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EDITORIAL

Now is the time to strengthen the public finances and the foundations for productivity growth

18 DEC 2018 11:00 AM • BANK OF FINLAND BULLETIN 5/2018 • EDITORIAL

Finland's economy will continue to grow, although its pace of expansion has for the time being moved past its peak. Growth is similarly expected to continue in the euro area; however, its inflationary outlook still calls for an accommodative monetary policy. Interest rate levels will therefore remain low, supporting growth conditions also in Finland. Risks to the global economy cast uncertainty over the economic outlook.

In spite of its recent recovery, the Finnish economy cannot be declared in rude health just yet: its public finances remain in deficit; its employment levels are too low; and its productivity growth remains relatively subdued. With an ageing population, it is unlikely that time alone will heal the economy's lingering ailments. Decisive measures are needed.

The state of the general government finances has improved in recent years. In 2014, the general government deficit relative to GDP reached its highest point since the turn of the millennium, as it climbed past 3%. The deficit remains substantially lower at present. Furthermore, the volume of general government debt relative to GDP has begun to decline.

The fiscal deficit has been eased not only by growth in the economy but also by fiscal policy measures. Fiscal policy has contributed to shrinking the deficit since 2015. In recent years, these policies have largely centred on measures restricting expenditure.

The deficit ratio has narrowed in spite of the baby-boomers' entering retirement over the last decade, which has contributed to the deficit. Pension expenditure has increased while the working-age population has declined at the same time, resulting in a weaker outlook for labour tax incomes.

In future, population ageing will continue to place even greater demands on public expenditure. The sustainability of the public finances is yet to be secured over the long term. According to a new estimate by the Bank of Finland, the sustainability gap still remains at about 3% of GDP. This means that either an equivalent amount need be saved through spending cuts or gained by increasing taxation, in order for general government income to meet expenditure.

Fiscal policy relaxed in 2018, and is expected to remain broadly neutral in 2019. With the sustainability gap in mind, and given the favourable cyclical conditions supporting the economy, taking a more decisive course towards strengthening the public finances would be well justified.

The employment rate in particular is key to securing the public finances for the future. As the Finnish economy has gradually recovered and returned to a path of growth, so has its employment situation improved — especially during the last year and a half. The growth of employment in recent years has been underpinned not only by the economic cycle, but also by measures taken by labour market organisations and the government.

The competitiveness of Finnish labour and manufacturing has been bolstered by the Competiveness Pact as well as fairly moderate wage policy. This has resulted in better conditions for production and employment in the open sector, and has subsequently lifted the income generation of the entire economy. Social security and tax policies have also undergone changes conducive towards employment growth.

How much further can the employment situation still improve? On the one hand, Finland is subject to the headwinds and tailwinds of the world economy, and this has an effect on its employment levels. On the other hand, employment in Finland is inarguably shaped by the functioning and structure of its labour markets.

It is important to take a holistic view for improving employment growth over the long term. In light of modern research, social security and taxation policies, housing availability, and wage dynamics all have an important bearing on employment. In addition, education policy needs to be well-thought out and successfully implemented, as do active labour market policies.

Robust employment does not alone guarantee economic growth and material well-being; instead, it must be supported by growth in labour productivity. Labour productivity describes how much output or value is created in a single hour of labour or by an individual worker.

The development of labour productivity in Finland remained considerably weak for several years, both historically and compared with other advanced economies. As the economy began to demonstrate signs of recovery, so did labour productivity start to improve.

In 2018, productivity growth has once again begun to slow. This may be somewhat related to a favourable development, namely that employment has grown exceptionally quickly.

However, it is also plausible that the slowdown in productivity growth is at least in part a response to the economic outlook. The recent decline in corporate fixed investment points towards the latter. This might be underpinned by uncertainties related to economic developments over the next few years and concerns surrounding the economy's long-term prospects.

In the long term, productivity growth is ultimately determined by innovation and the adoption of new technologies. Education, scientific research and R&D are the foundation for innovations that foster productivity growth. Thus, policy measures in these areas play a formative role in determining productivity growth.

The conditions that are needed for productivity growth can also be strengthened with policies that improve the allocation of the economy's resources. Such measures include promoting competition and maintaining healthy labour markets.

Laying the foundations for employment and productivity growth in the future remains very much the responsibility of domestic policymaking, even in an era where countries are closely interlinked with the world economy. At the same time, our future prospects are of course influenced by the decisions taken on international forums.

Climate change is a large social issue, and one where Finland should pursue an active and constructive role in shaping international policy. Climate change has great implications for financial stability and economic growth over the long term. From the perspective of the economy, climate change might be viewed as a huge market failure. Thus, it will prove central to mitigate its effects with economic policy tools.

Because climate change is a global concern, it should be combatted with measures that are available to as many countries as possible. It remains essential that a pricing mechanism be introduced for greenhouse gas emissions. This might be achieved through tax policy or emissions trading. As a result, each and every business and household would take the effects of climate change into account in their decision-making.

Favourable developments in the world economy have supported Finland's economic recovery and employment growth in recent years, but domestic economic policymaking has also played an important role here. Still, much more work needs to be done to secure the economy’s long-term outlook — for the public finances, employment and labour productivity alike.

In the decades to come, the people of Finland will undoubtedly wish to build fulfilling lives for themselves and satisfy their well-being. They must be allowed to do so, without a

legacy of debt and environmental issues wrought by previous generations.

Helsinki, 17 December 2018

Olli Rehn
Governor of the Bank of Finland

Tags

productivity, monetary policy, climate change, inflation, economic growth

BANK OF FINLAND FORECAST

Economic growth has passed its cyclical peak

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

The Finnish economy will continue to grow, but more moderately than in the past two years and at a considerably slower pace than prior to the onset of the financial crisis in 2008. In 2018, GDP will grow by 2.7%. In 2019, economic growth will first moderate to 1.9%, before abating further and converging towards its long-term potential rate, at just under 1.5%.

Economic growth has continued for almost three years, fuelled in particular by the recovery in Finnish goods and services exports. Household consumption has also increased, as growth in disposable income and low interest rates have encouraged household spending. Employment growth has exceeded expectations: about 60,000 new jobs will be created in 2018.

The fundamentals for continued economic expansion remain in place. There is still demand for Finnish export products on the international markets, and Finnish goods and services are now positioned to compete more favourably against other countries' products. The Competitiveness Pact, which reined in growing labour costs, has contributed to improving Finnish companies' global competitiveness.

The euro area monetary policy will continue to underpin growth in 2019, with low interest rates stimulating household consumption and corporate investment. The preconditions for investment are good also because of the marked improvement in

corporate sector profitability. Stronger household purchasing power will bolster consumption also in the forecast years. Wages will rise at an average rate of 2.5%. Inflation is expected to stand at 1.3% in 2019 and to pick up to 1.7% in 2021. In the course of 2018, inflation has been fuelled by transitory rises in food and energy prices. During the forecast period, wage growth will underpin the pick-up in inflation.

The central and local government finances have strengthened, as economic growth, improved employment and fiscal consolidation have increased tax revenue and decreased expenditure. In 2018, the general government debt-to-GDP ratio will fall below the EU reference value of 60%.

Economic growth has, however, passed its cyclical peak, even though the Finnish economy will continue to expand over the next three years.

Uncertainty surrounding global economic developments has increased, and the risks to Finnish economic growth are now clearly tilted to the downside. Despite the temporary easing of trade tensions between China and the United States, the threat of an escalation of the trade war has not subsided. Uncertainty has also been stoked by the terms of the United Kingdom's withdrawal from the EU and the direction of economic policy in Italy. Growth of Finland's export markets risks moderating, if uncertainty causes investments to be postponed in countries who import Finnish goods and service. Exports will continue to grow at a reasonable pace in the baseline scenario, but a realisation of the foreseeable risks could cut export growth — possibly by a considerable amount. This constitutes the greatest risk to Finnish economic growth in the immediate years ahead.

Should these risks not materialise, Finnish exports will continue to grow at a reasonable pace in the forecast years. However, export growth will remain notably slower than before the financial crisis. Because a lot of foreign-produced intermediate goods are used in the production of Finnish exports, export growth will simultaneously also increase import growth. Net exports – the difference between imports and exports – will remain fairly modest in the forecast years and will therefore not fuel economic growth to the same extent as in 2017. The value of goods and services exports will rise faster than the value of imports, however, meaning the surplus on Finland's trade balance will strengthen. The current account, which has long remained in deficit, will move towards balance.

Household consumption in recent years has exceeded household disposable income, leading to a rise in household debt levels. In addition to mortgage loans, household indebtedness has been fuelled by consumer credit and, in particular, by housing company loans. Even though household income will grow markedly faster in the forecast period than in the past few years, household indebtedness will rise further if households continue to take on debt to the same extent as before.

Finnish corporate investment has been buoyant in the past few years but will recede noticeably in 2018 due to dwindling investment in machinery and equipment. In addition to this subcategory, private investment also includes construction investment and investment in research and development. New residential construction will continue to bolster construction investment in 2018. In 2019, however, residential investment will decrease notably. Investment in new residential construction will even contract slightly

from its historically high level, but growth in renovation work will continue.

Fiscal policy will be loose in 2018 even though the Finnish economy is in the boom phase of the economic cycle. As the Finnish economy is expanding and unemployment is declining, fiscal buffers should rather be strengthened by reining in public expenditure growth or increasing tax revenue. Finnish economic growth was slow during the financial crisis and for many years afterwards, which left a deep mark on Finland's public finances. The public finances have also been strained by the retirement of the baby boomers. General government debt as a share of GDP has almost doubled since the financial crisis. The public finances should be strengthened in good economic times because Finland will need fiscal leeway in the forthcoming years to cope with future recessions and other unexpected shocks. Over the medium term, reaching the fiscal policy objectives will not become easier. Population ageing will push up public expenditure and hamper rebalancing of the public finances. The fiscal sustainability gap is still considerable.

The exceptionally rapid growth in employment witnessed in 2018 will remain a temporary phenomenon. This is partly due to labour market mismatches. The number of unemployed is still high in Finland, despite a strong increase in job openings. The labour market mismatches are due e.g. to long-term unemployment and the shortage of highly educated or otherwise skilled labour force. Job creation is also being restrained by a decline in the working-age population.

Economic growth ultimately depends most on labour productivity, which is measured by the value added produced during one working hour. Labour productivity growth is set to remain considerably slower than at the beginning of the 2000s, when the annual growth rate averaged 2.5%. The slowdown in productivity growth can be explained e.g. by the smaller weight of high-productivity industries and increased importance of services in the economy, a shift in investment from machinery and equipment to housing as well as a contraction in the share of R&D investment. Despite continued passable growth in machinery and equipment investment, the growth rate will remain close to the lowest figures recorded in the 2000s relative to GDP.

Even though growth in output and employment will still continue, the peak of the Finnish economic cycle has been passed. This is partly due to the slowing down of the prolonged global upswing. In the immediate years ahead, population ageing and weak productivity development will also begin to cast an even darker shadow over the Finnish economic outlook.

Table 1.

Forecast summary

% change on previous year

	2018[f]	2019[f]	2020[f]	2021[f]
GDP	2.7	1.9	1.7	1.4
Private consumption	1.9	2.3	1.6	1.2
Public consumption	2.6	–0.1	0.9	0.7
Private fixed investment	3.7	2.3	2.3	2.1
Public fixed investment	1.6	–2.6	0.3	1.2
Exports	3.3	3.5	3.1	2.8
Imports	2.7	2.7	2.6	2.5
Contribution of demand components on growth				
Domestic demand	2.4	1.5	1.5	1.5
Net exports	0.2	0.3	0.2	0.2
Changes in inventories and statistical discrepancy	0.1	0.0	0.0	0.0
Household savings ratio, %	–0.6	–0.5	–0.6	–0.7
Current account, % of GDP	–0.9	0.0	0.1	0.1

	2018[f]	2019[f]	2020[f]	2021[f]
Labour market				
Number of hours worked	2.2	0.8	0.4	0.4
Number of employed	2.4	0.7	0.4	0.3

Forecast summary				
Unemployment rate, %	7.6	7.2	7.1	7.0
Unit labour costs	1.0	0.6	1.6	1.4
Compensation per employee	1.3	1.8	3.0	2.5
Productivity	0.3	1.2	1.3	1.1
GDP, price index	1.3	1.3	1.8	1.7
Private consumption, price index	1.1	1.3	1.6	1.7
Harmonised Index of Consumer Prices	1.2	1.3	1.6	1.7
Excl. energy	0.9	1.3	1.7	1.9
Energy	4.3	1.8	0.4	0.4

f = forecast.

Sources: Statistics Finland and Bank of Finland.

External forecast assumptions

The performance of the world economy continues to support growth in Finland, even amid a slightly weakened global economic outlook. In recent months inflation has picked up moderately in the euro area; however, as this is mainly owed to a rise in energy prices, underlying inflation still persists at a low level. Monetary policy remains accommodative for growth in the euro area, and financing conditions in Finland continue to facilitate consumption and investment. Overall, Finland's economic environment has the necessary fixtures for growth to continue, despite increased risks to the global economy. The forecast is based on data available as of 28.11.2018.

Global economy grows despite uncertainty

The near-term outlook for the global economy weakened slightly during autumn 2018. As it stands, the overall picture of the world economy is not completely uniform. In the United States, the economy continues to grow on a broad front, but in the euro area,

Japan, and in China, growth has slowed (Chart 1). Economic growth in the euro area will continue throughout the forecast period, albeit at a pace closer to its long-term potential rate as the protracted cyclical expansion matures. Although various country- and industry-specific factors are expected to depress euro area growth in the short term, some of this may prove transitory. Despite the slowdown in economic growth, fixed investment in the euro area will keep growing. This will support demand for Finnish exports, as Finland's primary export goods are capital and intermediate goods.

Global goods trade is growing despite slowing down in the beginning of 2018 (Chart 2). This means that while the global economy's weakened outlook will slow development of Finland's export markets, they will continue to grow nonetheless. Trade disputes and protectionism, in particular, increase uncertainty, as does concern about the sustainability of China's economic growth. The performance of the global economy will support exports in the entire euro area, albeit less than before. In the euro area, the contribution of net exports to growth will remain near zero, and economic growth will mainly rest on domestic consumption.

Finland's nominal effective exchange rate has appreciated since 2015. The nominal effective exchange rate is the trade-weighted average of nominal bilateral rates between the euro and the currencies of Finland's trading partners. The appreciation of the effective exchange rate has, in part, weakened the competitiveness of Finnish exports. However, in 2018, this development — along with its detrimental effects on competitiveness — seems to have reversed to some extent.

Chart 1.

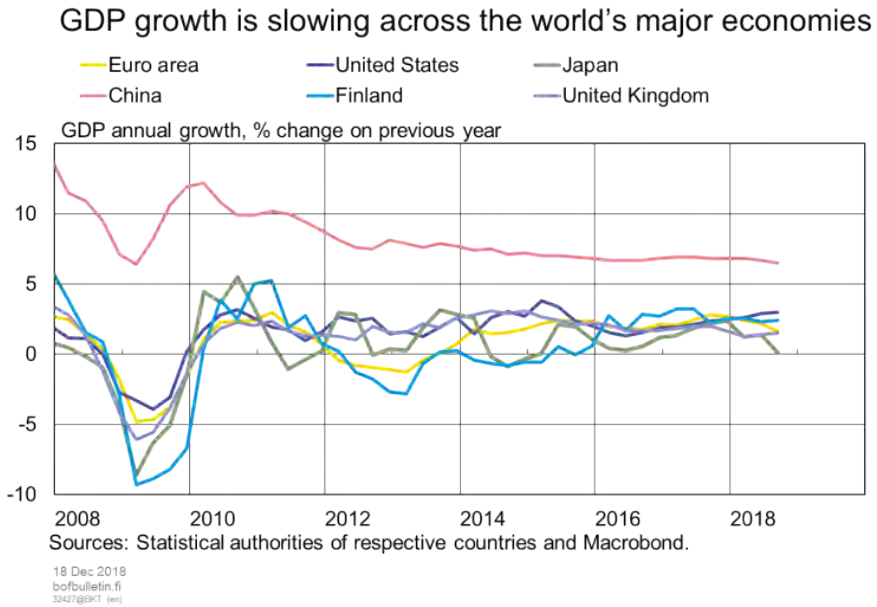
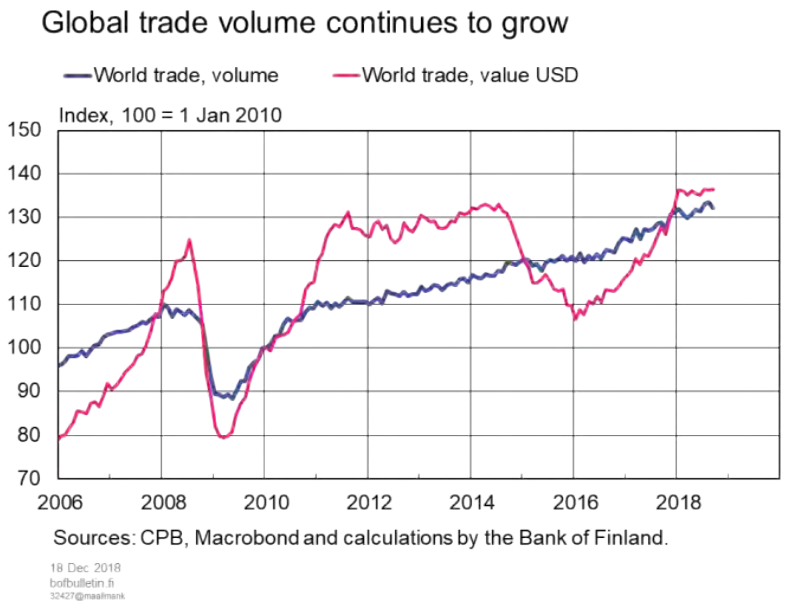


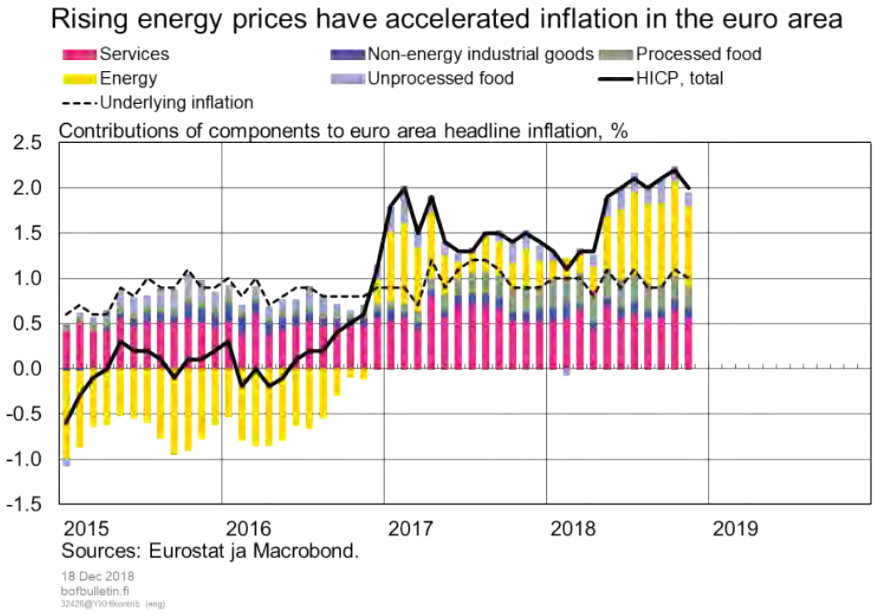
Chart 2.



In recent months, inflation has picked up in the euro area (Chart 3) and in the other major economies. The rise in oil prices that continued throughout the year came to a halt in October. The price of oil has dropped from its peak of more than USD 85 down to about USD 60. In the long term, oil prices are expected to stay low, which will curb inflationary pressures during the forecast period. The price development of other industrial commodities is also expected be moderate, which has reduced short-term consumer price inflation pressures.

Underlying inflation in the euro area is still low (Chart 3). Euro area wages have risen slightly, and slowing productivity growth has raised unit labour costs somewhat. So far, the slight wage increase has not reflected markedly on consumer prices. The rise in producer and import prices is expected have a positive effect on underlying inflation.

Chart 3.



Monetary policy supports growth in euro area

According to the forward guidance of the ECB, monetary policy in the euro area will remain accommodative and contribute to growth in 2019. The ECB expects its key policy rates to remain at their present levels at least through the summer of 2019.

The ECB has also announced (13 December 2018) that net purchases under the asset purchase programme will cease at the end of December 2018. The Governing Council intends to continue full reinvestment of principal payments from maturing securities for an extended period of time, well past the date when the Governing Council starts raising the key ECB interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.

Financing conditions favourable for consumption and investment

Financing conditions in Finland remained relaxed for both the private and public sectors, supporting consumption and investment. However, financing costs will slowly increase, as interest rates begin to rise. Household financing conditions are more relaxed than in the euro area on average (Chart 4). The average annualised agreed rate on new housing loans has followed the Euribor rates and declined for a long period of time. By contrast, the average annual interest rate on consumer credit has been on the rise since the end of 2016.

The interest rate on new loans for Finnish corporations, in turn, was slightly higher than in the euro area on average, even though the rates still remain low (Chart 5). According to the Business Tendency Survey by the Confederation of Finnish Industries EK, financing issues as an obstacle to production and sales have slightly increased during 2018, especially in construction. The survey results also show that financing issues have not markedly increased in manufacturing. In service companies, financing issues have

become less common.

Chart 4.

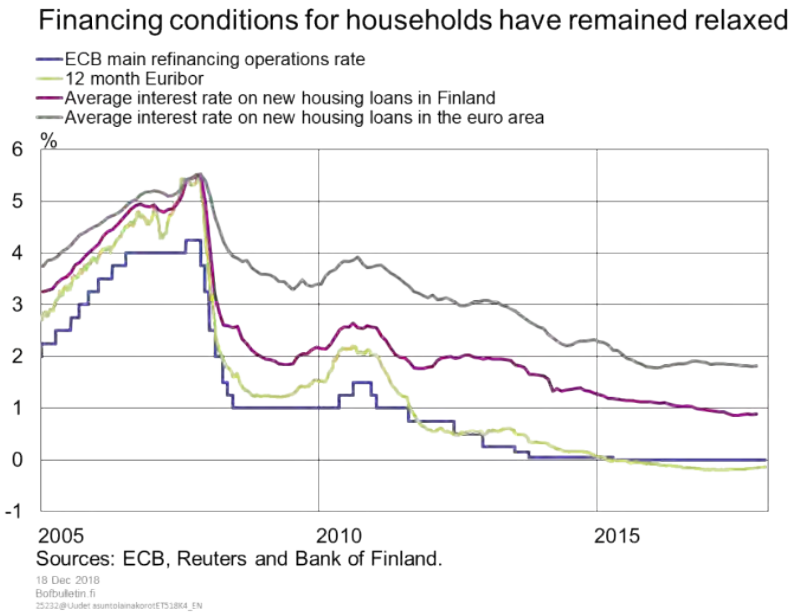


Chart 5.

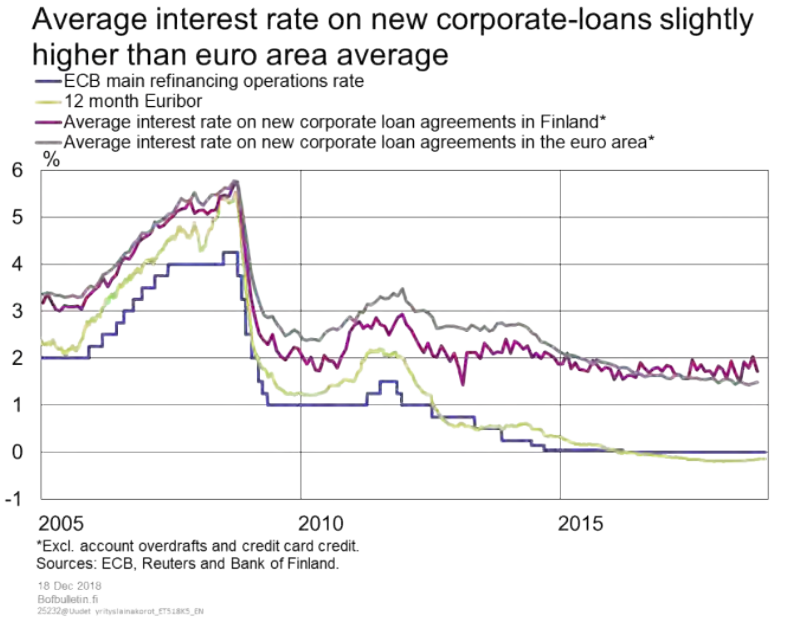


Table 2. Key forecast assumptions

Forecast assumptions

	2017	2018	2019[e]	2020[e]	2021[e]
Finland's export markets[1], % change	5.8	3.8	3.4	3.7	3.5
Oil price, USD/barrel	54.4	71.8	67.5	66.8	65.9
Export prices of Finland's competitors, euro, % change	3.0	0.9	3.7	2.3	2.2
3 month Euribor, %	–0.3	–0.3	–0.2	0.2	0.6
Finnish 10-year sovereign bonds, %	0.5	0.7	0.8	1.0	1.2
Finland's nominal effective exchange rate[2]	95.6	92.2	92.1	92.1	92.1
US dollar value of one euro	1.1	1.2	1.1	1.1	1.1

[1] The growth in Finland's export markets is the import growth in the countries Finland exports to, weighted by their average share of Finland's exports.

[2] The exchange rate appreciates as the index falls.

Sources: Statistics Finland and Bank of Finland.

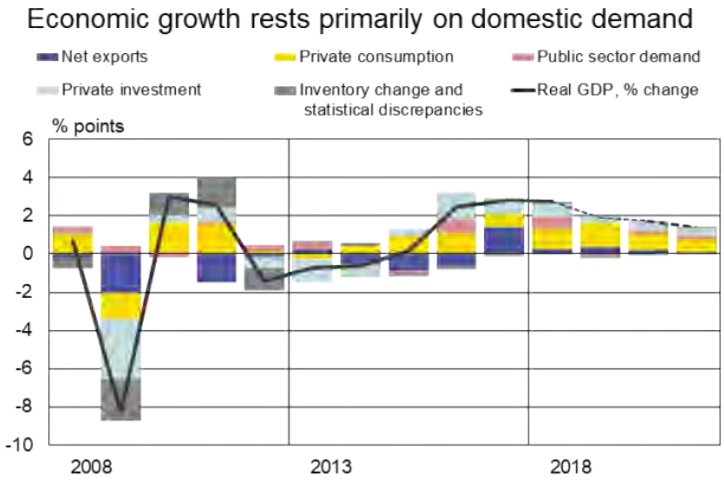
Growth rests on domestic demand

The Finnish economy is still booming but growth momentum will slow towards the end of the forecast period (Chart 6). In 2018, GDP growth will reach 2.7%, but will be only 1.9% in 2019 and 1.7% in 2020. Finland will gradually transition from a boom towards the estimated long-term potential growth rate of the economy. Uncertainty surrounding global economic developments has increased and the moderation of euro area economic growth, in particular, will weaken the Finnish economic outlook.

Economic growth in the forecast period will rest mainly on domestic demand, as the pressures associated with the global outlook will affect Finland’s net exports. Growth in private investment will ease already in 2018 and residential construction investment, in particular, will decline with the maturing of the housing market cycle. Domestic demand will continue to be fuelled primarily by private consumption. Higher employment and earnings levels will boost household income throughout the forecast period. Domestic demand will also be buoyed by loose financing conditions.

The current forecast is based on Statistics Finland’s quarterly national accounts for the second quarter of 2018 and other information available on 28 November 2018.

Chart 6.



The contribution of each demand component on GDP growth has been calculated on the basis of its volume growth and its previous-year value share. Figures for 2018–2021 are estimates.
Sources: Statistics Finland and Bank of Finland.

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Growth in purchasing power supports consumption

In 2018 and 2019, private consumption will grow at an average rate of about 2% but the pace of growth will moderate towards the end of the forecast period. At the beginning of the forecast period, consumption will grow at a slower pace than disposable income. Even so, the household savings rate will remain negative throughout the forecast period (Chart 7).

The level of earnings will continue to rise during the forecast years. Average hourly earnings will rise by an average annual rate of 2.5%. Income received on pensions and benefits will also increase, once the freezing of index increments comes to an end after the year 2019. Taxation of earned income will be eased in 2019 but at the same time excise duties and employees' pension contributions will rise. Overall, the tax changes will only have a marginal effect on the purchasing power in the forecast period. Instead, growth in purchasing power will be dampened by inflation, which will pick up towards the end of the forecast horizon, to stand at over 1.5%. Hence, the average annual growth in real earnings will remain at about 1% during the forecast years.

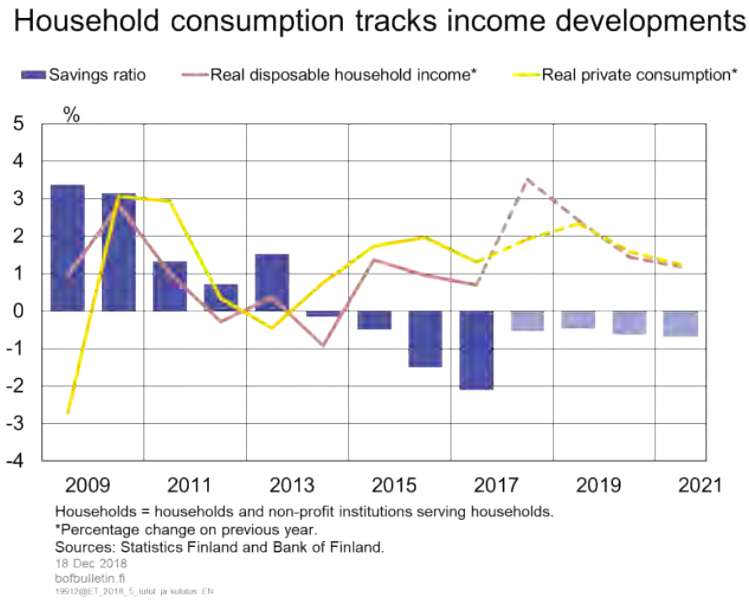
In 2018, disposable household income and purchasing power will be boosted particularly by a rapid improvement in employment. In 2018, the number of persons employed will increase by almost 2.5% from the previous year. With the maturing of the economic cycle, however, employment growth will gradually abate and in 2021 the number of persons employed will only grow at an annual rate of slightly less than 0.5%. Considering both wage developments and higher employment, disposable household income in 2018 will grow by about 3.5%, in real terms. Towards the end of the forecast period, the growth rate will fall to just under 1.5%.

In addition to favourable income developments, households' financial margin will be bolstered by the low level of interest rates. Influenced by the favourable income

developments and loose financing conditions, consumer confidence in their own financial position has remained good. Consequently, private consumption will continue to support economic growth during the forecast period.

Households' net savings rate will remain negative during the forecast period, but less so than in 2016 and 2017 (Chart 7). The low level of interest rates has eased further debt accumulation by households. However, the interest rates are expected to rise gradually in the latter half of 2019. These expectations, together with the rapid growth in household income, may explain the rise in the household savings ratio. Households' debt burden, however, will still remain high.

Chart 7.



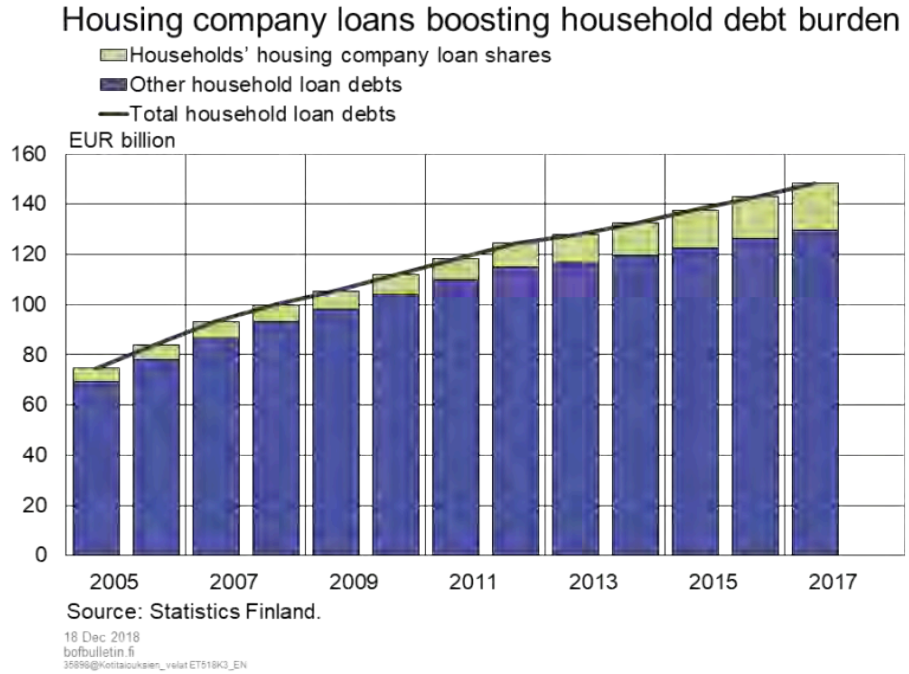
Housing company loans boost household debt burden

The stock of housing-related loans will grow moderately in 2018, by about 2% on the previous year. More so than housing-related loans, however, household indebtedness is being fuelled by household ownership of housing company loans (Chart 8). Household debt relative to disposable income – the indebtedness ratio – is about 112%, excluding households' estimated participations in housing company loans. Including housing company loans, the indebtedness ratio is approximately 129%. The estimate of households' ownership shares in housing company loans is subject to uncertainty, however. The volume of housing company loans has increased especially as a result of brisk sales of new-build housing, as a larger share of sales has been financed via housing company loans. If growth in the stock of loans to household remains unchanged, households' predicted income development will be insufficient to turn the indebtedness ratio on a downward path.

Sales of old dwellings have demonstrated weaker performance than sales of new homes. This notwithstanding, the prices of old dwellings have risen in growth centres, influenced

by continued growth in migration to large cities. Net-emigration regions, in turn, are suffering from weak markets for old houses. There is no demand for new residential construction, either. Despite the continued migration to growth centres, housing markets are expected to cool off in an environment of slower economic growth. At the same time, private investment in residential construction will enter a downward trajectory, once the boom in new residential construction begins to lose momentum.

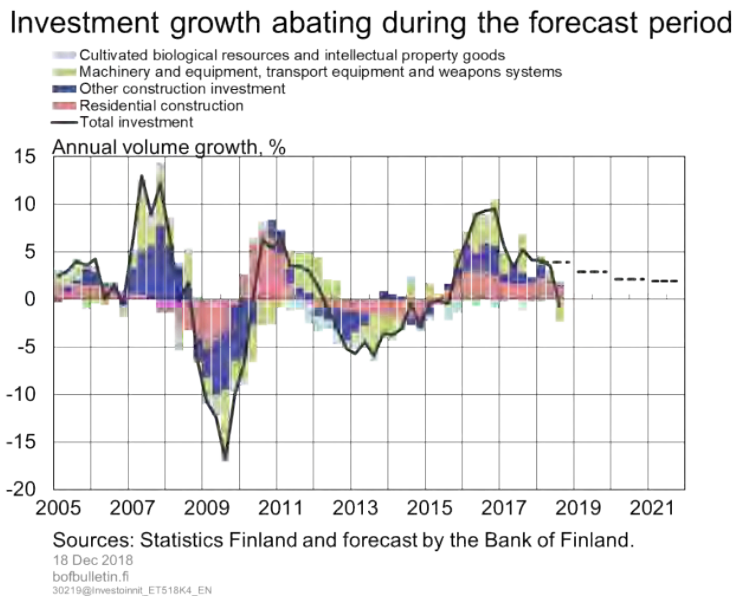
Chart 8.



Investment growth abates

Private investment growth will abate in the forecast period. Investment will increase by 3.7% in 2018 and by 2.3% in 2019. Towards the end of the forecast period, the growth rate will be approximately 2% (Chart 9). However, in an environment of strong corporate profitability and favourable financing conditions, there is potential for private investment growth in the forecast period, although the uncertainties surrounding the economy may discourage corporate investment.

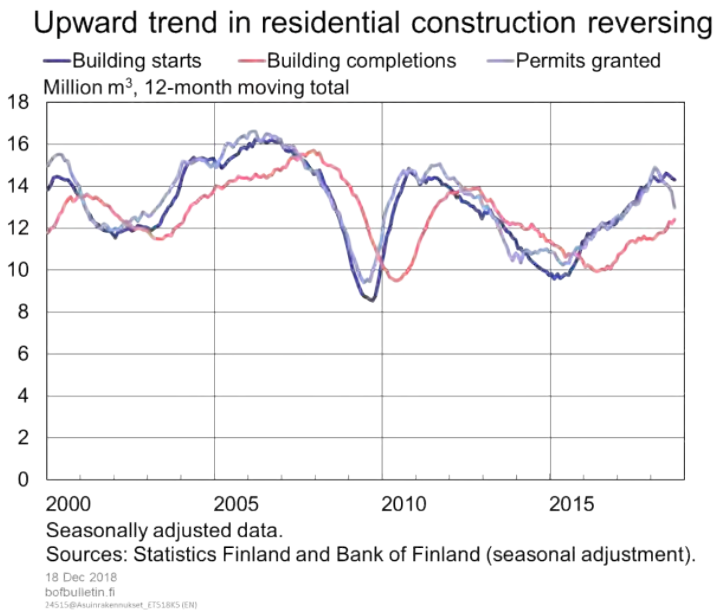
Chart 9.



Growth in fixed investment of the non-financial corporations sector peaked in 2017, when private investment increased by 4.6% and total investment across the economy by 4.0%. Investment growth eased markedly already at the end of 2017, however, and fixed investment has remained fairly modest in 2018. Fixed investment will continue to grow during the forecast years, but more slowly on average than in 2016–2017. This may partly reflect one-off factors associated with the completion of certain large investment projects. In the forecast period, investment will be surrounded by an upside risk, however, provided that the planned industrial investments are realised on a broad scale.

The upward trend in construction is also reversing. In 2018, construction activity has still been strong, with new residential construction being been particularly buoyant. The number of residential building permits begun to decline already in summer 2018, however, resulting in a flattening out of the number of housing starts (Chart 10). In 2019, the number of both housing starts and completions will begin to decrease. Renovation building, in turn, is assessed to contribute to sustaining investment growth. Overall, based on building permits, total construction will be slowing down.

Chart 10.



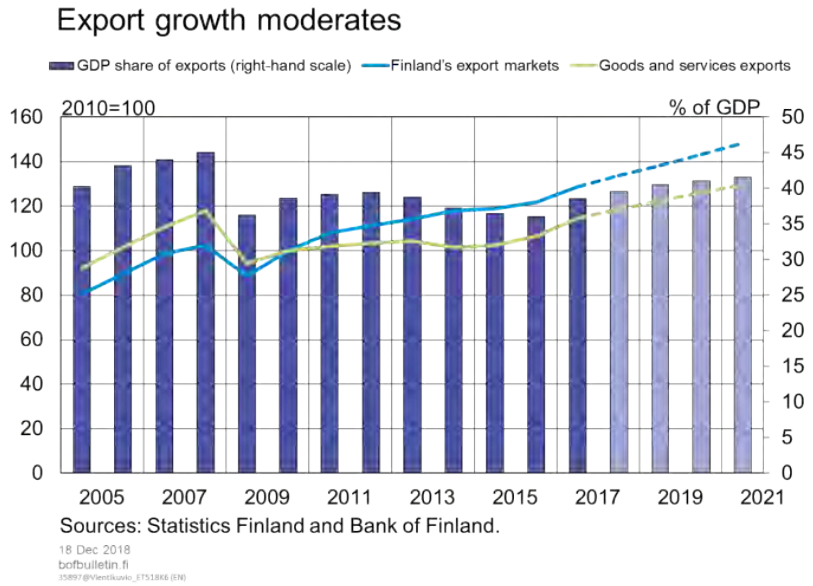
The financing conditions of the non-financial corporations sector will remain favourable in an environment of accommodative monetary policy. In 2018, new drawdowns of corporate loans have grown more rapidly than in the previous year, while growth in the corporate sector loan stock has exceeded the euro area average. Funding bottlenecks in the main industries have increased markedly only in respect of construction. Firms consider that the availability of labour and capacity constraints are presently more dominant factors preventing growth than access to finance.

At the same time, corporate sector profitability has improved rapidly, although relative to value added it has not reached the pre-financial crisis level. In the National Accounts, operating surplus is equivalent to operating profits recorded in non-financial corporations' financial statements. In 2017, the operating surplus from ordinary activities rose by 21%, compared with 5% on average in 2013–2016. The corporation sector surplus for 2017 totalled EUR 10.7 billion, further strengthening the sector's net lender position that has prevailed throughout the 2000s.

Export growth has passed its cyclical peak

Export growth has rebounded in the past few years, supported by the booming global economy and improved cost competitiveness. Both goods and services exports have increased at a rapid pace, and the share of exports in GDP has also risen (Chart 11).

Chart 11.



In 2017, the volume of exports was still growing at a rate of over 7%, growing faster than the export markets. However, export growth has already passed its cyclical peak. In 2018, export growth will slow to a good 3% and will fall somewhat behind export market growth. In 2019–2021, export growth will slow further, but will remain close to 3%. The contribution of net exports to growth will contract noticeably in 2018, but will remain positive throughout the forecast period.

Above all, growth in Finland's export markets will be dampened by increasing uncertainties surrounding the global economic developments and a weaker outlook for the euro area growth. Increasing uncertainties and the threat of an escalation of the trade war, in particular, are easily reflected in corporate expectations and therefore also in the investment outlook for Finland's trading partners. Weaker investment demand, in turn, is easily reflected in Finnish exports, which consist mainly of capital and intermediate goods.

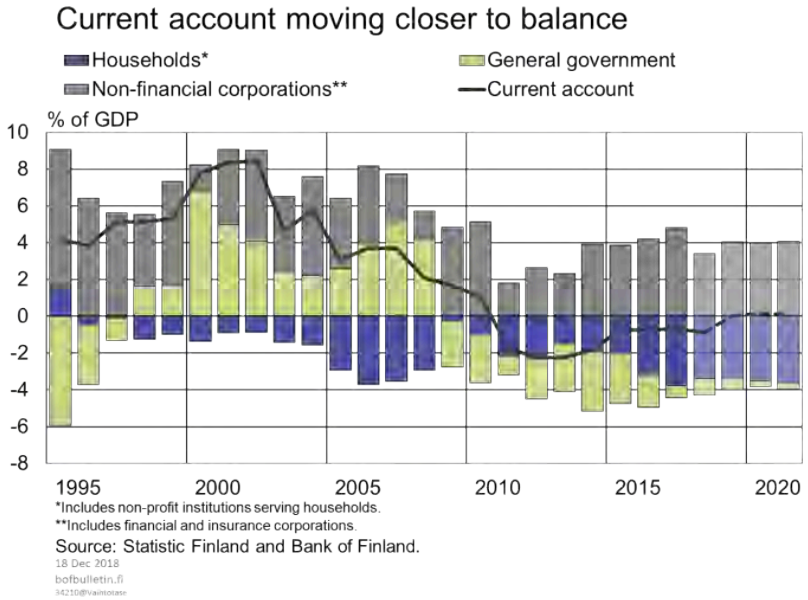
Finland's export industries have managed to increase their market shares in the past few years, partly as a result of better cost competitiveness. However, unit labour costs will rise during the forecast period, increasing the risk of a deterioration in export industries' cost competitiveness.

The sufficiency of production capacity in the export industry sector is also threatening to become a bottleneck for export growth. Capacity utilisation in the manufacturing sector is high, and in some industries, such as automotive and ICT manufacturing, the availability of labour is already causing problems. Productivity growth has slowed, too (see Slow productivity growth hinders export growth).

Because of the import inputs in domestic demand and exports, imports will also grow in the forecast period. However, import growth will abate faster than export growth. Export growth will be weakened over the forecast years by slower growth in investment and consumption.

Finland's current account, which has long remained in deficit, will therefore move closer to balance. The deficit has persisted due to the indebtedness of both households and the public sector and the fact that the surplus on the corporate sector has been insufficient to offset this trend (Chart 12). Growth in household and public-sector indebtedness is slowing, however. The trade surplus will strengthen towards the end of the forecast period, influenced by a faster growth in the value of goods and services exports than in imports.

Chart 12.



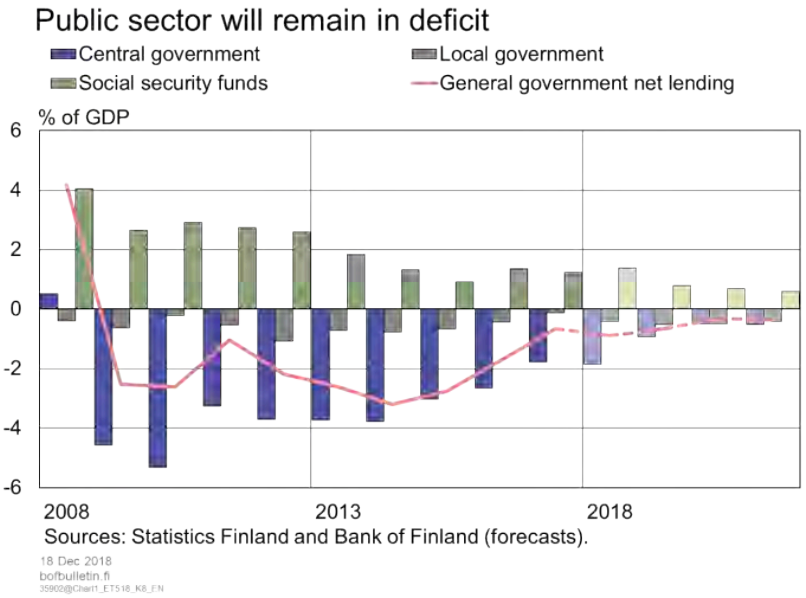
Public finances remain in deficit

Finland's general government finances have been strengthened by economic growth, higher employment, fiscal consolidation and lower unemployment. Despite these favourable factors, the downward trend in the general government deficit will come to a halt in 2018, and a balanced budgetary position will not be attained in the forecast period 2018–2021 (Chart 13).[1] The central and local government primary balance[2] will remain negative throughout the forecast period.

The general government debt-to-GDP ratio will fall below 60% in 2018 and the downward trend will continue throughout the forecast period. This means that Finland will fulfil the requirements for deficit and debt stipulated in the EU Treaty. Living on debt will continue, however, and the euro volume of public debt will continue to grow further also in 2021. The total tax ratio will decline to 42%, after having been 44% in 2016.

1. The forecast for the public sector for 2020–2021 is based on the no-policy-change assumption, except for the discretionary changes already known for 2020–2021. The fiscal policy plans of the Government to be formed after the spring 2019 parliamentary elections will be taken into account in the forthcoming forecasts.
2. Budget balance net of interest payments.

Chart 13.



Public consumption expenditure will grow in 2018, fuelled by fixed-term key projects, statutory and contractual pay increases and a one-off wage increase for compensating holiday pay cuts. However, real growth in public consumption will moderate in 2019–2021 on the back of the Government's adjustment measures and conclusion of general government key projects. Public investment will also grow in 2018, but will contract in the following year with the conclusion of the key projects. Public investment will continue to grow at a slow pace in 2020–2021.

Tax revenue growth will pick up to 3% in 2020–2021, reflecting higher revenues from direct and indirect taxes alike. Increases in excise duties will continue in 2019, and so will the gradual reduction of the deductibility of mortgage interest expenditure. Vehicle taxes, in turn, will be lowered. The taxation on earned income will be eased to compensate for the effects of the Competitiveness Pact and the rise in the earnings level.

The central government deficit will decline to 0.5% relative to GDP by 2021.[3] Even though the central government primary balance will turn positive in 2020, the government finances will continue to post a deficit due to interest expenditure on public debt. Central government expenditure will grow in 2018–2019 mainly on account of wage increases and rising pension expenditure. On the other hand, adjustment measures related to the central government budget, lower expenditure on immigration and unemployment benefits as well as zero index increments will lower general government expenditure. The early repayment of the loan of EUR 1.4 billion granted by the state to the Finnish Export Credit will reduce the need for general government borrowing.

The downward trend in the local government deficit will come to a halt in 2018 and the deficit will deepen to around 0.5% relative to GDP in 2019–2021. Central government

3. This Bank of Finland forecast does not take into account the sectoral changes in the central and local government subsectors stemming from the social and health care reform.

transfers to local government will grow slowly in 2018–2019 and will be restrained by the Competitiveness Pact and an adjustment of the division of costs between central and local government. The measures to reduce municipal tasks will push down both local government expenditure and central government transfers to the sector.

The surplus on the earnings-related pension funds has declined in recent years, as pension expenditure has grown at the same time with modest growth in property income and pension contributions. The annual growth in pension benefits paid will pick up to over 4% in 2020–2021 and will continue to surpass growth in income received by earnings-related pension funds. Other social security funds will still continue to post a fairly strong surplus in 2018, when social benefits other than social transfers in kind will decrease by almost 4%, particularly due to lower expenditure on unemployment benefits. The sum of these benefits will not begin to grow until 2021.

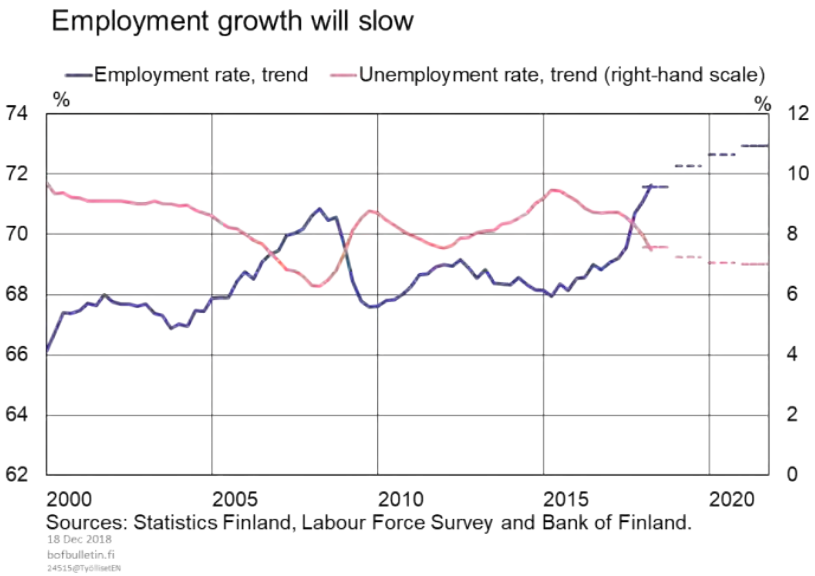
Economic growth constrained by supply-side factors

Economic growth will be constrained by supply-side factors during the forecast period due to the favourable cyclical conditions of recent years as well as longer-term structural factors. Solid employment growth and subdued investment growth in 2018 will reflect on the availability of labour and adequacy of capacity. Output will exceed its potential level in the forecast period. Productivity growth will remain below its historical trend.

Structural unemployment remains high

Employment grew strongly in 2018 and the unemployment rate declined by one percentage point on the previous year. Employment growth has been exceptionally brisk relative to the rate at which the economy has grown, but during the forecast period, employment growth will slow significantly. In 2018–2021, the number of persons employed will increase by nearly 100,000 – the bulk of which in 2018. The unemployment rate will decline to 7.0% during the forecast period (Chart 14).

Chart 14.



The exceptionally strong development of employment relative to economic growth in 2018 might partly be explained by structural reforms in the labour market, which may have expanded the scope for employment growth. In addition, the considerably slower rise of labour costs relative to productivity growth may have created conditions conductive to employment growth.

Recent measures affecting labour market structures include restrictions on the maximum duration of unemployment allowance and a new activation model. These policies have, through various means, reduced the attractiveness of unemployment relative to working. Similar effects have already been achieved with cuts to benefits linked to the national pension index in 2016 and 2017, the pension reform in 2017, and in 2014 the introduction of a sum of exempt earnings under unemployment allowance. Overall, incentives to work have improved in the past couple of years by 2.5–3%, measured by the average participation tax rate.[4] Demand for labour, in turn, has been supported by the Competitiveness Pact, which resulted in a decline in labour costs.

The slow development of labour costs, as well as the structural reforms which have strengthened the incentives to work, may continue to bear fruit in the years ahead. An increase in unfilled vacancies, and employment expectations in the corporate sector, indicate that employment developments will remain favourable in the immediate future. In 2019, employment will continue to grow, by just under 1%.

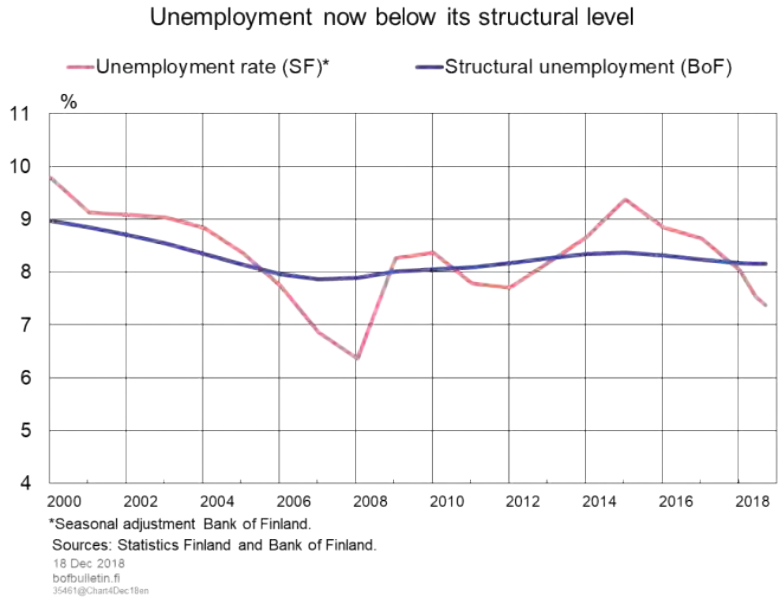
Labour market conditions have tightened further, as for every unfilled vacancy there are fewer available unemployed jobseekers. Labour shortages are, according to corporate surveys, becoming a growing obstacle for raising production. Many indicators support the view that matching has become less efficient on labour markets following the long recession as well as structural changes. Mismatch problems may be underpinned by a

4. Kärkkäinen and Tervola (2018): "Talouspolitiikan vaikutukset tuloeroihin ja työllisyyteen 2015–2018", Valtioneuvoston selvitys- ja tutkimustoiminnan julkaisusarja 59/2018. Finnish only.

high share of the long-term unemployed, a growing share of aging jobseekers, and plentiful demand for highly educated workers but insufficient supply. The decline of the working-age population will also, for its part, constrain employment growth during the forecast period.

Structural unemployment, or the unemployment rate purged of its cyclical component, is estimated to still remain high, at a level of about 8%, which suggests that the recent decline in unemployment has been due to cyclical factors (Chart 15). The high estimated level of structural employment supports the view that labour markets continue to face substantial capacity constraints.

Chart 15.



The exceptionally rapid growth in employment witnessed in 2018 will thus remain a temporary phenomenon, as the effects of structural reforms in the labour market fade and employment growth is slowed by the persistently high degree of structural unemployment, labour market mismatches and a decline in the working-age population. Employment growth will slow to below 0.5% in 2020 and 2021.

The employment rate will continue to improve during the forecast period. This will be influenced both by an absolute increase in the number of employed persons as well as by the proportional decline of the working-age population. The employment rate will reach the target level of 72% and will climb to slightly under 73% in 2021, the last year of the of the forecast period.

With economic growth moderating, labour demand will begin to contribute to a loosening of labour market conditions and prevent the formation of wage pressures. Towards the end of the forecast period, wage growth will equal the combined growth rate of productivity and prices. The risk is that as growth remains solid and labour market conditions tight, the Competitiveness pact's moderating effects on wage growth will be offset in the next round of wage negotiations by demands for wage rises clearly above productivity growth. Wage growth might prove faster than predicted and employment

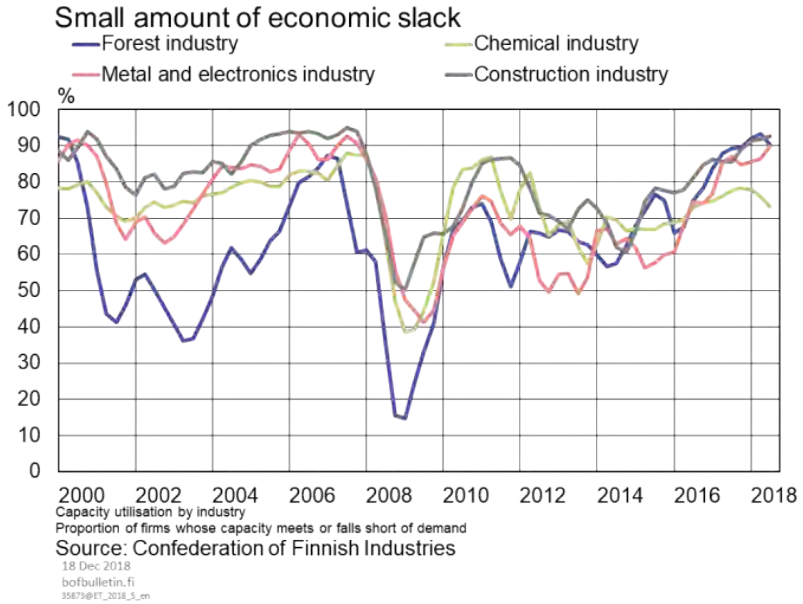
growth respectively slower. In this scenario, the Competitiveness Pact's positive impact on employment would remain temporary.

Capacity utilisation rate is high

Growth constraints have increased, as a result of the upswing that has been ongoing for some time. As employment has rapidly improved during the past year, the capital stock has not kept up with the growth in labour. An increase in the number of firms who estimate that capacity is adequate or too little is suggestive of the growing presence of capacity constraints. The capacity utilisation rate in manufacturing has reached a high level but is still below the peak reached in the previous boom (Chart 16).

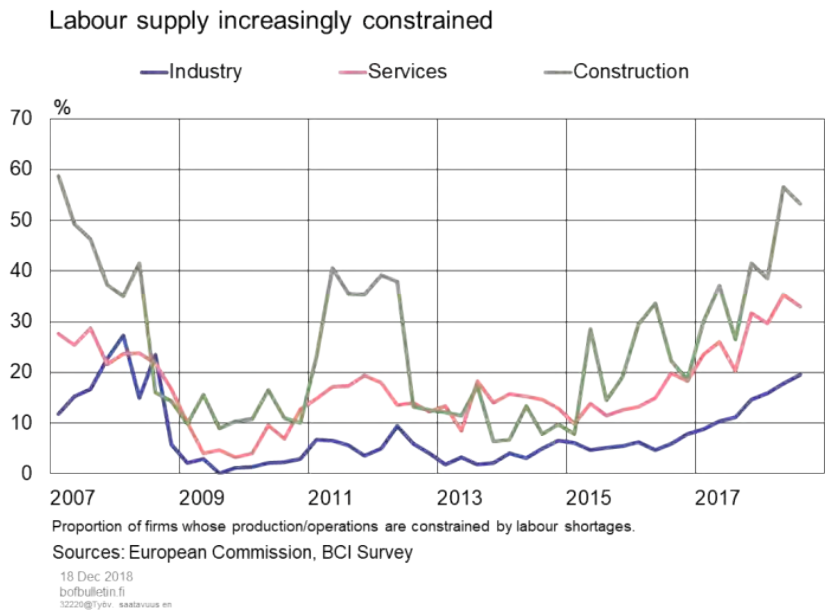
The slowing of fixed capital investment (excluding residential investment) beginning in late 2017 and continuing for the entirety of the past year suggests that capacity constraints will persist in the beginning of the forecast period, even though subdued investment growth may be owed to the transition of economic growth towards services. The moderation of the economy will ease capacity constraints towards the end of the forecast period.

Chart 16.



Availability of labour is an increasingly large problem. Companies are reporting increasing difficulties in recruiting skilled labour in all the main sectors (Chart 17). These issues are estimated to be the largest in finding skilled labour for building; however, the moderation of construction promises to ease the shortage of skilled labour in the industry. In services, the shortage of labour is already larger than during the previous cyclical peak. This issue may be set to continue, as for example demand for social- and healthcare workers does not fall even when the business cycle decelerates.

Chart 17.



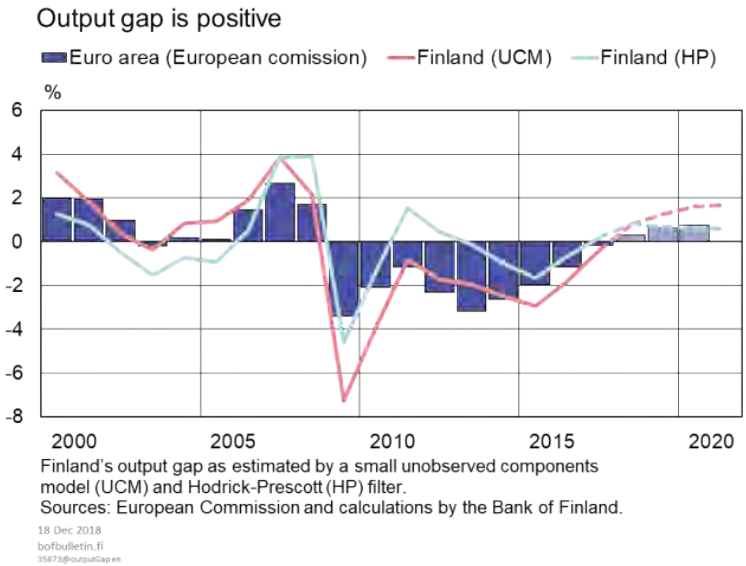
Output gap is positive

Although GDP growth has passed its cyclical peak, the economy is set to continue in a subdued boom phase. GDP has increased briskly over the past few years, resulting in output growth exceeding its potential rate[5] and the output gap finally closing. In the forecast period, the output gap will remain slightly positive, i.e. GDP will be higher than potential output. (Chart 18).

The output gap remained negative both in Finland and in the euro area for an exceptionally long period during the double-dip recession which followed the financial crisis, meaning that economic resources were being underutilised. As economic conditions have lifted, the capacity utilisation rate and employment have also gained strength. As it stands, less economic slack is available for raising production than before. Yet although positive, the output gap will remain moderate, as the decline of growth in global demand, which is central for the Finnish economy, weighs on economic growth.

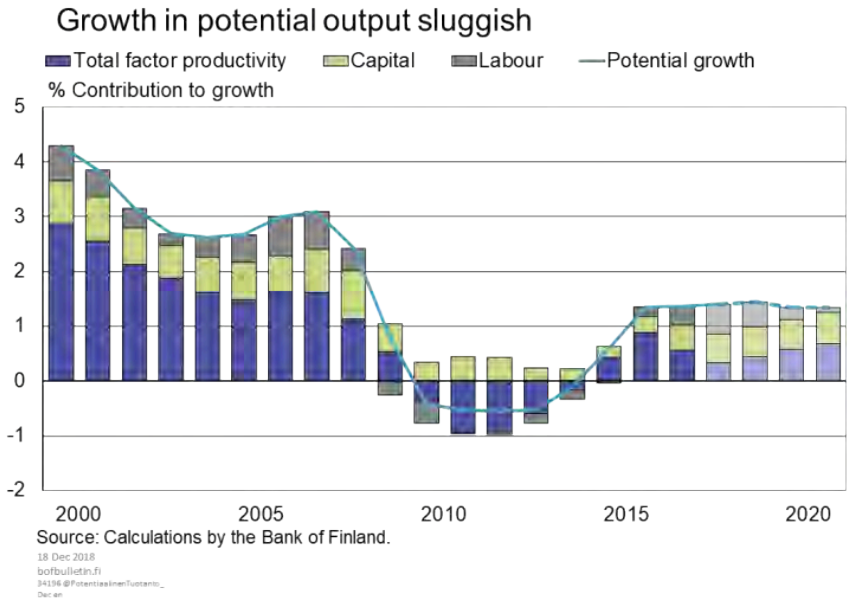
Chart 18.

5. Potential output is the level of real GDP when all the economy's factors of production are fully utilized.



Growth in potential output is significantly slower than before the financial crisis (Chart 19). Total factor productivity has strengthened after the protracted downturn, but it is nevertheless far below record years. In 2018–2021, an increase in investment will boost the capital stock and strengthen potential output. Towards the end of the forecast period, the importance of labour as a source of potential output may fade. The supply of labour is restrained by the decline in working age population (15–74-year-olds) and the high rate of structural unemployment.

Chart 19.

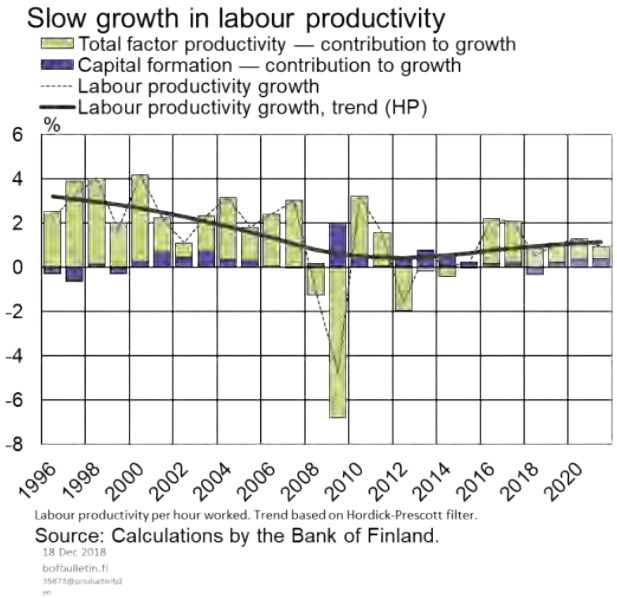


Following a protracted downturn, labour productivity returned in 2016–2017 to a growth rate of some 2%. The rapid improvement will however remain cyclical, i.e. temporary. Productivity growth in 2018 was slow, partly reflecting the exceptionally rapid growth in

employment (Several reasons behind weak labour productivity). Going forward, employment and productivity are expected to provide more balanced support to economic growth. In 2018–2021, the pace of labour productivity growth will be slow, on average 2%. The higher capital intensity of the economy will however improve labour productivity slightly, reflecting the larger amount of capital available per hours worked (Chart 20).

Labour productivity growth is set to remain considerably slower than at the beginning of the 2000s, when the annual growth rate averaged 2.5%. The slowdown in productivity growth can be explained e.g. by the smaller weight of high-productivity industries and increased importance of services in the economy, a shift in investment from machinery and equipment to housing as well as a contraction in the share of R&D investment. For example, despite continued passable growth in machinery and equipment investment, the growth rate will remain close to the lowest figures recorded in the 2000s relative to GDP. Slower productivity growth may also be due to changes in the structure of the corporate sector (Divergence of productivity growth in Finnish companies).

Chart 20.



Inflation gathering pace gradually

Consumer price inflation has picked up in the past year; however, inflation has thus far been fuelled by transitory factors, i.e. rises in energy and food prices. In the forecast period, a moderate pick-up in inflation will be supported by faster nominal wage growth than in recent years.

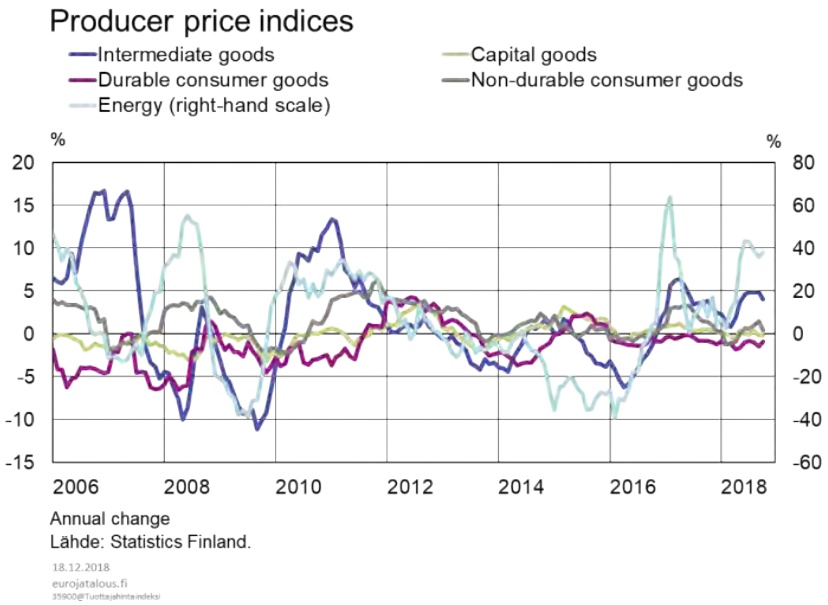
Transitory growth in external price pressures

The price of oil has risen sharply from the very start of 2018, but has now returned to levels seen early on in the year. Price volatility has been stoked by geopolitical factors. In addition to the oil price, wholesale prices of electricity have also risen strongly, but they

too have retreated from their heights reached in summer 2018.

Developments in the import prices of consumer and capital goods have been moderate (Chart 21). An increase in external inflationary pressures has been backed only by price gains in intermediate goods and energy. Their upward development has already halted and reversed partially, so the external price pressures are currently very moderate.

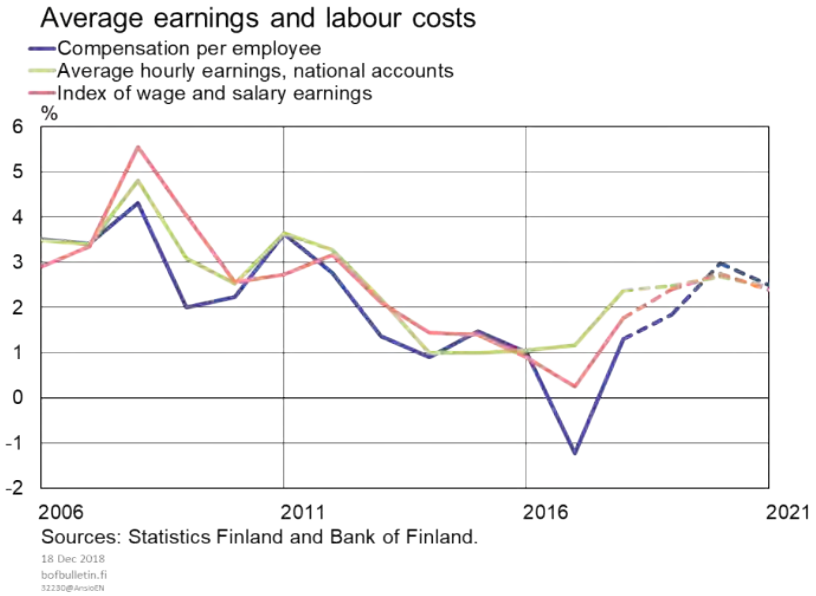
Chart 21.



Labour costs rising

Growth in nominal earnings started to accelerate towards the end of 2017, as the new collective agreements entered into force (Chart 22). As a result of the measures included in the Competitiveness Pact, growth in earnings remained very slow and compensation per employee, which includes employers' social security contributions, decreased by 1.2%. At the same time, economic growth picked up and productivity grew by 1.6%, resulting in unit labour costs declining significantly.

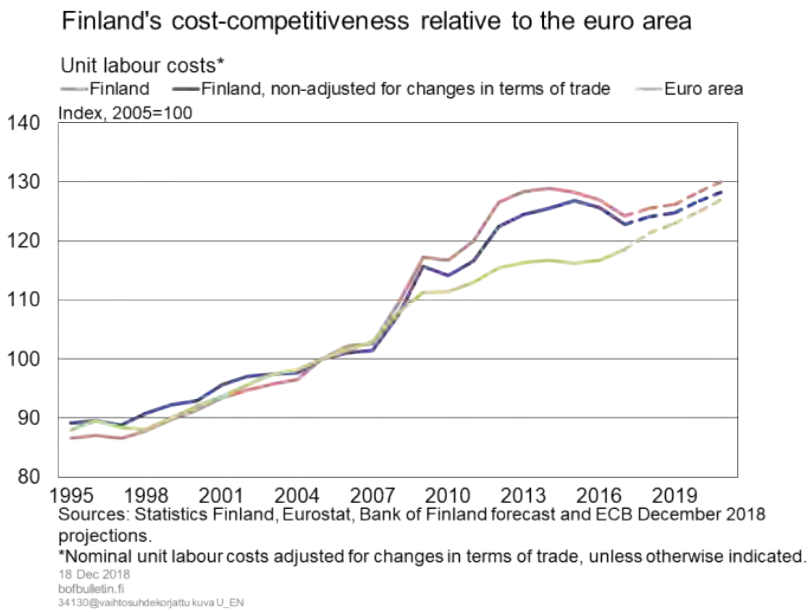
Chart 22.



During the forecast period, growth in earnings will depend largely on the collective agreements concluded for 2018–2019, according to which negotiated wages will rise by on average 1.6% in 2018 and 2019. In the economy as a whole and taking into account wage drift, growth in nominal earnings will be just under 2% in 2018 and nearly 2.5% in 2019, according to the index of wage and salary earnings. The temporary cuts in public sector holiday bonuses, included in the Competitiveness Pact, will end in 2020 and will accelerate the pace of growth in wages. During the forecast period, nominal earnings, measured by average hourly wages based on the wage bill, will grow by 2.5% on average, per annum. Average labour cost (compensation per employee) will grow in 2018 and 2019 at a more moderate pace than average earnings, due to the reductions in employers' social security contributions. Towards the end of the forecast period, growth in unit labour costs will accelerate, reflecting higher wages and increases in employers' social security contributions.

In 2018 and 2019, unit labour costs will grow by just under 1% per annum, i.e. at a slightly slower pace than in the euro area, thus allowing for continued improvement in cost-competitiveness (Chart 23). The next round of wage negotiations should start before summer 2019. The forecast is based on the technical assumption that the pace of growth in real wages in 2020 and 2021 will be broadly the same as growth in productivity. Growth in unit labour costs will accelerate to around 1.5%, which is in line with unit labour cost growth in the euro area, and will thus sustain the improvement in Finland's cost competitiveness in recent years relative to the euro area. If economic growth remains strong and the labour market is still tight when the next round of negotiations starts, there is a risk that pay rises will be higher than productivity growth and that cost-competitiveness will weaken.

Chart 23.

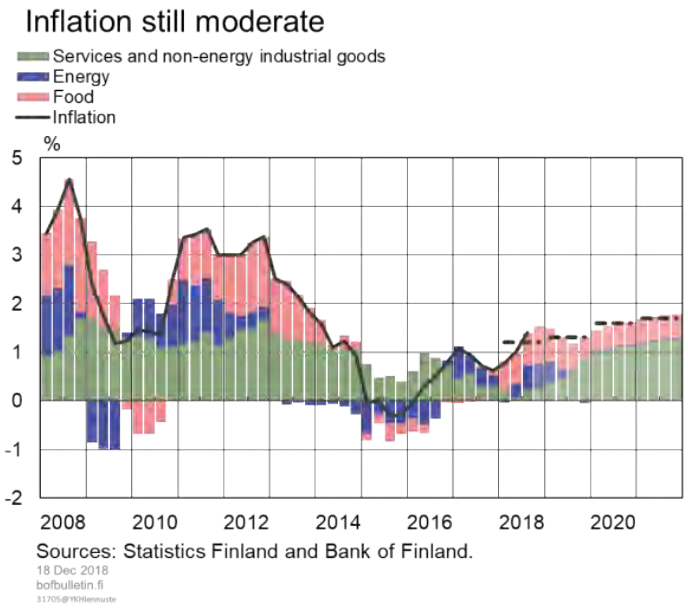


Inflation still moderate

In 2018, inflation has been fuelled particularly by hikes in energy and food prices as well as increases in indirect taxes. Inflation according to the harmonised index of consumer prices (HICP inflation) was 1.4% in November. Underlying inflation at constant tax rates (excl. energy and unprocessed food) was however only 0.4%. Inflation has been fuelled by transitory factors. Services inflation has remained moderate, and inflation has been slowed especially by the weak price development of manufactured goods.

Despite the still subdued pace of underlying inflation, price pressures in the economy have strengthened, supporting the moderate pick-up in inflation. Producer prices of services have risen, to 1.7%. In the past year, producer prices of consumer goods have not declined, in contrast to previous years. A key factor contributing to the subdued pace of inflation in recent years is the moderate development of wages. The acceleration in wage growth is reflected in the projections for consumer prices. Inflation is expected to be 1.3% in 2019 and to pick up to 1.7% in 2021 (Chart 24).

Chart 24.



Growing concern over the global economy

The forecast risks are predominantly on the downside. Uncertainty has gathered over the global economy during the year. Domestic downside risks to the economy have similarly increased recently.

The global economic outlook has dimmed over the course of the year, as has the growth outlook for the euro area. Concerns about the tenability of the sustained upswing have increased, clouding the prospects for Finnish exports as well. In particular, the threat of an escalating trade war has undermined confidence and could hamper investment. Challenges faced by emerging markets have also increased. Currency depreciations have restricted imports in many emerging-market economies. An unexpectedly rapid deceleration of China's growth rate, which has been fuelled by debt, may result in a significant decline in investment growth.

Increasing barriers to trade may engender unpredictable effects on world trade and international trade flows due to the complexity of global supply chains. Finnish export market growth is vulnerable to the threat of trade war especially because Finnish exports mainly comprise investment goods and services. Rising uncertainty alone can postpone investment activity far into the future.

In addition to rising protectionism, Finland's trade prospects are impacted by uncertainty over the terms of the United Kingdom's withdrawal from the EU. The enforcement of trade barriers between the United Kingdom and European Union will weaken the development of Finnish export markets and raise prices on imports and exports. Finnish firms would face greater travails in exporting to the United Kingdom and the prices of their export products would increase.

The outlook for the Italian economy has weakened, and uncertainty has mounted over the direction of the country's economic policy. Italy's non-compliance with EU fiscal

rules and its significant level of public debt have eroded confidence in the euro area. The resulting loss of investor confidence has raised yields on Italian sovereign bonds far above levels seen in the beginning of May. A further weakening of the confidence climate would amplify uncertainties about euro area growth and reflect on the development of Finland's export markets.

The recent appreciation of the euro, coupled with a rapid increase in the pricing of Finnish exports, could weaken the price-competitiveness of exports outside the euro area. A loss of price-competitiveness against competing export countries might slash export growth more than predicted.

China has become an increasingly important consumer of Finnish exports in recent years, and the prospects of Finland's exports are more dependent on Chinese growth than ever before. The greatest risks to economic growth in China are related to its growing indebtedness. Should the risks associated with the country's debt-fuelled growth materialise and funding run dry, Chinese investment and GDP growth will falter. The trade war with the United States may exacerbate China's situation even further.

Domestic risks lean slightly towards the more favourable, compared with external risk factors. Fixed investment growth may pick up quicker than forecast in the years ahead, if investments in the forest and energy industries proceed as planned. Should these investments materialise, fixed investment will grow faster than the forecast baseline. Similarly, implemented investments and those still under planning in recent years may raise productivity and exports above the forecast baseline. On the other hand, the business cycle propelling new-build construction on the housing market may mature more sharply than forecast.

A significant source of uncertainty is the development of wage growth and cost-competitiveness over the immediate years ahead. In the baseline scenario, Finnish export growth is expected to underperform the expansion of Finland's' export markets. However, if wage growth persists at a lower level than in competing export countries, the resulting gains in cost-competitiveness could help Finnish export industries reclaim their lost market shares.

Incomes may yet rise faster than expected. Slow wage growth in recent years, owing to the Competitiveness Pact among other factors, may lead to higher compensation demands in the years ahead. Bigger wage rises would result in higher unit labour costs and a weakening of competitiveness.

In 2018, the number of employed grew exceptionally quickly, but employment growth is expected to moderate significantly in 2019. If the reforms of recent years that better incentivise employment continue to bear fruit in the years ahead, employment growth may be higher than the forecast baseline. Structural employment may abate, allowing for more room for economic and employment growth without contributing to wage pressures.

Private consumption has in recent years supported economic growth in spite of cyclical conditions and growing household indebtedness. Stronger employment growth, wage rises and low inflation have strengthened households' purchasing power and might spur

private consumption more than forecast.

The development of private consumption is however clouded by growing household indebtedness. A rise in interest rates, coupled with a high debt burden, will impact domestic demand, and private consumption may decelerate faster than estimated. In addition to housing-related loans, indebtedness is being fuelled by rapid growth in consumer credit and households' shares of housing corporation loans. Rising household indebtedness increases the aggregate economy's sensitivity to the business cycle and also obfuscates development of the housing market.

Realisation of global economic risks would adjust forecast downwards

Uncertainty over the development of the world economy has increased over the past year, and risks stemming from the external environment are on the downside (see Growing concern of the global economy). If these risks materialise, Finnish export and GDP growth will both underperform the forecast baseline. The uncertainty in the forecast is best illustrated by a fan chart. The fan charts (Charts 25 and 26) illustrate the forecast uncertainty related to external factors and provide an assessment of asymmetrical risk factors.

Chart 25.

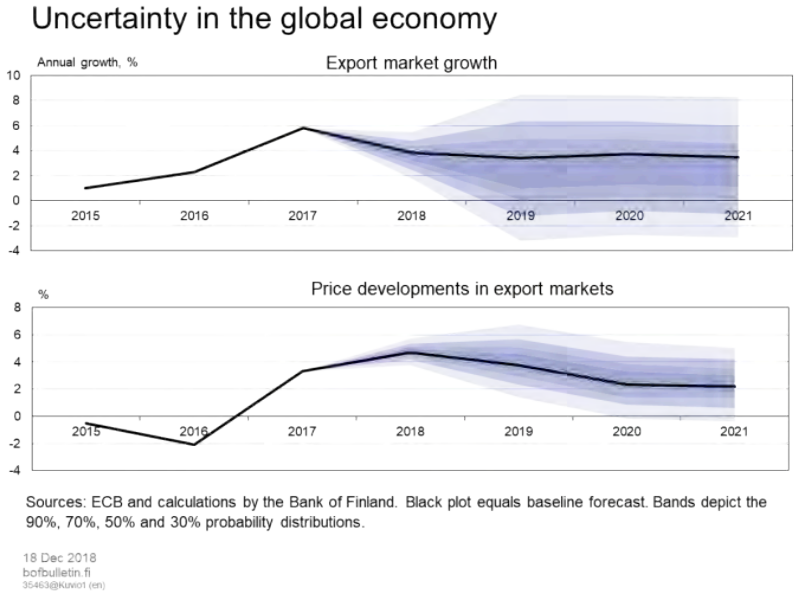
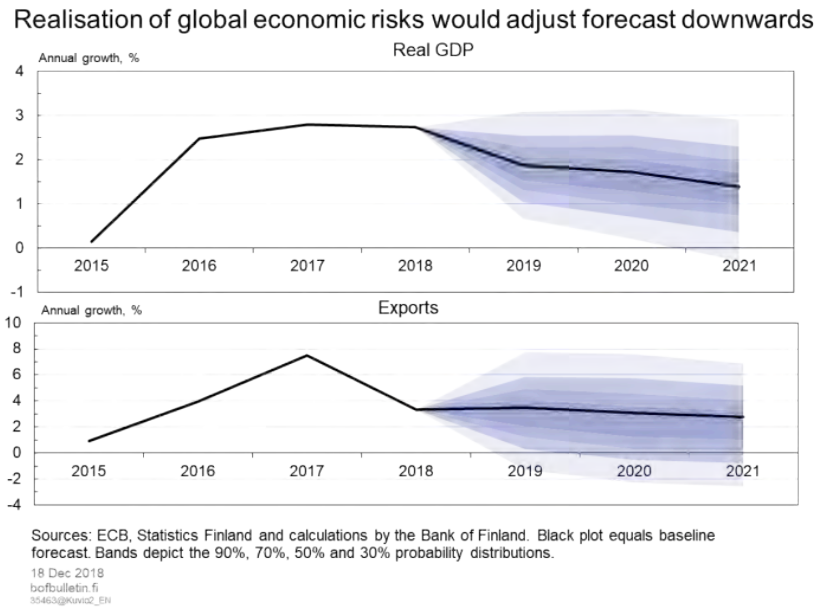


Chart 26.



Annual export market growth displays a spread of about -3% to 8% around the baseline[6] during the forecast years 2018–2021 (Chart 25). The asymmetry of the distribution is indicative that the risks to export market growth are predominantly on the downside and not the positive. Downside global risk factors include a rise in protectionist policy measures, deceleration of growth in the Chinese economy, and the debt burden of Italy's general government.

Price developments in export markets, in turn, fluctuate around the baseline forecast by about 0% to 5%. The uncertainty surrounding price development is thus less asymmetrical than the uncertainty concerning growth of export demand. For example, many protectionist policy measures, such as tariffs, have immediate price-raising effects. On the other hand, subdued world trade growth would weaken demand and thus mitigate upward pricing pressures.

To assess how sensitive the development of the Finnish economy is to uncertainties stemming from the external environment, the forecast can be conditioned on the paths for export market growth and price development as seen in the fan charts. Using the standard forecast assumption as baseline, export growth displays a spread of -3% to 8% over the forecast period 2018–2021 (Chart 26). The alternative forecast paths for exports are tilted to the downside compared with the baseline and thus are indicative of the risks to export growth. GDP growth fluctuates between 0% and 3% during the forecast period. As in the distribution for exports, it is tilted to the downside compared with the baseline forecast.

Based on the estimate, a realisation of global risk factors would dampen Finnish growth over the forecast period, most particularly in exports. A complete cessation of GDP growth would however require export markets to contract for several years. In light of the estimate, the probability of this occurring, thus halting economic growth in the forecast

6. The Bank of Finland's December 2018 forecast.

period, is very small.

Tags

competitiveness, economic growth, employment, exports, Finland, forecast, households, inflation, investment

Now is an opportune time to strengthen fiscal buffers

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

Economic growth has supported the efforts to improve Finland's general government finances in recent years. However, changes in the composition of public revenue and expenditure are hampering the achievement of a balanced budget position. In the medium term, reaching the fiscal policy objectives will not become easier. Growth in age-related expenditure will make rebalancing of the public finances more difficult, and the fiscal sustainability gap is still considerable.

Achievement of general government structural balance will be postponed

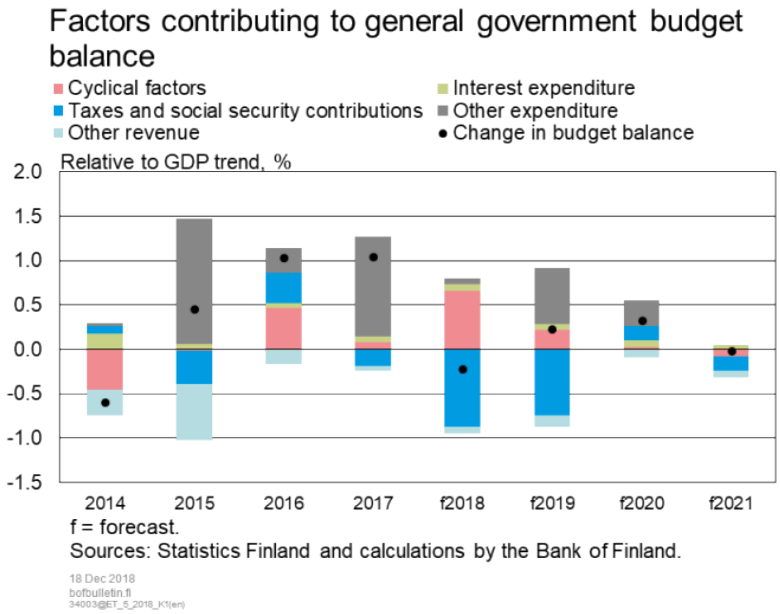
The double-dip recession of the past decade and economic restructuring have left a deep mark on Finland's public finances. In addition to the cyclical deterioration of the revenue base and increased expenditure needs, Finland's public finances are strained by demographic change. As baby boomers have reached retirement age, pension expenditure has grown rapidly and pensions paid relative to GDP have grown by almost 3 percentage points from the pre-recession years to 2017. Increases in social security contributions have been insufficient to maintain the level of the surplus on the social security funds, considering that property income received by the funds has also decreased.

With regard to the central government finances, transfers to social security funds – e.g.

the state's share in certain pensions – have increased by 1.5 percentage points relative to GDP since 2005. The taxation of income has become less relevant in government taxation and, in recent years, the shift has been increasingly towards indirect taxes. As a whole, however, central government tax revenue relative to GDP will be about 1 percentage point lower than in 2005. Central government transfers to local government have increased, and municipal taxes have risen. Local government investment and consumption expenditure have grown especially in the social and health care services sectors. Interest expenditure on general government debt has contracted significantly in recent years, despite growth in the level of debt. This has provided cushioning for growth in other expenditure.

The upturn in Finland's economic growth has underpinned the public finances in recent years (Chart 1). In addition to positive cyclical effects, public finances have been bolstered in recent years especially by expenditure adjustments. The current Government will have implemented spending cuts of approximately EUR 4 billion by the end of the Government's term in office. The impact of this adjustment has been alleviated by the appropriations of EUR 1.6 billion for the Government's key projects in 2016–2018. The financing of the key projects will come to an end in 2018 as planned, and it appears that no permanent additional expenditures will be included to the budget relating to the projects. However, it would be advisable to assess the impact of key project funding ex post.

Chart 1.

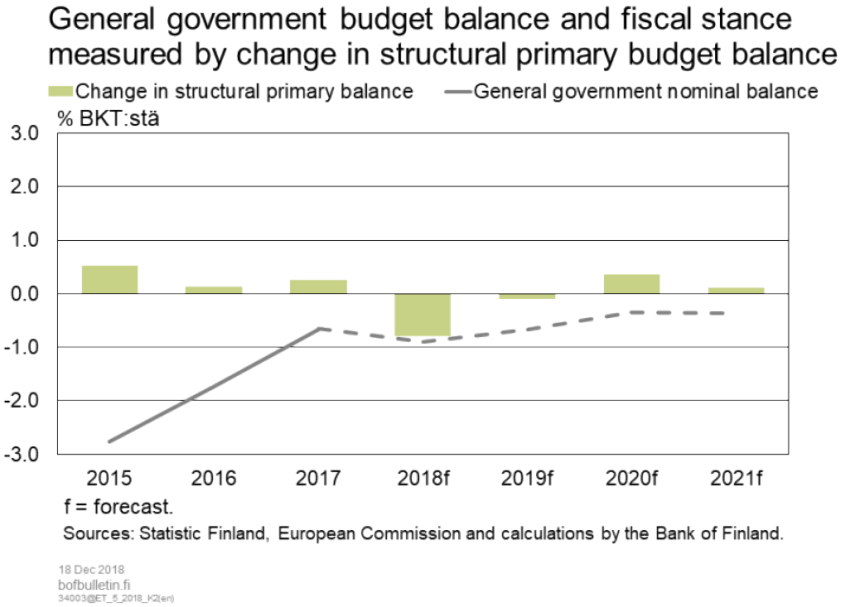


There are pressures to increase public expenditure coming from a number of sources. Substantial defence material procurements are envisaged for the forthcoming years. There is also a parliamentary consensus on the need to increase funding for the development and maintenance of the transport infrastructure. Going forward, particular attention should be paid to the composition of public expenditure, especially due to the pressures arising from population ageing. A central government expenditure survey – last conducted in 2016 – could be a useful tool in examining public spending at the

political level. The turn of the parliamentary term in 2019 would be a very opportune time to update and document the various expenditure items and assess the effectiveness of expenditure.

Fiscal policy will ease in 2018. The fiscal stance is not appropriate in view of the economic cycle, especially since the structural problems in the public finances have not been resolved nor fiscal buffers strengthened following the recession. In 2019, fiscal policy will be neutral, as measured by the change in the structural primary budget balance (Chart 2). Since the fiscal policy decisions for the latter forecast years 2020–2021 will be taken by the next Government, the current Bank of Finland forecast only assumes adjustments to the income tax scale in line with the increase in the earnings level.

Chart 2.



Finland is compliant with EU fiscal rules

Fiscal policy rules have been shown to have a positive impact on the management of the public finances. Finland has long applied central government spending limits with fairly good success. The spending limits framework sets a binding ceiling for approximately 80% of budget expenditure for the following four years. The spending limits are set in real terms, meaning they are adjusted annually for changes in price and cost levels and possible structural corrections. The National Audit Office of Finland monitors compliance with the spending limits and submits a related report on an annual basis. The Office has noted that the spending limits framework has become non-transparent and difficult to monitor. In 2019, expenditure within the spending limits, including provisions, will be at the same level as expenditure budgeted for 2018.

Finland must also adhere to the EU's fiscal policy rules. The Treaty on the Functioning of the European Union (TFEU) limits general government deficit to 3% of GDP and general government debt to 60% of GDP. Compliance with these reference values is monitored

under the Stability and Growth Pact (SGP). Since Finland's public debt will fall below the reference value of 60% already this year, the Bank of Finland forecast sees that Finland will meet both the deficit and the debt requirement in the next few years.

In the preventive arm of the SGP, Finland's medium-term objective (MTO) for the structural budget balance is –0.5% of GDP. In 2017, the MTO was met and even overachieved due partly to a windfall in tax revenue. In 2018, the structural deficit will be above what is allowed, but the distance to the MTO will not be critical, considering the temporary allowances granted to Finland relating to the implementation of structural reforms. According to the view of the European Commission, however, there is a risk of Finland not complying with the spending rule of the TFEU, which binds public expenditure growth to the growth rate of potential output.

The EU's fiscal policy rules have been criticised as being too restrictive on the one hand and too flexible and discretionary on the other. Discussions on the reform of the EU rules have been underway in recent years as part of the development of the EMU. Finland has emphasised each country's own responsibility for their own finances and adherence to the current rules. Increasing the clarity and ownership of fiscal rules via national legislation would be in the interest of the individual countries and the entire monetary union alike.

Strengthening of public finances necessary already in the medium term

The current Government set several fiscal targets at the beginning of its term if office. The target of putting the debt-to-GDP ratio on a downward path has been achieved. The objective of bringing an end to living on debt by 2021, in turn, does not appear plausible in light of forecasts. Sector-specific budgetary objectives will be missed by a close margin. With respect to the local government finances, the budgetary objective is achievable, but it appears that the central government nominal deficit will be higher than the targeted 0.5% in 2019. Achievement of a surplus of 1%, as targeted by the earnings-related pension funds, is not certain, either. According to the Bank of Finland forecast, the surplus on the earnings-related pension funds will erode further in the forthcoming years, as pensions will grow faster than property income and pension contribution revenue received by the funds. Achievement of the MTO of –0.5% for the structural budget balance does not seem plausible in 2019, but is possible for the next years. The objective of preventing a rise in the tax ratio has been clearly met, since the tax ratio has declined especially due to the Competitiveness Pact and the related compensations.

During the next parliamentary term commencing in 2019, management of the public finances will not be easing in light of the forecasts. Even though the slight downward trend in the debt-to-GDP ratio looks to continue over the next years, the debt ratio will still be over 53% in 2025. The estimate does not take into account the forthcoming defence material procurements, which will boost the debt ratio by 4–5 percentage points. Health care and long-term care expenditure related to population ageing will begin to grow in the next few years, as the baby boomers will exceed the threshold of 75 years. In addition to higher health care and long-term care expenditure, growth in the interest payments on public debt may also start to limit the fiscal space. In 2005, interest

expenditure was 1.6% of GDP and the debt-to-GDP ratio was 40%. In 2017, interest expenditure was 1% of GDP, even though the debt ratio had risen to 61%. It the debt level increases in parallel with a rise in the interest rate level, public expenditure pressures will grow even further.

Strengthening of fiscal buffers now, in good economic times, is increasingly important. Bringing an end to debt accumulation and a steeper downward trend in the debt ratio would create more fiscal space to address forthcoming rising expenditure pressures or potential economic shocks. Strengthening central and local government structural balances would also act as a precautionary measure against the forthcoming challenges. This could be done in a balanced manner, by tightening the revenue base and reviewing the composition of expenditure. Measures to improve the productivity of the public sector are also necessary. The public finances can be also be strengthened in the area of social security, by increasing the EMU buffer of the Unemployment Insurance Fund, for example.

Long-term sustainability of public finances

The Bank of Finland's estimate for the sustainability gap in Finland's public finances is about 3% of GDP.[1] Even though the estimate is roughly unchanged on December 2017, the composition of the sustainability gap has changed slightly. The sustainability gap can be calculated based on three components, which have developed in opposing directions. The general government debt-to-GDP ratio is assessed to develop slightly more favourably in the medium term than estimated in December 2017, and therefore the estimate concerning interest expenditure on public debt, included in the sustainability calculation, is slightly lower than previously assessed. According to the new assessment, the general government structural primary balance is also slightly stronger at the beginning of the calculation, in 2025, than estimated in December 2017. The present value of future deficits, however, is now higher, which increases the sustainability gap.

The estimate for the sustainability gap has risen slightly on account of Statistics Finland's new population projection. A particular feature of the population projection was the assumption on the birth rate which was, due to recent years' developments, considerably lower than in the previous population projection of 2015. A reduction in the birth rate, if materialised, will have a negative impact on the number of working-age population. This, in turn, will weaken potential economic growth from the 2040s onwards. The impact on the sustainability gap, however, will not be as substantial, since imputed education expenditure will decline first and the other effects will not be visible until the latter years of the calculation.

Even though sustainability gap assessments are subject to significant uncertainty, they are indicative of future developments and their scale. Unlike in the framework of the pension system, preparations for the effects of population ageing are not yet sufficient in the social and health care services system. The social welfare and health care reform may,

1. Long-term sustainability gap calculations are subject to significant uncertainty. For this reason, the Bank of Finland estimates the sustainability gap with the accuracy of ½ percentage point. More detailed information about the sustainability gap is available in a separate article. The Bank of Finland's methodology for calculating the sustainability cap will be discussed in a forthcoming BoF Economics Review article.

if successful, slow expenditure growth, but only if cost efficiency plays the key role in the reform. In general, it takes time to address structural challenges, and postponing of reform measures therefore increases future risks.

Central government liabilities exceed assets

General government assets relative to liabilities are exceptionally high in Finland, since the earnings-related pension funds are categorised as part of the public sector. However, the assets of the funds, which are about 80% relative to GDP, cannot be used to manage public debt, which mainly concentrates on the central and local government subsectors. Another problem in assessing the total public sector net debt is that pension liabilities are often excluded from the calculation. At present, pension liabilities are over 300% relative to GDP, for pensions already earned.

The central government's financial assets, however, are substantial. At the end of 2017, their value was approximately EUR 64 billion, which is more than 28% relative to GDP. 60% of the assets are shares and equities, the value of which has fluctuated even markedly. Central government property income has averaged about EUR 1.8 billion in recent years. In addition, shareholdings have been sold in various amounts in recent years. In spring 2018, the International Monetary Fund (IMF) analysed[2] the composition of Finland's public sector assets and the implications to the sustainability of the public finances. The analysis concludes that strengthening of the public finances is needed to address future age-related spending.

Central government guarantees have continued to grow substantially. At the end of 2017, the stock of government guarantees amounted already EUR 52 billion, representing a growth of EUR 6 billion on the previous year. Over the past 10 years, government guarantees have grown by more than 15 percentage points relative to GDP. The majority of the guarantees and their growth stems from export and funding guarantees to Finnvera. This means that government guarantees have been used for supporting the operating conditions for the export industries. A critical assessment and a plan for the future for government guarantees would be necessary now, when financing conditions have eased and there should be no constraints in obtaining market-based funding. Guarantees are a risk that may realise in a severe downturn – at a time when the public finances would already be strained.

Tags

economic growth, gross domestic product, public finances, sustainability of public financies

2. Brede, M – Henn, C (2018) Finland's Public Sector Balance Sheet: A Novel Approach to Analysis of Public Finance. IMF Working Paper 18/78, April 2018.

Slow productivity growth hinders export growth

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

The Finnish economy started to grow at the end of 2015. This was preceded by an exceptionally long and deep recession, during which the economy contracted for several consecutive years and jobs were lost. Economic growth has continued for three years and the Finnish economy is currently booming. However, growth has passed its cyclical peak. The Bank of Finland's Aino forecasting model demonstrates that both external and domestic factors have influenced the cyclical upswing and, in particular, export growth of recent years. According to the forecast, exports are expected to lag behind trend, mainly due to weak productivity growth. Weak productivity growth is being underpinned both by structural changes in the economy — such as the decline and restructuring of manufacturing industries — and by diminishing productivity growth within industries themselves. Weak productivity growth raises domestic production costs in export industries and thus hampers competitiveness and growth.

As Finland is a small open economy, the performance of exports plays an important role in transmitting the effects of the business cycle to the aggregate economy. This Box examines the underlying factors impacting the development of Finnish exports from 2012 through 2020. The period is divided into three phases of the economic cycle: recession (2012–2015), recovery or upswing (2016–2017), and boom (2018–2020). The export figures for the last phase are based on the Bank of Finland December 2018 forecast (see Economic growth has passed its cyclical peak).

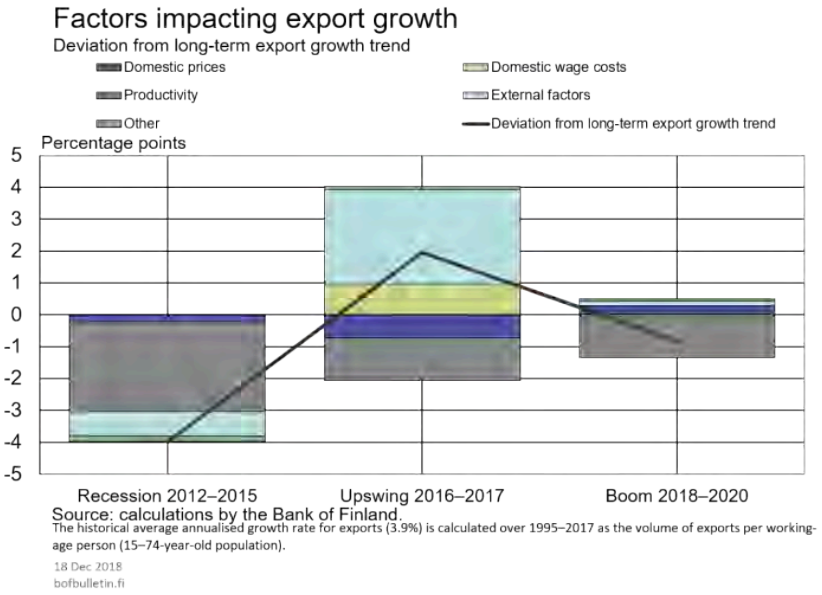
An interpretation based on the Bank of Finland's Aino[1] forecasting model shows that

1. The Bank of Finland's Aino model is a dynamic stochastic general equilibrium model that describes the business cycle. See Bank of Finland discussion paper 16/2016.

international factors, productivity development, domestic wage costs, and domestic prices have contributed to the deviation of export growth from its historical trend (Chart 1). The reference value for the historical growth trend is the average annualised growth rate during Finland's EU-membership (3.9%).[2]

The global financial crisis that originated outside of Finland hit the Finnish economy with force ten years ago. By the time Finland entered a period of recession from 2012 to 2015, the challenges faced by exports had changed from ones that were predominantly external to domestic. Overall, during the recession exports grew at a pace about 4 percentage points below trend, of which three quarters is explained by weak productivity and the rest mostly by external factors[3] (Chart 1). Looking at external factors, below-average export demand, for example, weighed on total exports somewhat (Chart 2).

Chart 1.



Productivity weakened for a number of reasons. Before the financial crisis began, labour productivity growth was very rapid (Chart 2). Since then, labour productivity has developed significantly slower. Weak productivity development is underpinned by structural factors — such as the decline of traditional industry — as well as by dwindling productivity growth within industries themselves. In recent years, productivity growth has weakened notably, especially in ICT manufacturing, which accounted for a large share of Finnish exports prior to the financial crisis. At the same time, industries in the ICT sector have seen their share of total output decline. Weak average productivity growth has raised production costs in manufacturing, also contributing to the rise of domestic production prices (Chart 2). This has reflected on export prices and, for its part, weakened the competiveness of Finnish export industries relative to Finland's

2. The average annualised growth rate for exports is calculated over 1995–2017 as the volume of exports per working-age person (15–74-year-old population).

3. In the calculation external factors comprise the price of oil, other commodity prices, external demand, competitors' export prices, the effective exchange rate, and the price mark-up of foreign export firms.

competitors.

Labour productivity growth and the impact of the decline of ICT manufacturing on productivity growth is discussed in broader detail in the section Several reasons behind weak labour productivity. Furthermore, productivity growth on a corporate level is examined in the feature article Divergence of productivity growth in Finnish companies.

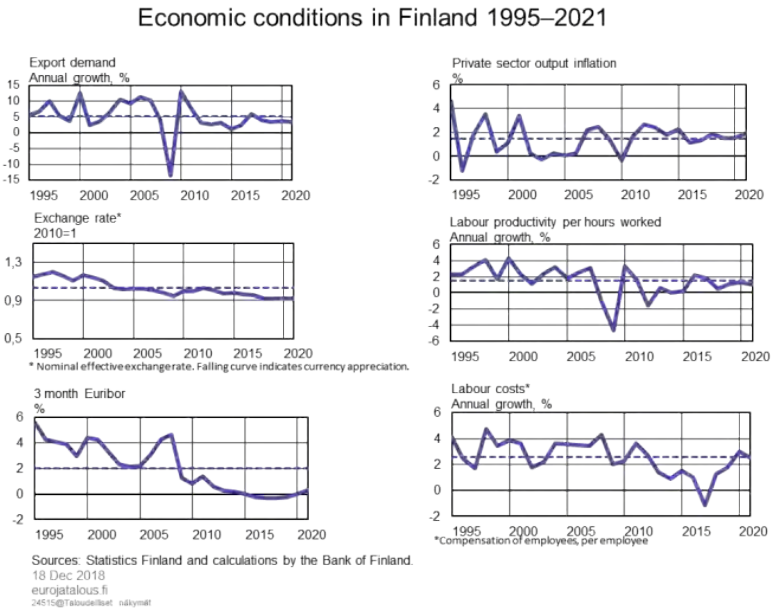
External factors, on the other hand, have played a major role in driving the upswing in exports. Inspecting the years 2016–2017, demand for Finnish exports has increased notably, while also being favourable for the structure of the export sector, which is weighted towards capital and intermediate goods. Moreover, financing conditions have been very easy due to an accommodative monetary policy, and e.g. the 3-month Euribor rate has been low for an extended period (Chart 2). The accommodative monetary policy has bolstered Finnish exports directly, and – through economic growth in the euro area – also indirectly.

During the economic upswing in 2016–2017, productivity improved considerably from what it was during the recession. Nevertheless, productivity growth has failed to recover to its previous levels on account of structural changes in the economy, among other factors. At the peak of the upswing, export growth surpassed its historical trend by some 2 percentage points. It would have reached almost 1.5 percentage points higher, had productivity growth followed its historical trend. At the same time, export price growth has surpassed its historical trend, partly due to domestic price factors, which has contributed to slowing export growth (Chart 1).

The economic policy measures which aimed at improving cost-competitiveness by lowering domestic wage costs have bolstered exports during the upswing. Here, domestic wage cost factors include average hourly earnings and employers' social security contributions, which the Competitiveness Pact aimed both to address. From the perspective of firms, labour costs lowered considerably in 2017 (Chart 2). The lowered wage costs strengthened export growth during the upswing (Chart 1).

The economy is currently booming, but growth has passed its cyclical peak. Export growth will remain almost one percentage point slower than its trend. The primary reason for this is sluggish productivity growth, which does not support exports the way it once did. The Finnish economy will not reach previously experienced levels of brisk productivity growth, as the economy has undergone structural changes. The combined effect of all other factors during the forecast period will remain moderate (Chart 1).

Chart 2.



Tags

Aino model, economic cycles, exports

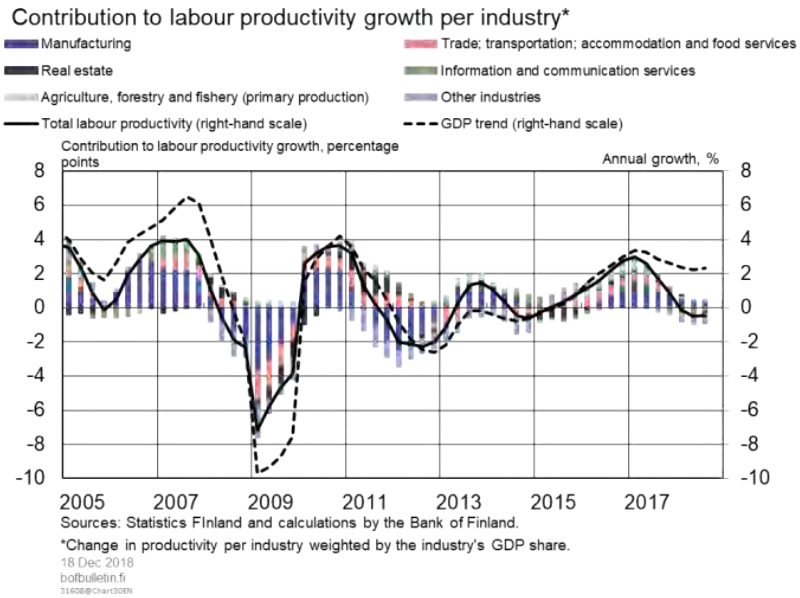
Several reasons behind weak labour productivity

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

Labour productivity growth has remained poor despite a roaring economy, when compared with past booms. Over the past year especially, labour productivity growth, or growth in value added per hour worked, has weakened all the while the Finnish economy has peaked in its cyclical expansion. Weak productivity growth is being under-pinned both by structural changes in the economy — such as the decline and restructuring of industries — and by diminishing productivity growth within industries themselves. Another cause for the weak productivity developments of late is the exceptionally rapid increase in employment. Even though some of the deceleration is cyclical, productivity growth will remain permanently subdued compared with its levels before the financial crisis.

Labour productivity is measured as value added per hour worked. In recent years, labour productivity growth has slowed. A decomposition of industry-specific contributions to aggregate productivity growth reveals that manufacturing's reinvigorating effect on productivity began much later than in previous upswings (Chart 1). It also appears that manufacturing's relative contribution to productivity growth might be less than before. Meanwhile, trade's share of Finland's aggregate productivity growth has continued to increase since 2015. Trade's share has grown in relative terms and in part reflects the decreased role of manufacturing. The information and communication industry contributed to a surge in productivity growth in 2016–2017 but has since then weighed on its development. After the financial crisis, the impact of other industries has been largely negative. In recent years, productivity has decreased, especially in public administration, education, social and health services and in real estate.

Chart 1.



Weak productivity growth may partly be explained by Finland's transition into a service economy and the associated decline in manufacturing. This is a well-established trend in the advanced economies, but since the financial crisis, services have become even more prominent. In addition to the long-term transition towards a service economy, their significance may have been boosted by an upswing underpinned by domestic demand. A period of low interest rates has accelerated the growth of domestic demand, i.e. private consumption and investment. This, in turn, has limited the relative significance of foreign trade to the upswing. Change in the sectoral composition of the economy, however, is not enough to explain the decline in productivity growth in its entirety. Even within individual industries, productivity growth has failed to reach pre-crisis levels in spite of the economy's rise from recession.

The decreased role of manufacturing in generating productivity growth is a result not only of the proportional decline of the sector as a whole, but also of the decline of many of its most productive industries. ICT manufacturing, or the electronics and electrotechnical industry, in particular, has had a considerable impact on productivity growth. From 1999 through 2007, ICT manufacturing alone produced half of the average annual productivity growth in the Finnish aggregate economy, even though the industry employed less than 3% of the total workforce (Table 1). But since 2008, ICT manufacturing has considerably slowed the productivity growth of the economy. This is due to both a slowing down of productivity growth within the industry itself, as well as the reduced size of the industry relative to other constituents of manufacturing as measured by persons employed (Table 1). Out of these two factors, the former has had a more profound impact.

ICT manufacturing is also an important export industry. The industry's rapid productivity growth that preceded the financial crisis lowered production costs, consequently lowering export prices. On the other hand, the rapid price drop also eroded the total worth of exports of ICT goods. Since 2008, productivity growth has decreased notably, which has raised production costs in ICT manufacturing. This, in turn, has

raised export prices and weakened the sector's competitiveness in relation to Finland's competitors. ICT manufacturing's weak productivity growth has depressed the growth rate of Finnish total exports in the years after the financial crisis, but the stabilisation of export prices has bolstered exports value growth.

Table 1.

ICT manufacturing's share of the economy has decreased

	1999–2007	2008–2011	2012–2017
ICT manufacturing's share of GDP (%)	7.4	5.4	3.1
ICT manufacturing's share of total labour force (%)	2.5	2.1	1.7
ICT manufacturing's annual labour productivity growth (%)	15.9	–3.3	4.0
Annual labour productivity growth, aggregate economy (%)	2.1	–0.9	0.1
ICT manufacturing's contribution to aggregate productivity growth (percentage points)	1.0	–0.5	–0.1
Of which contribution of industry-level productivity growth (perdentage points)	1.1	–0.2	0.0
Of which contribution of decline in industry size* (percentage points)	–0.1	–0.3	–0.1

*Change in ICT manufacturing's share of the labour force.
Sources: Statistics Finland and calculations by the Bank of Finland.

Recent studies of the Finnish economy demonstrate both the shift to services in the economy and an industry-level slowing of productivity growth.[1] Neither of these suggests that waning productivity growth is merely cyclical, but rather that some of it stems from structural changes in the economy. There are a lot of companies in Finland with relatively low levels of productivity, while highly productive firms are only few in number. In most industries of the Finnish economy, not even the best companies are able to attain high productivity growth (see section titled Divergence of productivity growth in Finnish companies).

In addition to the aforementioned factors, the almost surprising waning of productivity growth may have been influenced by the recent rapid improvement of employment. This

1. Vanhala, Virén & Nurmi (2018): Are weakly profitable firms suppressing economic growth? and Pohjola (2017): Suomen talouskasvu ja sen lähteet 1860–2015, Kansantaloudellinen aikakauskirja 3/2017.

may have been motivated by structural labour market reforms, which have lowered the costs of labour while bolstering both its supply and demand. Meanwhile, capital as a factor of production has become more expensive relative to labour, and the capital base has yet to adapt to the rapidly improved employment situation. Therefore, short-term productivity growth will remain slow, as companies have less capital per employee.

The exceptionally swift rise in employment growth will remain temporary: in the years ahead, the effects of the structural reforms will dissipate, and the moderation of economic growth and decline of the working-age population will also weigh on employment. (See Economic growth has passed its cyclical peak, paragraph "Structural unemployment remains high"). Productivity growth, for its part, is expected to slightly pick up over the long term. However, it will not return to its pre-crisis pace, as it is being weighed down by the structures of the economy.[2]

Tags

ICT-manufacturing, productivity growth, service economy, structural change

2. Finland's long-term economic outlook.

Sustainability of Finland's public finances

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

Jarkko Kivistö
Senior Economist

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

With the help of long-term fiscal sustainability calculations, it is possible to approximate the trajectory and magnitude of future challenges for the general government finances. Such calculations are necessarily based on a number of assumptions regarding future development paths. Here, our basic premise is that fiscal policy will remain unchanged, implying that public revenue and expenditure will also remain mostly unchanged relative to GDP. However, the demographic structure of the population will have a strong impact on several public expenditure items, as education, health and long-term care services are all primarily publicly funded. Furthermore, the entire pension system is part of the public sector in Finland, and pension expenditure is the single most significant factor which determines age-related spending. Population ageing and demographic structure can be forecasted with population projections. Since demographic structure evolves

relatively slowly over time, its development can be predicted with some certainty even many years ahead. On the other hand, it is difficult to change age demographics with policy measures. Finally, as sustainability calculations are subject to significant uncertainty, it is advisable to examine the sensitivity of the results against various assumptions.

Calculation of the sustainability gap at the Bank of Finland

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

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

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

The long-term forecast estimates GDP growth and its components – employment and productivity – in 2026–2040. The actual assessment of the sustainability gap, which examines how the fiscal position responds to demographic change and its effects on age-related expenditure, is also based on this period and the subsequent years until 2065. Thus, the sustainability gap indicator calculated by the Bank of Finland determines the permanent adjustment required in 2025 for stabilising the general government debt-to-GDP ratio.

1. General government budget balance without interest payments.

Key assumptions of the sustainability calculation

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

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

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

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

New population projection gloomier than the last

Estimates on population growth and demographic structure are key components of the sustainability calculation. From the perspective of healthcare and long-term care spending, in particular, there will be a major change in the demographic structure in the early 2020s, as the baby boomers begin to surpass the threshold of 75 years (Chart 1). Similarly, in the early 2030s, the number of persons aged over 85 will start to grow more rapidly.

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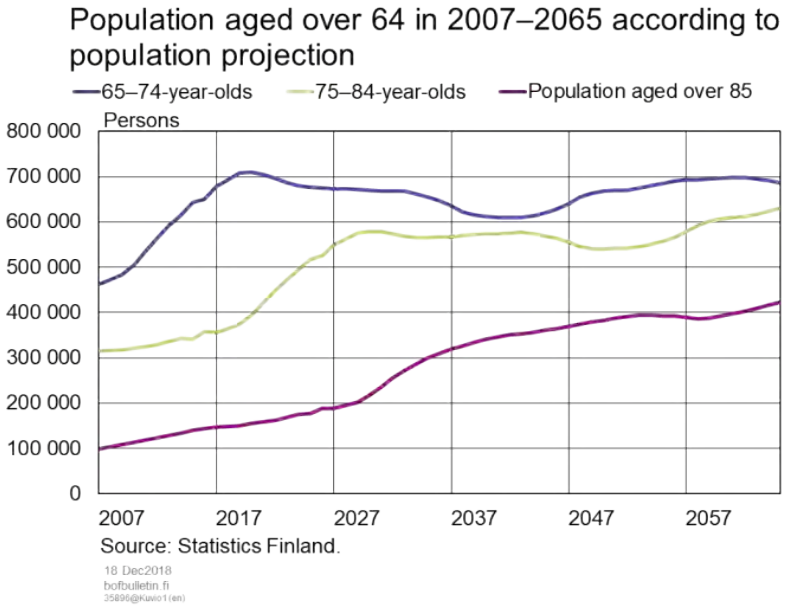
2. In the Bank of Finland's summer 2018 forecast, average annual GDP growth was estimated at 1.5% (see Finland's long-term growth prospects moderate). Following Statistics Finland's new population projection published in November 2018, the Bank's long-term growth forecast has been revised downward, to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

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

Chart 1.



Age-related expenditure will grow already in the coming years

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

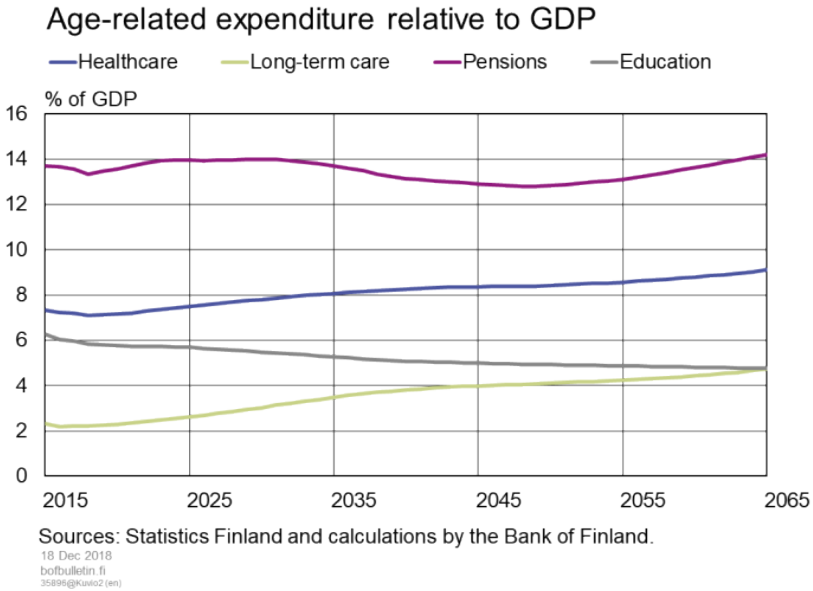
Total age-related expenditure, including unemployment spending, relative to GDP, will grow by an estimated 2.8 percentage points in 2016–2065 (Table 1).

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

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

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

Chart 2.



Sustainability gap estimate unchanged

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

Impact of the interest rate level on fiscal sustainability

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

Another method for assessing the impact of interest rates is to assume that the general interest rate level exceeds the baseline, which would affect not only the real interest rate on public debt but also the real return on pension fund investments. If the real interest rate and the return on equity were both to exceed the baseline scenario by 1 percentage point, the sustainability gap would be 0.6 percentage points smaller. Better pension fund

returns would reduce the pressures to raise pension contributions, which would leave room for increases in central and local government taxation in the event of a weakening of the fiscal balance, as the total tax ratio is assumed to remain unchanged. This would also compensate for larger interest payments on public debt.

Impact of employment and unemployment on fiscal sustainability

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

Tags

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

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Are Finns living beyond their means?

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

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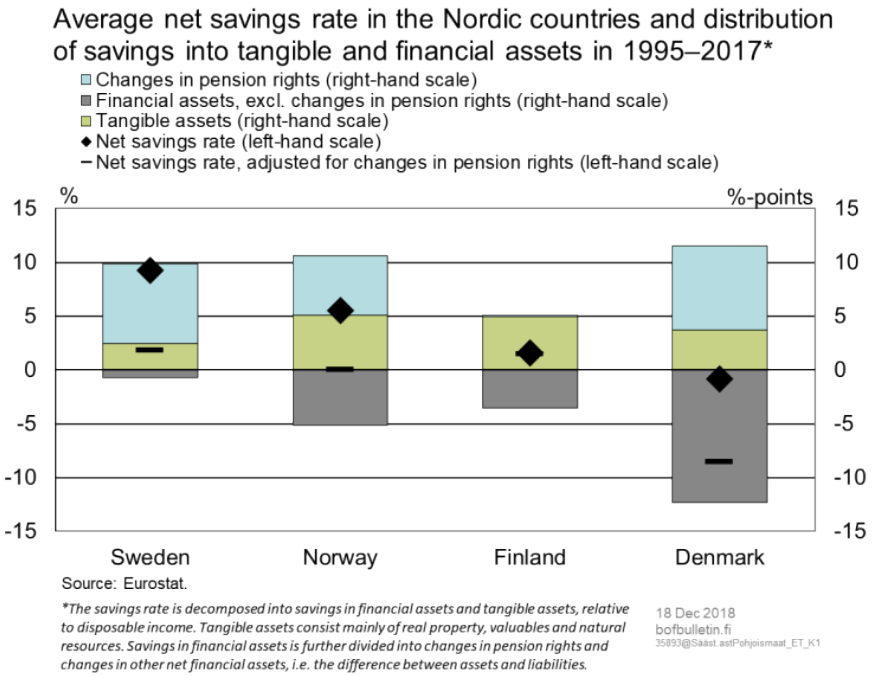
Finnish household consumption surpassed disposable income in 2016–2017. This has raised public concerns over household indebtedness. Is there a cause for concern, and how does household saving in Finland stack up against other countries? This article looks at the development of the household savings rate in Finland and compares this with household saving in other Nordic countries.

Household savings is the difference between disposable income and consumption expenditure. The savings rate is negative if consumption expenditure is higher than income. In that case, part of the expenditure must be financed by credit or realisation of assets. The savings rate is the ratio of household savings to disposable income. The net savings rate is a measure of savings that takes into account also consumption of household fixed capital.

The household savings rate differs considerably across countries (Chart 1).[1] In 1995–2017, the net savings rate averaged 1.6% in Finland, but in Sweden was 9.2%. What is the reason for this large difference?

1. For a similar examination, based on 2012 data, see Stijn Rocher and Michael H. Stierle: Household saving rates in the EU: Why do they differ so much?, European Economy Discussion Paper 005, European Commission 2015.

Chart 1.



The comparison of savings rates is hampered by cross-country differences in pension systems and statistics on pension savings. In some countries, the public sector assumes primary responsibility for ensuring that savings are collected for pension years, whereas in other countries the main responsibility falls on households themselves. Even in the case where the pension system is based on public sector savings, in national accounts, household savings include changes in the assets belonging to households under pension rights and gathered into the pension system. This applies however only if pension contributions are collected to finance future pension expenditure, i.e. the pension system is a funded system. If however, the pension system is a pay-as-you-go system in which the pension contributions collected in a period of time are used for paying current pensions, the pension contributions or pensions received are entered in the national accounts as tax-like charges and current transfers. The Finnish employment pension scheme is a partially-funded scheme, in which only some one-sixth of the collected pension contributions are saved into a fund. The national pension system is a pure pay-as-you-go system, which is funded by government tax revenues.

A comparison of savings rates that have been adjusted for savings resulting from changes in households' pension rights shows that changes in pension rights have a significant impact on the household savings rate (Chart 1). The impact is particularly large in countries in which the pension system's funding rate is high or in which supplementary pension systems (these are usually fully-funded) are extensively used, for example in Sweden and Denmark. In these countries, the savings rate, adjusted for changes in pension rights, is considerably lower than the observed savings rate, and a large part of household saving takes actually place via the pension system. In 1995–2017, the net savings rate that takes into account differences in the pension systems was in Sweden on average 1.8%, in Finland 1.4%, in Norway 0.0% and in Denmark as low as –8.6%. Compared with its Nordic peers, Finnish households' savings rate has thus not been that

low on average.

The savings rate however does not show the distribution of household savings between the various forms of wealth. Despite the low savings rate, households may continue to accumulate wealth. Finnish households invest the bulk of their savings in tangible assets, mainly housing (Chart 1). At the same time, this accumulation of assets has been financed with credit, in which case savings in financial assets has been negative. In other words, the household sector has been a net borrower. Finnish households' average rate of savings in tangible assets was 4.9% in 1995–2017. The figure for Norway is 5.1%, Denmark 3.7% and Sweden 2.4%. The volume of savings in tangible assets – in practice housing, is thus virtually as large as in for example, Denmark and Norway. However, in Denmark the average volume of net borrowing by the household sector has been considerably larger than the accumulation of tangible assets, which indicates that households have for a protracted period financed their consumption expenditure either by taking out credit or via realisation of assets.

Since 2010, the savings rate in Finland has however demonstrated a downward trend, in contrast to the other Nordic countries (Chart 2). In 2017, Finland's savings rate, adjusted for changes in pension rights, was the lowest of the four countries, i.e. –1.0%. The downward trend in Finland is due to the increasing amount of debt accumulated by households relative to disposable income in 2010–2017, in other words, net financial assets have declined continuously (Chart 3). However, households have not accumulated tangible assets at the same pace. Thus in recent years, households have lived beyond their means: household consumption expenditure has exceeded the amount of disposable income, and households have financed the growing volume of consumption either by selling their assets or by taking out credit, supported by low interest rates.

Chart 2.

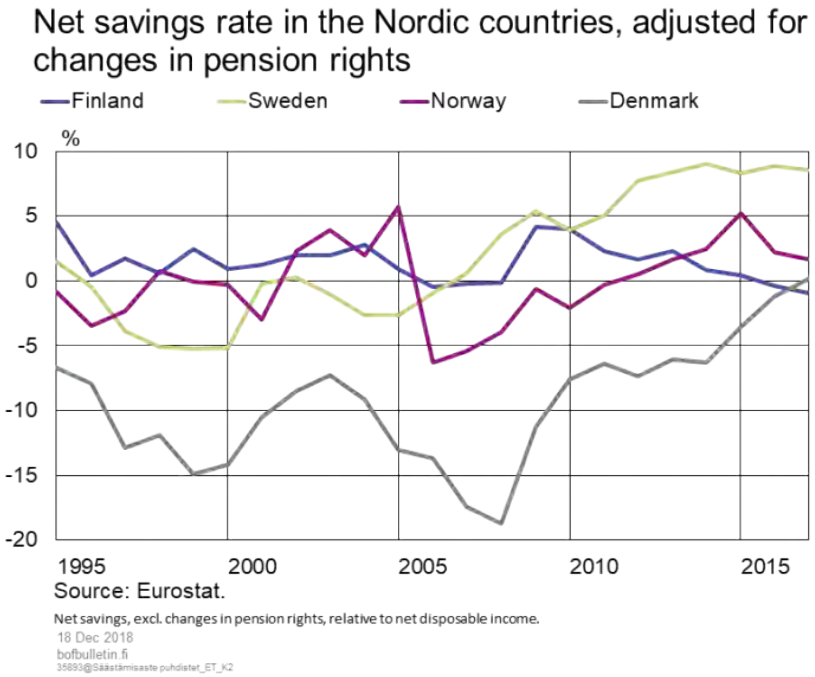
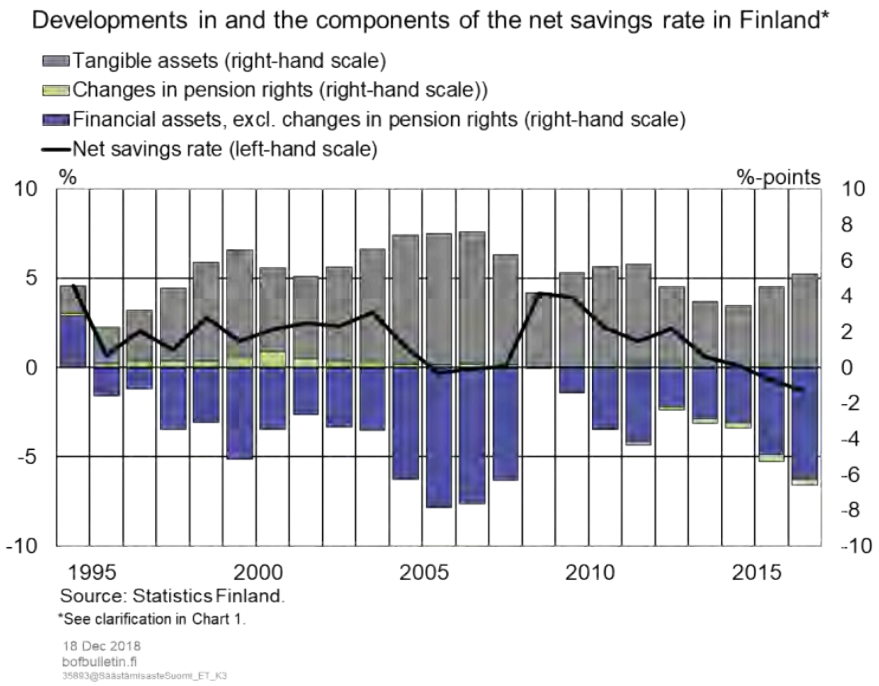


Chart 3.



Tags

consumption, households, indebtedness, savings rate

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Divergence of productivity growth in Finnish companies

TODAY 1:00 PM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

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Growth and productivity studies are paying increasing attention to the role of the most successful firms on the one hand, and the weakest on the other, in shaping the overall growth and productivity of an economy. In many countries, productivity growth, job creation and increasing market shares and profits are concentrated to a small number of firms, while most firms are only moderately successful. Development in Finnish companies is somewhat different from these internationally observed trends: divergence of productivity growth is only found in certain sectors; markets have not concentrated as in many other countries; and the corporate sector's profit share had not grown by 2016. However, employment and output growth in Finland seem to be concentrated to a relatively small group of gazelle firms, as is the case in other countries.

Satu Nurmi, Head of Research at Statistics Finland, contributed to the preparation of this article.

Productivity growth has been low both in Finland and many other OECD countries for a long time. Following the financial crisis, the growth of total factor productivity and labour productivity has almost come to a standstill in Finland. Figures describing the entire economy do not necessarily reveal the reasons for strong or weak economic developments. In recent years, much attention has been paid to very successful and

quickly growing companies known as gazelle firms and superstars, as well as to poorly doing zombie firms, and attempts have been made to assess the impact these firms have on an economy's productivity and growth.

International research literature has made a number of observations indicating a divergence in the performance of companies, where a relatively small number are very successful, while the majority are performing on a mediocre level.

Firstly, it has been noted that the most successful companies have continued to grow during and after the global financial crisis, while other companies have seen very little growth in productivity (see, for example, Andrews et al. 2017). Differences between companies would appear to be increasing, one of the potential reasons for this being that the technology and expertise mastered by frontier companies have not been adopted so well by other companies.

Secondly, job creation seems to be concentrated to a small group of rapidly growing firms, while average firms have a relatively small effect on employment growth (Coad et al. 2014, Henrekson & Johansson 2010, Vanhala et al. 2016).

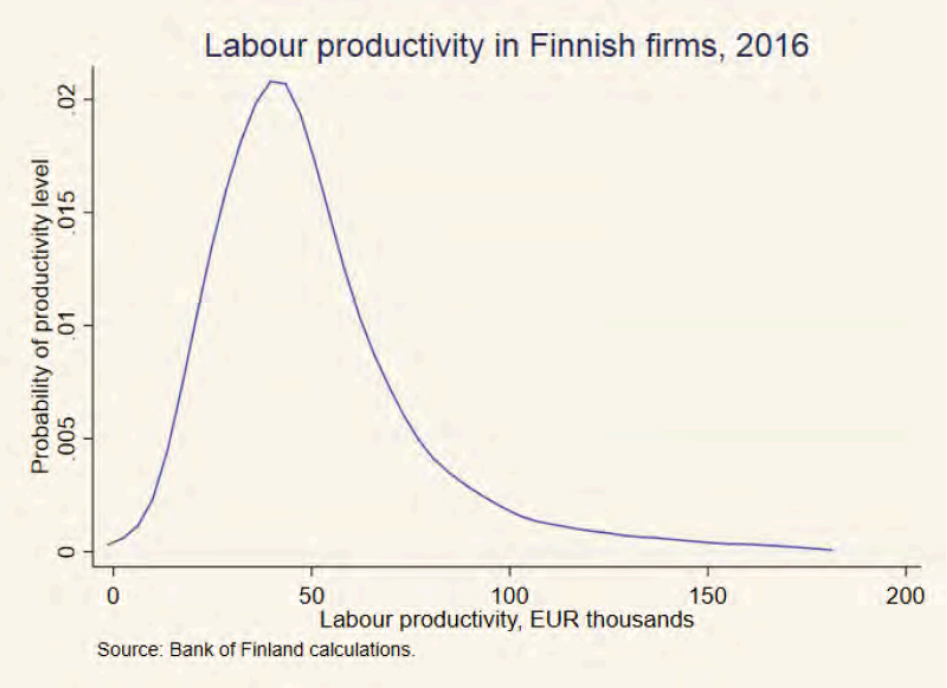
A third argument is that digitalisation and globalisation can create a competitive advantage for the sector's most productive and largest companies, leading to a small number of companies in control of most of the market. As a consequence of the profit growth of these large companies the profit shares of their entire sectors have grown. This has consequently reduced the average income share of labour (see Autor et al. 2017a, b, Hall 2018a, b).

An analysis of Finnish firm-level data from 1999 to 2016 would indicate that the development of Finnish firms is partly different from the trends discovered in international research: divergence of productivity growth is only found in certain sectors; markets have not concentrated as in many other countries; and the corporate sector's profit share had not grown by 2016. On the other hand, employment and output growth in Finland seem to be concentrated to a relatively small group of gazelle firms, as is the case in other countries, too. The analysis also indicates that the tails of the firm distribution are important for the overall economic development.

Significant differences in productivity

The rate of both total factor productivity and labour productivity have almost come to a standstill in Finland after the financial crisis. Yet these figures that describe the aggregate economy hide the fact that firms operating in the corporate sector are very heterogeneous. The productivity differences of Finnish companies are considerable, and dispersion of labour productivity both within and between sectors is high and asymmetrical. In Finland and elsewhere, the number of companies with relatively low productivity is high, while only a few companies reach very high productivity. The small number of high-productivity companies is manifested as a relatively long tail of the productivity distribution (Chart 1).

Chart 1.



Are the best firms diverging from the rest?

Slower productivity growth has often been attributed to lack of innovation and a slowing down of technological progress. However, recent studies have found that the most successful companies have continued to grow during and after years of crisis, while other companies' productivity growth has been very low (see, for example, Andrews et al. 2015, 2016). This raises the question whether the problem really is scarcity of innovations and new technologies or perhaps that they are not being diffused sufficiently from the frontier to other companies. Has technological diffusion perhaps diminished?[1] Any policy conclusions will depend on where the problem actually lies.

The divergence of productivity growth can be analysed by means of Statistics Finland's firm-level financial statement statistics in which, following OECD studies, in each sector (at the two-digit level) the top 5% of firms in terms of labour productivity can be classified as frontier firms. The productivity growth of these companies are compared to the productivity growth of other companies in their sectors. The OECD studies based on international firm-level data show that the productivity in frontier firms has approximately tripled within the manufacturing sector and more than quadrupled within the service sector between 2001 and 2013, while productivity in other companies has grown only by a little over 5% in the same period. Analysis by the Competitiveness Research Network (CompNet) has similar results.[2]

A more detailed analysis of Finnish firm-level data indicates that a divergence development does not apply to the economy as a whole – there are significant differences

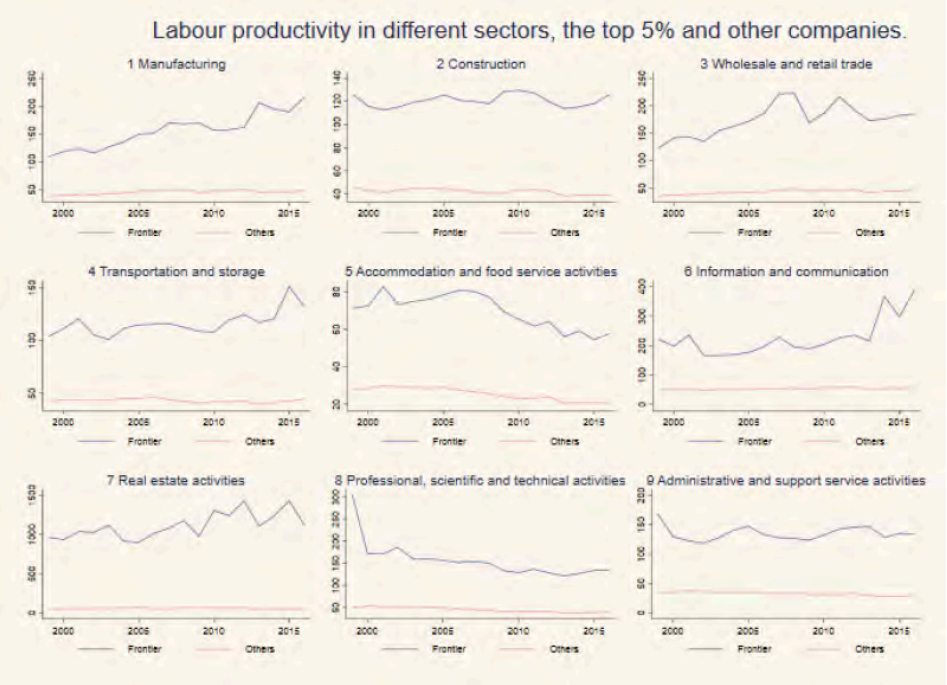
1. The ECB's President Mario Draghi touched on this subject in his speech on 13 March 2017, ECB-MIT conference for innovation and Policy "Fostering Innovation and Entrepreneurship in the Euro Area".
2. CompNet is short for the Competitiveness Research Network, founded in 2012.

across sectors (Chart 2). The divergence of the most productive companies from other companies is apparent mainly within manufacturing and in the information and communications sector, but otherwise productivity growth in frontier firms has been similar to that in other companies.

On the basis of the the Finnish firm-level data, divergence of frontier firms in manufacturing from other companies seems to have been more pronounced than the estimate based on the OECD's cross-country data.[3] The divergence development slowed down in the years following the financial crisis, with no growth in the aggregate economy, until an upswing started in 2012.

Studies on divergence development have raised a concern that productivity growth is limited to a very small group of companies. The problem here has not been a lack of innovative companies, but rather weakened innovation diffusion down from the frontier firms. The problem in Finland, apart from manufacturing and the information and communications sector, is actually that not even the best companies have seen quick productivity growth.

Chart 2.



The gazelles create the jobs

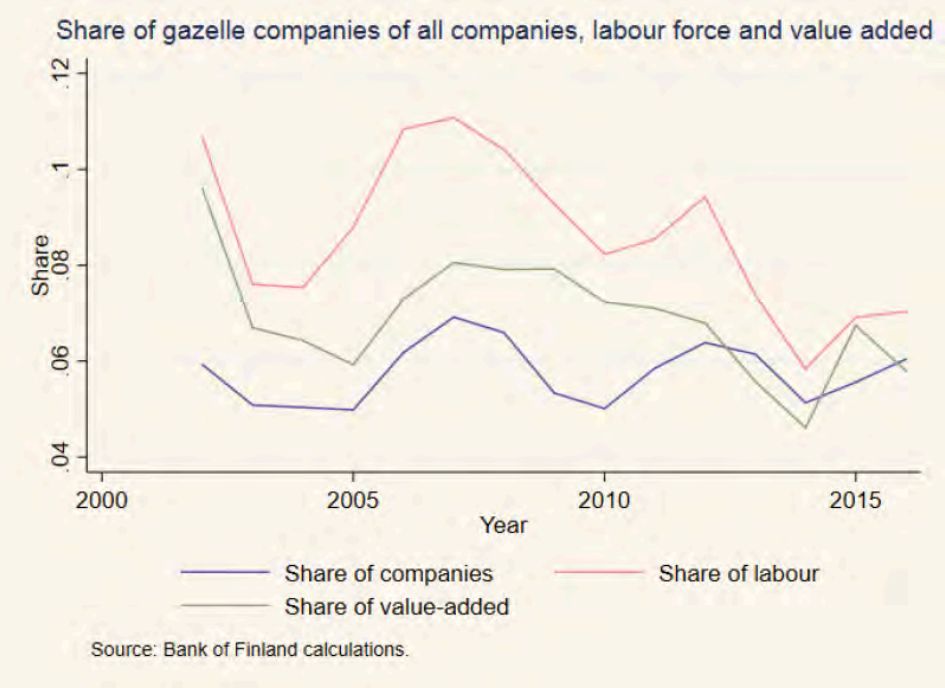
Companies differ from each other not only in terms of productivity but also in the number new jobs or value added created. New jobs are typically created by a small group of rapidly growing companies, while average companies have a small effect on job

3. We have tried to follow the OECD research methods as closely as possible. Pajarinen et al. (2017) find that divergence in manufacturing is weaker, possibly due to the use of a more truncated labour productivity distribution and partly due to the use of a different dataset.

creation (Coad et al. 2014, Henrekson & Johansson 2010, Vanhala et al. 2016). Similarly, we can observe how the growth in value added is concentrated to a small group of companies.

The proportion of fast-growing gazelle firms in Finland – that is, firms with employment increasing by over 20% annually – has varied over the business cycle, but has remained at about 5% in the long term.[4],[5] The share of gazelle firms of employment and value added in the data has been somewhat higher, but declined after the financial crisis (Chart 3). This would indicate that gazelle firms are on average smaller than previously, meaning that they also create fewer new jobs. Since the data only extend to 2016, it is not possible to observe whether a shift has occurred during the recent years' upswing.

Chart 3.



37% of new jobs in Finland are created by gazelle firms (Table 1). The remaining new jobs are created by a larger group of companies that grow at a slower rate. Similar figures have been presented in the United Kingdom and Sweden, for example.[6]

The share of output and output growth by gazelle firms follows a similar pattern. Gazelle

4. In research literature, gazelle companies are generally defined as those whose annual growth in three years averages more than 20%, see for example OECD DynEmp (Criscuolo et al. 2014), Fernandez et al. (2017).
5. It should be noted that corporate growth may be the result of organisational change, such as corporate fusions and corporate restructuring, where in the latter a part of a business group may be spun out as a growth company. In these cases, the number of jobs does in fact not increase, as jobs are simply transferred from one company to another. In contrast, 'true' growth companies refer to companies whose expansion is also met with jobs growth. However, the data used in this analysis do not allow for such a distinction to be made.
6. According to for example Nesta (2009), some 50% of all new jobs were created by 6% of the companies in Great Britain in 2000–2008, and according to Daunfeldt et al. (2013), the fastest-growing 6% companies created 42% of the jobs in Sweden in 2005–2008.

firms account for about 10% of value added, but 34% of the growth of value added.

The role of very fast growing firms is of great importance to the growth of employment and output in Finland, as it is in other countries as well. However, quick growth of companies is generally only temporary and difficult to predict, a fact we should be conscious of from an economic policy viewpoint. If economic policy is primarily aiming to improve the growth environment of companies, this does not play a major role. On the other hand, picking the winners is difficult in light of this result (see more in Vanhala et al. 2016).

Table 1.

Effect of growth of companies on output and employment rate

	Companies, %	Jobs, %	Output, %	New jobs, %	Output growth, %
Contracting	27 (26)	26 (26)	24 (24)	–74 (–56)	–69 (66)
No change	4 (5)	5 (6)	5 (5)	–2 (–1)	–1 (–0)
Reasonable growth	16 (23)	23 (24)	25 (27)	16 (16)	21 (21)
Quick growth	10 (12)	10 (10)	12 (12)	21 (20)	26 (25)
Very quick growth	5 (8)	10 (7)	8 (8)	37 (37)	34 (34)
Growth rate unknown	40 (26)	28 (27)	26 (24)	28 (27)	22 (20)
Total	**100**	**100**	**100**	**100**	**100**

The categories have been defined as follows: the three-year average annual growth rate of contracting companies is less than –1%, that of stable companies between –1 and +1, growing 1–10%, quickly growing 10–20% and very quickly growing more than 20%. The figure in brackets denotes companies with more than 10 employees.

According to studies, factors leading to companies growing fast typically include high productivity, a high investment rate, a high capital-labour ratio, low unit labour costs (high productivity explains low unit labour costs), and high profit share (for example, Fernandes et al. 2017, OECD 2009, Bartelsman et al. 2017). The Finnish firm-level data points to the same background factors. Employment has increased the most in high productivity firms with a low labour cost share. Firm growth is fastest in limited liability companies, and faster in university cities than elsewhere in the country.[7]

7. The estimated regression formula is as follows:

Are markets and profits becoming concentrated?

Economic megatrends – digitalisation and globalisation – may create a competitive advantage for the most productive and biggest companies in a sector. Sectors may evolve to "the winner takes most"-markets, in which one or a few firms in a sector effectively control the market and reap most of the profits. This can create 'superstar companies' with large profits but low labour costs in relation to value added and net sales (see Autor et al. 2017a, b, Hall 2018a, b). Such development may be explained by new competitive online platforms enabling easy comparison of prices and quality, and increased use of information-intensive commodities, the production of which has high fixed costs but low marginal costs.

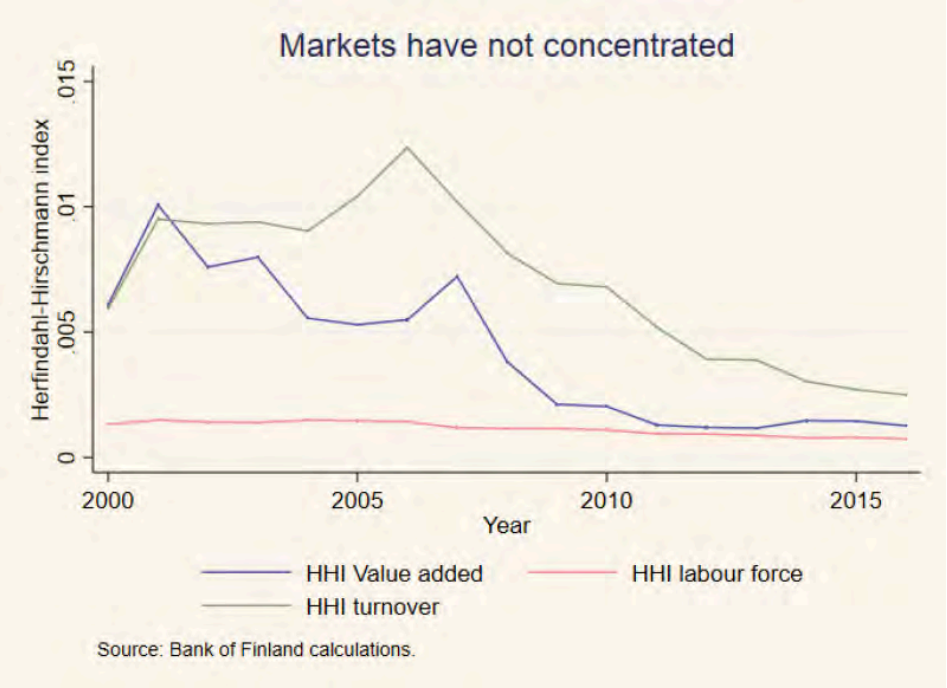
The concentration of markets can be analysed with a number of indicators. The Herfindahl-Hirschmann (HHI) index is a commonly applied measure of market concentration, calculated from the market shares of individual companies.[8] Market share is typically measured as a company's percentage of the sector's value added or net sales, but it can also be measured as a percentage of the labour force within the sector. The closer the index value is to zero, the more diverse the market is. Measured in terms of value added or net sales, the HHI has decreased between 2001 and 2016, while in terms of employment rate the decrease has been low (Chart 4). With reference to Finland, the HHI does not support the hypothesis of market concentration.

Chart 4.

$$\Delta \log l_t = \underset{(675.39)}{.158}\log\_rip_{t-1} + \underset{(28.82)}{-.027}(lc/lv)_{t-1} + \underset{(30.50)}{.025}yo_t + \underset{(33.53)}{.049}oy_t + controls \quad R^2 = 0.067$$

in which lc stands for labour costs, lv for net sales, yo for university city and oy company form.

8. The Herfindahl–Hirschmann is defined as the sum of the squares of the market shares of the firms within the industry. The index formula is $HHI = \sum_{i=1}^{n}(MS_i)^2$ in which MSi in the company's market share. The index can have values between 0 and 1. Values close to zero indicate a very diversified market, containing a large number of small businesses, while values approaching 1 indicate a concentrated market with very few companies. In the extreme case, if the market is run by a monopoly, the value is 1.



Another way to look at market concentration, used by Autor et al. (2017a, 2017b), is to select a group of each sector's largest companies (at the two-digit sector level) each year and analyse how their market shares change. The market share of the 20 largest companies in Finland does not seem to have increased as a rule between 1999 and 2016, although some increase can be observed in wholesale and retail trade, for example (Chart 5). Although the market share of the 20 largest companies within manufacturing seems to have reduced, there are major differences within manufacturing. For example, the market share of the top 20 companies within "manufacture of computer, electronic and optical products" has fallen dramatically after 2006, but in most industrial sectors, the market share has remained relatively stable or actually increased.

Chart 5.

As markets have become more concentrated in the hands of fewer companies in many countries, the average markup between prices and production costs has also risen, meaning that companies' profits have increased on average. According to De Loecker and Eeckhout (2017), average price markups have increased in the United States since the 1980s. According to Diez et al. (2018), the phenomenon is global and very noticeable in developed economies. According to Autor et al. (2017a, b), the average increase of profits can be attributed to the "superstar phenomenon", with markets becoming concentrated and the big players' profits growing large. This increases the average profits of the private sector and reduces the labour share.

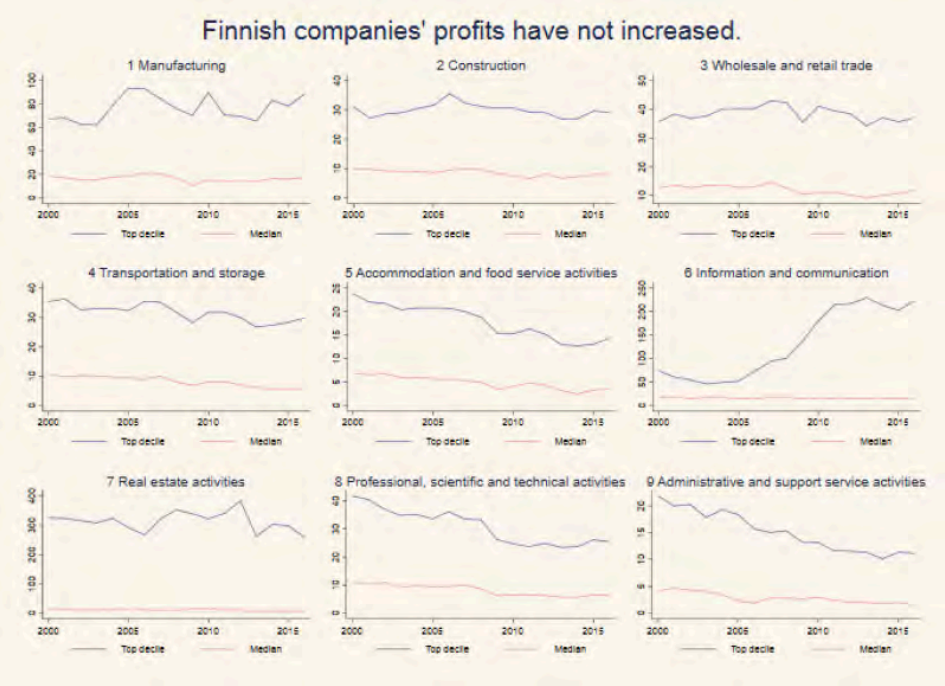
When viewing the difference between real value added and real labour costs in the Finnish firm-level data over 2000–2016, the only sector with an increase is "Information and communication".[9], [10] No major change has occurred in other macro sectors, or if anything, there has been a slight decline (Chart 6). Likewise, when analysing the ratio of wages and salaries in proportion to companies' net sales, we detect a small increase in wages and salaries (Chart 7), contrary to what Autor et al. (2017a, b) has observed in many OECD countries. Similar results have been presented by Laine (2018), observing, by means of a different method and data, that the ratio between changes in factors of output unrelated to productivity developments and the consequent real output changes has remained relatively stable or narrowed, meaning that companies' market power has remained relatively stable in Finland.

The time spans of the research findings often differ from each other significantly. For example, the study by Autor et al. (2017a, b) states that the greatest changes in market shares and profits took place between 1960 and 1990. On the other hand, major changes

9. Both variables are deflated by sectoral GDP deflators with a base year 2005.
10. According to national accounts data, companies' profits have increased especially in 2017.

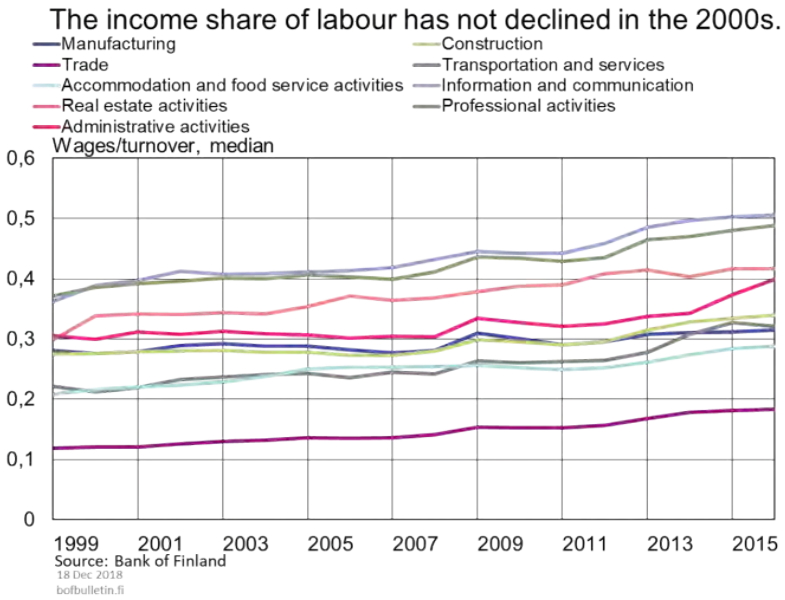
in the 2000s can be seen mostly in the United States. This is why it is relatively difficult to identify the fundamental reasons for these changes. Are they related in general to more open markets, lowering of barriers to trade or globalisation and digitalisation, and to related changes in market structures?

Chart 6.



Finnish firm-level data indicates that a similar concentration of market shares and profits that has occurred in the United States and many other OECD countries does not seem to have taken place in Finland (see Autor et al. 2017a). This would indicate that Finnish markets have not become less competitive. However, the data does not reveal the reason for this diverging development. It may be that the Finnish market is too small for any superstars to emerge.

Chart 7.



How do the tails of the firm distribution affect aggregate development?

The successful and unsuccessful companies in the corporate distribution will naturally affect the entire economy's productivity, employment rate and growth through their activity. But we can also ask whether these companies affect the operation of other companies, that is, whether they constitute any externalities on other companies?

Following prior research literature (such as Caballero et al. 2008, Adalet McGowan et al. 2017) and the analysis on Finnish zombie firms (Vanhala & Virén & Nurmi 2018a), the effects of successful and unsuccessful companies in the firm distribution on aggregate ouput and employment growth can be assessed, in addition to firm-level data, by utilising evaluated sectoral shares of these firms. The analysis focuses on the one hand on gazelle firms which, measured in terms of number of workers or value added, for three-year periods have an average annual growth rate of more than 20%, and on the other hand on zombie firms, whose interest coverage ratio (the ratio of operating income to interest expenses) is less than one (EBIT/interest < 1), for three consecutive years. A sectoral analysis is justified because if a considerable part of the sector's workers, capital, output or sales is in the hands of gazelle firms or low-profit companies, this will affect the development of the entire sector and the growth potential of other companies. To verify this phenomenon, we use the firm-level panel data to estimate a model in order to evaluate growth in the 2000s.[11] Growth in employment or output is explained by whether a company is a gazelle/zombie or a non-gazelle/non-zombie and how large the share of gazelle or zombie firms is in the sector's capital or employment (multiplied by a dummy variable describing the non-gazelle/non-zombie firm). That is, our diffusion model is based on the following specification:

11. The estimated formula is equivalent to what is used by Caballero et al. (2008) and Adalet McGowan et al. (2017) in their studies.

$$\Delta log\_y_t = \beta_{io} + \beta S_{Zt} + \beta S_{Gt} + \theta' controls + u_{it}$$

in which y stands for the firm's performance indicator (either growth rate of real value added, growth rate of employment, or growth rate of real labour productivity). The explanatory variables are the gazelles' (subscript G) or zombies' (subscript Z) shares of employment or output value of the corresponding sectoral values. The control variables consist of calendar years, sectors (at the two-digit sector level), the company's age and legal form, and a geographical indicator for university cities, with the entire capital region added.

Table 2 shows the effect of gazelles on firm performance for various performance indicators and various groups of control variables, and by changing the sample size. Table 3 shows how both tails, characterized by S_G and S_Z, affect the growth of all firms, and especially non-zombie and non-gazelle firms.

Table 2.

Evaluation of gazelle firms

S_G coefficient	t-ratio	y	Controls	data	panels
.787	2229.26	rva	year, age, sector, co, uni	g=0 & ls=0	w, fe
.266	677.72	rlp	year, age, sector, co, uni	g=0 & ls=0	w, fe
.054	3.18	rva	year, age, sector, co, uni	g=0 & ls=0	no w, fe
.078	4.71	rlp	year, age, sector, co, uni	g=0 & ls=0	no w, fe
.536	252.10	rva	year, age, sector, co, uni	all	w all, fe
.393	217.72	rlp	year, age, sector, co, uni	all	w all, fe
.177	52.49	rva	year, age, sector, co	g=0, ls=0, uni=1	w, fe
–.023	5.92	rva	year, age, sector, co	g=0, ls=0, uni=1	w, fe

'rva' stands for gazelle firms' sectoral value added. 'co' refers to the type of company and 'uni' to university cities (the regional definition covers the entire capital region). In the table, 'rva' means Δlog_rva, rip = Δlog_rlp, l = Δlog_l, in which 'rva' stands for real value added, l labour and rlp real labour productivity. The number of observations is 1,525,510. g = 0 (ls = 0) indicates that the data only contains non-gazelle and non-growing companies. The latter are analogous to gazelle firms in that their growth rate was negative for three consecutive years. Similarly, gazelle firms increased in a three-year period by 100%.

The results can be summarised rather easily. Growth of gazelle firms correlates almost always positively with increased output – whether it is a case of all companies or non-zombie and non-gazelle firms. A similar correlation applies to employment and labour

productivity growth.

The results are relatively clear provided data is weighted (with any company size indicator), while the results of any unweighted data can be contradictory especially with regard to productivity. In fact, ambiguous productivity effects have been typical for all empirical analyses we have carried out with Finnish firm-level data, but the same has been true with, for example, OECD productivity studies (for example, Adalet McGowan et al. 2017).

The results show hardly anything surprising about the control variables. Perhaps the only thing worth mentioning is the rather strong role of geographics in the transmission of tail effects. The effects of S_G and S_Z variables in university cities are much stronger, which would indicate that any growth shock (caused by innovation and market structure change, for example) will be felt more in these cities. University cities are linked to externalities which, in the right circumstances, will boost and maintain growth.

Table 3.

Estimation results using a model containing both corporate distribution tails

y	S_Z	S_G	panel	Controls
Δlog_rva	.162 (74.50)	.639 (248.95)	wl, fe, all	year, age, comp. form, sector, area
Δlog_rva	.136 (52.05)	.136 (63.54)[va]	wl, fe, cent	–"–
Δlog_rva	.326 (138.78)[va]	.092 (36.04)	wl, fe, cent	–"–
Δlog_l	–.029 (16.60)	.209 (98.29)	l, fe, all	–"–
Δlog_l	–.009 (4.21)	.134 (53.45)	l, fe, cent	–"–
Δlog_l	.062 (26.96)[va]	–.268 (106.63)[va]	l, fe, cent	–"–
Δlog_rlp	.178 (96.69)	.475 (218.08)	l, fe, all	–"–
Δlog_rlp	.100 (44.98)	.201 (76.78)	l, fe, cent	–"–
Δlog_rlp	.278 (127.97)	–.030 (12.66)[va]	l, fe, cent	–"–
Δlog_rva	.008 (0.53)	.156 (9.58)	fe, all	–"–
Δlog_rva	.021 (1.38)	.126 (7.57)	fe, cent	–"–
Δlog_rva	–.004 (0.99)	.147 (9.61)	re, all	–"–
$\Delta_3$log_rva	.177 (58.35)	.518 (150.52)	wl, fe, cent	–"–
$\Delta_3$log_l	.079 (26.68)	-090 (27.82)	wl, fe, cent	–"–
$\Delta_3$log_rlp	.133 (57.25)	.320 (121.52)	wl, fe, cent	–"–

The proportion of zombie and gazelle firms has been calculated by sector at the two-digit sector level in terms of employment and value added. The group of control variables consists of dummy variables for each year, firm age, sector and geographical location. When producing weighted estimates, this is done either by companies' (median) number of employees (indicated by wl) or real capital (indicated by wk). The latter results are not reported due to lack of space, but they are very similar to the results obtained with

Estimation results using a model containing both corporate distribution tails

employment weightings. 'All' means that the sample contains all observations, while 'cent' means that only non-gazelle and non-zombie firms are included. The 'va' superscript means that calculations have been made in relation to value added; the other calculations are based on the number of staff. On the last three rows, the results are from a moel where the proportional/share variables have been lagged by one year.

Note that firm growth is not only dependent on the proportion of quickly growing companies, but also on the growth of the share of zombie firms (Table 3). One possible interpretation is the following: A positive growth shock increases the performance of top companies, creating more jobs and increasing their output and market share. Most other companies also benefit from the same growth factors, although their performance does not improve at quite the same rate as in the gazelle firms, owing to delays in starting or lack of resources. But there are always failures as well that can be characterized by the zombie category. Typically, but not always, their proportion will rise, also improving the performance of other companies. Some of them may recover with time, but otherwise they will either close down or go bankrupt (see Nurmi et al. 2018b).

The results in the table mainly show the simultaneous effect of the tails of the firm distribution on annual growth. For the diffusion hypothesis, it would be of essence to see how the growth in the proportion of the tails affects long-term growth (with a lag). Although our data are not suitable for an analysis of the effects of long-term growth, we can nevertheless state that the dynamic effects of gowth in the tail shares on three-year growth are similar to the immediate effects (Table 3). So this does not seem to be a case of short-term growth effects of temporary disturbances in demand.

A problem is that we cannot say much about the factors underlying gazelle and zombie firms. For example, the growth of gazelle firms is not an exogenous variable but the result of various background factors, and consequently the proportional growth of such companies may vary considerably during, say, different stages of the business cycle. The growth of gazelle firms may be the result of technological innovation, more open markets, macroeconomic development, taxation changes etc. It is clear that at least across different sectors, the extent and nature of changes caused by a range of factors may vary considerably.

Conclusion

We can deduce from the Finnish firm-level data that the divergence that has been reported internationally does not seem to apply fully to Finland. It is mostly within manufacturing and the information and communication sectors that the frontier firms have diverged from other companies, but this trend is not found in other services. What is more, the concentration of market shares and corporate profits into the hands of a handful of large companies – which is the case in the United States, for example – does not occur in Finland. On the other hand, employment and output growth in Finland

seems to be concentrated to a small group of gazelle firms, as is the case in other countries, too.

Growth and productivity studies have paid attention to the role of the most successful and the weakest companies for aggregate economic growth and productivity. The tails of the firm distribution have been found to be significant to the aggregate economy in Finland, too. What is more, changes in the proportion of the best and the weakest companies seem to be linked.

It is very difficult to affect companies' structures and distributions with economic policy measures, and this would not even seem meaningful. Structural changes affecting corporate structures should nevertheless be monitored only for the reason that they can help predict changes in aggregate output and productivity. If, for example, companies' size distribution does not change at all, major growth cycle can hardly be expected.

It is understandable that growth in the proportion of firms with particularly low financial performance will increase pressure for intervention by the authorities. Such concerns may be justified because of, for example, immediate employment effects or because debt-ridden businesses are an obvious problem to macroprudential stability. This is why we should also be able to separate the poorly performing companies that are the "natural" result of better companies growing bigger and taking over the market from those which are chronically low performers and despite scraping a profit end up more in debt.

The number of companies in Finland that are growing very fast is relatively low, but their economic significance is much larger than their proportion of firms. On the other hand, the phase of quick growth by these companies tends to be rather short. It is typical of the companies whose output increased in three years by an annual 20% that only 10% we able to maintain the same speed of growth for another two years. What is more important is whether the growth of these companies is reflected on other companies. Results show that the growth of companies growing at a very fast rate correlates positively to the success of other companies in the sector and that training and research play a key role in this diffusion. This may be the most important channel by which public authorities may boost corporate growth.

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Tags

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Debt risks amplified by housing company loans

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Housing company loans and consumer credit add to high and rising levels of household indebtedness. The macroprudential toolkit needs to be replenished with borrower-based instruments that take into account loan applicants' repayment ability and are able to address the rise of household indebtedness as a whole. Nordea's redomiciliation has increased the size and structural vulnerability of the Finnish banking sector. Italy's budget crisis and Brexit proceedings have contributed to uncertainty in Europe. Cyber risks and climate change pose yet further challenges for financial stability.

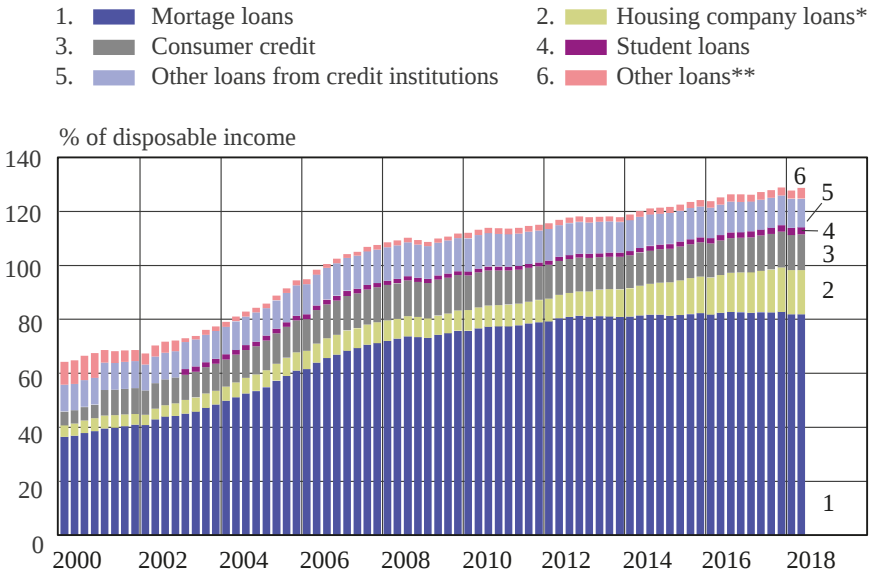
Housing company loans a growing proportion of total household debt

Household indebtedness in Finland has continued to rise for a long time. It remains one of the most important structural vulnerabilities for the financial system, and its potency to amplify the economic cycle is widely recognised. Finnish household debt stood at about 128% of annual disposable income in mid-2018 — a twofold increase from the early 2000s (Chart 1). Indebtedness has especially been fuelled by housing-related loans, which at present account for slightly over 75% of aggregate household debt.[1]

1. This figures does not include online lending by foreign credit institutions. For more detail, see following section, 'Consumer credit growth continues — data gaps in statistical reporting.'

Chart 1.

Household debt largely spent on housing



*Statistics Finland estimate.
**Loans from other financial and insurance institutions, pension funds and the private sector.
Sources: Statistics Finland and Bank of Finland.

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A growing proportion of households' housing-related debt is formally held by housing companies, where repayment liability is assumed by the company's shareholders. The stock of housing company loans has grown significantly over the past decade.[2] Briefly put, housing companies may use these loans to fund both renovation work and new-build construction, by placing the property they own as collateral.

In recent years, housing company loans have increasingly been used towards purchase of newly constructed residential dwellings, complementing — or even superseding — a function traditionally served by personal mortgage and buy-to-let mortgage loans. In housing company loans, a repayment share of the loan principal is determined for each residential unit. Owners then amortise their respective loan shares with a monthly financial charge to the housing company. This effectively allows homebuyers to take on smaller personal mortgage loans; in fact, a housing company loan might be used to fund a significant proportion (e.g. up to 70%) of a dwelling's debt-free price. In addition to

2. Comprehensive statistical data on households' housing company loans are so far unavailable, but estimates have been made with regard to their volume. One such estimate by Statistics Finland put the total loan stock of residentially-owned housing companies at some EUR 19.3 billion as of June 2018. According to an estimate by the FIN-FSA, privately and domestically owned housing corporations held an outstanding loan stock of EUR 12.5 billion — excluding construction-stage financing — during the same period. Similarly, a survey conducted by the Bank of Finland put the same loan stock, but including construction-stage financing, at EUR 15.9 billion the year previous (See Vilkas rakentaminen kasvattaa asuntoyhteisöjen lainakantaa (Finnish only)).

homebuyers, housing company loans have become an increasingly important source of funding for professional investors, and this has had a material effect on the nature of these loans. When housing companies take loans from banks, the concentration risk of these loans is much greater if housing companies have a high degree of investor-ownership, as compared with ownership being diversified among residents.

The rise of housing company loans has important implications for the composition of households' housing-related debt. It is important to keep a broad view of household borrowing and total debt-servicing costs. To this end, the FIN-FSA updated its recommendations to credit institutions in May 2018 for assessing the repayment capacity of housing loan applicants.[3] Accordingly, financial charges associated with housing company loans, as well as the estimated impact of an interest rate rise on such, must be fully taken into consideration, irrespective of repayment-free periods. It is especially important that households assess their own repayment ability in situations where the transaction is financed with a large housing company loan as opposed to a regular mortgage loan.

The FIN-FSA Board took the decision to lower the maximum loan-to-collateral (LTC) ratio, i.e. the loan cap, for non-first time buyers from 90% to 85%, effective from July 2018. Housing company loans are to be factored into the LTC ratio. This effectively means that the combined value of a mortgage loan and the unit share of a housing company loan may amount to, but not exceed, 85% of a dwelling's debt-free price and additional collateral. The maximum LTC ratio for first-time mortgage borrowers remained unchanged, at 95%.

Consumer credit growth continues — data gaps in statistical reporting

Consumer credit is often advertised, for example, in connection with sales of consumer durables. The total stock of consumer credit has grown, but data coverage is incomplete, as information is only collected from a subset of lenders.

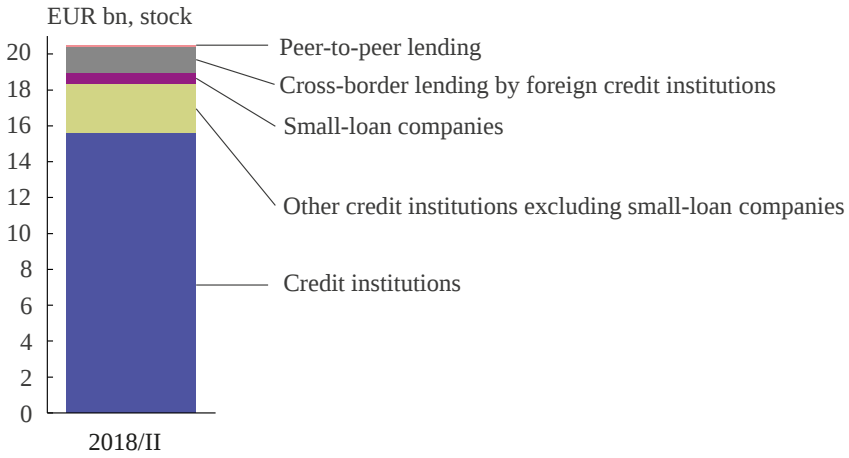
The vast majority of households' consumer credit is issued by credit institutions (Chart 2). According to data gathered by the Bank of Finland, consumer credit growth has continued at an annualised rate of about 5%, i.e. at a pace quicker than average in the 2010s. In September 2018, such credit comprised some EUR 15.8 billion. This figure only includes credit and overdrafts issued by credit institutions, and not, for example, peer-to-peer lending.

Consumer credit is not only issued by banks but also by other financial institutions. High-cost short-term credit has been the subject of much scrutiny in the public debate on debt. More colloquially known as 'payday loans', they are estimated to only comprise a small proportion of total consumer credit, but their growth has nevertheless been rapid. Further still, payday loans are often taken out by individuals who have problems with their personal finances.

3. See "Risks increasing in construction stage financing and housing corporation loans".

Chart 2.

Consumer credit largely issued by conventional credit institutions



Sources: Bank of Finland, Statistics Finland, Ministry of Finance (Finland), financial statements and public accounts of consumer credit issuers.

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The volume of unsecured consumer credit has in particular seen brisk growth. Unsecured lending carries a higher credit risk than secured loans and is thus more frequently associated with higher interest rates and higher shares of non-performing loans.[4]

Overindebtedness and its prevention

To minimise the risk of repayment issues and default, borrowers' repayment ability must be realistically assessed. Consumers need good financial literacy, and lenders must assess consumers' credit worthiness. Yet even with these precautions in place, unexpected and misfortunate turns of events can give rise to repayment difficulties. In the worst case, a borrower may not possess the financial literacy needed to understand or compare the true costs of different credit options, or be able to compare these against his or her repayment ability over the long term. According to Suomen Asiakastieto, a data services company which provides consumer credit information, over 380,000 individuals in Finland have payment defaults on their credit records.[5] First entries are generally associated with consumer credit.[6]

4. According to the FIN-FSA, 1.5% of mortgage loans issued by credit institutions were non-performing at the end of June 2018, whereas the share of non-performing loans in consumer credit was 3.7%. "Valvottavien taloudellinen tila ja riskit 30.6.2018 Suomen finanssisektori on vakavarainen – äkillisiin korjausliikkeisiin kuitenkin varauduttava" (Finnish only).

5. According to the National Administrative Office for Enforcement, private receivables under enforcement, excluding alimonies, reached EUR 2.3 billion at year-end 2017. This represents an increase of about EUR 200 million on the year previous.

6. Suomen Asiakastieto press release 2 March 2017 (Finnish only): "Valmiiksi ylivelkaantuneet hakevat lisää luottoja".

Establishment of a positive credit register would help clarify the debt situation and prevent additional credit being issued to individuals with unsustainable amounts of old debt. This is particularly topical, as the Ministry of Justice published a report in September 2018 outlining the requirements for such a system. The report is in favour of establishing the register.

Indebtedness has been fuelled by a number of trends in the economy in recent years; low interest rate levels, extended mortgage maturities, amortisation-free periods, large residential shares of housing company debt, increased leverage in real-estate investment, and a proliferation of new consumer credit options have all contributed to an increasingly hazy overall picture of the risks posed by indebtedness.

High levels of debt make housing markets and the entire economy more sensitive to shocks. The more debt that a household possesses, the more likely it is to respond to changes in the economy by altering its consumption habits. When consumption is reduced, this has a detrimental effect on domestic businesses and employment levels. Banks may face credit losses as businesses struggle to adapt to a deteriorating operating environment, weakening banks' lending capacity in the midst of an economic downturn. Together, these factors can exacerbate an already ailing economy.

In the autumn of 2018 the Ministry of Finance established a working group tasked with exploring measures for curbing the rise of household debt, including that of housing companies, and its potential negative effects on the real economy. The working group is to draw upon both domestic and international experiences and will prepare the necessary proposals for changes to the national legislation. The Bank of Finland is keenly involved with the working group's efforts and contributes its own assessments of the various options considered.[7]

Finland's range of macroprudential tools should be complemented with instruments found useful in other countries.[8] Currently the tools available to Finnish authorities do not consider the loan servicing capacity of households, often measured in terms of debt to income or debt-servicing costs to income. In Finland, the cap on mortgage loans is now based on the value of all real collateral; this ought to be restricted so that the loan cap is limited solely to the value of the property for purchase, as is standard practice in many countries. New macroprudential tools need to be as broad as possible so that they are applicable to all sources of household debt, irrespective of lender or loan type.

Construction and real-estate investment brisk

Construction of new apartment buildings has continued at an unusually brisk pace since 2015 (Chart 3). The number of building permits granted is, however, beginning to flatten

7. The report is due for completion by March 2019. See further (Finnish only) "Työryhmä selvittämään kotitalouksien velkaantumisen rajoittamista".

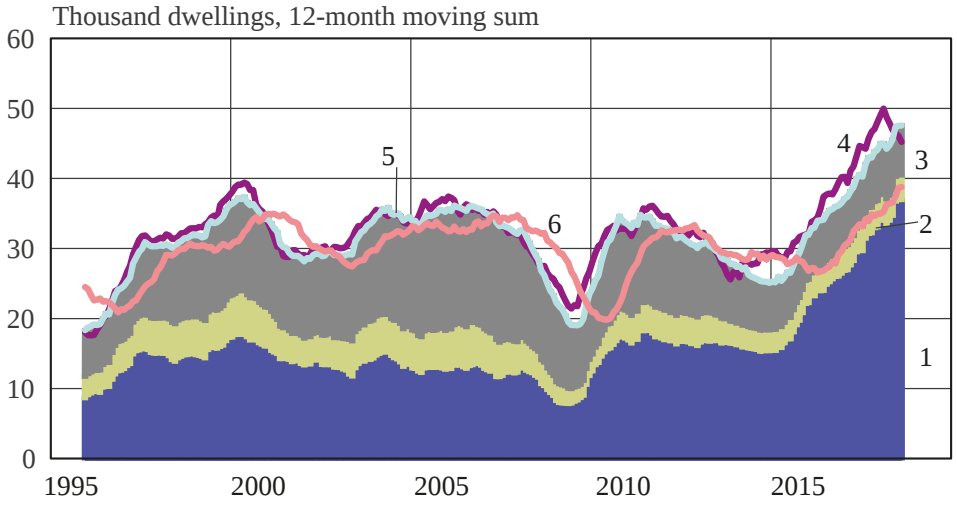
8. In addition to the Bank of Finland's Financial Stability Assessment (Financial Stability Assessment 23.5.2018), authorities including the European Systemic Risk Board (warning on the vulnerabilities in the residential real estate sector of Finland 22.9.2016) and IMF (Concluding Statement on the Finnish economy 6.11.2018) have suggested that macroprudential instruments tied to borrowers' incomes would prove effective in curbing household debt growth.

out, suggesting that the pace of construction is approaching an inflection point. Nevertheless, a large number of apartment buildings are expected to be finished in the years 2018–2019. Brisk construction, especially in growth centres, is likely to have contributed the rather moderate development of prices of existing residential properties. There are currently no signs of an overheating of the housing market at large. The market is, however, exhibiting significant price divergence, both with respect to a dwelling's size and location. Prices of one-room apartments throughout the Helsinki metropolitan area have risen the most.

Chart 3.

Construction of new apartment buildings exceptionally brisk

1. Apartment buildings, construction started
2. Attached houses, construction started
3. Detached houses, construction started
4. All residential buildings, building permits granted
5. All residential buildings, construction started
6. All residential buildings, completions



Sources: Statistics Finland, Macrobond and calculations by the Bank of Finland.

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New-build construction on rented plots has increased in recent years. Under such an arrangement, investors own the plot that a property is built on and collect rent from the housing company who occupies it.[9] This can benefit construction companies in that it lowers the amount of capital needed for a building project, as capital usually earmarked for land purchase is freed. Housing built on rented plots is often advertised as having a lower purchase price; however, housing companies that pay rent on land need to make up for this by charging their residents higher management fees, compared with a situation where the housing company owns the plot itself. A dwelling's debt-free price

9. Rented plots are typically owned by real-estate funds with primarily domestic institutions as investors.

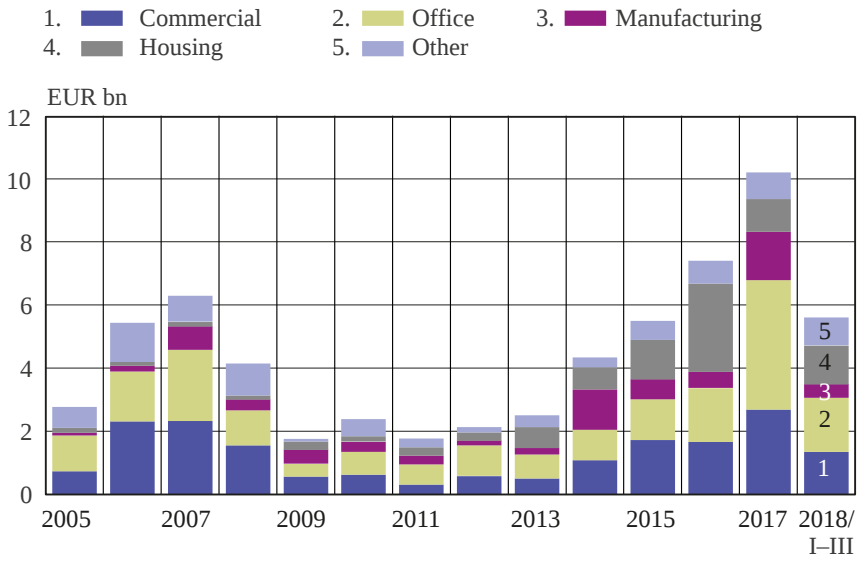
does not include the per-unit share of the value of the plot, nor do monthly management charges paid to the housing company lower the plot's redemption price, should the owner of the apartment eventually decide to redeem its share of the plot from the investor. Furthermore, rents are typically subject to increases at regular intervals, and a plot's redemption price will rise with the general price level.[10] There is a risk that not only large housing company loans, but also the separation of plot ownership in housing purchase, will frustrate a homebuyer's ability to assess the total price and running costs associated with a property.

Office and commercial real-estate construction has continued briskly throughout 2018, although remaining at a moderate level by historical standards. The attention of building companies is largely focused on residential real estate instead of office and commercial spaces.

Finnish real-estate markets have remained humming. According to KTI, a data services company for the Finnish real-estate sector, the volume of noteworthy real-estate transactions reached EUR 5.6 billion during the first three quarters of 2018 (Chart 4), which is nevertheless about 25% less than a year earlier.[11]

Chart 4.

Trading brisk on Finnish real-estate markets in recent years



Estimate of investors' noteworthy real-estate purchases by type.
Sources: KTI and calculations by the Bank of Finland.

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Interest from international investors in Finland's real-estate markets has remained high.

10. A plot's redemption price may, for example, be tied to a cost-of-living index.

11. Several individual transactions however, such as Sponda's sale to Blackstone, account for a large share of 2017's sales volume.

Accordingly, foreign investment accounted for 58% of the volume of real-estate sales during the first three quarters of 2018. The growing presence of foreign investors bespeaks their search for yield and desire to diversify real-estate holdings. Commercial properties have seen their valuations rise in many central hubs in Europe. Returns are now being sought elsewhere – such as in Finland, with its reliable infrastructure and efficient rental markets. The Helsinki metropolitan area in particular is seeing an abundance of new commercial property and offices, which will spur competition between shopping centres and office spaces. However, with digitalisation and online commerce transforming the nature of retail and work, there is a risk of supply exceeding demand.

Capital adequacy of Finnish banks still among best in class in Europe

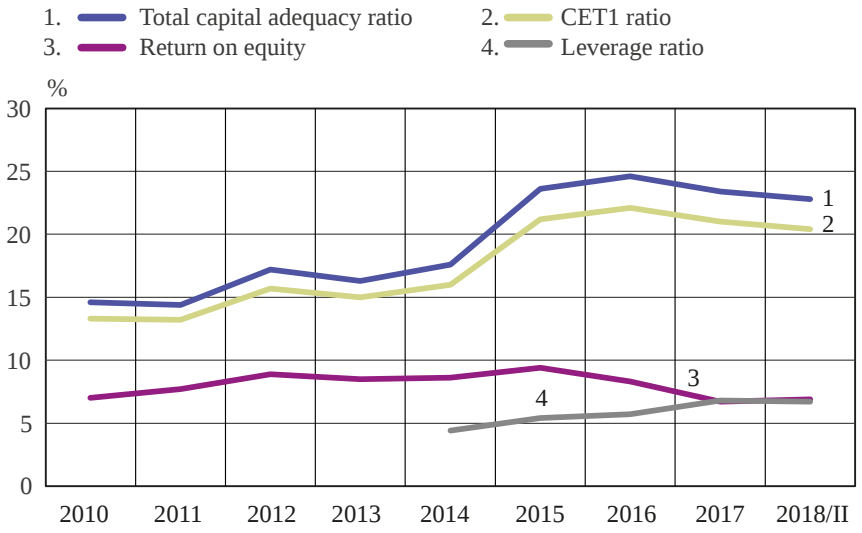
Credit institutions in Finland experienced slightly weakened profitability during the first half of 2018. Return on equity reached almost 8% in 2017, but this remained just shy of 7% as of mid-2018. The decline in profitability is explained especially by the rising costs of banks. Nevertheless, both the profitability and liquidity of Finnish credit institutions remain somewhat above the EU average.

Capital adequacy in the Finnish credit institutions sector weakened slightly on year-end 2017 to the end of June 2018, but remains well above the EU average. Credit institutions' CET1 ratio stood at 20.4% by end-June 2018, while total capital adequacy was 22.8% (Chart 5). In the EU, the average CET1 ratio was 14.9%. The slight decline in capital adequacy is primarily explained by a rising corporate loan stock in the first half of 2018.

The leverage ratio of the credit institutions sector has remained broadly unchanged: by end-June 2018 the ratio stood at 6.7%, compared with 6.8% at the end of 2017. The minimum leverage ratio requirement suggested by the Basel Committee on Banking Supervision is 3%, which means Finnish banks held more than twice the amount of required equity as of end-June 2018.

Chart 5.

Capital adequacy of Finnish banking sector remains strong



Source: FIN-FSA.

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Finnish deposit banks finance their lending not only with deposits but also by market-based wholesale funding. Market-based funding accounted for just over half (54%) of banks' total funding. This exposes banks to volatility in the pricing and availability of finance.[12]

The credit institutions sector in Finland is large, concentrated and strongly interlinked with the Nordic financial system. Finland's and the other Nordic financial systems are vulnerable to housing market shocks as their households are indebted and their banks' housing loan stocks large. Housing market shocks pose a threat to bank funding in the Nordics, as banks seek their market-based funding by issuing covered bonds.

Because of such structural vulnerabilities in the financial sector, Finland is to implement a structural capital buffer requirement, i.e. a systemic risk buffer. The buffer serves to solidify the capital positions of credit institutions, and thus improve the sector's resilience against systemic vulnerabilities. In June 2018 the FIN-FSA Board took the decision to set the systemic risk buffer at 3% for Nordea, 2% for OP Group, 1.5% for Municipality Finance, and at 1% for other credit institutions, respectively. The new requirement will become effective as of July 2019.

Nordea's relocation underscores the importance of

12. The banking sector's loan-to-deposit ratio increased from 122% at the end of 2017 to 131% at the end of June 2018. In the EU, the average loan-to-deposit ratio stood at about 119% at the end of March 2018. Finland also has credit institutions who do not accept deposits at all and instead finance all of their lending through market-based funding. Accordingly, the entire credit institutions sector's loan-to-deposit ratio stood at 189% at the end of June 2018.

the banking union

As a result of Nordea's redomiciliation, Finland's banking sector is now one of the largest in Europe relative to the size of the national economy. Similarly, Nordea is the single largest credit institution under the European banking union, when compared with the economy of its domicile.[13]

Following the bank's redomiciliation, Nordea is now under the prudential supervision of the Single Supervisory Mechanism. In practice, supervision duties are carried out in close collaboration between the ECB and the FIN-FSA. In addition, the supervisory authorities from the rest of the Nordics also contribute via supervisory colleges. Nordea operates subsidiaries such as mortgage banks throughout the Nordics; subsidiaries who pursue credit institution activities are subject to the supervisory framework of their respective domiciles.

The European banking union currently lacks a single deposit insurance scheme. Implementation of such a framework would prove especially important for a country like Finland, whose banking sector is large and concentrated. A credible single deposit insurance scheme would reduce the likelihood of bank runs in crisis situations and bolster confidence in the banking system. Bank's statutory contributions to the deposit scheme could be determined on a risk basis. Under this framework, banks who choose to pursue riskier activities, thus placing a greater burden on financial stability, would contribute more to the deposit scheme than low-risk banks. In addition to enhancing structural measures, more work is needed to ensure that banks are better equipped to withstand the idiosyncratic risks of their domiciles.

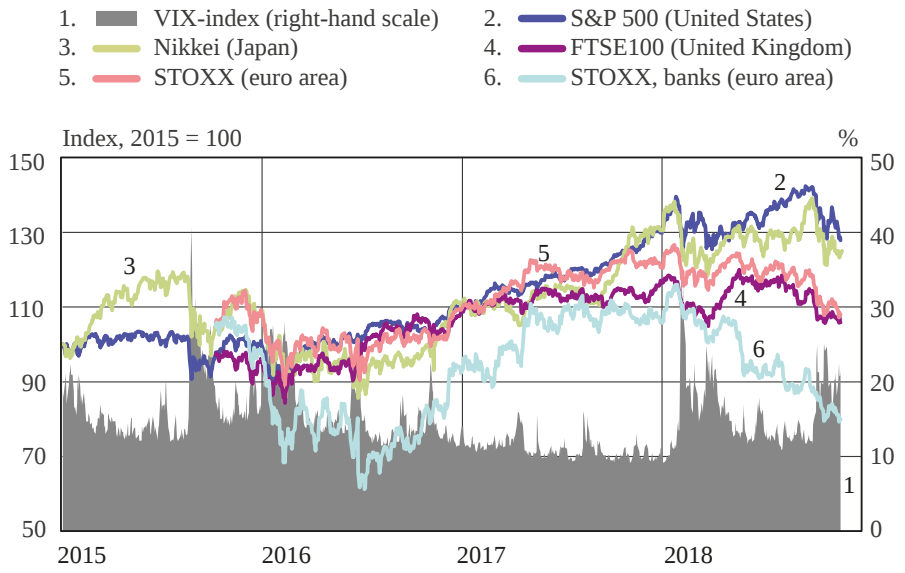
International financial stability threats have increased

Uncertainty increased on international financial markets in the autumn of 2018. This was most readily felt on stock markets, where volatility has increased and valuations have retreated (Chart 6). Weakening performance of several emerging market currencies against the US dollar, and the resulting pressure this puts on the sustainability of private sector debt, has raised concerns for global financial stability. In the euro area, uncertainty remains centred around Italy, whose sovereign bond yields have risen since May 2018. Political uncertainty has also depressed Italian bank shares in recent months and has increased their insurance premium against credit risk on derivatives markets, resulting in higher CDS pricing.

Chart 6.

13. In its fiscal year-end statement in 2017, Nordea's consolidated balance sheet was reported at EUR 582 billion, which is approximately 2.6 times the volume of Finland's GDP in the same year. See also (Finnish only): Nordean kotipaikka siirtyi Suomeen – Pankkisektori kasvoi yhdeksi Euroopan suurimmista.

Uncertainty increased on financial markets in autumn 2018



Source: Macrobond.

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The three most significant international threats to financial stability in Finland are related to the global securities markets, the sustainability of sovereign debt and problems related to the banking sector in the euro area as well as risks associated with the Swedish housing market.[14] The likelihood of a realisation of these risks has, in part, risen since spring 2018. Historically high valuation levels and low risk premia have increased global securities markets' exposure to price corrections, i.e. the sudden repricing of assets and risk premia. Still, recent market volatility has neither led to widespread nor long-lasting disruption in the transmission of finance. The large indebtedness of Italy's general government, together with political uncertainty and the banking sector's vulnerabilities, now constitutes a considerably greater threat to the euro area's financial stability than before. Sweden's housing market remains exposed to various risks. Uncertainty on the housing market has persisted at an unusually high level, even though the development of house prices has remained balanced after a decline in late 2017.

London is the financial hub of Europe, but this may be subject to change as the United Kingdom withdraws from the EU. In particular, a no-deal Brexit would especially prove testing for financial stability, as relocating operations from London to mainland Europe is no simple undertaking. In spite of positive news concerning negotiations, considerable risks remain on the path of the EU and United Kingdom forging a new partnership.[15]

14. See Koskinen and Laakkonen (2018) Repricing of securities markets' risk premia still most significant threat to global financial stability. Bank of Finland Bulletin analysis article.
15. As of the time of writing, it remained unclear whether or not the UK Parliament would accept the proposed withdrawal agreement on 11 December.

Brexit's risks to financial stability could be realised through several channels. These include a weakening of the real economy, heighted volatility on markets as uncertainty increases, and statutory restrictions on financial market entities and functions. The most significant risks are related to the requirements for UK financial market entities to operate within the European Union and vice versa (e.g. licences), derivatives contracts, eligibility of collateral, and the handling of securities that are traded in London. Supervisors and authorities have urged market participants to commence with preparations in good time.

Digitalisation casts spotlight on cyber security matters

Digital technology, with its potential to disrupt established industries and bring about new business models, is continuing its transformation of the financial sector. In addition to new opportunities, the future of banking will need to contend with a host of new challenges, such as those related to cyber security and climate change.

Digitalisation of the financial sector has already sparked robust debate over the past few years.[16] From a regulatory perspective, one key challenge is to implement a framework that strikes a suitable balance between innovation and stability. Customers and businesses should benefit from innovation while the financial system remains stable, secure and inclusive at the same time. Digitalisation holds vast promise for new operating models in the financial sector, and clear examples of this can already be seen in the field of payments.

The Payment Services Directive will help bring to market new and easy-to-use ways of making retail payments, while instant payment infrastructures will make sure these transactions happen in real time. These new technologies, combined with contactless payment systems, promise to make electronic payment as quick and easy as cash.[17]

Cyber risks are the downside of digitalisation, however, and will become increasingly at the forefront as financial services continue to digitalise. It is therefore with good reason that the cyber risks faced by Finnish banks are treated as operational risks. Recent attention has focused on the threat posed by potential systems-level cyber risks, if risks consolidate around a single and critical market entity or if there is underlying risk of contagion.[18] The threat of a financial crisis being sparked by cyber risks outside the financial system or by disruptions in clearing and settlement systems should be given due consideration.

Climate change a concern for the financial sector

Climate change poses a major challenge for the years and decades ahead. Although many predictions suggest that the full brunt of climate change will only begin to manifest after the 2050s, its effects are already evident in the occurrences of extreme weather events.

16. Nordic banks go digital.
17. Contactless payments replace both chip and pin along with cash.
18. (Finnish only) Kyberriskit huomioitava, jotta rahoitusvakaus säilyy.

Climate change will increase the financial sector's exposure to both material and transitional risks. Material risks refer to the economic losses caused by storms, floods, and other extreme weather events. Insurance companies will have to settle covered losses, while sufferers of uninsured damages will be left to contend with the financial burden themselves. Banks will also face growing credit risks, should borrowers suffer material losses that effect their repayment ability and/or which impact the material value of loan collateral. Moreover, if a region becomes effectively uninsurable because of climate change, this will have a direct bearing on the geographical distribution of manufacturing hubs and new-build construction. Older properties might see their values decline and lose eligibility as collateral.

Transitional risks refer to the issues that arise when a firm shifts away from a carbon-intensive business model to one that is low emission. Businesses will not only have to contend with climate policy and regulation, but also with shifting consumer preference and technological change. Companies may become less valuable during this transitionary period, particularly if a company's revenue is largely dependent on carbon-intensive industry.

Central banks and supervisory authorities the world over have embarked on a common effort to raise their thoughts on climate change and its implications for financial stability. The Bank of Finland is currently partnered with other authorities in a cooperation network, whose mission is to further understanding on the risks of climate change, and to create a framework for best practices that account for such risks. These principles are eventually to be introduced to the financial industry at large, in close cooperation with regulators and financial companies.

Tags

banking sector, climate change, consumer credit, digitalisation, financial stability, indebtedness, mortgage loans

FORECAST TABLES

Forecast for 2018–2021

18 DEC 2018 11:00 AM • BANK OF FINLAND BULLETIN 5/2018 • ECONOMIC OUTLOOK

See forecast tables for the Finnish economy in 2018–2021 (December 2018).

December 2018

1.BALANCE OF SUPPLY AND DEMAND. AT REFERENCE YEAR 2010 PRICES

% change on previous year

	2017	2018[f]	2019[f]	2020[f]	2021[f]
GDP at market prices	2.8	2.7	1.9	1.7	1.4
Imports of goods and services	3.5	2.7	2.7	2.6	2.5
Exports of goods and services	7.5	3.3	3.5	3.1	2.8
Private consumption	1.3	1.9	2.3	1.6	1.2
Public consumption	–0.5	2.6	–0.1	0.9	0.7
Private fixed investment	4.6	3.7	2.3	2.3	2.1
Public fixed investment	1.8	1.6	–2.6	0.3	1.2

Source: Bank of Finland.

2. CONTRIBUTIONS TO GROWTH[1]

	2017	2018[f]	2019[f]	2020[f]	2021[f]
GDP, % change	2.8	2.7	1.9	1.7	1.4
Net exports	1.4	0.2	0.3	0.2	0.1
Domestic demand excl. inventory change	1.5	2.4	1.5	1.5	1.3
of which Consumption	0.6	1.6	1.2	1.1	0.8
Investment	0.9	0.7	0.3	0.4	0.4
Inventory change + statistical discrepancy	–0.1	0.1	0.0	0.0	0.0

[1] Bank of Finland calculations. Annual growth rates using the previous year's GDP shares at current prices as weights.

Source: Bank of Finland.

3. BALANCE OF SUPPLY AND DEMAND. PRICE DEFLATORS

Index 2010 = 100, and % change on previous year

	2017	2018[f]	2019[f]	2020[f]	2021[f]
GDP at market prices	113.7	115.2	116.7	118.8	120.9
	0.8	1.3	1.3	1.8	1.7
Imports of goods and services	101.3	104.8	107.2	109.3	111.3
	3.5	3.5	2.3	2.0	1.8
Exports of goods and services	104.1	107.5	110.0	112.0	113.7
	3.1	3.3	2.3	1.8	1.5
Private consumption	112.5	113.8	115.3	117.1	119.2
	1.1	1.1	1.3	1.6	1.7
Public consumption	111.9	112.2	114.2	116.6	119.1
	–0.1	0.3	1.8	2.1	2.2
Private fixed investment	112.8	115.1	117.9	120.6	123.0
	1.8	2.0	2.5	2.3	1.9
Public fixed investment	112.4	115.2	118.3	120.8	123.0
	1.4	2.5	2.6	2.2	1.8
Terms of trade (goods and services)	102.8	102.6	102.6	102.5	102.1
	–0.3	–0.1	0.0	–0.2	–0.3

Source: Bank of Finland.

4. BALANCE OF SUPPLY AND DEMAND, AT CURRENT PRICES

EUR million and % change on previous year

	2017	2018[f]	2019[f]	2020[f]	2021[f]
GDP at market prices	223 843	232 871	240 403	248 952	256 776
	3.6	4.0	3.2	3.6	3.1
Imports of goods and services	85 446	90 781	95 322	99 764	104 150
	7.1	6.2	5.0	4.7	4.4
Total supply	309 289	323 652	335 725	348 716	360 926
	4.5	4.6	3.7	3.9	3.5
Exports of goods and services	86 250	92 055	97 422	102 219	106 642
	10.8	6.7	5.8	4.9	4.3
Consumption	173 107	178 346	183 868	189 745	195 335
	1.5	3.0	3.1	3.2	2.9
Private	121 874	125 641	130 288	134 517	138 526
	2.4	3.1	3.7	3.2	3.0
Public	51 233	52 704	53 580	55 228	56 810
	–0.6	2.9	1.7	3.1	2.9
Fixed investment	49 578	52 286	54 335	56 672	58 868
	5.8	5.5	3.9	4.3	3.9
Private	40 437	42 769	44 824	46 925	48 819
	6.4	5.8	4.8	4.7	4.0
Public	9 141	9 517	9 510	9 747	10 049
	3.3	4.1	–0.1	2.5	3.1
Inventory change + statistical discrepancy	354	965	100	80	80
% of previous year's total demand	–0.1	0.2	–0.3	0.0	0.0

4. BALANCE OF SUPPLY AND DEMAND, AT CURRENT PRICES

Total demand	309 289	323 652	335 725	348 716	360 926
	4.5	4.6	3.7	3.9	3.5
Total domestic demand	223 039	231 597	238 303	246 497	254 283
	2.3	3.8	2.9	3.4	3.2

Source: Bank of Finland.

5. BALANCE OF SUPPLY AND DEMAND

% of GDP at current prices

	2017	2018[f]	2019[f]	2020[f]	2021
GDP at market prices	100.0	100.0	100.0	100.0	100.0
Imports of goods and services	38.2	39.0	39.7	40.1	40.6
Exports of goods and services	38.5	39.5	40.5	41.1	41.5
Consumption	77.3	76.6	76.5	76.2	76.1
Private	54.4	54.0	54.2	54.0	53.9
Public	22.9	22.6	22.3	22.2	22.1
Fixed investment	22.1	22.5	22.6	22.8	22.9
Private	18.1	18.4	18.6	18.8	19.0
Public	4.1	4.1	4.0	3.9	3.9
Inventory change + statistical discrepancy.	0.2	0.4	0.0	0.0	0.0
Total demand	138.2	139.0	139.7	140.1	140.6
Total domestic demand	99.6	99.5	99.1	99.0	99.0

Source: Bank of Finland.

6. PRICES

Index 2005 = 100, and % change on previous year

	2017	2018[f]	2019[f]	2020[f]	2021[f]
Harmonised index of consumer prices, 2005=100	101.2	102.4	103.8	105.4	107.2
	0.8	1.2	1.3	1.6	1.7
Consumer price index, 2005=100	120.6	122.0	123.7	125.5	127.7
	0.8	1.1	1.3	1.5	1.7
Private consumption deflator	112.5	113.8	115.3	117.1	119.2
	1.1	1.1	1.3	1.6	1.7
Private investment deflator	112.8	115.1	117.9	120.6	123.0
	1.8	2.0	2.5	2.3	1.9
Exports of goods and services deflator	104.1	107.5	110.0	112.0	113.7
	3.1	3.3	2.3	1.8	1.5
Imports of goods and services deflator	101.3	104.8	107.2	109.3	111.3
	3.5	3.5	2.3	2.0	1.8
Value-added deflators					
Value-added. gross at basic prices	113.8	115.6	117.4	119.3	121.7
	0.9	1.6	1.6	1.6	2.0
Private sector	113.9	116.0	117.8	119.6	121.9
	1.3	1.9	1.5	1.5	1.9
Public sector	112.9	113.5	115.5	118.0	120.5
	–1.0	0.5	1.8	2.1	2.2

Source: Bank of Finland.

7. WAGES AND PRODUCTIVITY

% change on previous year

	2017	2018[f]	2019[f]	2020[f]	2021[f]
Whole economy					
Index of wage and salary earnings	0.2	1.8	2.4	2.7	2.4
Compensation per employee	–1.2	1.3	1.8	3.0	2.5
Unit labour costs	–2.8	1.0	0.6	1.6	1.4
Labour productivity per employed person	1.7	0.3	1.2	1.3	1.1

Source: Bank of Finland.

8. LABOUR MARKET

1,000 persons and % change on previous year

	2017	2018[f]	2019[f]	2020[f]	2021[f]
Labour force survey (15–74-year-olds)					
Employed persons	2 474	2 534	2 552	2 561	2 569
	1.1	2.4	0.7	0.4	0.3
Unemployed persons	234	207	199	194	194
	–0.9	–11.3	–4.1	–2.3	–0.4
Labour force	2 708	2 741	2 751	2 756	2 763
	0.9	1.2	0.3	0.2	0.3
Working-age population (15–64-year-olds)	3 451	3 438	3 426	3 419	3 413
	–0.3	–0.4	–0.3	–0.2	–0.2
Labour force participation rate, %	65.8	66.5	66.7	66.9	67.2
Unemployment rate, %	8.6	7.6	7.2	7.1	7.0
Employment rate (15–64-year-olds), %	69.6	71.6	72.3	72.6	72.9

Source: Bank of Finland.

9. GENERAL GOVERNMENT REVENUE, EXPENDITURE, BALANCE AND DEBT

% OF GDP

	2017	2018[f]	2019[f]	2020[f]	2021[f]
General government revenue	53.3	52.2	51.7	51.7	51.5
General government expenditure	54.0	53.1	52.3	52.0	51.9
General government primary expenditure	53.0	52.2	51.5	51.2	51.1
General government interest expenditure	1.0	0.9	0.8	0.8	0.8
General government net lending	–0.7	–0.9	–0.7	–0.3	–0.3
Central government	–1.8	–1.9	–0.9	–0.5	–0.5
Local government	–0.1	–0.4	–0.5	–0.5	–0.4
Social security funds	1.2	1.4	0.8	0.7	0.6
General government primary balance	0.3	0.0	0.2	0.5	0.4
General government structural balance	–0.3	–1.0	–1.0	–0.6	–0.5
General government debt (EDP)	61.3	59.4	59.0	57.9	57.1
Central government debt	47.3	45.9	45.4	44.3	43.5
Tax ratio	43.3	42.4	42.0	42.1	42.0
Current prices. EUR billion					
General government net lending	–1.5	–2.1	–1.6	–0.8	–0.9
Central government	–4.0	–4.3	–2.2	–1.2	–1.4
Local government	–0.3	–0.9	–1.2	–1.3	–1.0
Social security funds	2.8	3.2	1.9	1.7	1.5
General government debt (EDP)	137.3	138.4	141.7	144.2	146.5

Source: Bank of Finland.

10. BALANCE OF PAYMENTS

EUR billion

	2017	2018[f]	2019[f]	2020[f]	2021[f]
Exports of goods and services (SNA)	86.3	92.1	97.4	102.2	106.6
Imports of goods and services (SNA)	85.4	90.8	95.3	99.8	104.1
Goods and services account (SNA)	0.8	1.3	2.1	2.5	2.5
% of GDP	0.4	0.5	0.9	1.0	1.0
Investment income and other items. net (+ statistical discrepancy)	–0.3	–0.7	0.6	0.6	0.6
Current transfers. net	–2.1	–2.6	–2.6	–2.7	–2.8
Current account. net	–1.5	–20.4	0.1	0.3	0.3
Net lending, % of GDP					
Private sector	0.0	0.0	0.7	0.5	0.5
Public sector	–0.7	–0.9	–0.7	–0.3	–0.3
Current account, % of GDP	–0.7	–0.9	0.0	0.1	0.1

Source: Bank of Finland.

11. INTEREST RATES

%

	2017	2018[f]	2019[f]	2020[f]	2021[f]
3-month Euribor[1]	–0.3	–0.3	–0.3	0.0	0.3
Average interest rate on new loan drawdowns[2]	1.8	1.8	1.9	2.1	2.3
Average interest rate on the stock of loans[2]	1.4	1.3	1.4	1.6	1.9
Average interest rate on the stock of deposits[3]	0.1	0.1	0.1	0.3	0.5
Yield on Finnish 10-year government bonds[1]	0.5	0.7	0.8	1.0	1.2

[1] Technical assumption derived from market expectations.

[2] Finnish credit institutions' loans to households and non-financial corporations (excl. overdrafts, credit card credits and repurchase agreements).

[3] Finnish credit institutions' deposits from households and non-financial corporations.

Source: Bank of Finland.

12. INTERNATIONAL ENVIRONMENT

The Eurosystem staff projections

	2017	2018[f]	2019[f]	2020[f]	2021[f]
GDP, % change on previous year					
World	3.6	3.6	3.3	3.4	3.3
USA	2.2	2.9	2.5	2.0	1.8
Euro area	2.5	1.9	1.7	1.7	1.5
Japan	1.7	0.9	1.0	0.1	0.7
Imports, % change on previous year					
World	5.2	4.7	3.7	3.7	3.9
USA	4.6	4.7	4.1	3.2	2.9
Euro area	4.1	2.7	4.2	4.2	3.6
Japan	3.5	2.7	2.3	1.8	2.3
Index, 2010 = 100. and % change on previous year					
Import volume in Finnish export markets	128.8	133.6	138.2	143.3	148.2
	5.8	3.8	3.4	3.7	3.5
Export prices (excl. oil) of Finland's trading partners, national currencies	109.2	114.3	118.6	121.4	124.1
	3.3	4.7	3.8	2.3	2.2
Export prices (excl. oil) of Finland's trading partners, in euro	104.4	105.4	109.3	111.8	114.3
	3.0	0.9	3.7	2.3	2.2
Industrial raw materials (excl. energy). HWWA index, in US dollars	118.2	124.4	117.7	122.2	127.4
	21.5	5.2	–5.4	3.8	4.3
Oil price, USD per barrel[1]	54.4	71.8	67.5	66.8	65.9
	23.5	32.0	–6.0	–1.1	–1.3

12. INTERNATIONAL ENVIRONMENT

Broad nominal effective exchange rate for Finland[1]	95.6	92.2	92.1	92.1	92.1
	–0.3	–3.6	0.0	0.0	0.0
US dollar value of one euro	1.13	1.18	1.13	1.13	1.13
	2.1	4.5	–3.8	0.0	0.0

[2] The exchange rate strengthens when the index decreases; 2010 = 100.

Source: Bank of Finland.

13. CURRENT AND JUNE 2018 FORECAST

	2018[f]	2019[f]	2020[f]	2021[f]
GDP, % change	2.7	1.9	1.7	1.4
June 2018	2.9	2.2	1.7	
Inflation (HICP), %	1.2	1.3	1.6	1.7
June 2018	0.9	1.0	1.5	
Current account, % of GDP	–0.9	0.0	0.1	0.1
June 2018	0.9	0.7	0.9	
General government net lending, % of GDP	–0.9	–0.7	–0.3	–0.3
June 2018	–0.8	–0.7	–0.4	
General government debt (EDP), % of GDP	59.4	59.0	57.9	57.1
June 2018	60.2	59.5	58.3	
Unemployment rate, %	7.6	7.2	7.1	7.0
June 2018	8.0	7.7	7.5	

Source: Bank of Finland.

Tags

economic situation, forecast, indicators