additionally, to the extent that funding eligible for a government guarantee has been used to draw export credit, the government's liability associated with the export guarantees and government guarantees for funding is not doubled because by repaying export credits, the debtors are also repaying state-guaranteed debts.

In the statutory amount of liabilities related to export guarantees and hedging arrangements, the capital of used and unused guarantees and guarantee offers weighted at 50% are taken into account at the exchange rate of the date on which the decision was made.

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 smaller than the gross amount of the liabilities. At the end of 2018, the gross amount of export guarantee and special guarantee liabilities was EUR 23.6 billion, while the amount of liabilities drawn down was EUR 10.3 billion.

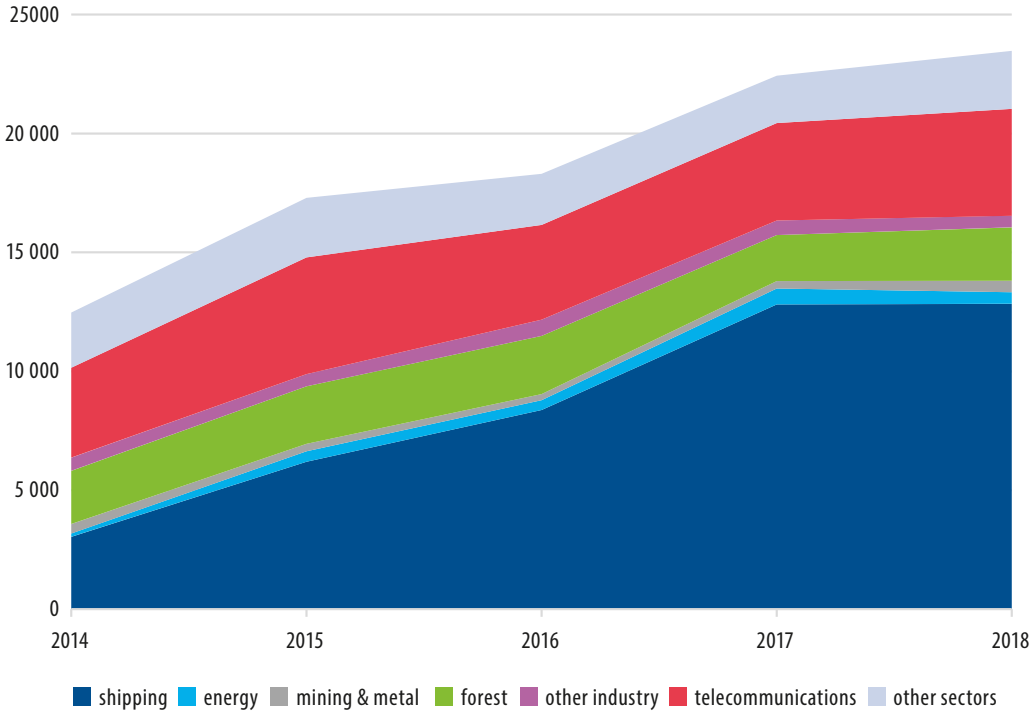
A key risk arising from Finnvera's export financing is related to credit risk. In this respect, diversification of the liability portfolio is in key role, or the extent to which the risks in the portfolio concentrate in certain sectors, geographic areas and customers.

As we can see in Figures 19–22, export financing operations are highly concentrated. Figure 19 shows the sectoral distribution of export guarantees and its development over time. There is a strong concentration of liabilities in the shipping industry, which accounted for approx. 55% of the total liabilities at the end of 2018. Sectoral concentration has also increased in recent years. In 2014, the share of the shipping industry in the total liabilities remained below 25%.

The concentration of total liabilities has also increased in recent years in the light of a regional analysis (Figure 20). In 2018, clearly the largest share of the export guarantee liability portfolio, or 51%, was related to the United States, while Germany accounted for 13%. In 2014, the United States' share was equal to that of Germany and Brazil, or 14%.

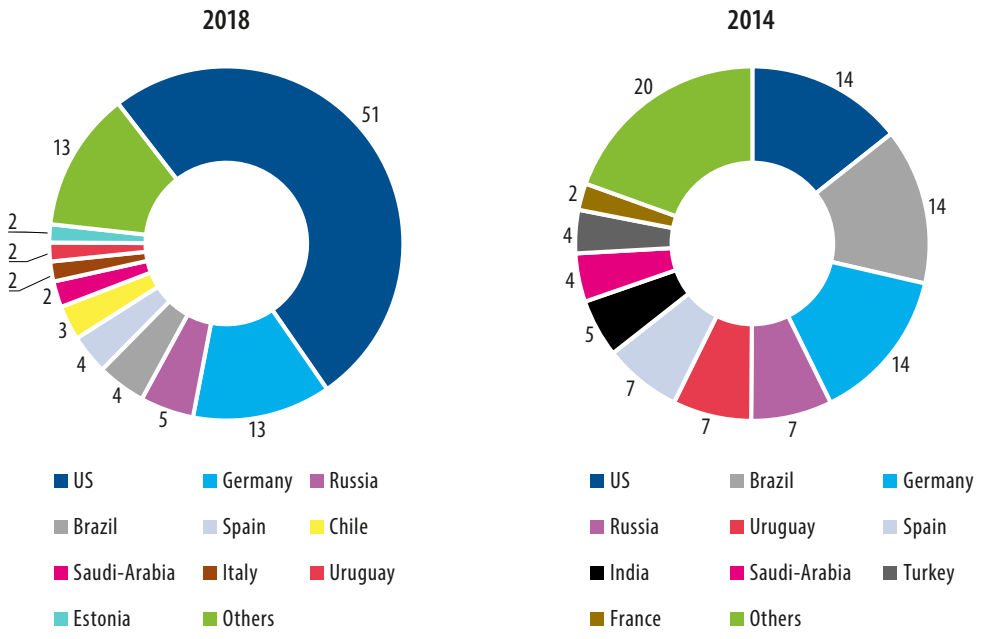
The export guarantee liabilities are also associated with significant risks arising from customer concentration (Figure 21). At the end of 2018, the three largest recipients of buyer financing accounted for 50% of the total export guarantee liabilities, the 10 largest ones accounted for 69%, while the top 20 accounted for 81%. The customer concentration risks have increased clearly compared to 2014.

Figure 19. Sectoral distribution of export guarantees, EUR million



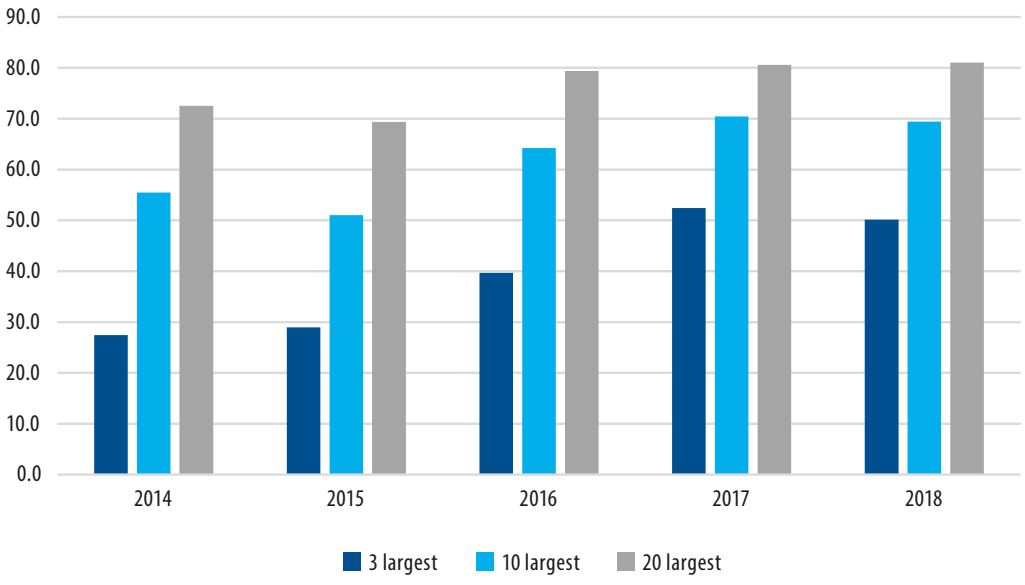
Source: Finnvera

Figure 20. **Export guarantees by country, %**



Source: Finnvera

Figure 21. **Customer concentrations of export guarantees, %**



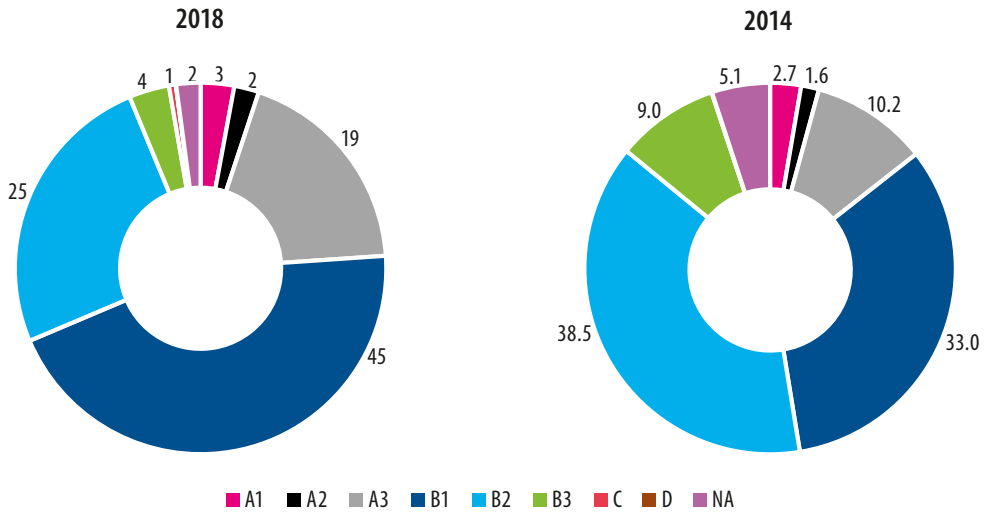
Source: Finnvera

When we look at the risks associated with the concentrations of sectors, countries and customers described above, it should be noted that the risks are partly overlapping. However, more detailed information on the degree of the risk overlap is not available.

Based on changes in the risk classification distribution, the risk associated with the portfolio of export guarantee liabilities had reduced in 2018 compared to the situation in 2014 (Figure 22). In 2014, approx. 47% of the liabilities in the portfolio belonged to risk class B1 or higher. These classes describe the so-called investment grade level. In 2018, the corresponding figure was 69%. The changes are mainly due to the risk associated with new (major) liabilities, which is smaller than average.

High concentration risks also expose export financing operations and risk management to a so-called model risk. A model risk arises if realisations of various liabilities correlate with each other more strongly than expected. For example, over-capacity or a significant drop in demand in the shipping market may result in the realisation of larger liabilities than expected. Attention to the high concentration risks was also drawn in a report of an international group of researchers published in 2017, which examined the liabilities, risks and effectiveness of the Finnish export finance system.[25]

Figure 22. Risk classification distribution of export guarantees, %[26]



Source: Finnvera

25 https://tem.fi/documents/1410877/2145521/Assessment+Export+Credits+01022017

26 Class A1 describes the lowest risk, whereas class D means that the risk is certain to be realised. Class NA contains risks with no risk classification, including sovereignty risks related to states.

Export financing is also associated with liquidity and market risks. To ensure competitive export financing, Finnish Export Credit commits to pre-agreed terms of credit (incl. Commercial Interest Reference Rates, CIRR[27]) 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 the 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 competitive reasons, it may be impossible for the state to fully hedge against the interest rate risk without incurring losses, depending on the terms and conditions of the transaction and the market conditions.

Finnvera uses the statistical VaR model (Value at Risk) to assess its credit risks. The credit risk model is based on an assessment of the probability of insolvency, the expected losses, and the amount of exposure at the time of insolvency. Another risk indicator estimates expected loss, or average annual losses. The aim is to cover the expected loss through annual income; this is also the basis of Finnvera's definition of economic self-sustainability. Finnvera is in the process of developing its VaR analysis framework to better address the concentration risk associated with its operations in the credit risk model. Finnvera also uses stress tests as part of its risk management.

Risks associated with individual counterparties and concentrations are partially hedged against through reinsurance. At the end of 2018, the maximum compensation amount of Finnvera's reinsurance contracts in effect totalled approx. EUR 1.4 billion, or 14% of the liabilities taken out.

In liquidity risk management, Finnvera strives primarily to cover the risk by means of forward-looking funding. In addition, the company's liquidity risk is covered by a EUR 3 billion lending authority in the Budget.

Any losses from Finnvera's export financing are covered through two reserve funds, which had assets totalling almost EUR 1.4 billion on 31 December 2018 (before appropriations for 2018). Losses from export guarantee activities are primarily covered from the reserve for export credit guarantee and special guarantee operations in Finnvera's balance sheet, which at the end of 2018 amounted to EUR 756 million. The positive business performance of export financing operations in recent years has increased the internal fund significantly. As recently as 2014, it amounted to EUR 436 million. Secondarily, the losses are covered

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

by the off-budget State Guarantee Fund, which was worth approx. EUR 680 million at the end of 2018.[28]If the two reserve funds turn out to be insufficient, Finnvera's losses are ultimately covered from the central government budget.

Finnvera's actual losses were EUR 24.6 million in the credit portfolio and EUR 21.6 million in the guarantee portfolio in 2018. Losses arising from export guarantee and special guarantee operations totalled EUR 4.8 million in 2018. The total losses were EUR 51 million.

The operating principle of Finnvera is to charge according to the granted financing. In 2018, Finnvera received a total of EUR 110.2 million in commission income for export guarantee and special guarantee operations, while the figure for SME and midcap financing was EUR 33.8 million.

5.1.2 National Housing Fund

The central government currently has 11 off-budget funds. In terms of liabilities, the National Housing Fund accounts for most of these funds' guarantee portfolio.[29]

The guarantees held by the National Housing Fund comprise the 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 households comprises limited state guarantees for housing loans granted by financial institutions.

In addition to guarantees, the contingent liabilities of the National 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. ASP loans intended for first time home buyers account for the majority of the interest subsidy loans granted to private households. Grants for housing construction, housing stock and financial restructuring of rental housing corporations are also paid out by the National Housing Fund.

Guarantee payments based on guarantee liabilities and the expenses associated with securing loan receivables are paid by the National Housing Fund. If necessary, the fund

28 Provisions are also made for losses from domestic financing activities. In accordance with its credit and guarantee loss undertaking, the state has pledged to cover 50% of the losses arising from SME and midcap financing from 1 January 2018. Any losses beyond this government compensation will be covered from Finnvera's domestic operations reserve, which held EUR 244 million at the end of 2018.

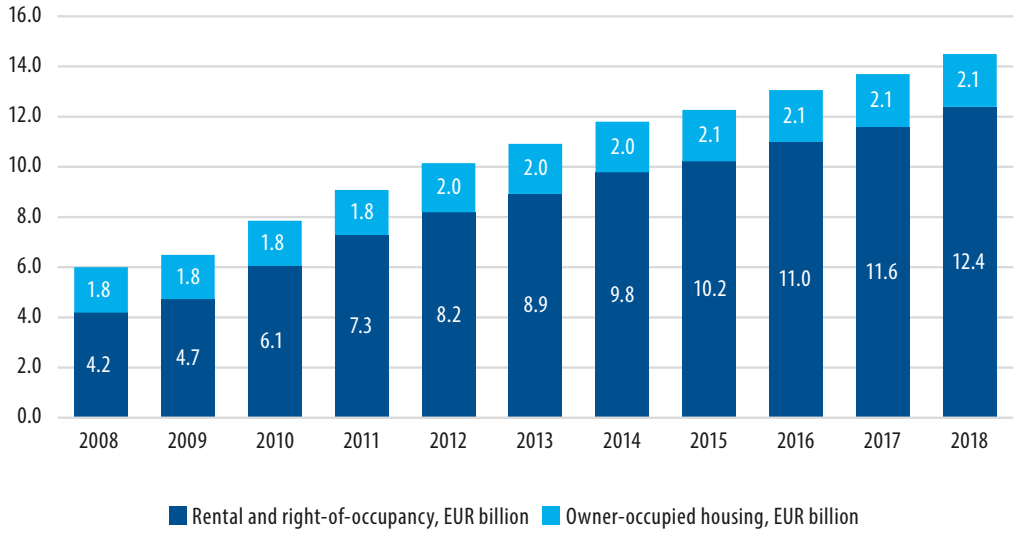
29 Government guarantees are also held by the Development Fund of Agriculture and Forestry, the National Emergency Supply Fund and the State Guarantee Fund.

also uses its assets for its own loan amortisation and interest payments. The National Housing Fund does not currently have any debts.

Long-term Arava loans granted to rental housing and right-of-occupancy corporations before 2008 account for most of the receivables in the National Housing Fund's balance sheet.[30]The Fund's revenue consists of Arava loan repayments and interests, and payments associated with various government guarantees.

The housing financing guarantee portfolio has increased substantially over the past ten years (Figure 23). The guarantee portfolio totalled EUR 5.9 billion in 2007. By the end of 2018, it had grown to EUR 14.5 billion. Guarantees for corporate loans accounted for EUR 12.4 billion and state guarantees for housing loans taken out by private households for EUR 2.1 billion of this total. The phasing out of direct housing financing by the state and substantial increases in guarantee authorisations after the start of the financial crisis boosted the guarantee portfolio for housing lending. Between EUR 1.5 and 1.7 billion was spent on housing construction guarantee authorisations in the peak years 2008 and 2009. In the 2010s, an average of EUR 1.2 billion has been allocated to guarantee authorisations each year.

Figure 23. Development in housing loan guarantee portfolio 2008–2018, EUR billion



Source: State Treasury

30 The receivables of the National Housing Fund are discussed separately in section 3.4.

The guarantees granted for housing financing are deficiency guarantees in which the property or apartment in question serves as the first-demand guarantee. In case of insolvency, if the financial institution's loan receivables cannot be covered with the realisation price of the collateral, the state will pay the financial institution a statutory guarantee compensation. No guarantee compensations were paid in connection with corporate loans in 2018. An average of EUR 0.56 million in guarantee compensations for housing loans taken out by private households have been paid each year in the 2010s. In 2018, the guarantee payments totalled EUR 0.46 million.

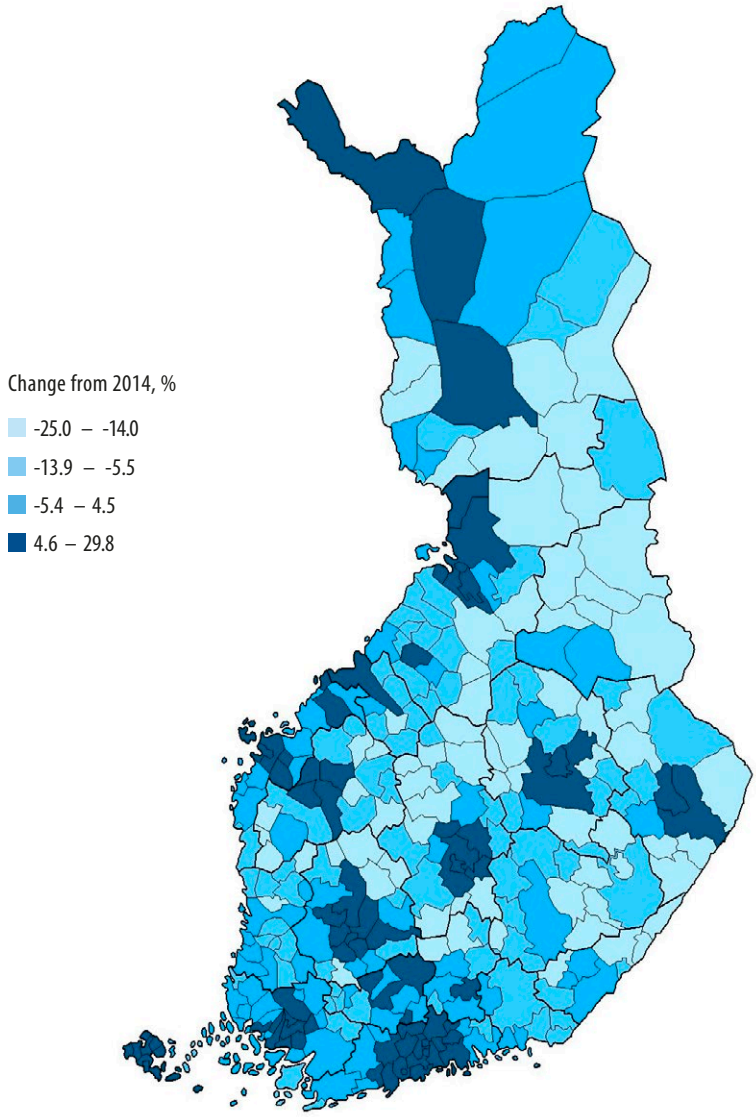
No guarantee fees are charged for most of the housing loans. The guarantee fee income from guarantees for corporate loans totals between EUR 0.6 and 1.0 million each year, while the figure for guarantees for private households amounts to between five and six million euros.

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

Areas affected by depopulation where rental housing corporations struggle with declining occupancy rates constitute a growing credit risk in housing financing. Direct loans granted to high-risk areas total about EUR 1.0 billion, while the guarantee portfolio for these areas amount to about EUR 2.2 billion. This accounts for about 19.4% of the total liability portfolio for the financing of rental housing and right-of-occupancy corporations amounting to EUR 16.5 billion.

The concentration of population has been an on-going trend in Finland for many years, and it 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. In recent years, the concentration of population has focused on fewer and fewer centres, which predicts increasing risks for rental housing corporations in areas outside the growth centres.

Figure 24. Population change projections for individual municipalities from 2014 to 2030



Source: Statistics Finland

A population projection (Figure 24) prepared in 2015 indicates that besides Helsinki region, population growth will focus on a handful of regional centres. To some extent, the population in growth centre areas also concentrates in the actual centres, which is why an examination limited by municipal boundaries does not give a fully reliable idea of, for example, development in marginal 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 corporations to ensure that the operators take the impacts of population development in the area into account 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, as well as rehabilitation and demolition grants, can be used to support risk management in social housing finance. The aim of restructuring measures is to minimise the central government's credit losses and to ensure the controlled continuation of a rental housing corporation's operation, where this has been assessed to be viable.

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

Up till now, the credit and collateral risks have as a rule mainly 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. The risks associated with these guarantee liabilities are increasing, however, and in the future the realisation of credit losses can also be anticipated in the portfolio of government 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 are also declining, which means that in insolvencies, the collateral does not necessarily provide adequate cover for loan repayment.[31]

The operations of the National Housing Fund are also associated with concentration risks. At the end of 2018, the three largest customers accounted for 27.9%, the 10 largest

31 A report compiled by the AAKE working group was published in 2017. The report reviewed the development of housing stock and housing conditions outside growth centres. In its report, this working group appointed by the Ministry of the Environment proposed more effective measures for reducing the financial and loan portfolio risks of rental housing corporations in areas affected by depopulation. Ministry of the Environment reports 23/2017. YMra_23_2017.pdf (1.344Mt).

Issues of government housing finance were also considered in the parliamentary Audit Committee's report Asuntopolitiikan kehittämiskohteet (Areas of development in housing policy). TrVM 3/2018 vp – Eduskunta

customers for 49.4% and the 20 largest customers for 60.8% of the liabilities in the fund's guarantee portfolio.[32]

The guarantee portfolio for the financing of right-of-occupancy corporations totalled EUR 2.8 billion at the end of 2018. The proportion of financing for right-of-occupancy housing in the guarantees for corporate loans has increased from 15.5% in 2010 to 23.4% in 2018. On account of the restriction regulation, financing of right-of-occupancy housing involves collateral challenges, which make it more difficult to take out renovation loans and to realise the properties.

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

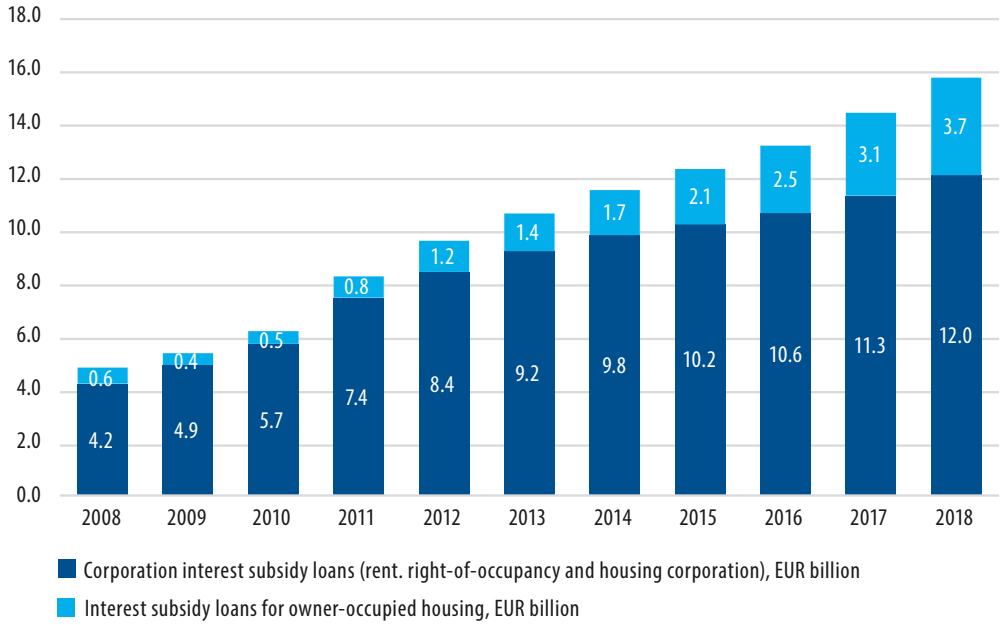
The loan portfolio of interest-subsidised housing financing has grown from EUR 6.2 billion at the end of 2010 to EUR 15.7 billion in 2018 (see Figure 25). Because of the generally low interest rates, the interest-subsidy payments for housing financing currently only amount to about EUR 3.7 million each year. In the long run, however, the substantial growth in interest-subsidised lending contains an interest rate risk for the state. A rise in interest rates and the low self-financing share of the interest rate paid in certain loan categories increase the risk that more interest-subsidy payments will have to be made. If the interest rate on an interest-subsidy loan is 5%, the annual interest-subsidy expenses would amount to approx. EUR 248 million.[33]

In recent years, growth in interest-subsidy housing loans has been particularly rapid in ASP housing lending for private households. The loan portfolio has grown from EUR 346 million at the end of 2010 to EUR 3.6 billion at the end of 2018. The number of new ASP savings accounts opened during the past few years indicates that the interest-subsidised ASP loan portfolio will also continue to grow at a rapid rate for the next few years.

32 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 16.5 billion on 31 December 2018.

33 Simulation of interest-subsidy payments by the State Treasury.

Figure 25. Development in interest-subsidised loan portfolio 2008–2018, EUR billion



Source: State Treasury

5.1.3 Student loans

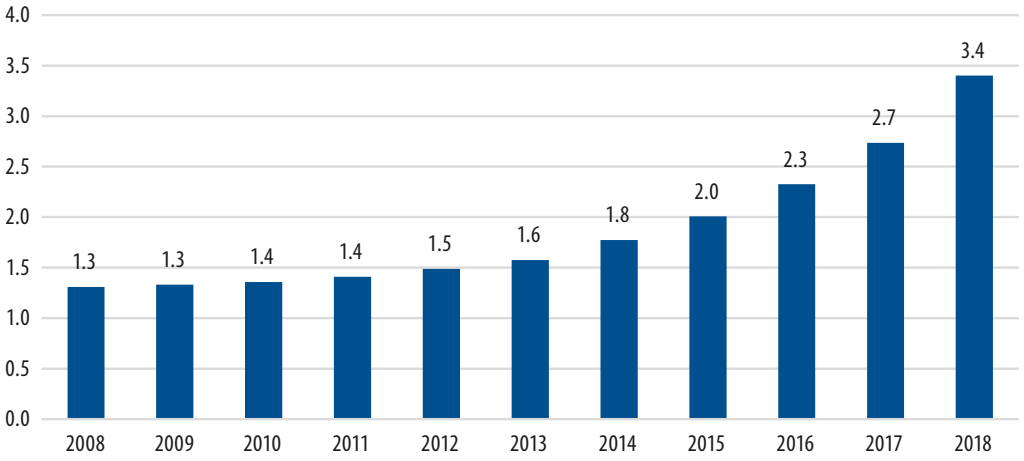
The state-guaranteed student loan portfolio has grown from EUR 1.3 billion (in 2008) to EUR 3.4 billion (in 2018). In 2018, the guarantee portfolio grew by EUR 0.7 billion. This strong growth was underpinned by the student financial aid reform of 2017 which, among other things, increased the state guarantee amounts for student loans from EUR 400 to EUR 650 a month for students at Finnish higher education institutions.

The strong growth in the student loan portfolio has so far not been seen as a growth in guarantee liability receivables related to student loans subject to recovery procedures. In fact, the amount of these receivables has gone down in recent years. The guarantee liability receivables were EUR 115.9 million in 2018, whereas this figure was EUR 122.0 million in 2017 and EUR 131.7 million in 2016. The loan amount remitted to the banks under the government guarantee liability, on the other hand, increased by approx. 27% in 2017–2018 to EUR 16.5 billion in 2018[34]. The annual revenue from recovery procedures has been close to the annual guarantee liability expenditure. The revenue totalled EUR 15.9 million in 2018. In 2018, the payment exemptions and depreciations associated with recovery procedures were approx. EUR 10.1 million.

34 The average guarantee payment was EUR 4,638.

The student loan portfolio has no risk concentrations related to individual customer groups. At the end of 2018, 430,931 persons had a student loan and the average loan amount was EUR 7,798.

Figure 26. Development in state guarantee portfolio for student loans 2008–2018, EUR billion



Source: Kela, State Treasury

5.1.4 European Financial Stability Facility

European Financial Stability Facility (EFSF) is a limited liability company founded by the euro area member countries in Luxembourg in 2010. It served as a temporary crisis management instrument by providing conditional financial aid to euro area member states facing financing problems. The funding of EFSF is guaranteed by the euro area member 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 loans to Greece, Ireland and Portugal. No new loans have been provided by EFSF after 30 June 2013. For this reason, Finland's share of the guarantees for EFSF's funding has remained unchanged in recent years. Finland's share of guarantees in the funds raised by EFSF, including interest and over-guarantees, totalled approx. EUR 7 billion on 31 December 2018, of which EUR 3.4 billion are included in the financial accounts as central government debt and loan receivables.[35]

35 For more information about Finland's receivables and liabilities arising from the management of the euro area debt crisis, see the Ministry of Finance's risk review for last year at https://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160999/VM_18c_18_Overview%20of%20Central%20Government%20Risks%20and%20Liabilities%202018.pdf?sequence=1&isAllowed=y

If a country has been granted financial aid and it is unable to repay the loans provided by EFSF or make interest payments, Finland will have to make a contribution to EFSF in accordance with its share of the guarantees. EFSF's 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 loans provided as part of the second EFSF programme for Greece.[36]. 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 now totals approx. EUR 0.92 billion. The collateral payments made in euro have been invested in government bonds in euro countries with high credit ratings (Finland, the Netherlands, Austria and France).

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). No guarantee fees have been charged for the state guarantees. The guarantee liabilities connected with IMF's funding comprise the member's quota, the NAB[37]arrangement and a bilateral loan, which total approx. EUR 8.2 billion. About 10% of the funding granted by Finland to the IMF has been used in recent years.

Government guarantees associated with the member's quota and the NAB arrangement are issued in the IMF's accounting currency, SDR (special drawing right). Any compensation to the Bank of Finland on the basis of the government guarantee would be paid in euros. Consequently, the euro-denominated value of the guarantee depends on the exchange rate of the euro. The EUR/SDR exchange rate effective at the given time will be used to calculate the guarantee liabilities in euros.

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 offered 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 institutions. During its history, the IMF has resorted to debt write-downs, mainly in the poorest member countries, as part of more extensive debt relief programmes.

36 Finland also received collateral for the Spanish aid programme. The programme was, however, funded through ESM.

37 New Arrangements to Borrow

5.1.6 Other guarantees

In 2015, the Government granted the Unemployment Insurance Fund (TVR)[38] a guarantee of EUR 770 million for a syndicated loan arrangement with banks to cover the fund's deficit. In 2017, the Government granted an extension for a guarantee for TVR's stand-by credit line of EUR 400 million. The maximum amount of capital and interest for which a guarantee was provided was EUR 440 million. TVR did not make use of the guarantees granted to it, and the authorisation expired in April 2019.

In 2017, Parliament gave the Government authorisation to grant Terrafame Oy an absolute government guarantee to a maximum amount of EUR 107 million. No counter collateral is required for this guarantee, which serves as a counter guarantee 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 Oy. In 2018, Terrafame's environmental guarantees were rearranged and the Government made a decision to replace the counter guarantee with a new counter guarantee of EUR 58.5 million. A consortium of three international credit insurance companies is the beneficiary in this counter guarantee. In the new guarantee arrangement, the counter guarantee provided by the state was reduced from 80% to 45% of the total guarantee amount. In spring 2019, Terrafame's guarantee liability was reduced to EUR 30.5 million. One-off payments (at the withdrawal date) and annual guarantee fees have been paid for the guarantees. The guarantee will expire on 9 February 2022 at the latest.

The government guarantee for loans taken out by the Saint Petersburg Foundation ended in 2017 as the central government paid the remaining liabilities related to this guarantee to the bank. Based on the original guarantee of EUR 13.5 million, the central government's receivables for the guarantee compensations paid totalled EUR 12.5 million at the end of 2018. The foundation declared bankruptcy in 2017, but the bankruptcy proceedings remain unfinished.

5.1.7 International comparison of government guarantees

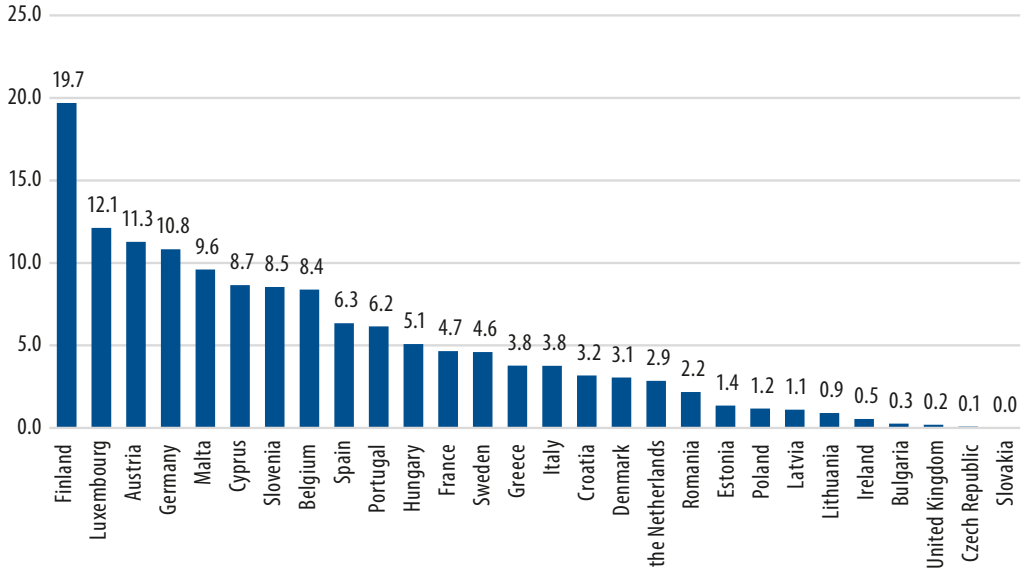
By European comparison, the ratio of Finnish central government guarantees to the GDP is high. Different reporting practices, among other reasons, make it difficult to compare the nominal values of guarantees between countries. According to the 2017 figures collected by Eurostat, the ratio of the guarantees held by Finland to the Finnish GDP is 19.7%, which is the highest rate in the EU (Figure 27).[39]

38 The Employment Fund, which took on the statutory tasks previously handled by the Unemployment Insurance Fund and the Education Fund, started operating at the beginning of 2019.

39 https://ec.europa.eu/eurostat/web/government-finance-statistics/contingent-liabilities

The Finnish central government guarantee portfolio has also grown more rapidly than elsewhere in the EU in recent years (Figure 28). Between 2013 and 2017, the Finnish guarantee portfolio showed the fastest growth in the EU countries. During the period under review, the central government guarantee to GDP ratio for Finland grew by 6.7 percentage points. Luxembourg came second with 3.2 percentage points. In that country, however, the guarantee portfolio to GDP ratio at the end of 2017 was 12.1%, which was substantially lower than in Finland. In other EU countries, changes in the guarantee portfolios were minor, and some countries have even reduced their portfolios.

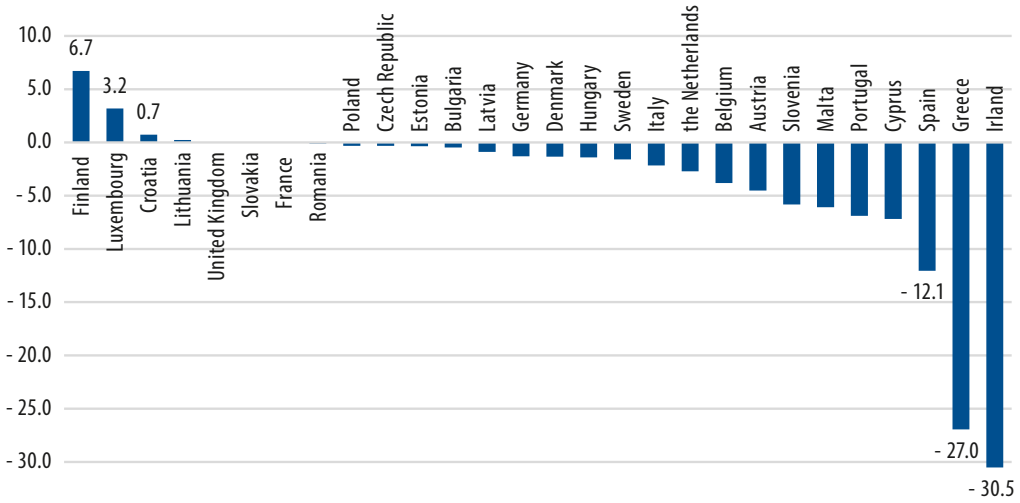
Figure 27. Central government guarantees held by EU countries in 2017, % of GDP[40]



Source: Eurostat

40 The figures do not include the liabilities of the European Financial Stability Facility (EFSF).

Figure 28. Changes in central government guarantees to GDP ratio in EU countries between 2013 and 2017 (percentage points)[41]



Source: Eurostat

41 The figures do not include the liabilities of the European Financial Stability Facility (EFSF).

BOX 1. RISK MANAGEMENT OF CONTINGENT LIABILITIES

Fiscal policy rules are in place to restrict excessive on-budget deficits and general government indebtedness. In Finland, these rules comprise EU rules, their national application, the central government's budgeting according to spending limits and local government rules.[42]

The Finnish national fiscal policy rules do not limit the development of contingent liabilities. Moreover, the costs associated with contingent liabilities are not fully considered in the preparation of the Budget. The same applies to the EU rules. While the Stability and Growth Pact and the Budgetary Frameworks Directive contain requirements concerning the reporting of contingent liabilities, no limits are set on their level or growth.

The fact that fiscal policy is limited by the relevant rules while no similar rules are applicable to contingent liabilities creates distorted incentives for decision-makers. In order to avoid fiscal policy restrictions, decision-makers may favour the use of government guarantees over on-budget expenditure. While increasing the guarantees does not have direct impacts on expenditure or indebtedness and it thus does not come up in evaluations of compliance with fiscal policy rules, contingent liabilities affect the central government's risk position negatively.

Considering the importance of contingent liabilities for the sustainability of general government finances, it is not surprising that credit rating agencies have in recent years kept a closer eye on them when assessing countries' credit ratings. Guidelines on good principles of managing contingent liabilities and risk management have also been published by international institutions.

One of these institutions is the International Monetary Fund.[43]The IMF guideline divides the management of risks related to contingent liabilities, and in more general terms the sustainability of public finances, into four parts. The first part is identifying and quantifying the risks. This comprises maintaining a comprehensive database of contingent liabilities and assessing the risks associated with them.

The second part contains measures for mitigating the risk exposure of contingent liabilities. They include setting a ceiling for contingent liabilities, using standard criteria and specifying the process for assessing guarantees when decisions on them are being made, charging risk-related fees, requiring collateral and reinsurance.

The third part comprises making provision for risks which it has not been possible to mitigate sufficiently in advance. This includes maintaining buffer funds and taking the risks associated with contingent liabilities into account in the budget process.

The final part is providing fiscal space for the public finances. It is possible that not all risks related to contingent liabilities can be identified in advancetary Fund or some risks are too

42 For more information about fiscal policy rules, see e.g. Busk et al. (2016).

43 Analyzing and managing fiscal risks: Best practices, 2016, International Monetary Fund

large to provision for fully, for instance as part of the budget process. When these risks are realised, it is important for the public finances to have sufficient space in order to control and mitigate the negative impacts.

The quality of reporting on and monitoring contingent liabilities has been improved in Finland in recent years, and the coverage of these activities has been expanded. However, similar progress has not yet been made in more detailed quantification and analysis of the risk exposure of the liabilities.[44] Neither do the current practices in Finland fully correspond to the procedures of parts two and three in the best practices described above. For example, the process of analysing and handling contingent liabilities is not systematic enough, making it more difficult to obtain an overall picture of their risk exposure.

The prevailing practice of charging fees for guarantees is not compliant with the best practices listed by the IMF. While charging a fee for a government guarantee is the basic premise under Finnish legislation the Government can, for special reasons, decide not to impose a guarantee fee. In practice, it turns out that special reasons have been regarded as existing in almost all cases within the scope of this provision, and thus not collecting the fee has become a rule rather than an exception.

The total costs of contingent liabilities are also currently not considered in full in the Budget and the spending limits procedure in Finland. This provides an incentive for using contingent liabilities instead of on-budget expenditure, even though such an approach would not necessarily be desirable in the long term from the economic perspective.

44 The shortcomings in assessing the risk exposure of contingent liabilities have been highlighted in such documents as the National Audit Office's audit report on fiscal policy (Finanssipolitiikan tarkastuskertomus, Julkisyhteisöjen ehdolliset vastuut, National Audit Office's audit reports 4/2018).

5.2 Callable capital in international financial institutions

Capital liabilities refer to callable capital remitted to international financial institutions (IFIs) in the event that capital is required to cover losses or to prevent their insolvency. Several international financial institutions have increased their capital in recent years, causing also a rise in their callable capital. By far the most significant increase in capital liabilities was caused by the establishment of the European Stability Mechanism (ESM). Finland's share of the callable ESM capital is EUR 11.14 billion.

Table 3. Government capital liabilities, EUR billion

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Asian Development Bank (AsDB)*	0.12	0.40	0.41	0.40	0.38	0.41	0.44	0.44	0.49	0.42
African Development Bank (AfDB)*	0.10	0.11	0.35	0.35	0.33	0.35	0.38	0.38	0.35	0.36
Inter-American Development Bank (IDB)**	0.11	0.12	0.12	0.13	0.14	0.18	0.22	0.25	0.22	0.23
European Bank for Reconstruction and Development (EBRD)	0.18	0.18	0.30	0.30	0.30	0.30	0.18	0.30	0.30	0.30
World Bank Group (WBG)***	0.68	0.74	0.76	0.79	0.87	0.97	1.15	1.29	1.09	1.13
European Investment Bank (EIB)	2.82	2.82	2.82	2.82	2.82	2.82	3.10	3.10	3.10	3.10
Council of Europe Development Bank (CEB)	0.04	0.04	0.06	0.06	0.06	0.06	0.07	0.07	0.07	0.07
Nordic Investment Bank (NIB)	0.69	0.69	1.01	1.01	1.01	1.01	1.09	1.09	1.09	1.09
European Stability Mechanism (ESM)	0.00	0.00	0.00	11.14	11.14	11.14	11.14	11.14	11.14	11.14
Total	**4.75**	**5.10**	**5.83**	**17.01**	**17.06**	**17.25**	**17.77**	**18.05**	**17.85**	**17.84**

* Capital expressed in SDR (**USD), converted into euros at the closing exchange rate for the year.

*** Includes the International Bank for Reconstruction and Development (IBRD), International Finance Corporation (IFC) and the Multilateral Investment Guarantee Agency (MIGA).

Sources: Financial statements, Ministry of Finance, Ministry for Foreign Affairs

5.3 Other contingent contractual liabilities

The government is responsible for the achievement of emissions targets in the non-ETS sector, or the so-called burden-sharing sector (transport, agriculture, housing). It appears that the current emissions reduction obligation (-16% from the 2005 level by 2020) will be met. Should the development of emissions levels be less favourable than expected, for example as a result of stronger than predicted economic growth, the government would be forced to either adopt new actions aiming to cut emissions in these sectors or to acquire emission allowances in the market to cover the emissions reduction obligation.

In summer 2018, the EU adopted emissions reduction targets for 2030. Finland's target is to reduce emissions by at least 39% from the 2005 level by 2030. Attaining this target is challenging and will require significant additional measures to reduce net emissions[45] in the 2020s.

Another contingent contractual liability that is legally binding to the central government concerns nuclear operations as set out in the Nuclear Liability Act (484/1972). Nuclear liability refers to the liability of a nuclear power plant licensee for damage to third parties. The act on the temporary amendment to the Nuclear Liability Act entered into force at the beginning of 2012. Under the act, the licensee of a nuclear power plant located in Finland has unlimited liability for nuclear damage in Finland. Maximum liability for damage incurred outside Finland is 600 million SDR, equivalent to about EUR 744 million at current exchange rates. The licensee is required to have insurance of 600 million SDR to cover these liabilities. Finland is a party to international agreements under which the contracting countries agree to compensate for damage exceeding the maximum level of the facility operator's liability. Under these agreements, damage shall be further compensated to a maximum of 125 million SDR (about EUR 155 million).

5.4 Implicit liabilities of the banking sector

The government is under 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 social 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.[46]

An effort has been made to reduce taxpayers' liability in future banking crises by establishing the EU Banking Union and through new crisis resolution legislation on banks. The Banking Union has centralised the supervision of banks and crisis resolution. The banks' crisis resolution tools have also been enhanced, and a Single Resolution Fund (SRF) jointly financed by the banking sector through fees has been established.

45 The emissions reduction target concerns net emissions. Net emissions can be reduced by either cutting gross emissions or increasing the carbon sinks that bind greenhouse gases.

46 A great deal of research literature on the costs incurred by general government finances from financial crises is available. E.g. https://www.ecb.europa.eu/pub/economic-bulletin/focus/2018/html/ecb.ebbox201806_04.en.html

The Member States and the European Parliament are currently discussing a Commission proposal for a joint European Deposit Insurance Scheme (EDIS). Its aim is to strengthen the Economic and Monetary Union (EMU) by breaking the doom loop between governments and their banks. This loop was a key reason for the financial crisis developing into a prolonged debt crisis in some of the euro area member countries. The current negotiations also concern an ESM-based backstop arrangement for the Single Resolution Fund used in case the SRF funds prove insufficient in a crisis. In the absence of credible crisis resolution procedures, self-perpetuating expectations may lead to instability which is difficult to control in a market stress situation, as was seen in the last quarter of 2008.

5.4.1 Situation and structure of the banking sector

In addition to the establishment of the Banking Union, significant structural changes have taken place in the Finnish banking sector in recent years. The Nordea group changed its legal structure in 2017, adopting a branch model. Under this model, the group has a single balance sheet and capital amount, which means that supervision and crisis resolution are the responsibility of a single authority. In March 2018, the bank's annual general meeting decided to move its head office to Finland, and the relocation took place in October of the same year. Danske Bank had also announced that it would take similar restructuring measures but that its head office would remain in Copenhagen. It adopted its new operating model at the beginning of 2018 and now maintains a presence in Finland as a branch office.

Special features of the banking sector in Finland are a high degree of concentration, lending risk clusters and strong links with other Nordic countries, which contributes to making the sector more sensitive to shocks. Due to the factors listed above, the Finnish banking sector is exposed to a systemic risk. A structural systemic risk and risks posed by economic cycles often also reinforce each other. As a consequence of the relocation of Nordea's head office, the domestic banking sector is larger and more concentrated than before and has stronger links with the other Nordic countries.

Following European Banking Authority guidelines, the Financial Supervisory Authority in Finland has identified three so-called systemic credit institutions: Nordea, the OP Financial Group and Municipal Finance. A common feature typical for these institutions is that their operations in payment systems or the financing of companies and households would be difficult to replace, and they play a key role for other actors in the financing system. In practice, serious problems experienced particularly by the first two would have extensive repercussions on the functioning of entire society. For this and other reasons, higher capital adequacy requirements apply to systemic credit institutions than to others.

Despite the extremely low interest rates in recent years, the financial situation of the banks operating in Finland has remained fairly good on average.[47] While the average solvency dropped clearly in late 2018 as a result of Nordea's relocation, it was stronger than the European average. The comparable (excluding Nordea and Danske Bank) Common Equity Tier 1 capital ratio increased slightly in 2018 to 20.9%. However, there were major differences between the banks regarding their solvency buffers (own funds in excess of the minimum requirement). At its lowest, this buffer was as low as 1.6%.

Finnish banks passed the stress test organised by the European Banking Authority and the Financial Supervisory Authority in 2018 with flying colours. The findings showed that in a stress scenario where financial conditions become less favourable, asset prices drop dramatically, the real economy contracts and unemployment grows, the Common Equity Tier 1 capital ratios were on average over 15%. This figure is clearly better than the EU average.[48]

Finnish banks also have an extremely good short-term liquidity position on average. The ratio describing this position (LCR, Liquidity Coverage Ratio) was 175% at the end of 2018, clearly exceeding the minimum requirement of 100%. A strong liquidity position is important for Finnish banks, as their market funding rate is one of the highest in the euro area. The share of short-term market funding increased significantly as a result of Nordea's relocation.

5.4.2 Crisis resolution and deposit guarantee scheme

New crisis resolution legislation on banks entered into force at the beginning of 2015, and the Single Resolution Mechanism (SRM) of the member states participating in the Banking Union came into effect at the beginning of 2016. So far, however, little experience has been gained of the application of the new regime. Recent years' events in Italy have shown that the threshold for fully applying the new bail-in regulation in concrete cases without government involvement may be high.

Deposit guarantee schemes remain the responsibility of the national authorities under the Banking Union. In Finland, the Financial Stability Authority (RVV) is responsible

47 6 Financial Supervisory Authority review: https://www.finanssivalvonta.fi/globalassets/fi/markkinoiden-vakaus/valtari_311218/pankkisektorin_valtari_q4_2018.pdf

48 7 While only the OP Financial Group was included in the EBA test, the Financial Supervisory Authority conducted a separate national stress test for smaller Finnish banks. The OP Financial Group's CET 1 capital ratio in a stress scenario was 15.3% in 2020, and this ratio for other Finnish banks was 15.2%. The average for large banks in the EU area was 10.1%. Financial Supervisory Authority's press release: https://www.finanssivalvonta.fi/en/publications-and-press-releases/Press-release/2018/results-of-the-eu-wide-stress-test-of-banks-finnish-banking-sector-would-withstand-a-weakening-in-the-operating-environment2/

for providing a deposit guarantee for Finnish deposit banks. The RVV-managed fund totalled EUR 274 million at the end of 2018, while the old deposit guarantee fund (VTS fund), which the RVV can draw on if necessary, totals EUR 872 million. In other words, approx. EUR 1.1 billion will be available in a crisis. At the end of 2018, the deposits to be guaranteed amounted to approx. EUR 130 billion.

If the RVV-administrated funds are insufficient to pay a depositor, the fund may obligate its member banks to pay an additional contribution equal to 0.5% of compensable deposits. When even this proves insufficient, the fund may borrow from its members in proportion with covered deposits. Under the by-laws of the fund, members may not refuse a request to borrow. In difficult market conditions where more than one bank is likely to experience financing problems due to the system interlinkage, it may prove a challenge to arrange a significant loan to the fund without government support.

The structure and interlinkages of the large Nordic banks challenge the crisis management cooperation of Nordic financial market authorities. The new structure may strengthen the links between the financial markets in Finland and the other Nordic countries. A bank operating in more than one country is still subject to a single balance sheet and one set of capital adequacy requirements. The balance sheet may serve as the conduit whereby trouble in one country of operation is transmitted to another country. The possibility that potential problems in the housing and real property market in other Nordic countries will be reflected in the Finnish bank's financial status and operation has frequently been brought up.

This setting underscores the importance of cooperation and information sharing between the supervisory authorities in Finland, other Nordic countries and the EU. Of the Finnish savings banks, Nordea and the OP Financial Group are under the direct supervision of the European Central Bank (ECB), and in crisis resolution, they come within the competence of the Single Resolution Board (SRB). In a severe crisis, correctly timed and comprehensive coordination between the ECB, the SRB and the Nordic authorities to minimise economic damage and to ensure the continuation of critical functions plays a key role in risk management.

5.4.3 Risks and risk management

If an individual credit institution faces serious difficulties, the basic premise is that crisis resolution will be handled by the SRB for major Finnish institutions and by RVV for others. No public financing will be needed if the crisis resolution scheme works as planned. This also means that the activation of the deposit guarantee scheme will not be needed, should Nordea and the OP Financial Group face a crisis.

In case of smaller savings banks, crisis resolution actions will be taken at the discretion of RVV, and if a decision is made to place the bank in liquidation rather than use the crisis resolution procedure, it will be necessary to draw on the deposit guarantee fund to compensate for its deposits. If this fund is not sufficient, the procedure described above will be followed.

If the financial position of several banks deteriorates strongly at the same time, this would represent a risk in terms of using public funds. In an extremely unstable market situation (as in late 2008), attempts to stabilise the banking market by government measures may be justified, but this would have to be a highly exceptional situation affecting the entire sector rather than an individual bank. A crisis of this nature would probably be more extensive and require coordinated action at the European level.

As a risk associated with Nordic interauthority cooperation can be seen the possibility that in extremely difficult circumstances and under pressure, the authorities would be unable to act as agreed.

5.5 Local government

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

Stable economic growth is a precondition for financing municipal services and investments. Unexpected changes in local government finances affect the ability of municipalities to manage their finances and provide basic services. This may also have an impact on central government finances, for example by affecting Finland's credit rating. Furthermore, an increase in the municipal tax rate could have a negative impact on economic growth. Municipal investments and consumption behaviour also affect the current status and development of the economy.

According to municipal accounting, the annual contribution margin has been positive but, apart from a few exceptional years, insufficient to cover depreciation and net investments. This has resulted in an increase in municipal indebtedness.

At the same time, municipalities have been forced to increase their local tax rates to raise the funds needed to guarantee basic services. The weighted average local tax rate for all Finnish municipalities has risen from 18.12% in 2004 to 19.88% in 2019.

5.5.1 Municipal loan stock

According to their final accounts for 2018, the municipalities' loan stock grew by approx. EUR 600 million, amounting to slightly over EUR 16.7 billion at year end. Municipal loan growth remained slow and steady for many years but took a sharp upward turn in 2003, with loans growing from about EUR 5.5 billion to the present level.

The total loan stock of municipalities and joint municipal authorities stood at approx. EUR 19.5 billion at the end of 2018. Total loans of the local authority corporation[49]amounted to approx. EUR 36 billion at the end of 2018.

Between 45% and 55% of the municipalities' loans are provided by Municipality Finance. Currently, approximately 65% of new municipal sector loans and 80% of financing for government-subsidised social housing construction come from this company. Municipality Finance is a credit institution owned by the municipalities, municipal corporations and the local government pension institution Keva, in which the central government has a 16% stake. Other funding providers include commercial banks and the European Investment Bank.

The Municipal Guarantee Board guarantees the funding of Municipality Finance in international and domestic financial markets. Under the Guarantee Board Act the member municipalities of the Municipal Guarantee Board are, jointly and relative to their population, responsible for the commitments and expenditure of the Guarantee Board that it cannot otherwise cover. All municipalities in mainland Finland are members of the Guarantee Board.

The guarantees provided by the Municipal Guarantee Board have grown on a par with the operations of Municipality Finance. Its guarantee portfolio has tripled in less than ten years: from slightly more than EUR 10.6 billion in 2008 to about EUR 31.3 billion in 2018.

The shared mission of Municipality Finance and the Municipal Guarantee Board is to ensure access to funding for the local government sector and for social housing construction in all market conditions. The clean credit history of Finnish municipalities

49 Under Chapter 1, section 5(1) and section 6 of the Accounting Act, the group 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 effective control.

and legislation that addresses the financial problems of individual municipalities have supported the credit standing of the Finnish municipal sector in the financial markets.

As a result, there are no major differences between municipalities in the pricing of the loans taken out through the joint municipal funding system, or in the prices of loans granted by banks and credit institutions. This may involve risks as financially weaker municipalities can also borrow money on reasonable terms, and the loans may then be used to maintain liquidity rather than to make financially sound investments aimed at ensuring basic services.

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 the 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 regardless of whether it operated within the municipalities' joint funding scheme or as a private credit institution.

The annual increase in total municipal loans, coupled with growing indebtedness of the public sector as a whole, could pose problems when the markets assess Finland's credit rating.

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 the central government. However, its increasing trend and the rate of growth are a cause for concern. Financial statements for the last four years show that the increase in loans is already 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 due to lack of sufficient coordination in major investment projects and competition between municipalities for high-income residents. Easy access to loans may 'blind' municipal decision-makers and lead to unnecessary investments and falsely optimistic estimates of the annual costs of investments. Investments are not limited by a deficit coverage requirement, nor are any checks in place to prevent overlapping investments.

5.5.2 Municipal guarantees

The municipalities' guarantee portfolios have also grown: financial statements for 2018 show that the total of municipal guarantees amounted to approx. EUR 9.7 billion, approx. EUR 1.2 billion of which concerned extra-Group entities.[50] Changes from 2017 were minor. In 2008, municipal guarantees totalled EUR 5.5 billion, EUR 0.9 billion of which amount concerned extra-Group entities.

The total amount of guarantees provided by joint municipal authorities was significantly lower. In 2018, their guarantees for intra-Group entities amounted to approx. EUR 721 million and for others to approx. EUR 6 million. In 2017, these figures were EUR 448 million and EUR 7 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 put the municipality's operation and possibilities of organising basic services at risk. In some municipalities, the guarantee liabilities are equivalent to a full year's operating expenses in the social and health care sector. If an individual guarantee obligation is realised, municipalities typically cover the losses by taking out a loan.

5.5.3 Municipal PPP projects

In recent years, municipalities have resorted to the PPP model as an alternative procurement model for investments. In addition to loans, such projects have also often been financed through property leasing.

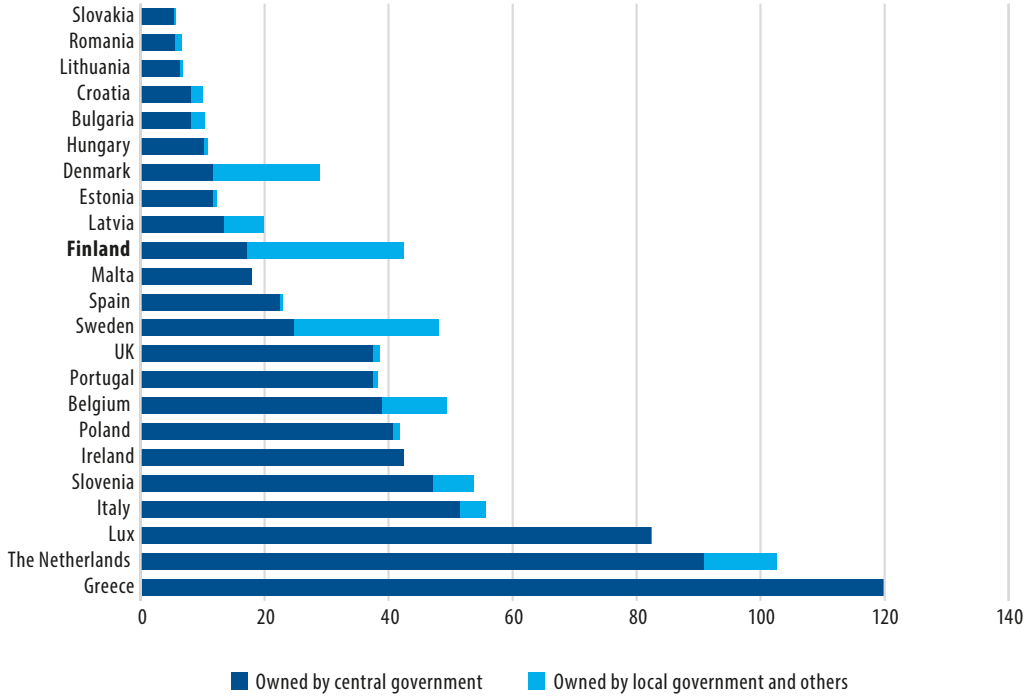
The estimated value of PPP projects carried out by municipalities and joint municipal authorities in 1997–2019 is almost EUR 1.7 billion. This amount consists of over thirty PPP projects on 55 sites. The projects have mainly involved building schools but, more recently, also health care buildings and others. It is estimated that the use of the PPP model has become clearly more common in the last ten years.

50 The analysis above does not include the municipalities' liabilities arising from the guarantees of the approx. EUR 31.3 billion issued by the Municipal Guarantee Board.

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 indirect financial liabilities for the central government. The government may decide 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, one example of which is the environmental damage caused by Talvivaara mine.

Figure 29. Debts of publicly owned companies relative to GDP in 2017



Source: Eurostat, non-consolidated debts

The state owns 65 companies directly.[51] According to the enterprise statistics of Statistics Finland, the state had a controlling interest in 202 companies in 2017, either directly or indirectly. The debts of Finnish companies in which the state is a majority shareholder amounted to approx. 17% of the GDP in 2017.[52]This is a low figure compared to other

51 Government Annual Report 2018

52 Source; Eurostat, government contingent liabilities and potential obligations. The statistics are based on the central government sector of the national accounts, and the debts of the companies considered as part of central and general government are thus not included in the total as they are part of central government debt. For example, such companies as Solidium Oy, Vake Oy, Senate Properties (and its subsidiaries) and SoteDigi Oy are part of central government.

countries (Figure 29). When the debts between state-owned public companies are consolidated, the debt-to-GDP ratio falls to approx. 11% (EUR 25 billion). Of this total, approx. EUR 9 billion is debts owed by state-owned financial companies and approx. EUR 16 billion owed by companies in other sectors. Loss-making companies had debts amounting to about EUR 6 billion.

5.7 Liabilities associated with environmental damage

The purpose of secondary environmental liability systems is to prepare for the need to pay compensation for environmental damage and to eliminate environmental risks in situations where the party causing the damage or risks is insolvent or unknown, or cannot be reached. In Finland, these systems comprise the compulsory insurance and the Oil Pollution Compensation Fund based on the Environmental Damage Insurance Act (81/1998). The state budget represents last-resort financing.

Since 2012, at least four incidents have occurred in which the government has been forced to assume financial responsibility for ensuring environmental and chemical safety following an operator's bankruptcy and in the absence of any other party to carry this responsibility. This has shown that the existing secondary environmental liability systems and securities do not cover all situations and are less than optimal.

A working group[53]appointed to investigate this issue proposed more extensive coverage in environmental damage insurance, the establishment of a fund similar to the Oil Pollution Compensation Fund for environmental damage, or the introduction of a tax collected from companies to replace the insurance and an appropriation equal to the tax amount.

53 Ministry of the Environment Reports 23/2014, Development of Secondary Environmental Liability System

6 Stress test scenario

The capacity of general government finances to cope with a sudden downturn can be simulated with the help of a stress test. The stress test examines the impacts of a sudden economic downturn and realisation of contingent liabilities on general government revenue, expenditure and indebtedness as well as public funds.

The stress test was based on a macroeconomic risk scenario used by the European Banking Authority (EBA) in its stress tests for banks.[54]In this scenario, a shock spreads from the financial markets to the real economy, weakening Finnish GDP growth by 8.4% during a three-year period relative to the baseline.[55]

6.1 Stress scenario assumptions

In the stress test, a global financial market disturbance triggered off by political uncertainty and geopolitical tensions increases the risk premium for loans and causes share prices to collapse. The shock originating from the United States spreads to Europe and Finland through uncertainty in the financial markets and lower export demand.

However, the shock is not expected to trigger off a need to provide capital injections for domestic banks or other financial institutions or support measures of the deposit guarantee fund, based on the results of the EBA's stress test in 2018.[56] Furthermore, the shock is not expected to reignite the euro area debt crisis in a manner that would lead to write-downs of loans or the realisation of Finland's guarantee liabilities connected with the financial support programmes for euro area countries.

54 Adverse macroeconomic scenario for the EBA 2018 stress test

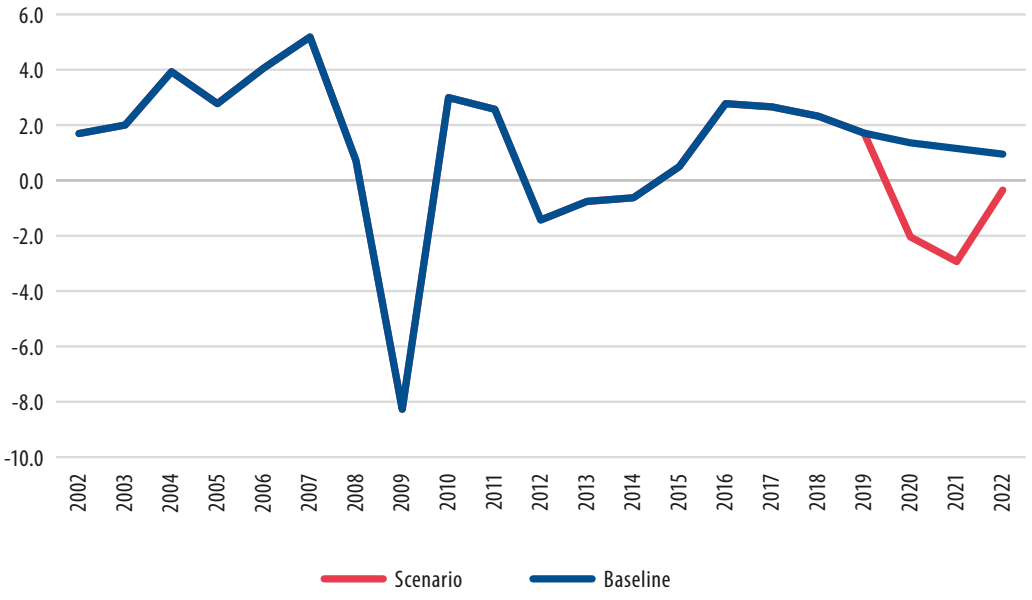
55 The baseline of this calculation is in line with the forecast published in the Ministry of Finance's economic review of spring 2019, and it thus does not include the actions set out in the Government Programme or forecasts updated in the summer.

56 https://eba.europa.eu/sites/default/documents/files/documents/10180/2419200/126521e6-613f-45e4-af84-cbd3b854afc5/2018-EU-wide-stress-test-Results.pdf

Weaker export demand, higher financing costs and growing uncertainty would lead to a fall in exports and investments. The economic downturn would lead to higher unemployment and lower company profits, which would have a negative impact on private consumption and real estate prices (Table 4). The assumption in this scenario is that GDP growth in Finland would be 3.4% below baseline in the first year, and 4.1% and 1.3% below this line in the following two years.[57]

The probability of the scenario can be assessed based on the forecast errors discussed in Chapter 2, which indicate that the probability of a deviation from the baseline of this magnitude or greater is 5%, or likely to take place once in 20 years. In terms of its scale, the macroeconomic shock would be similar to the downturn triggered off in Finland by the euro area debt crisis in 2012. However, its impacts would be much smaller than those of the financial crisis that began in 2008 (Figure 30).

Figure 30. GDP growth, baseline and adverse macroeconomic scenario



57 Compared to the assumptions used in the stress scenario of last year's risk review, the index of wage and salary earnings would start deteriorating sooner, or already in the first year of the crisis, which would reduce tax revenue but also public consumption and benefit expenditure.

Table 4. Macroeconomic assumptions of the stress test

	Baseline growth %			Change to baseline, percentage points			Risk scenario growth %		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
GDP volume	1.4	1.2	1.0	-3.4	-4.1	-1.3	-2.0	-2.9	-0.3
Private consumption volume	1.6	1.6	1.1	-1.2	-1.4	-0.5	0.4	0.2	0.7
Inflation	1.6	1.8	1.8	-0.2	-1.0	-1.7	1.4	0.8	0.1
Index of wage and salary earnings	3.3	3.1	3.0	-0.8	-2.4	-2.2	2.6	0.8	0.8
Unemployment rate, level	6.1	6.0	6.1	0.5	1.9	3.1	6.6	7.9	9.2
Government loans, level of 10-year interest	1.4	2.0	2.5	0.7	0.8	0.7	2.1	2.8	3.2
Residential real estate prices	0.8	1.1	0.0	-11.6	-12.5	-4.0	-10.8	-11.4	-4.0
Commercial real estate prices				-16.1	-11.8	-5.5			
Share prices				-27.5	-25.1	-19.9			

6.2 Effects of macroeconomic shock on general government finances

A macroeconomic shock would significantly impact general government revenue and expenditure.[58] Weaker economic growth would slow down the growth in tax revenue, while higher unemployment would mean higher public spending. Furthermore, higher interest rates on government loans and the debt burden augmented by growing deficits would mean higher interest expenditure. The assumption in the scenario is that fiscal policy will remain unchanged, which means that there will not be any adjustment or stimulation of general government finances with respect to the baseline. However, automatic stabilisers are allowed to function unhindered.

58 The impacts of the shock on general government finances were estimated using the general government scenario model developed in the Ministry of Finance in proportion to the ministry's forecasts in its economic survey of spring 2019. The model has been updated since the previous year by adding the impacts of the crisis on corporation tax through operating surpluses as well as on a larger range of social security expenditure as a result of growth in unemployment.

Lower employment rates and slower wage rises would mean a lower wage bill, which would decrease central and local government income tax receipts as well as the social security contributions collected by social security funds. At the same time, lower private consumption and slower inflation would have a negative impact on the receipts of indirect taxes, such as the value added tax. Corporate tax revenue would be reduced as business profits contract. The sales proceeds received by the public sector would also decrease slightly relative to the baseline. Weaker company profits would push down the public sector's dividend income. Even though higher interest rates would boost the central government's and pension funds' interest income, the overall property income would be lower than in the baseline scenario. In total, general government revenue would be almost EUR 10 billion below the baseline in 2022.

With increasing unemployment, general government expenditure would be mainly elevated by the growth in unemployment expenditure and other social current transfers. At the same time, as a result of slower inflation, index-linked current transfers would grow slightly more slowly throughout the period in review, while slower wage rises would mean less growth in public sector wage and purchasing expenditure. Higher interest rates on central and local government loans and growing debts would boost interest expenditure as maturing loans and growing deficits would have to be financed through loans with higher interest rates. As a whole, the overall direct impacts of a weaker economic situation would only increase public spending by approx. EUR 0.1 billion at 2022 level relative to the baseline. The growth in expenditure would be reduced especially by the slower growth of public consumption expenditure, as the increase in public sector earnings level and prices of outsourced services would stagnate during the crisis. If the public sector pay levels responded to the economic development with a longer than expected delay, the growth in expenditure would be greater than estimated here.

6.3 Contingent liabilities may expose the central government to large one-off payments

The stress tests examines the role of contingent liabilities by focusing on Finnvera and the National Housing Fund. Most of the central government's contingent liabilities are associated with these two organisations (section 5.1, Figure 18).

The scenario assumes that a global recession would cause problems in a sector for which Finnvera has granted guarantees, driving two to three of the largest guarantee customers to 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.

In this scenario, the guarantees cover approx. one half of the largest guarantee customer's guarantee receivables, but even then, the total losses would amount to EUR 1.4 billion. These losses would clean out both export financing risk buffers (Finnevera's reserve for export credit guarantee and special guarantee operations and the State Guarantee Fund). If the State Guarantee Fund were depleted, this would increase the general government deficit, erode the cash assets and drive up the borrowing needs, as the State Guarantee Fund is linked to the central government's overall cash funds through a holding account. The losses of Finnvera's reserve for export credit guarantee and special guarantee operations would not have repercussions on the general government deficit or cash funds.

The central government has no legal obligation to provide Finnvera with capital injections and, formally, the export guarantee would not be triggered off as the reserves would cover the losses. The assumption in this scenario is that the state would nevertheless provide the company with a capital injection by replenishing the buffers to half of their current value, or EUR 700 million. This would be considered necessary to maintain the trust of investors and credit rating agencies in the company and the continuity of its operations after a major guarantee event.

The assumption regarding the National Housing Fund in the scenario is that a fall in housing prices would drive an individual customer with an exposure of EUR 1.4 billion into insolvency. Realisation of property collateral would cover 50% of the liabilities, which means that credit losses would total EUR 700 million. The realisation of a large housing mass would be a slow process, however, and for this reason, the entire guarantee liability of EUR 1.4 billion would fall to the National Housing Fund, and the general government deficit would be increased by the same amount. The National Housing Fund has cash funds totalling EUR 1.7 billion; no budget funding would thus be required to cover the guarantee liabilities, nor would there be any need for a capital injection. While the triggering off of the guarantee liabilities would not have any direct budgetary impacts, it would cause central government cash assets to shrink, as the cash reserves of the National Housing Fund are also connected with the overall cash funds of central government, forcing the government to borrow EUR 700 million more to keep the cash funds at a sufficient level.

In total, contingent liabilities would cause losses of EUR 2.1 billion at the 2022 level after the realisation of the collateral. Realisation of the contingent liabilities will not directly increase general government debt as the dissolution of the reserves does not have any debt impacts, and the money flow required for the capitalisation of Finnvera can be covered by realisation of the National Housing Fund's property collateral. Keeping central government cash funds to baseline levels would, however, require additional borrowing totalling EUR 2.1 billion.

6.4 A drop in asset prices would reduce government assets

Turbulence in the financial markets would also affect the central government's financial assets. These financial assets totalled EUR 84.6 billion at the end of 2018, of which government sector corporations accounted for EUR 66 billion and the State Pension Fund for EUR 18.5 billion[59] (for more information about the government's financial assets, see Chapter 3, Table 1).

The largest negative impacts on financial assets would be brought about by a drop in share prices. At the end of 2018, shares in listed companies and equity funds accounted for approx. EUR 32 billion[60]of central government financial assets, and the scenario assumes a decrease of 28% in their value. In addition to the shares, the drop in asset values would also spread to the State Pension Fund's other investment assets. These losses, however, would be smaller than those from the shares.

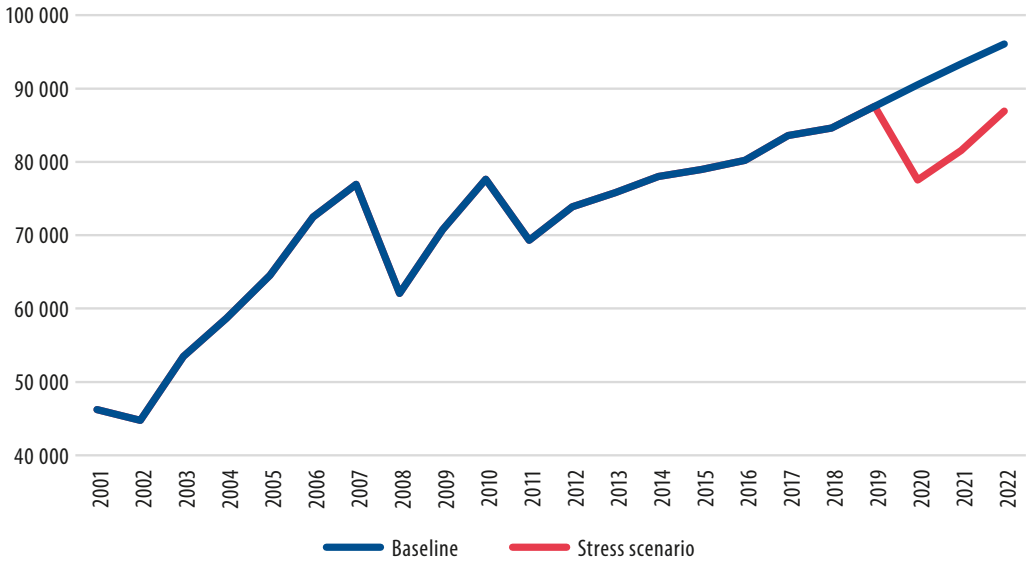
In the central government sector, the weaker economic situation and drop in real property prices is also anticipated to have negative effects on Business Finland's loan portfolio, Finnish Industry Investment Ltd's fund investments and Arava loans. These impacts would affect financial assets totalling EUR 49 billion, whose value is expected to decrease by approx. EUR 13 billion in 2020, which is the first year of the scenario. The recovery of share prices in further years of the scenario would reduce the losses to EUR 9 billion relative to the baseline in 2022 (Figure 31).

The shock is not expected to affect other central government receivables, including loans granted during the euro crisis, the value of real estate companies, universities' assets, the book value of unlisted state-owned companies or other receivables. The debt calculation factored in the impacts on derivative contracts associated with central government debt and central government cash funds.

59 While VER is included in the subsector of employee pension funds in the financial accounts, its funds are part of central government assets.

60 Central government stock assets are managed by VER, Solidium and VAKE and as direct state investments. Government Annual Report, Appendix 2, p. 140.

Figure 31. Impacts of shock on central government financial assets, EUR million



6.5 General government financial balance would be seriously undermined

The combined impact of lower revenue and higher expenditure would weaken general government budgetary position by approx. EUR 10 billion (approx. 4% of GDP) in 2022 (Figure 32). The growth in the deficit and a decline in the nominal GDP would increase the debt-to-GDP ratio by approx. 10.2 percentage points in relation to the baseline by 2022 (Figure 33). In fact, the debt-to-GDP ratio would reach almost 70% over a period of three years whereas in the baseline, it is expected to fall to 58%.

The weakening of the financial markets and the real economy would also be reflected strongly in the valuation of the central government's financial assets. While the central government's net debt remained in negative figures before the financial crisis, it had soared to 15% of the GDP by 2015. The net debt has started to decrease in recent years, but a shock of the type simulated in the scenario would drive a rapid growth in the central government's net debt, as besides increasing debt, the financial assets would be reduced dramatically (Figure 34).

Despite a recent improvement, general government finances are not yet fully prepared to face the adverse macroeconomic shock described in the scenario.

The shock would push the general government deficit below the deficit limit set out in the Stability and Growth Pact, and the 60% debt criterion would be exceeded. In addition to having direct impacts on general government finances, the triggering off of the contingent liabilities would lead to a significant reduction in buffer reserves and a need for capital injections. Additionally, a downturn in the financial markets would result in a significant reduction of the central government's assets.

Attention should be paid to the debt-to-GDP ratio development. Finland is currently very close to the Stability and Growth Pack threshold value. It has previously taken years to reduce the debt-to-GDP ratio, whereas crises push this ratio up suddenly and rapidly. The consolidation of general government finances should thus continue, and careful consideration should be given to government guarantee risk so that, should shocks occur, it would not be necessary to tighten fiscal policy in order to control indebtedness and to finance guarantee liabilities.

The impacts on general government finances showing up in the stress test are not forecasts. However, they describe the way in which a serious economic shock could affect general government finances. The test does not account for any policy measures that might be taken as a response to a crisis.

Figure 32. Impacts of a shock on general government budgetary position

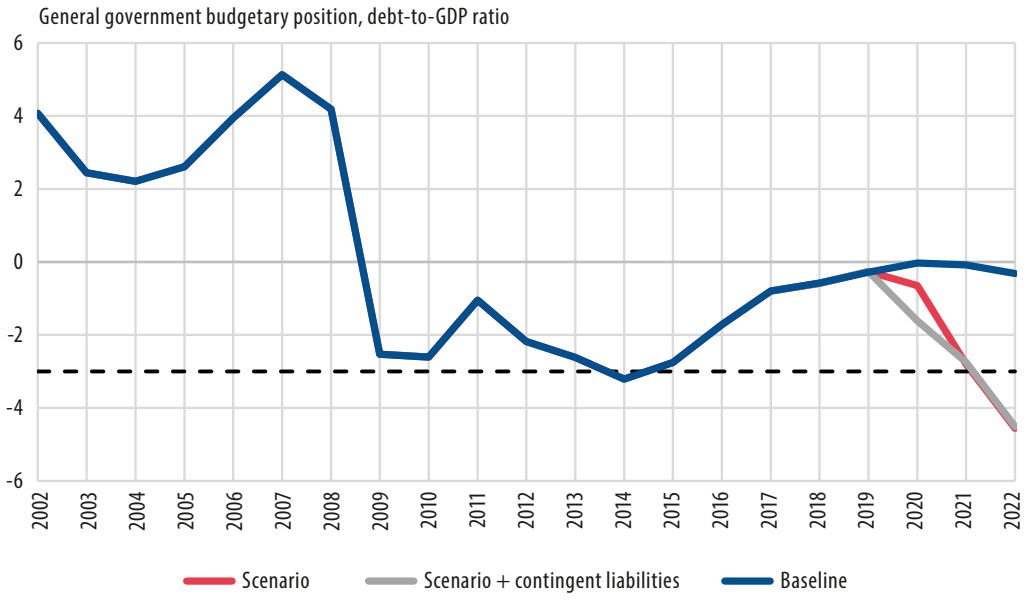


Figure 33. Impacts of a shock on general government debt

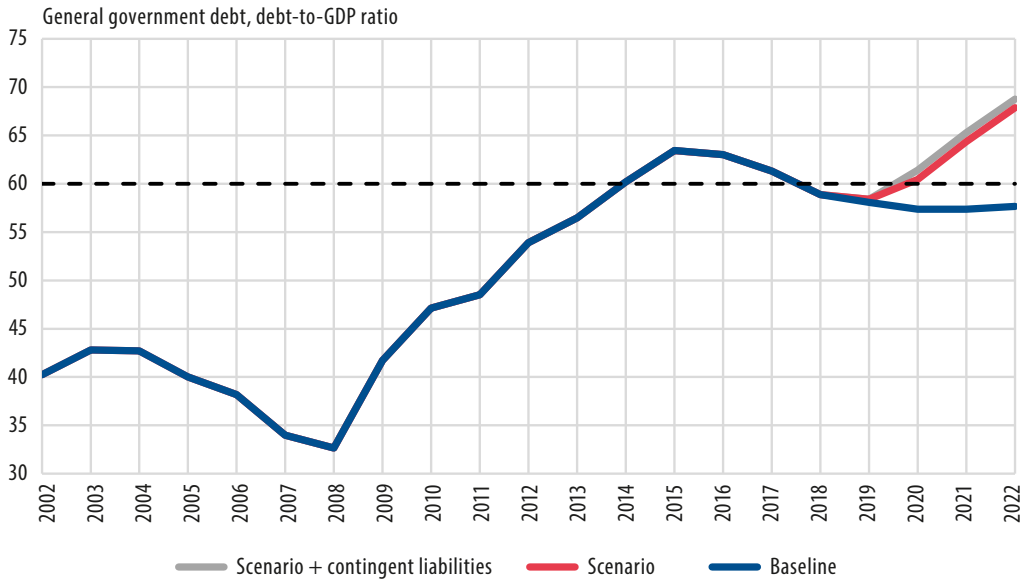
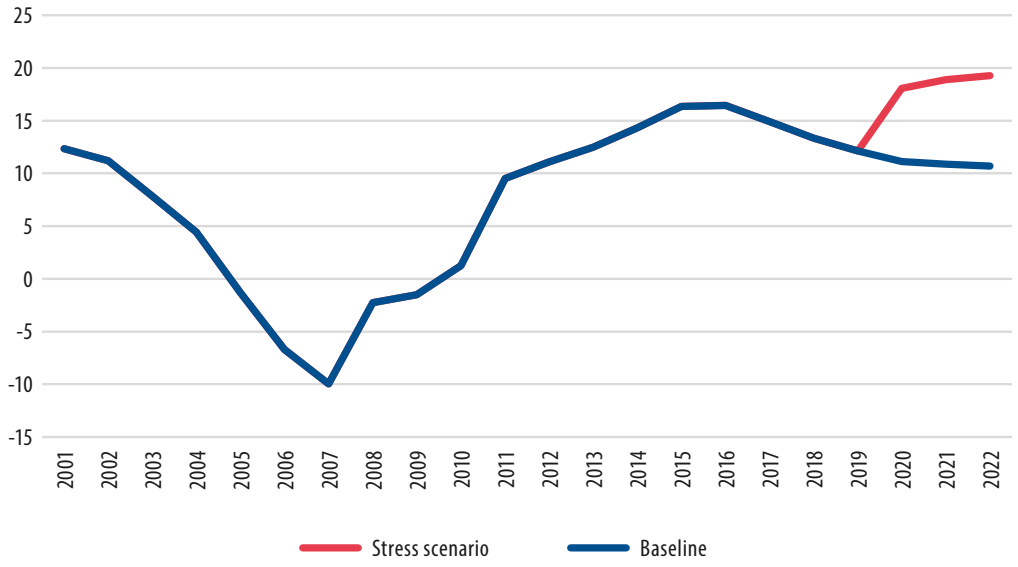


Figure 34. Impacts of a shock on central government's net debt, % of GDP



Appendices

Appendix 1. Classification of government financial liabilities

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

Appendix 2. Other multi-annual liabilities of the central government 2008–2018, EUR billion

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Liabilities/on-budget entities	96.1	99.5	103.3	110.4	117.0	115.4	130.4	128.3	126.9	125.5	124.7
Other multi-annual liabilities, appropriations required*	-	-	-	6.8	8.7	9.0	7.5	6.8	6.3	5.8	5.7
Government pension liabilities	85.6	88.4	90.6	89.7	92.6	94.0	95.4	95.7	93.0	92.6	92.1
Appropriations required following the exercise of authorisations	10.5	11.1	12.7	12.8	14.5	11.3	10.0	9.3	9.6	9.2	9.1
Liabilities/off-budget entities**	-	-	0.3	0.4	0.5	0.6	0.7	0.9	1.2	1.6	1.7
Other multi-annual liabilities, appropriations required	-	-	-	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Investment commitments	-	-	0.3	0.3	0.5	0.5	0.7	0.8	1.1	1.5	1.6
Liabilities / State enterprises	-	-	1.4	1.5	1.5	1.8	1.8	1.6	1.4	1.2	1.2
Senate Properties' loans	1.1	1.3	1.0	1.1	1.2	1.2	1.4	1.1	0.8	0.4	0.3
Rental liabilities	-	-	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Leasing liabilities	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Investment commitments	-	-	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.2

* Does not include capital liabilities, which are discussed in section 5.2.

** Does not include government guarantees for off-budget entities, which are discussed in section 5.1.

Source: State Treasury

Appendix 3. Breakdown of government guarantees in 2008–2018, EUR billion

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Change 2018
Finnvera*	**10.5**	**13.4**	**12.8**	**14.0**	**14.8**	**14.6**	**17.5**	**22.6**	**22.6**	**27.7**	**30.3**	**9.6 %**
Export guarantee operations	8.3	9.7	8.9	10.4	11.2	11.0	12.6	16.3	15.3	19.0	19.7	3.6 %
Domestic liability portfolio	2.2	2.7	2.8	2.8	2.7	2.5	2.3	2.3	2.2	2.1	2.0	-7.5 %
Government guarantees for funding	-	1.1	1.0	0.9	0.9	1.1	2.6	3.9	4.9	6.5	8.7	34.4 %
Student loans	**1.3**	**1.3**	**1.4**	**1.4**	**1.5**	**1.6**	**1.8**	**2.0**	**2.3**	**2.7**	**3.4**	**23.0 %**
EFSF	**-**	**-**	**-**	**0.5**	**5.1**	**6.2**	**6.6**	**6.2**	**6.3**	**7.0**	**7.0**	**0.4 %**
Bank of Finland**	**3.9**	**3.8**	**0.4**	**0.6**	**0.8**	**0.7**	**0.6**	**0.5**	**0.6**	**0.4**	**0.5**	**29.3 %**
Government funds	**5.7**	**6.3**	**7.9**	**9.2**	**10.2**	**11.2**	**11.8**	**12.3**	**13.2**	**13.8**	**14.6**	**5.7 %**
National Housing Fund	5.7	6.3	7.9	9.1	10.2	11.1	11.8	12.3	13.1	13.7	14.5	5.8 %
Development Fund of Agriculture and Forestry	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	-7.7 %
State Guarantee Fund	-	-	0.1	0.0	0.0	0.0	-	-	-	-	-	-
Others	**0.4**	**1.2**	**0.7**	**1.0**	**1.2**	**0.8**	**0.9**	**0.6**	**1.1**	**0.5**	**0.7**	**48.9 %**
Total	**21.7**	**26.0**	**23.2**	**26.8**	**33.7**	**35.0**	**39.2**	**44.2**	**46.1**	**52.1**	**56.6**	**8.6 %**

*The liabilities in effect (used and unused) have been included in the guarantee amounts related to export guarantee and special guarantee operations. The risk arising from repayments of export credits granted by Finnish Export Credit is covered by an export guarantee granted by the mother company, Finnvera. Finnvera's funding operations under the EMTN loan programme have a state guarantee. To the extent that the loan guaranteed by the government has been used to finance export credits, the government's liabilities for export guarantees and government guarantees for funding are not doubled, but as a result of various factors, they could be realised at different times.

**Shows the maximum amount available up to the year 2009, not the amount in effect in that particular year. This is due to changes in reporting practices.

Sources: State Treasury, Ministry of Economic Affairs and Employment

MINISTRY OF FINANCE
Snellmaninkatu 1 A
PO BOX 28, 00023 Government
Tel. +358 295 160 01
www.financeministry.fi

ISSN 1797-9714 (pdf)
ISBN 978-952-367-058-7 (pdf)

January 2020