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EXECUTIVE SUMMARY

Finland's current economic growth provides an opportunity to increase the economy's resilience and its growth potential amid rising macroeconomic risks. Following a long and deep recession, Finland's economy is now growing healthily, although at a decelerating pace. Finland shows low social inequality and its education system is performing well. However, an ageing population weighs on Finland's potential growth for the future. Reforming the complex social benefits system, teaching new skills and providing training services would help counterbalance the impact of an ageing population. Furthermore, investment in equipment and research and development declined during the financial crisis, further affecting Finland's potential for growth. Addressing these challenges will make the economy more resilient to external shocks. ([1])

Strong economic growth continued in 2018, with GDP eventually passing its peak of 2008. Real GDP is expected to have increased by 2.5 % in 2018. Solid growth was underpinned by robust domestic demand while the contribution from net exports, which was very strong in 2017, weakened. Business investment is set to continue expanding, supported by rising profits and persistently low interest rates. Inflation remains below the EU average. The favourable economic cycle is helping the government further consolidate public finances, bringing the public debt ratio below 60 %. Going forward, Finland's economic growth is projected to be moderate at an average annual rate of 1.8 %, from 2.6 % over the previous three years, particularly as international trade expansion gradually loses momentum.

The labour market continues to recover, showing early signs of tightening. The employment rate has now reached a new high, but is still lower than in other Nordic countries. Employment growth accelerated in 2018, with more than half of new workers being previously inactive. This trend should continue in 2019 and 2020, albeit at a slower pace. The unemployment rate has declined, rapidly approaching its structural level. The latter improves, but remains relatively high, reflecting disincentives to take up work and growing matching problems in the labour market. Job vacancies are rising in certain sectors, due to skills shortages, mobility problems and the ageing population.

Potential growth is recovering but Finland's ageing population is expected to weigh on future economic developments. Potential growth has improved in recent years. However, it is unlikely to return to pre-crisis growth rates in the medium term because of expected losses in the working-age population. Productivity remains below its 2009 level, reflecting a shift over the decade in production from high tech goods to medium tech goods.

New investment is mainly concentrated in construction, limiting therefore its contribution to the productive capacity of the economy. Overall investment remained among the highest in the EU and showed a slight increase. However, investment in construction accounted for almost 60 % of overall investment. Although recovering, investment in equipment as a share of GDP remained one of the lowest in the EU. Its growth might also slow down as trade with non-EU countries could be affected by rising international tensions. With the disruptive technological change that affected Finland's largest private research and development spender (Nokia) a decade ago, Finland experienced a sharp decline in business spending on research and development. Recovery has not been observed so far.

Focusing investments ([2]) on human capital, on research and innovation, and on energy and transport infrastructure, would strengthen the long-term growth potential of Finland. While the overall investment level in Finland appears largely satisfactory, investing further in people's skills, education and training and in coordinated professional services to the unemployed and the inactive is needed to offset workforce losses from population ageing, reduce inactivity and long-term unemployment and potentially increase productivity. Employment would also benefit from

([1]) This report assesses Finland's economy in light of the European Commission's Annual Growth Survey published on 21 November 2018. In the survey, the Commission calls on EU Member States to implement reforms to make the European economy more productive, resilient and inclusive. In so doing, Member States should focus their efforts on the three elements of the virtuous triangle of economic policy — delivering high-quality investment, focusing reforms efforts on productivity growth, inclusiveness and institutional quality and ensuring macroeconomic stability and sound public finance.

([2]) Both private and public investment.

investment in social inclusion. The ratio of research and development to GDP has not yet recovered from the crisis years and appears insufficient to diversify exports towards higher tech goods in the medium-term. Amid dispersed population, a lack of affordable housing in growth centres and transport bottlenecks may prevent people from moving to find jobs. The decarbonisation of energy intensive industries and the transport sector will also require higher private and public investment. Annex D identifies key priorities for support by the European Regional Development Fund and the European Social Fund Plus over 2021-2027, building on the analysis of investment needs and challenges outlined in this report.

Finland has made limited progress in addressing the 2018 country-specific recommendations.

There has been limited progress in the following areas:

- **The regional government, health and social services reform:** parliamentary debate on this reform is still ongoing and its adoption is planned before the general election in April 2019. However, the timing of the adoption of the reform currently faces some uncertainty.

- **Improving incentives to accept work by reducing unemployment traps:** the Finnish authorities are waiting for the outcome of the basic income experiment, whose preliminary results were presented on 8 February 2019. The experiment is expected to provide some information for revision of the benefit system. Given the political agenda, no progress on this issue is expected before spring 2019. The reform of the benefit system is likely to be a major issue for the next government. The government budget for 2019 introduces additional measures for improving incentives to accept work.

- **Ensuring adequate and well-integrated services for the unemployed and the inactive:** advice and guidance to youth and young adults have been increased. However, with the vocational education and training reform, training schemes to help the unemployed find work now fall under the responsibility of the Ministry for Education and not with the Ministry for Employment. This could create an additional barrier to join up unemployment services. Regional pilots to test new service models might bring about progress in this area, but only after adoption of the regional reform.

- **Strengthening the monitoring of household debt:** the Ministry of Justice has published an assessment on the merits of creating a credit registry. Political support appears sufficient to create the registry by the next parliament. However, it is likely to take years before the registry is in place.

On Finland's progress towards its national targets under the Europe 2020 strategy, the employment rate target of 78 % does not seem out of reach if the positive trend of the previous year continues. The poverty rate is low compared to the EU average and has recently been in gradual decline. The early-school leaving rate remained slightly above the target of 8 %. The very ambitious research and development investment target of 4 % of GDP is unlikely to be met. Finland is broadly on track to reach its climate and energy targets.

Finland performs well on the indicators of the Social Scoreboard supporting the European Pillar of Social rights. Income inequalities are among the lowest in the EU and few people are at risk of poverty or social exclusion. Finland continues to have a generally well performing education system. However, a lack of coordination to ensure different professional services to the unemployed and the inactive poses a challenge. Access to health care remains a concern, given the relatively high unmet need for health services, especially for people not covered by occupational insurance.

Other key structural issues analysed in this report that point to particular challenges for Finland's economy are the following:

- **Productivity growth remains a challenge.** A recovery in productivity growth is essential to ensure future economic prosperity, especially as Finland's population is ageing and spending on health is set to increase. Other factors are

holding back Finland's growth potential: its investment in research and innovation, which has the most potential for innovation output, remains in decline. Moreover, it is rather narrowly focused. There is indeed a wide and increasing gap between the most productive firms and the least productive ones. Public support for research and development has also declined in recent years.

- **Inactivity and unemployment traps are a barrier to a better use of the labour force.** One of the main barriers to getting people back to work comes from the benefits system and the combination of different types of allowances. The social assistance and the housing allowance form a substantial part of this barrier. These and other benefits are phased out rapidly as income increases, which creates a risk that taking up work might not be sufficiently financially rewarding. The complexity of the benefits rules combined with red tape result in people being put off going back to work.

- **An ageing population and long-term trends in spending on care pose some risks for the sustainability of public finances.** The regional government, health and social services reform aims to lower expenditure growth in these areas. Other objectives are equal access to healthcare and reduced waiting times for patients. Social and primary healthcare services would become available from both public and private social and health centres. This would give patients more freedom of choice, while competition between service providers and public management at a more central level are expected to yield cost savings.

- **Levels of household debt are high, but servicing of the debt remains solid.** Low interest rates and the improved economic outlook have increased the overall volume of lending, especially through housing corporations (which provide a distinctive form of home ownership). Household debt therefore remains at a historically high level. It is mostly at variable rate. Consumer credit is also rising rapidly. The lack of a comprehensive (collecting both positive and negative information on debtors) credit registry prevents banks from having a clear overview of households' overall debt. However, the non-performing loans ratio of the banking sector remains one of the lowest in Europe and banks are well capitalised. The authorities have already taken and are considering further pre-emptive measures to restrict the rising household debt.

- **A new Finnish wage-setting model has emerged, but labour mobility remains rather limited.** In the new wage-setting model, pay rises in the non-tradable sector are linked to the increases first agreed in the exporting sectors. However, no formal agreement on this model has been reached. Wage increases are expected to be kept in check, but upwards pressure on wages is likely as the labour market gradually tightens. Labour shortages are growing in certain sectors as a result of skills shortages and population ageing, while a lack of affordable housing in growth centres may limit possibilities to move to find jobs. A fully modernised legislative framework on zoning and planning is considered.

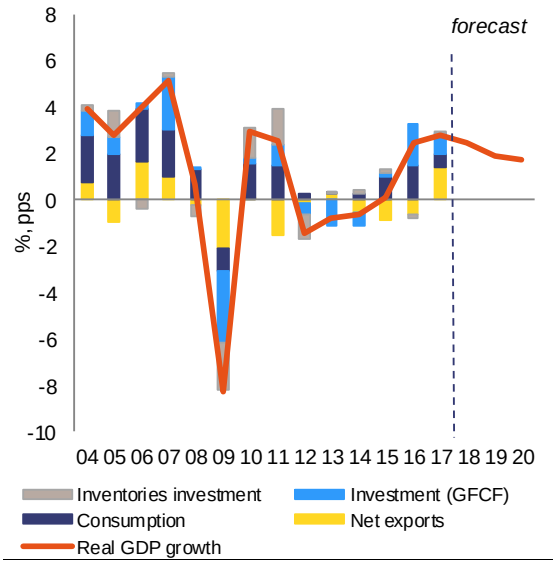
- **Despite a recent steady rise, the employment rate at 76.3 % of 20-64 year-olds is still lower than in other Nordic countries.** The service system is not responding sufficiently to people who have special needs and are unable to work full-time. In particular, rehabilitation and training programmes are not linked with effective services to help jobseekers. In addition, supporting services are still not sufficiently integrated and as a result may prolong unemployment spells for people in a vulnerable position. A joined-up approach to services exists for some target groups such as young and long term unemployed, but not for all.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

Following healthy growth (2.8 %) in 2017, economic growth is expected to have slowed in 2018 (Graph 1.1). GDP growth is projected to have remained relatively strong at 2.5 % in 2018, supported by exports, equipment investment and private consumption. Financing conditions for investment remained favourable, and business confidence was still strong. High consumer confidence and rising employment fuelled an increase in private consumption. The economy is expected to continue expanding by 1.9 % in 2019 and 1.7 % in 2020, with domestic demand remaining the main driver. Despite lukewarm developments in external demand, net exports are expected to continue contributing to growth, as Finland benefits from its improved cost competitiveness.

Graph 1.1: **GDP growth and contributions**



Source: European Commission (Winter forecast 2019)

Potential GDP growth

A declining working age population is expected to weigh on Finland's already moderate growth potential. Potential growth has accelerated to 1.8 % recently. However, from 2021, the shrinking workforce is forecasted to pull growth potential back down gradually (see Graph 1.2). This negative impact is expected to progressively strengthen over the years, at least until 2050.

In parallel, productive categories of investment have sharply declined or remain relatively low, entailing a risk that Finland's economy will be trapped in relatively low growth (see Section 3.4). Finland's investment, as a share of GDP, remains below its EU peers ([3]) for investment categories that are the most supportive of productivity growth. This is especially true for equipment investment, despite the cyclical rebound observed in recent quarters. Last year, business investment was clearly on the rise, but companies also increasingly built up sizeable financial reserves. In parallel, after the disruptive technological change that affected the country's largest private research and development spender (Nokia) a decade ago, intellectual property investment appeared to stabilise at a level close to the EU average but below the level of Finland's EU peers. This is expected to affect the country's medium-term productivity growth. Therefore, in the medium term, potential growth is unlikely to return to its high pre-financial crisis levels.

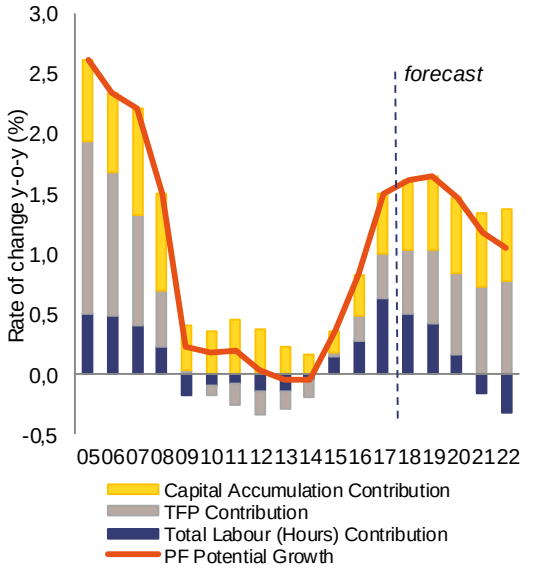
Finland still has the highest level of construction investment in the EU, especially housing construction. Beyond favourable conditions provided to borrowers, this reflects an ongoing move of the population from rural areas to dynamic urban centres. Housing construction is a non-productive category of investment. However, amid limited regional labour mobility, it is expected to contribute to allocative efficiency usefully (see sections 3.2.3 and 3.4.1).

Inflation

Inflation is expected to gradually pick up (see Graph 1.3)**.** In 2018, inflation remained below the euro area average due to a rather modest rise in the prices of services. Increases in labour costs and energy prices were the main drivers of inflation. As a result of a stronger pass-through effect of wage increases pushing up prices of services, headline inflation is forecast to gradually accelerate to close to 2 % in 2020.

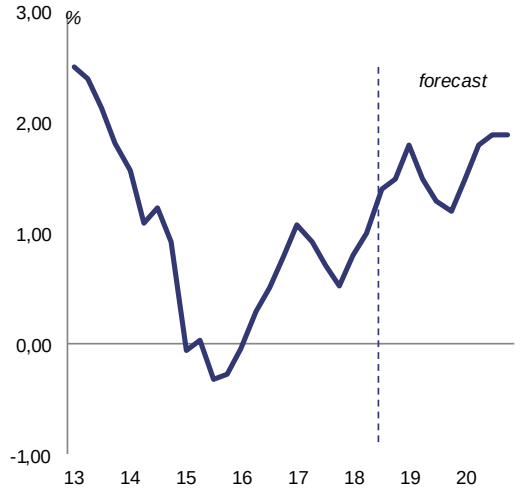
([3]) In the present report, the expression 'EU peers' will be used for EU countries with an almost equivalent development level or similar type of economy. In the present case, this group includes Sweden, Denmark, Germany, Austria, the Netherlands. The expression 'EU Nordic peers' will be used for Sweden and Denmark only. The expression 'Nordic peers' will encompass Norway as well.

Graph 1.2: **Contributions to potential growth**



TFP: total factor productivity
PF potential growth: production function potential growth
Source: European Commission

Graph 1.3: **Quarterly harmonised index of consumer prices, Finland, year-on-year %-change**



Source: European Commission

Labour market

The unemployment rate is falling thanks to the economic upswing. The growth in employment accelerated to 2.3 % in 2018, with more than half of the new workers coming from inactivity. This trend is expected to continue in 2019 and 2020, albeit at a slower pace. After two years of a slow decrease, the unemployment rate declined rapidly from 8.5 % in the third quarter of 2017 to 7.3 % in the same period in 2018. It is approaching its structural level, estimated at 7.0 % ([4]), slightly below the EU average. The structural rate of unemployment improves, but remains relatively high. Possible reasons for this include still limited incentives to accept work and the relatively limited regional mobility. In parallel, labour shortages are growing in certain sectors, due to skills shortages, mobility issues and an ageing population.

([4]) Latest 'non-accelerating-wages rate of unemployment' estimate for 2018 by the European Commission.

Social developments

Overall inequalities remain low but the risk of poverty for children with low-skilled parents is of concern. In terms of income inequality, Finland ranks among the best performers in the EU. In 2017, the income of the richest 20 % of the population was stable at 3.5 times that of the poorest 20 % (EU average: 5.1). However, children of low-skilled parents face a high and increasing risk of poverty or social exclusion (from 45.0 % in 2010 to 63.1 % in 2017, EU from 59.8 % to 62.9 %). Inequalities in education are low. The variation in the Programme for International Student Assessment ([5]) scores due to the socio-economic background of parents is among the lowest in the EU.

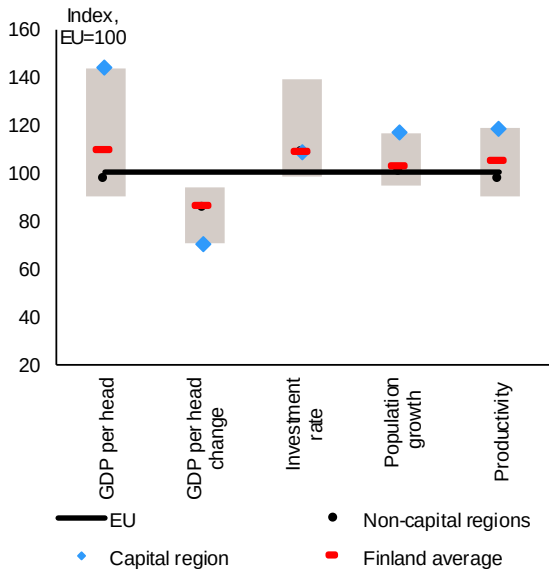
The risk of poverty has continued to decline since peaking in 2011. The recent economic upturn has led to a decrease in the inactive population and long-term unemployed. The population at risk of poverty or social exclusion fell from 16.6 % in 2016 to 15.7 % in 2017, well below the EU average of 22.5 %. The income transfer system performs above the EU average in reducing income inequality.

([5]) The Programme for International Student Assessment is a worldwide study by the Organisation for Economic Co-operation and Development in member and non-member nations intended to evaluate educational systems.

Regional disparities

Regional disparities in Finland have decreased in recent years. In many EU Member States, the regional divide measured by GDP per head is higher than in Finland. Still, the Greater Helsinki area's GDP accounted for 39 % of the national GDP in 2016, against a population share of 30 %. Its GDP per head (at 144 % of the EU average) was 1.6 times higher than that of the less developed East-North region. However, between 2010 and 2016, productivity relative to EU average decreased the most (by 11 percentage points) in the Greater Helsinki area (see Graph 1.4). At the same time, the Helsinki-Uusimaa region remained the main net recipient of domestic migration. This fed into a population increase of almost 7 % between 2010 and 2016, faster than in the EU on average, while the natural growth of population almost stopped in Finland. Furthermore, the population with a migrant background is concentrated in the largest cities, especially in the Greater Helsinki area (see Section 3.3.2).

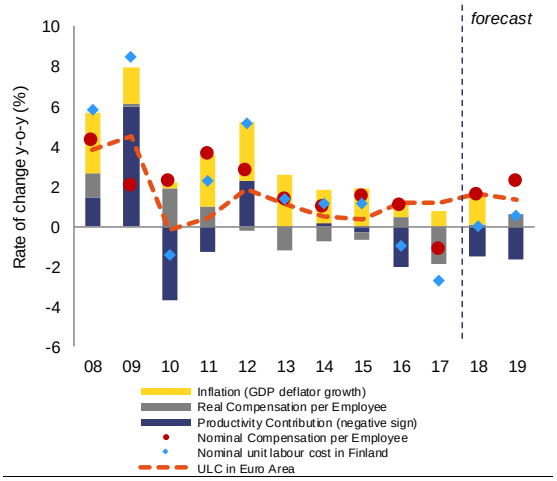
Graph 1.4: **Regional disparities in Finland**



Source: European Commission

A certain level of urban-rural divide remains. The movement of the population from countryside to urban areas is a continuing process and one that is far from complete. This partly reflects higher employment opportunities in urban areas, and especially in the Greater Helsinki area. Large regional disparities are therefore a constant in house prices and household indebtedness (see Section 3.2.3). Overall, large or mid-sized cities with universities, such as Tampere and Turku, steadily grow. Conversely, rural heartland areas, sparsely populated rural areas as well as smaller cities and towns have lower growth prospects and face specific challenges. This may suggest that the sustainability of regional convergence depends crucially on targeted investment to enhance innovation performance, business environment and skills in each region based on their specific competitive advantages and potentials (see Sections 3.3 and 3.4).

Graph 1.5: **Breakdown of rate of change of nominal unit labour costs in Finland by change in inflation, real compensation of employee, productivity contribution), rate of change of nominal unit labour costs in the euro area**



(1) IC-42: with 42 industrial countries; IC-37: with 37 industrial countries

Source: European Commission

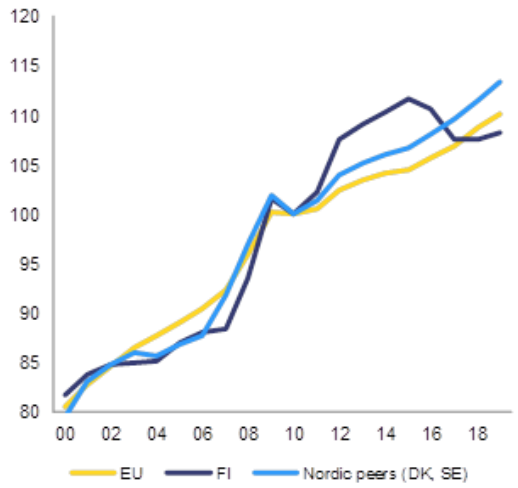
Disparities in the labour market are limited. Finland's employment rate over 2015-2017 was 2.5 percentage points above the EU average. The rate ranged from 1 percentage point below the EU average in Northeast to 16 percentage points above the EU average in Åland Islands, the least populated European region, with the highest employment rate in the EU. In the Greater Helsinki area, employment rate was 6.5 percentage points above the EU average. The national unemployment rate of 8.6 % in 2017 was higher than the EU average of 7.6 %. Some regions are facing labour shortages in the fastest growing sectors. Disparities in educational attainment and early school leaving are visible between cities and rural areas, and this could lead to more persistent

unemployment and social exclusion in the latter. The at risk of poverty or social exclusion rates do not vary significantly between regions, but long distances could hamper access to services in sparsely populated areas (see Section 3.3.2).

Competitiveness

Labour costs have decreased in Finland in recent years and competitiveness has improved. In 2017, the average compensation of employees in the country decreased by 1.2 % (Graph 1.5), while productivity growth remained strong. As a result, nominal unit labour costs markedly improved (-2.7 %). At the same time, Finland benefited from higher labour costs developments in the economies of its main competitors (see Graph 1.6). This added to the recovery of competitiveness.

Graph 1.6: **Nominal unit labour costs in total economy (2010 = 100)**

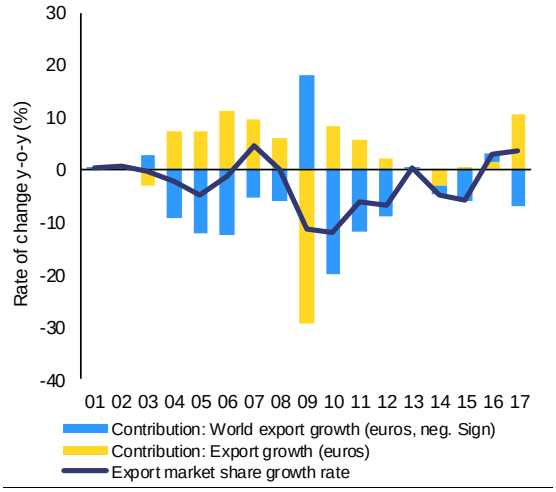


Source: European Commission

However, further cost-competitiveness gains might soon become elusive. In 2018, nominal compensations reverted to growth, while productivity growth weakened. This pulled nominal unit labour costs slightly upwards. Their upturn is expected to continue in 2019 and 2020. Indeed, despite the emergence of the Finnish wage setting model (see Section 2 and Box 3.4.1 in Section 3.4.1), upward pressure on wages is likely in a context of a shrinking working age population and persistent skills shortages (see Section 3.3.1). At the same time, the share of compensation for employees in GDP is close to its lowest levels ever. This suggests that cost competitiveness, after a few years of rapid improvement, would slow.

Export market shares continue to recover (see Graph 1.7). Data for 2017 confirmed the end of the decline in export market shares that had started in 2009. This is largely on the back of a continuous marked improvement in cost competitiveness (see Graph 1.8). Overall, exports benefited from a recovery in external trade, while imports were subdued, as wage growth and investment growth moderated. Only limited ex post market share gains are expected in 2019 and 2020. Exports are likely to lose steam, with external demand slowing down, only partly counterbalanced by improved cost-competitiveness.

Graph 1.7: **Export market shares (EMS): EMS growth rate, export growth, world export growth (negative. sign)**

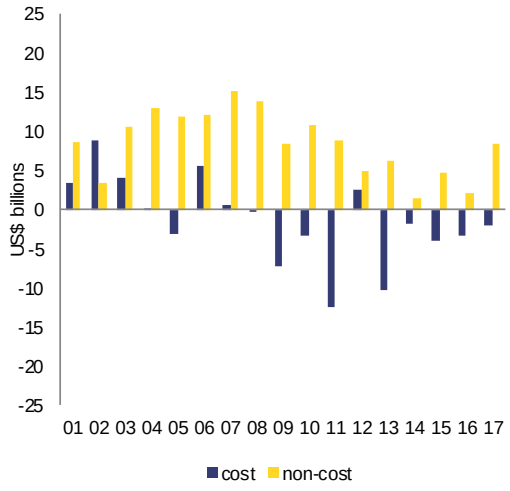


Source: European Commission

After several years of decline, non-cost competitiveness may also have stabilised. After the setback of its electronics sector, Finland experienced a shift in specialisation from consumer towards intermediate goods and from high tech to medium tech industrial sectors. This was accompanied by a concomitant decline in total factor productivity, which highlighted an insufficient level of investment in research and development and innovation. In recent quarters, rising operating surpluses and high financial buffers have prompted enterprises to resume investment. This has been positive for non-cost competitiveness. After several years of decline, the

trade surplus from non-cost competitiveness reverted to growth quite markedly (see Graph 1.8). That said, no rebound has been observed so far in intellectual property investment (see Graphs 3.4.4 and 3.4.5 and Section 3.4). Similarly, a reversal in the downwards shift in specialisation is not yet visible, but the technological level in exports of goods has broadly stabilised.

Graph 1.8: **Breakdown of the balance of trade for goods (fuels included) 2001-2017 — Cost and non-cost competitiveness impact (1)**



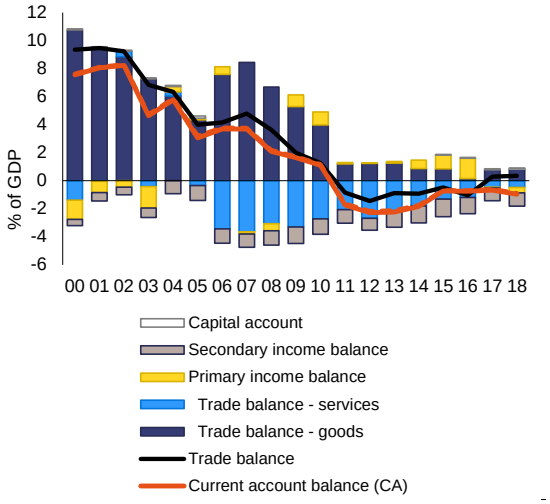
(1) Only goods for which both imports and exports, as well as volumes, are registered are taken into account
Source: European Commission

External position

Finland's current account deficit increased in 2018 as the primary income balance deteriorated. Finland's net exports of goods partly recovered in 2017-2018. In parallel, the external deficit on services gradually closed. Exports of services grew faster than imports, closing the gap opened during the setback of the electronics sector, when exports of digital services were also affected. The primary income balance deteriorated in 2018, as remuneration of foreign investment in Finland improved faster than that of Finnish investment abroad (see Graph 1.9). The secondary income balance (contributions to EU, overseas development and military aid) remained largely negative. Overall, in 2018, the current account deficit is expected to have slightly grown to 1.0 % of GDP. It is expected to contract in 2019 and to almost close in 2020, as the external balance of goods and services turns increasingly positive.

Finland's net international investment position turned negative again in 2018. The net international investment position improved from -3.2 % of GDP in 2014 to 2.4 % in 2017 as net foreign direct investment strengthened. However, in 2018, the net international investment position turned negative again, but at very low level in an EU comparison (see Graph 1.10). This partly reflected the larger than expected current account deficit. The net international investment position is expected to remain negative in 2019-2020. This would be consistent with the ongoing recovery and higher investment levels financed by external borrowing and healthy foreign direct investment.

Graph 1.9: **Breakdown of external position (current and capital accounts)**



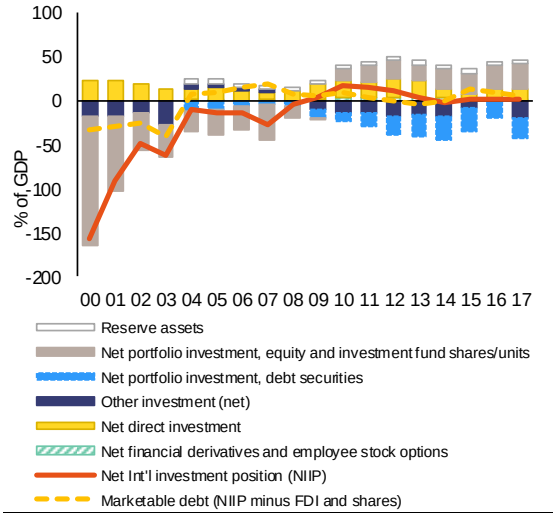
Source: European Commission

Financial sector

Finland's banking system remains stable while risks have increased. After Nordea Group moved its headquarters to Helsinki on 1 October 2018, the aggregated assets of Finland-based lenders increased to over four times the Finnish GDP, one of the highest ratios in the EU. The banking sector is heavily reliant on market funding and Nordea's move augments the already substantial exposure to other Nordic financial systems. However, regarding financial stability at present, the ratio of non-performing loans remains one of the lowest in Europe and the authorities are proactively keeping the banking system well-capitalised and trying to

curb households' indebtedness (see Sections 3.2.1 Banking and 3.2.4 Household debt).

Graph 1.10: **Breakdown of the international investment position in % of GDP**



Source: European Commission

Housing market

Overall, house prices in real terms remained broadly unchanged in 2018. The prices of new buildings increased marginally, while the prices of the existing stock decreased. In real terms, house price indices clearly show no price pressures. House prices relative to rent levels and income continue to face a downward trend. This development is most likely the result of a high number of newly completed houses with the residential construction sector being at the peak of the cycle. While prices are stable on average, there are sizeable regional variations, with Helsinki metropolitan area and growth centres booking solid price increases and the rest of the country seeing a constant decrease in housing prices (Section 3.2.3).

Public finances

The government continues to consolidate public finances. The expanding economy and rising employment are set to improve public finances further on the back of increasing tax revenues and decreasing social spending. The government continues to implement the consolidation plan agreed at the beginning of its term in 2015. The expenditure-side measures planned for 2018 and 2019 are expected to reduce the government spending by EUR 0.7 billion or 0.3 % of GDP annually. In 2018, the impact of these measures was mitigated by the simultaneous decrease in government revenues, due to cuts in taxation of personal income and social contributions. With additional negative impacts from some temporary factors, the general government balance in 2018 deteriorated slightly from -0.7 % in 2017 to -0.8 %. In 2019, the expenditure measures combined with the increase of indirect taxes will help improve the general government balance to -0.2 % of GDP.

The debt ratio is expected to fall below the 60 % benchmark in 2018. The general government gross debt is forecast to decrease from 61.3 % of GDP in 2017 to 59.8 % in 2018 and 58.5 % in 2019, after a peak at 63.5 % of GDP in 2015. The Commission projects the debt ratio to start increasing again towards the end of the 2020s. This points to a fiscal sustainability risk in the long term. The main driver is the increase in age-related costs, in particular healthcare and long-term care expenditure.

Table 1.1: **Key economic and financial indicators – Finland**

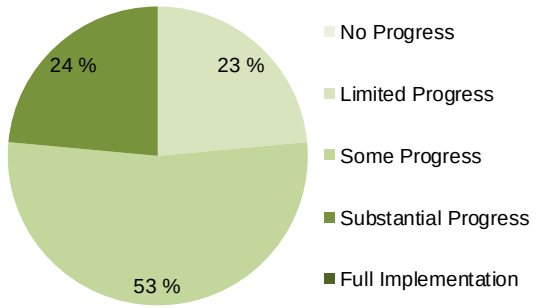
						forecast		
	2004-07	2008-12	2013-15	2016	2017	2018	2019	2020
Real GDP (y-o-y)	4,0	-0,8	-0,4	2,5	2,8	2,5	1,9	1,7
Potential growth (y-o-y)	2,5	0,4	0,2	1,1	1,5	1,8	1,8	1,6
Private consumption (y-o-y)	3,6	1,1	0,7	2,0	1,3	.	.	.
Public consumption (y-o-y)	1,5	0,7	0,3	1,8	-0,5	.	.	.
Gross fixed capital formation (y-o-y)	4,7	-2,0	-2,3	8,5	4,0	.	.	.
Exports of goods and services (y-o-y)	8,7	-1,4	-0,2	4,0	7,5	.	.	.
Imports of goods and services (y-o-y)	8,3	0,6	0,8	5,6	3,5	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	3,2	0,3	-0,1	3,3	1,5	.	.	.
Inventories (y-o-y)	0,3	-0,2	0,1	-0,2	0,1	.	.	.
Net exports (y-o-y)	0,6	-0,8	-0,4	-0,6	1,4	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	0,5	-0,1	-0,1	0,4	0,7	0,8	0,8	0,4
Capital accumulation (y-o-y)	0,7	0,5	0,2	0,4	0,5	0,5	0,5	0,6
Total factor productivity (y-o-y)	1,3	0,0	0,0	0,3	0,4	0,5	0,5	0,6
Output gap	1,2	-1,2	-3,0	-2,0	-0,8	0,3	0,6	0,9
Unemployment rate	8,0	7,7	8,8	8,8	8,6	7,8	7,2	6,9
GDP deflator (y-o-y)	1,3	2,2	2,0	0,6	0,8	0,9	1,6	2,0
Harmonised index of consumer prices (HICP, y-o-y)	0,9	2,7	1,1	0,4	0,8	1,2	1,4	1,8
Nominal compensation per employee (y-o-y)	3,4	3,0	1,3	1,1	-1,2	1,4	2,2	2,4
Labour productivity (real, person employed, y-o-y)	2,4	-1,0	0,1	2,3	1,5	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	1,0	4,0	1,2	-0,9	-2,7	0,8	1,1	1,3
Real unit labour costs (y-o-y)	-0,3	1,8	-0,8	-1,5	-3,5	-0,1	-0,5	-0,7
Real effective exchange rate (ULC, y-o-y)	0,2	1,2	0,6	-1,5	-2,5	1,0	-1,6	-0,8
Real effective exchange rate (HICP, y-o-y)	-1,4	-0,8	0,7	1,3	-0,5	2,3	-1,3	-0,5
Savings rate of households (net saving as percentage of net disposable income)	0,8	1,7	0,3	-1,5	-2,1	.	.	.
Private credit flow, consolidated (% of GDP)	10,3	7,2	3,8	1,4	7,3	.	.	.
Private sector debt, consolidated (% of GDP)	116,6	143,7	150,1	148,5	146,1	.	.	.
of which household debt, consolidated (% of GDP)	47,3	59,6	65,3	67,0	67,0	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	69,3	84,0	84,7	81,5	79,1	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	0,6	0,9	1,1	1,3	1,1	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	4,0	3,2	3,4	4,2	4,8	4,4	4,0	3,9
Corporations, gross operating surplus (% of GDP)	27,3	23,8	21,9	22,8	24,5	24,7	25,2	25,9
Households, net lending (+) or net borrowing (-) (% of GDP)	-2,9	-1,7	-1,8	-3,2	-3,8	-3,3	-3,1	-2,9
Deflated house price index (y-o-y)	6,0	0,3	-1,1	-0,3	0,5	.	.	.
Residential investment (% of GDP)	6,4	6,0	5,7	6,1	6,4	.	.	.
Current account balance (% of GDP), balance of payments	4,1	0,2	-1,6	-0,7	-0,7	0,1	0,8	1,5
Trade balance (% of GDP), balance of payments	4,8	0,9	-0,8	-1,0	0,3	.	.	.
Terms of trade of goods and services (y-o-y)	-2,2	-1,1	1,8	0,3	-0,3	-0,6	0,5	0,9
Capital account balance (% of GDP)	0,1	.	0,0	0,1	0,1	.	.	.
Net international investment position (% of GDP)	-16,4	8,4	0,7	0.0*	2,4	.	.	.
NIIP excluding non-defaultable instruments (% of GDP) (1)	13,2	5,0	2,9	.	6,1	.	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	117,6	225,9	245,5	221,9	176,6	.	.	.
Export performance vs. advanced countries (% change over 5 years)	3,9	-10,5	-22,9	-16,7	-8,6	.	.	.
Export market share, goods and services (y-o-y)	.	.	-3,5	3,1	3,5	.	.	.
Net FDI flows (% of GDP)	-1,4	1,8	-5,0	5,7	-0,8	.	.	.
General government balance (% of GDP)	3,5	-0,8	-2,9	-1,7	-0,7	-0,8	-0,2	-0,1
Structural budget balance (% of GDP)	.	.	-1,1	-0,5	-0,2	-0,8	-0,6	-0,7
General government gross debt (% of GDP)	38,7	44,8	60,1	63,0	61,3	59,8	58,5	57,5
Tax-to-GDP ratio (%) (3)	42,0	41,7	43,9	44,2	43,4	42,6	42,5	42,1
Tax rate for a single person earning the average wage (%)	30,9	29,6	30,5	30,8	.	.	.	.
Tax rate for a single person earning 50% of the average wage (%)	20,1	18,6	19,1	18,7	.	.	.	.

(1) Net International Investment Position excluding direct investment and portfolio equity shares
(2) domestic banking groups and stand-alone banks, EU and non-EU foreign-controlled subsidiaries and EU and non-EU foreign-controlled branches.
(3) The tax-to-GDP indicator includes imputed social contributions and hence differs from the tax-to-GDP indicator used in the section on taxation.
Source: Eurostat and European Central Bank as of 31-1-2019, where available; European Commission for forecast figures (Winter forecast 2019 for real GDP and harmonised index of consumer prices, Autumn forecast 2018 otherwise).

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Since the start of the European Semester in 2011, 77 % of all country-specific recommendations addressed to Finland have recorded at least 'some progress'. ([6]) Over the past years, Finland has been addressing the challenges in the area of the long-run sustainability of public finances by adopting a pension reform that came into force in 2017. External sector challenges have abated and cost competitiveness has improved in particular owing to the measures in the Competitiveness Pact of 2016. Finland has also taken action to increase incentives to accept work and to strengthen active labour market policies.

Graph 2.1: **Overall multiannual implementation of 2011-2018 country-specific recommendations to date**



(1) The overall assessment of the recommendations related to fiscal policy excludes compliance with the Stability and Growth Pact.
2011-2012: Different assessment categories.
The multiannual assessment looks at the implementation since the recommendations were first adopted until the 2018 Country Report.

Source: European Commission

The pension reform has strengthened the long-run sustainability of public finances. The ageing population puts pressure on the pension and healthcare systems. The reform of the earnings-related pension system, which linked statutory retirement age to life expectancy, was legislated in late 2015. Under the reform, the lowest statutory retirement age has gradually started to rise as of 2018 from 63 to 65. This should in turn raise the real retirement age, which was 61.1 years in 2016, towards the target of 62.5. Efforts to improve cost-efficiency of healthcare services are still ongoing.

The gradual improvement of cost competitiveness has been supported by the implementation of the country-specific recommendations since 2014. Progress has been made in aligning wage growth with productivity developments, which has resulted in a slower increase of unit labour costs and improved cost competitiveness relative to competitor economies. In 2016, the social partners agreed on measures that would reduce labour costs further in 2017. The Competitiveness Pact increased annual working time without additional compensation, included a wage freeze of 12 months and shifted social security contributions partly towards the employees. A new Finnish wage-setting model has emerged. In this model, pay rises in the non-tradable sector are linked to the increases first agreed in the tradable sector. However, no formal agreement on this model has been reached.

Reforms in the labour market have advanced. In order to increase incentives to work, the earnings-related unemployment insurance has been cut in time. Several measures to activate unemployed job seekers, such as increasing the conditions for benefits, have been introduced. Measures to increase entrepreneurship have also been launched.

Finland has made limited ([7]) progress in addressing its 2018 country-specific recommendations. To improve the long-term sustainability of public finances, work to reform the regional government, health and social services continued. However, parliament has not finalised and adopted the necessary legislation by February 2019.

On addressing labour market and social challenges, the government's budget proposal for 2019 introduces limited measures to foster employment. The focus is on addressing the need to improve the position of those with low employment potential, combating skill shortages and reducing the time spent gaining employment. On incentives to work, the Finnish authorities are

([6]) For the assessment of other reforms implemented in the past, see in particular Section 3.

([7]) Information on the level of progress and actions taken to address the policy advice in each respective subpart of a country-specific recommendation is presented in the overview table in the Annex. This overall assessment does not include an assessment of compliance with the Stability and Growth Pact.

Table 2.1: **Assessment of 2018 CSR implementation**

Finland	**Overall assessment of progress with 2018 CSRs: Limited progress**
CSR 1: *Achieve the medium-term budgetary objective in 2019, taking account the allowances linked to the implementation of the structural reforms for which a temporary deviation is granted.* *Ensure the adoption and implementation of the administrative reform to improve cost-effectiveness and equal access to social and healthcare services.*	Finland has made **limited progress** in addressing the fiscal-structural part of CSR 1 ([1]): • The draft laws concerning the regional social and health care services reform are still expected to be adopted during the first quarter of the year 2019.
CSR 2: *Improve incentives to accept work* *and ensure adequate and well-integrated services for the unemployed and the inactive.*	Finland has made **limited progress** in addressing CSR 2: • Limited progress has been achieved on reducing inactivity and unemployment traps. • Limited progress has been made, as the general government budget for 2019 introduces further measures for promoting employment.
CSR 3: *Strengthen the monitoring of household debt,* *including by setting up a credit registry system.*	Finland has made **limited progress** in addressing CSR 3: • Limited progress has been achieved on strengthening the monitoring of the household debt. • Limited progress is observed on setting up a credit registry system.

(1) This does not include an assessment of compliance with the Stability and Growth Pact.
Source: European Commission

waiting for the outcome of the basic income experiment, whose preliminary results were presented on 8 February. The experiment is expected to provide some information for revising the social security system.

Limited progress is observed on monitoring the household debt. An expert working group has been set up to assess developments in the household debt and possibilities to introduce new legal macroprudential instruments. The Ministry of Justice has commissioned a report proposing the establishment of a centralised comprehensive (collecting both positive and negative information on debtors) credit registry. The proposal is now under consultation, after which the matter will be further assessed. Any legislation in this area would not be tabled before the next general elections in April 2019.

The European Structural and Investment Funds are important in addressing key challenges to inclusive growth and convergence in Finland, notably by supporting competitiveness and boosting research and innovation, creating employment and facilitating education and training. The European Structural and Investment Funds also contribute to enhancing labour market access for migrants and other vulnerable groups.

Box 2.1: **EU funds help overcome structural challenges and foster development in Finland**

Finland is a beneficiary of European Structural and Investment Funds support. EU funds allocated to Finland in facing development challenges amount to EUR 3.8 billion in the current multiannual financial framework (2014-2020), potentially representing around 0.2 % of GDP annually. At of the end of 2018, some EUR 2.8 billion (around 73 % of the total) was already allocated to specific projects. In addition, EUR 139.8 million was allocated to specific projects on strategic transport networks through a dedicated EU funding instrument, the Connecting Europe Facility. Furthermore, numerous Finnish research institutions, innovative firms and individual researchers benefited from other EU funding instruments, notably Horizon 2020 which provided EUR 766 million.

EU funding has helped to address policy challenges identified in the country-specific recommendations. The European Structural and Investment Funds contribute to enhancing Finland's capacity to deliver innovative products, services and high-growth companies and help to create employment opportunities by promoting labour market access, education, training and social inclusion for people in unemployment or inactivity. The European Social Fund helps to create employment opportunities by promoting labour market access, education, training and social inclusion for people in unemployment or inactivity. It contributes also to tapping the full potential of the workforce by enhancing labour market outcomes for migrants and other vulnerable groups. By 2018, 190 000 people attended projects investing in human capital, 9 000 companies in projects run by research and development institutions, and 4 300 companies in projects to promote growth and international business operations. Over 1300 companies started to export or expand their exports. More than 1800 products and services were developed and piloted in innovation platforms. Horizon 2020 supported over 1200 research projects covering a very broad thematic spectrum from accelerating uptake of nanotech materials to smart electric mobility in cities.

EU funding contributes to mobilisation of private investment. The European Structural and Investment Funds mobilise additional private capital by allocating about EUR 21.5 million in the form of guarantees and equity. With national co-financing, this is expected to leverage additional private investment amounting to EUR 220 million. In addition, the approved operations by the European Investment Bank with the European Fund for Strategic Investments amount to EUR 1.9 billion, which is set to trigger a total of EUR 7.8 billion in additional private and public investment. 7 301 small and medium-sizes enterprises and mid-cap companies are expected to benefit from this support. "Epiqus social impact bond" is a notable example of such project in Finland. The European Investment Fund is investing EUR 10 million into the scheme, which will support the integration of up to 3 700 migrants and refugees into the Finnish labour market by providing training and job-matching assistance.

EU actions strengthen national, regional and local authorities and the civil society. Partnership has an important role to play at all stages of implementation of the European Structural and Investment Funds. The representatives of different levels of governance together with the social partners and the civil society have taken part in preparation, monitoring and implementation of the Partnership Agreement and the Operational Programmes. Advice, training and information sessions are organised regularly to all stakeholders.

https://cohesiondata.ec.europa.eu/countries/FI

3. REFORM PRIORITIES

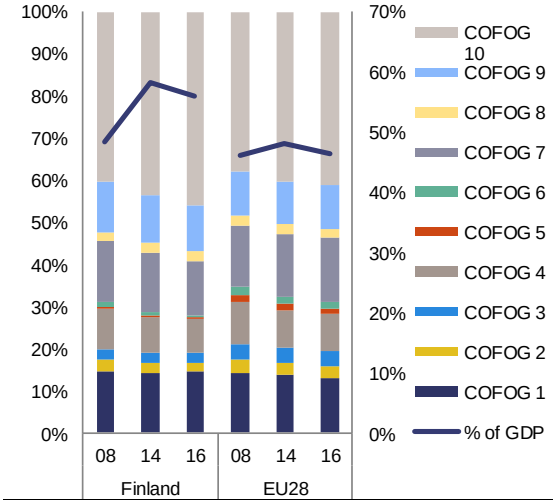
3.1. PUBLIC FINANCES AND TAXATION

3.1.1. FISCAL POLICIES

The fiscal reforms undertaken in recent years reduced public expenditure, which remains one of the highest in the EU. The crisis and the prolonged recession pushed up social and, consequently, total government expenditure in Finland until 2014. Between 2008 and 2014, general government expenditure increased more steeply in Finland than in the EU on average, from an already higher level (see Graph 3.1.1). However, this trend has since been reversed. Between 2014 and 2016, it fell from 58.1 % to 56.0 % of GDP. This reduction was driven mainly by lower spending on health (-1.1 % of GDP), economic affairs (-0.4 % of GDP) and education (-0.3 % of GDP). The total public spending remained still far above the EU average. The difference is mainly due to higher spending on social protection and general public services. Since 2016, Finland has further reduced central government expenditure through appropriation cuts and lower social transfers. The public wage bill has come down gradually over time and more recently also due to the measures in the Competitiveness Pact (wage freeze in 2017 and a temporary reduction in annual holiday bonuses). This trend, however, may level-off or even reverse in the years ahead as wage growth pressures are increasing amid favourable cyclical conditions.

The favourable economic cycle is helping the government further consolidate public finances. Revenue from taxes is expected to increase in 2018-2019 on the back of growing production, employment and wage rises, while expenditure growth is projected to remain moderate. The government headline balance is forecast to slightly deteriorate from -0.7 % of GDP in 2017 to -0.8 % of GDP in 2018 due to some temporary factors ([8]), but to improve markedly to -0.2 % of GDP in 2019. Finland's gross debt-to-GDP ratio increased from 40 % in 2005 to 63.6 % in 2015. However, it has started to decrease since. The public debt ratio reached 61.3 % in 2017 and is expected to have fallen below 60 % in 2018, continuing the downward trend thereafter.

Graph 3.1.1: **General government expenditure as a share of GDP, broken down by function, Finland and the EU**



(1) The classes of the functions of government (COFOG) are 1 General public services, 2 Defence, 3 Public order and safety, 4 Economic affairs, 5 Environment protection, 6 Housing and community amenities, 7 Health, 8 Recreation, culture and religion, 9 Education and 10 Social protection.
(2) Share of GDP on the right-hand axis
Source: European Commission

Taxation

Finland's tax structure is characterised by a high overall tax burden skewed to labour. In 2017, the total tax burden (43.3 % of GDP) and the level of personal income taxation (12.6 % of GDP) were among the highest in the EU (European Commission, 2019). Revenues from capital taxes, including recurrent immovable property taxes, are below the EU average (7.5 % vs. 8.6 % of GDP), while revenues from consumption taxes (14.2 % of GDP) and environmental taxes (3.0 % of GDP) exceed the EU average. Changes to the tax system that have led to a decrease in the base for personal income taxation and economic growth might contribute to a reduction in the total tax burden.

Finland has created an Income Register to improve access to real-time individual income data for authorities in order to improve tax compliance and prevent the development of a shadow economy. The Income Register is a

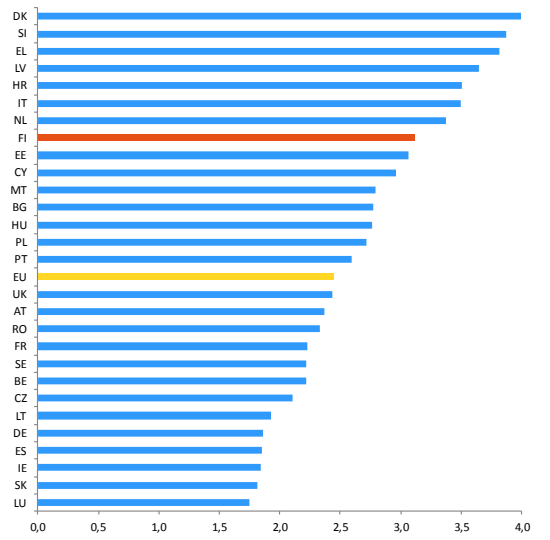
([8]) The end of one-off revenues from corporate taxes in 2017, the tax refunds and changes in the system of value added tax levies on imports.

national electronic database, which includes comprehensive salary, pension and benefit information at individual level. The obligation to report information in real time will apply to all employers as of 2019 and to all payers of benefits as of 2020. The Income Register will be used by many public and private institutions, including the Tax Administration, the Social Insurance Institution of Finland, the Unemployment Insurance Fund as well as earnings-related pension providers and the Finnish Centre for Pensions. The number of parties using the information will increase in 2020, including the Ministry of Economic Affairs and Employment agencies, Statistics Finland, the Education Fund, non-life insurance providers, unemployment funds and occupational safety and health authorities. Another key function of the Income Register will be to prevent the growth of a shadow economy. It will make it possible to detect omissions in reports very soon after payment. Moreover, the information in each report will be accessible to all entitled users of the Income Register data.

Real estate taxation reform has been postponed. Revenues from the recurrent immovable property taxes, considered as one of the least growth-distortive taxes, account for only 0.8 % of GDP, well below the EU average of 1.6 % of GDP. Both land and buildings are subject to a recurrent property tax. While building values are updated yearly according to a construction index, taxable property values are generally below market values and have been found to move further away from them. In accordance with a long-term project by the Ministry of Finance, there was a plan for a two-step reform of real estate taxation starting in 2019. Based on the consultation feedback, the reform has been postponed until after the elections in April 2019. It is to be carried out in one step, whereby the increase in tax values and decrease in tax rates would be introduced at the same time. This is set to be implemented in 2022 at the earliest.

Further revenue could be raised by reforming environment-related taxes. In Finland, environmental taxes accounted for 3.11 % of GDP in 2016 (EU average: 2.44 %) (see Graph 3.1.2), and energy taxes for 2.11 % of GDP against an EU average of 1.88 %. However, the design of environmental taxes could be improved to encourage more efficient use of resources. For instance, environmental taxes are not indexed, which can lead to a gradual reduction in revenues as share of GDP over time. Reduced energy tax rates or refunds are in place for fossil fuels used in transport, leisure flights, mobile machinery, agriculture, energy intensive enterprises, heating, etc. These exemptions reduce incentives to increase energy efficiency (Organisation for Economic Cooperation and Development, 2018a).

Graph 3.1.2: **Environmental tax revenues as share of GDP 2016, in %**



Source: European Commission

An increase in the taxation of heating fuels has been approved as one of the actions under the government's medium-term climate policy plan. It aims at achieving the 2030 emissions reduction target. The relevant amendments came into force on 1 January 2019. Despite this, energy taxation is not fully linked to CO_2 emissions. As noted in the International Energy Agency 2018 Finland review report, the Finnish taxation designed to favour domestic peat is not fully consistent with decarbonisation objectives (International Energy Agency, 2018).

While progress has been made on reducing the petrol-diesel price differential since 2005, the gap remains sizeable. In 2016, there was a 32 % gap between petrol and diesel tax rates, while in 2005 it amounted to 84 % (European Environment Agency, 2017). Excise tax rates levied on petrol and diesel in 2016 remained broadly constant in comparison with those in 2015 (European

Commission, 2018a). Diesel cars are a major source of nitrogen oxide emissions. These need to be reduced to comply with the applicable national emission ceilings — especially in Helsinki.

Fiscal framework

Finland is the only euro area country where the macroeconomic forecast underpinning the budgetary planning is prepared by the Ministry of Finance. The management of the Economics Department and the Budget Department of the Ministry of Finance are separated and the Economics Department is independent in its forecasting activities. Questions about the realistic and unbiased nature of the Ministry's macroeconomic projections, that were raised in the 2017 stability programme (European Commission, 2018b), have not been present in the last surveillance cycle. However, the particular arrangement for macroeconomic forecasting underpinning the budgetary planning warrants regular surveillance to ensure that the separation and independence of both functions within one institution are preserved.

3.1.2. DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

Public debt falls over the forecast horizon. On the basis of the Commission 2018 autumn forecast and the commonly agreed assumptions on debt sustainability analysis ([9]), the public debt ratio is projected to decline to about 54.5 % of GDP around 2026, supported by a favourable contribution of the snowball effect and the structural primary balance. Subsequently, it is projected to start increasing in 2028, inching up to 55.1 % of GDP in 2029 (see Annex B). If the costs of ageing (pensions, long-term care and healthcare expenditure) were left out of the debt projections, the debt ratio would gradually decline to about 45 % of GDP in the same period.

Sustainability risks of public finances have decreased for the medium term, although long-term challenges remain. In the short term, there are no fiscal or competitiveness-financial risks to sustainability of public finances ([10]). The medium-term risk assessment also improved compared to last year on the back of the estimated lower public debt levels and the fiscal sustainability gap indicator S1 pointing to low risk ([11]). In particular, with a value of -0.1 percentage point of GDP, the S1 indicator implies that no adjustment is necessary in the structural primary balance over 2021-2025. In the long term, notwithstanding the low debt burden, the fiscal sustainability gap indicator S2 ([12]) points to medium risks. The S2 indicator is estimated at 2.7 percentage points of GDP, based on the slightly unfavourable initial budgetary position (0.7 percentage point of GDP) and the projected increase of ageing costs (2.0 percentage points of GDP). The latter are driven in particular by the projected increase in long-term care expenditure (1.6 percentage points of GDP).

The regional government, health and social services reform

A reform of the regional government is expected to be adopted by the general elections in April 2019 and to enter into force from early 2021. The reform aims to rationalise the organisation of public administration at the state, regional and municipal levels. It envisages the transfer of some functions into 18 counties, new administrative entities. The responsibilities of the counties will be based on a clear division of duties between the local government, the county and the central government. Counties will be responsible for healthcare and social welfare, rescue services, environment protection, regional development,

([9]) A mechanical projection based on the current primary balance and assumptions on nominal growth and interest rates. Subsequently an equilibrium debt level and equilibrium interest services can be calculated.

([10]) Short-term sustainability is assessed by the fiscal sustainability gap indicator S0 (See European Commission, 2018c).

([11]) The medium-term fiscal sustainability gap indicator S1 shows the additional adjustment required in terms of improvement in the government structural primary balance over 5 years (starting from 2021) to reach a 60 % public debt-to-GDP ratio by 2033, including financing for future additional expenditure arising from population ageing. See European Commission, 2018c for details.

([12]) The long-term fiscal sustainability gap indicator S2 shows the upfront fiscal adjustment to the current primary balance (in structural terms) required to stabilise the debt-to-GDP ratio over the infinite horizon, including financing for any additional expenditure arising from an ageing population. S2 values below 2 point to low risks, from 2 to 6 to medium risks and above 6 to high risks. See European Commission, 2018c for details.

promotion of business as well as promoting the regional identity and culture.

General spending on healthcare in Finland is close to the EU average while spending on long-term care is relatively high and bound to increase. With 9.2 % of GDP expenditure on healthcare in 2017, Finland remains just below the EU average while per capita expenditure is slightly above the EU average. The financing of healthcare consists mainly of government schemes: 61 % compared to 36 % of the EU average (Organisation for Economic Cooperation and Development, 2018b). The level of out-of-pocket payments is higher than the EU average and has been increasing in the last three years. Expenditure on long-term care (usually referred to as social care in Finland) is, at 2.2 % of GDP, one of the highest in EU. Health and long-term care spending is expected to grow in the coming years due to the population aging.

The reform will have two major consequences for the health sector. Firstly, it envisages a transfer of healthcare responsibilities from more than 300 municipalities to the counties. Secondly, the health sector will open up to private service providers. The publicly-funded healthcare will be provided to patients under the same conditions by a public or private provider of their choice.

Competition between service providers and public management at a more central level are expected to lead to cost savings and better access. Whereas by EU standards access to healthcare in Finland is good, waiting time is still suboptimal for those patients who do not benefit from an employer-provided voluntary occupational sickness care. The centralisation is expected to enable better management of the system and the opening to private providers should yield some efficiency gains thanks to increased competition. The risk pooling of the population and the access to relatively rare specialists are likely to improve in the counties. The government has quantified the savings from the reform at EUR 3 billion by 2031. The expected ratio of increase in expenditure is reduced from 2.4 % to 0.9 % over the 10 years after the reform (see also European Commission, 2018b). The main factor for enhancing efficiency will be the ability of the Ministry of Social Affairs and Health to monitor and manage the performance of the 18 healthcare entities. However, the recentralisation will also pose new challenges for the authorities, particularly in relation to the additional investments needed to implement the reform and the planned public financing of private healthcare services, currently covered mostly by out-of-pocket payments.

The opening of the healthcare sector will grant patients freedom of choice between public and private healthcare providers. This could be a positive development since the Finnish system is currently very restrictive. It could reduce waiting times and thus improve access to healthcare services. At the same time, there is a risk that the type of patients that currently have most access problems such as pensioners, the unemployed and people living in rural areas will remain relatively expensive to treat. This could lead to cherry picking of patients by the private providers and put the burden of the economically most difficult patients onto public healthcare.

3.2. FINANCIAL SECTOR

3.2.1. BANKING SECTOR

The banking system is resilient but structural vulnerabilities persist. Finland's banking sector is concentrated, with the top three banks (two pan-Nordic banks and a domestic cooperative banking group) occupying over 70 % of the market across all main segments. Following the move of Nordea's headquarters from Stockholm to Helsinki in October 2018, Finland's banking sector became one of the largest in Europe when compared to the size of the economy, with balance sheet size over four times the country's GDP. The general risk resilience of the banking system as a whole remains strong relative to the top three risks faced by local lenders: the credit risk strongly linked to high households' indebtedness, the liquidity risk associated with the dependence on market funding and the exposure to potential disruptions in other Nordic economies and their financial systems.

The banks are well capitalised. The Common Equity Tier 1 ratio for the sector stood at 20 % at the end of Q1 2018, while the total capital ratio stood at 22.5 %, well above EU averages. At 1.3 %, the non-performing loans ratio of the banking sector remained one of the lowest in Europe. Nevertheless, the expansion of the banking sector from 2.5 times to over 4 times the GDP has increased the already high structural vulnerabilities of the Finnish banking system and may put pressure on the sovereign in case of a major crisis.

High reliance of banks on wholesale funding is mitigated by the increasing use of long-term debt. The system-wide loan-to-deposit ratio remains high at 142.8 %, much higher than the euro area average. Deposits remain a popular way of saving money, but the net saving rate of Finns remains negative. This requires Finnish banks to rely on confidence-sensitive market funding to a certain extent. Even though access to market-based funding continues to be relatively easy and the price is favourable, the credit institutions' exposure to changes in investor risk sentiment is one of the long-lasting structural vulnerabilities of the Finnish banking sector. Looking at the credit institutions' funding, the wholesale funding represents overall 55 % of the funding mix with 8 % of the funding being short-term. Finnish lenders' increased usage of long-term covered bond and the pool of liquidity reserves largely mitigate the refinancing risks associated with market funding. Extending funding maturities through covered bonds increases the interconnectedness of credit institutions and their exposure to disruptions on the Nordic housing markets.

Finland's banks have a strong track record of being profitable. The risk resilience of Finnish lenders is boosted by the relatively strong capacity to generate earnings. Over the past years, the profitability ratios of Finnish banks have remained at good levels, generally much higher than those of their European peers. Profit margins have been supported by business diversification (especially into asset management), low levels of non-performing assets and impairment losses, and better cost-efficiency of Finland's lenders than elsewhere in the EU. However, net profit figures have been consistently declining over the last three years. Profitability is reduced by the low interest rates, increasingly tighter interbank competition and growing competition in payment services. In addition, the financial sector profitability and capital adequacy are increasingly reliant on developments in the residential and commercial real estate markets. The sector has also invested heavily in further modernisation of information technology. Going forward, in case the low-interest environment persists, the banking sector's earnings generation capacity may be at risk.

Nordea's relocation implies a heavier workload and increased responsibilities for the Finnish Financial Supervisory Authority. Nordea's balance sheet is equivalent to 2.6 times the Finnish GDP, which makes it the largest bank in the banking union in comparison with the size of its home country's economy. The relocation of such a large financial institution alters in many ways the structure of the entire banking sector and the systemic risks at play. Finland's participation in the European Banking Union and the many regulatory reforms implemented over the past years moderate these risks. Through its move to Helsinki, Nordea has also moved under the direct supervision of the European Central Bank. Nonetheless, as in other jurisdictions, most of the supervisory work falls on the local financial supervision. This means that the move has also major implications for both human and financial resources of the Finnish financial watchdog that has already recruited 30 new staff members.

Furthermore, the Finnish Parliament approved in November 2017 an amendment to the Credit Institutions Act to include a systemic risk buffer. This allows the Board of the Financial Supervisory Authority (from 2018) to enforce additional capital requirements of up to 5 % of Tier 1 capital on credit institutions and investment firms based on the structural vulnerability of the financial system. The authorities are currently well equipped to manage cyclical and structural systemic risks, staying focused on keeping the banking system well capitalised and curbing households' indebtedness.

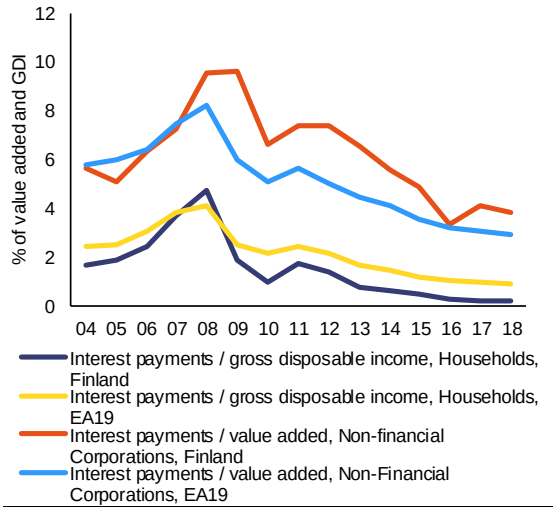
3.2.2. ACCESS TO FINANCE

Lending has continued to increase in Finland. By June 2018, loans to firms had grown by 6.7 % compared to June 2017, while loans to households had increased by 4.3 %. Low interest rates, solid (albeit declining) consumer confidence and a booming construction sector were the driving forces behind the household demand for loans. Due to the increase in GDP, the household debt expressed in terms of GDP has changed only marginally, but the underlying trend of an ever-rising stock of household indebtedness has continued.

Due to the low interest rates, most businesses and retail clients can easily afford bank credit. The interest burden for households is lower in Finland than in the euro area, but higher for firms (see Graph 3.2.1). Most of the credit stock is taken at variable rates, with a tendency to further increase (in 2017, 97.3 % of new mortgages had variable rates). This makes both households and firms vulnerable to potential rapid changes in the monetary policy.

Access to finance is easier when compared with most other EU countries. The results of the 2018 survey on access to finance of enterprises (European Commission, 2018) show that only 4 % of the surveyed Finnish small and medium-sized enterprises indicated access to finance as their most important concern, compared with 7 % for the EU. Large firms are able to obtain financing in financial markets, whereas small and medium-sized enterprises use banks as the main source of funding. In 2018, the three most relevant sources of financing for small and medium-sized companies were (i) credit lines, (ii) leasing and (iii) bank loans (relevant for respectively 65 %, 65 % and 61 % of small and medium-sized enterprises in Finland). While bank loans appear a priori less attractive than other forms of financing (crowdfunding, peer-to-peer lending or business angels' investment; European Central Bank, 2017), easy access to it is the key. 15 % of Finnish small and medium-sized enterprises did not manage to get the full bank loan they had asked for during 2018 (EU average: 18 %). A number of initiatives taken in recent years have improved small and medium-sized enterprises' access to finance, including a growth funding programme, junior loans and the investment programme for industrial renewal.

Graph 3.2.1: **Interest burden of households and non-financial corporations**



Source: European Commission

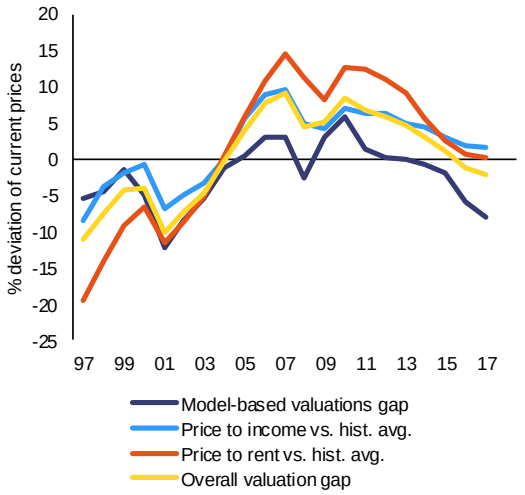
3.2.3. HOUSING MARKET

House prices in real terms remained broadly stable. In both 2017 and 2018, prices increased modestly in nominal terms, fluctuating around the inflation rate. The valuation gap closed in 2017 (see Graph 3.2.2). Overall, there are no signs of a price overvaluation at national level.

Large regional price disparities are a constant feature of the Finnish housing market. Most of the housing demand is concentrated in the Greater Helsinki area and other growth centres, where most of the new jobs are to be found. The average

price per square metre in 2018 in the Greater Helsinki area was hovering above EUR 3 600 whereas in the rest of the country (Greater Helsinki area excluded) it was around EUR 1 600. Despite the moderating effect of a large supply of new housing units in recent years, prices have been increasing faster than income in growth centres. Migration from the countryside to urban areas is continuing, which is clearly having an impact on prices upwards in growth centres and downwards in rural areas. The larger the price gap is, the greater the barrier to labour mobility, especially for lower-skilled workers and families with limited revenues.

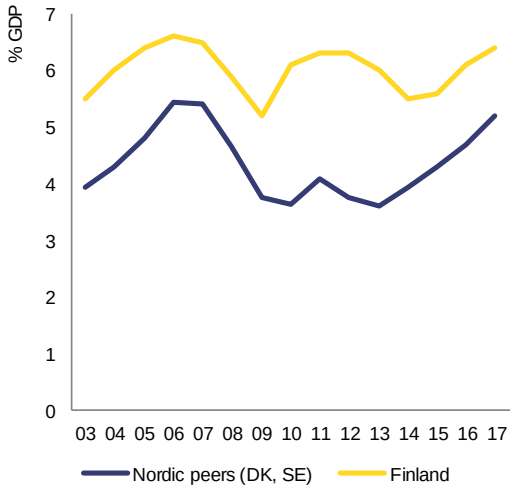
Graph 3.2.2: **Overvaluation gap with respect to price/income, price/rent and fundamental model valuation gap**



Source: European Commission

It seems that housing construction peaked in 2018. Residential construction expressed as a share of GDP (see Graph 3.2.3), after increasing rapidly in 2016-2017, is estimated to be in 2018 on a similar level as in years 2005-2007 (6.4-6.6 %). Strong housing demand, coupled with low interest rates and rising incomes underpinned the construction sector in recent years. However, the data on residential building permits (in square metre of useful floor area) shows that the construction growth is levelling off. In addition, reported labour shortages indicate that the construction sector is reaching its full capacities. Due to the many projects already started, the momentum might still be strong enough to keep construction level in 2019 similar to 2018. Given the outlook of accommodative monetary policy, it is unlikely that the demand for housing starts to fall markedly, in particular in the prospering regions.

Graph 3.2.3: **Residential construction, % GDP**



Source: European Commission

3.2.4. HOUSEHOLD DEBT

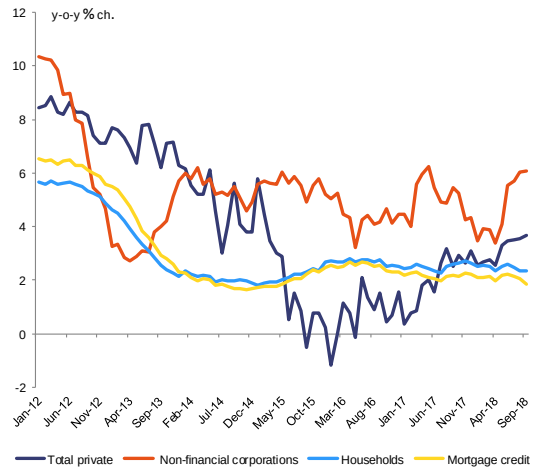
At 67.2 % of GDP in 2017, the household debt level is high. Household indebtedness has increased steadily over the last two decades, although it remains below Finland's Nordic peers. In 2017, it increased by 0.2 percentage points only. The relatively low increase can be attributed to a higher growth of GDP. In terms of debt-to-gross disposable income ratio, household debt increased by 2.1 percentage points to 116.0 %. As the value of households' assets increased, the debt-to-financial assets indicator decreased by 0.2 percentage point to 46.1 %.

Quarterly indicators for Q2-2018 show that the debt-to-GDP ratio started to marginally decrease. In parallel, the household savings rate, while at historically low levels, started to increase marginally. If this momentum persists in the second half of 2018, it might represent a turning point in the trend.

The stock of mortgage loans continues to grow. At the end of July 2018, the stock of mortgage loans amounted to EUR 97.1 billion (equivalent to 78 % of the households debt), reflecting an annual growth rate of 2.1 % (see Graph 3.2.4) compared

to July 2017. The stock of loans to non-financial corporations amounted to EUR 83 billion, of which loans to housing corporations and rental housing companies accounted for EUR 30.2 billion. The latter segment displays the strongest year-on-year growth rate of over 10 % in the same period due to both ongoing new construction and renovation works.

Graph 3.2.4: **Lending growth year-on-year**



Source: European Central Bank

Average repayment periods are increasing and mortgages are taken at variable rates. Most of the new loans have longer average repayment periods than the existing stock. For the new loans taken in July 2018, the average repayment period was around 20 years, with 60 % of loans being between 20 and 26 years. The majority of the current stock of loans have variable interest rates (usually linked to euribor) and 97 % of new loans have variable rates. Households' total debt includes the exposure to debt contracted by housing corporations. Some households may rely on financing their equity share in housing corporations through unsecured high yielding non-bank loans, which creates potential risks. Overall, the share of loans secured by real estate property in the banks aggregate balance sheet increased over the past three years from 35 % to 43 %.

Consumer credit is rapidly expanding. At a 5 % yearly growth rate (in September 2018 compared to September 2017), it is backed by growing private consumption and the popularity of small non-deposit taking (and thus unregulated) lenders. In view of that, the authorities have stepped up work on a comprehensive Credit Registry that would collect both positive and negative information on debtors and would thus provide a full picture of the creditworthiness of each borrower. Launched in 2019, the registry will take a few years before it is up and running. Meanwhile, a working group comprising the authorities and stakeholders also discusses additional steps to limit the ability of households to take on further debt, in particular a legislation aiming to cap the debt-to-income ratio.

There are large regional disparities in indebtedness. The disparities grew over the last decade and their development is strongly correlated with house price developments. Indebtedness increased in the country overall but the highest increases were in growth centres (Bank of Finland, 2018).

The authorities have taken pre-emptive macroprudential measures to restrict rising households' indebtedness. The Finnish Financial Supervisory Authority has imposed since January 2018 a minimum average risk-weight of 15 % on all residential mortgages and, since July 2018, a mortgage cap at 85 % of the fair value of the collateral posted at the time of loan approval. The government is also phasing out the tax deductibility of the mortgage interest service. While Finland gradually reduced the share of interest eligible for tax deduction, it still amounted to 50 % in 2018. Mortgage tax relief creates a bias for higher household borrowing and can lead to an increase in macroeconomic risks.

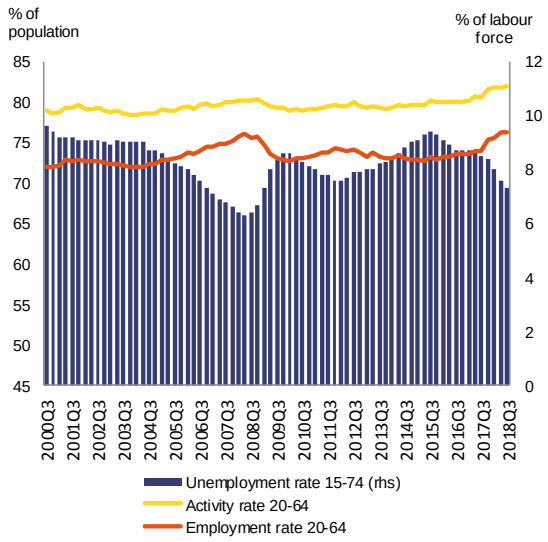
3.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

3.3.1. LABOUR MARKET

Labour market and supply

The labour market has started to reap the benefits of the recovery. Employment and activity rates are nearing pre-crisis levels. In 2017, the employment rate (age group 20-64) increased by almost 1 percentage point compared to the previous year, to 74.2 % (see Graph 3.3.1). It continued to increase in 2018 (to 76.3 % in the third quarter of 2018). It was above the EU average (72.2 %) although still below the country's Nordic peers ([13]). The activity rate has also improved, reaching 80.7 % in 2017. These improvements are due to the growing labour demand and an increase in the employment of older workers. The labour force participation rate in the age group 55 to 64 has been constantly increasing, from 54 % in 2007 to 65 % in mid-2018 (Eurostat, 2018a).

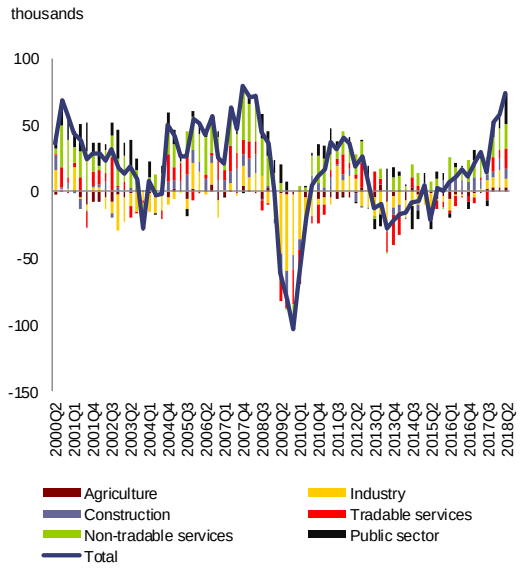
Graph 3.3.1: **Activity, employment and unemployment rates (quarterly data)**



Source: European Commission

Structural unemployment remains relatively high despite continued employment growth across the main sectors of the Finnish economy. The employment growth accelerated in 2018 (up 2.3 percentage points from the third quarter of 2017 to the third quarter of 2018) and was particularly high in non-tradable services, the public sector, industry and construction (see Graph 3.3.2). This pushed the unemployment rate down to 7.4 % in the third quarter of 2018, close to its structural level of 7.0 % ([14]), compared to 8.5 % in the third quarter of 2017. The trend is set to continue.

Graph 3.3.2: **Employment growth by sector**



Source: European Commission

In a context of increasing labour demand and falling unemployment, there are signs of labour shortages. With the expansionary phase of the business cycle, the upward movement along the Beveridge curve (see Graph 3.3.3), which depicts the relationship between the unemployment rate and the vacancy rate, continued in the second quarter of 2018. This could point to a tightening labour market and may eventually put upward pressure on wages. The number of vacancies continued to increase in 2018 and the job vacancy rate averaged 2.4 % for the first two quarters of 2018. Out of the 109 600 vacancies in the first two quarters of 2018, 49 % were hard to fill compared to 39 % during the same period in 2017 ([15]).

([13]) Denmark: 76.9 %; Sweden: 81.8 %; Norway: 78.3 %.

([14]) European Commission estimate of the non-accelerating wage rate of unemployment for 2018.

([15]) Hard to fill vacancies are defined as those that an employer has had difficulties in filling, in their subjective opinion (Statistics Finland, 2019).

Box 3.3.1: **Monitoring performance in light of the European Pillar of Social Rights**

The European Pillar of Social Rights is designed as a compass for upward convergence towards better working and living conditions in the European Union ([1]). It sets out twenty essential principles and rights in the areas of equal opportunities and access to the labour market; fair working conditions; and social protection and inclusion.

Finland performs well on the indicators of the Social Scoreboard supporting the European Pillar of Social Rights. Income inequalities are among the lowest in the EU. In 2017, the income of the richest 20 % was stable at 3.5 times that of the poorest 20 %, compared to the EU average of 5.1. The risk of poverty or social exclusion remains low, though some differences exist across regions. The share of population at risk of poverty or social exclusion fell to a 10 years low in 2017, to 15.7 % (17.4 % in 2007), well below the EU average of 22.5 %. The income transfer system performs above the EU average in reducing income inequality. However, evidence suggests that children of low skilled parents face a high and increasing risk of poverty or social exclusion (from 45 % in 2010 to 63.1 % in 2017, EU from 59.8 % to 62.9 %). Finland continues to have a generally well performing education system, even though education outcomes have slightly declined and gaps between different groups have increased. Early school leaving slightly increased to 8.2 % in 2017. It is among the best performers in terms of digital skills with 76 % of the population having basic or above basic digital skills (the average EU level is 57 %). Self-reported unmet needs for medical care have slightly decreased but remains among the highest in the EU (3.6% in 2017, EU 1.6%), nearly exclusively due to long waiting lists.

FINLAND		
Equal opportunities and access to the labour market	Early leavers from education and training (% of population aged 18-24)	On average
	Gender employment gap	Best performers
	Income quintile ratio (S80/S20)	Best performers
	At risk of poverty or social exclusion (in %)	Best performers
	Youth NEET (% of total population aged 15-24)	On average
Dynamic labour markets and fair working conditions	Employment rate (% population aged 20-64)	On average
	Unemployment rate (% population aged 15-74)	On average
	Long-term unemployment rate (% population aged 15-74)	On average
	GDHI per capita growth	On average
	Net earnings of a full-time single worker earning AW	Better than average
Social protection and inclusion	Impact of social transfers (other than pensions) on poverty reduction	Best performers
	Children aged less than 3 years in formal childcare	On average
	Self-reported unmet need for medical care	On average
	Individuals' level of digital skills	Best performers

Members States areclassifies according to a statistical methodology agreed with the EMCO and SPC Committees. The methodology looks jointly at levels and changes of the indicators in comparison with the respective EU averages and classifies Member States in seven categories (from "best performers" to "critical situations"). For instance, a country can be flagged as "better than average" if the level of the indicator is close to EU average, but it is improving fast. For methodological details, please consult the draft Joint Employment Report 2019 [COM (2018) 761 final]. Data update on 29 January 2019
NEET: neither in employment nor in education or training; GDHI: gross disposable household income.

The integration of services poses challenges. The range of services for active support to employment is appropriate but these services are dispersed among a number of separate providers and there is a lack of coordination to produce a seamless services' chain. The vulnerable claimants are often falling in between different programs and measures.

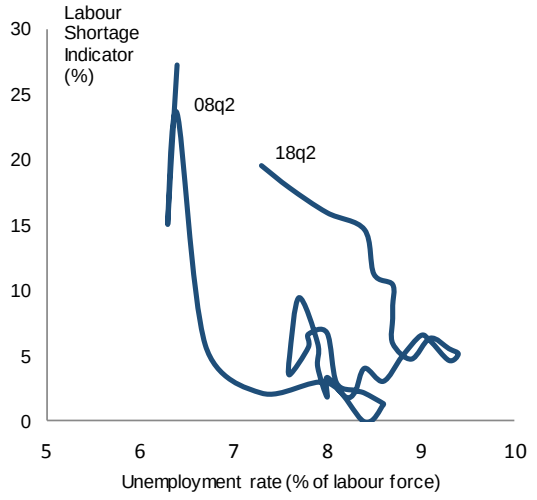
The social impact bond for migrants helps migrants find a job. The social impact bond aims at training and employing at least 2 000 migrants between 2017 and 2019. Through integrated personalised measures, the social impact bond provides fast-track integration training and employment for migrants who have participated in the first stage of integration measures including initial language training. One of the investors is the European Investment Fund with a bid of EUR 10 million.

([1]) The European Pillar of Social Rights was proclaimed on 17 November 2017 by the European Parliament, the Council and the European Commission. https://ec.europa.eu/commission/priorities/deeper-and-fairer-economic-and-monetary-union/european-pillar-social-rights/european-pillar-social-rights-20-principles_en

Digitalisation, automation and artificial intelligence create new challenges and opportunities in the labour market. It is estimated that 7 % of the workforce in Finland are employed in jobs with a high risk (over 70 %) of being automated in the future (Organisation for Economic Cooperation and Development, 2018c; Koski and Husso, 2018). By 2030, artificial

intelligence alone could eliminate 15 % of current jobs (Koski and Husso, 2018). At the same time, it could generate a similar number of new jobs directly or indirectly linked to automation (McKinsey, 2017). The changing working life due to artificial intelligence and automation calls for continuous training and reskilling of the workforce (Organisation for Economic Cooperation and Development, 2017). This could concern up to one million people in the Finnish labour market (Ministry of Economic Affairs and Employment, 2017). Employees report lack of time as one of the main reasons for non-participation in adult learning (Prime Minister's Office, 2018a).

Graph 3.3.3: **Beveridge curve**

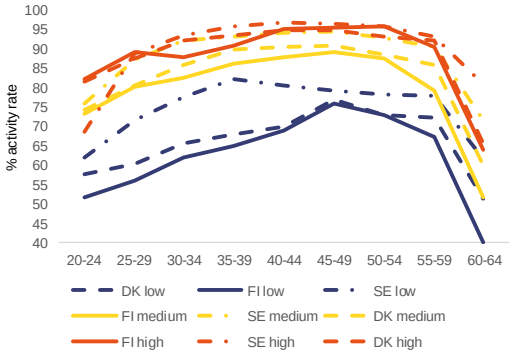


Source: European Commission

The population is ageing fast and the labour force is shrinking. The share of the working age population is projected to shrink from 63 % in 2016 to 58.3 % by 2050 (European Commission, 2018e). Increasing the labour force will require providing the right skills, activating the unemployed and inactive people as well as including groups with only marginal labour market attachment such as non-EU nationals.

Activity rates are low compared to the country's EU Nordic peers, especially for the low skilled. Activity rates are lower than in other Nordic countries for all levels of education and age groups (see Graph 3.3.4). The share of low-skilled workers is rather low (11.7 %) in Finland. However, their activity and employment rates (respectively 47.5 % and 53.2 % in 2017) are below the EU average (53.6 % v 55.6 %).

Graph 3.3.4: **Activity rate by age and educational attainment in 2017 (20-64, %)**



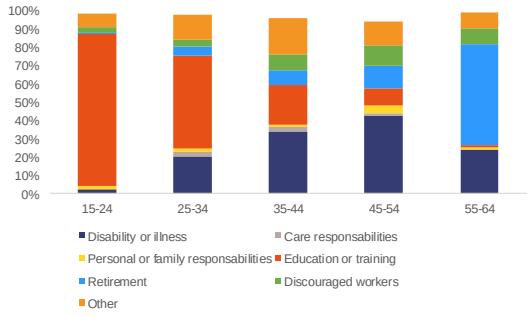
Source: European Commission

The main reason for the inactivity of working age men is disability or illness. This is the case especially for men in the age group of 35-54 years (see Graph 3.3.5). Prevalence of mental health disorders could be one explanation for drivers of inactivity (Eurostat, 2018b). The number of discouraged male workers has remained above EU average since 2010, although the share thereof decreased from 10.4 % in 2016 to 9.5 % in 2017. The situation is different for women, for whom inactivity is mainly due to caring responsibilities and family or personal reasons (see Section 3.3.2). Based on estimates by Statistics Finland, there are approximately 600 000 people with disabilities of whom 240 000 are receiving disability pension and roughly half are working. Some of them would be able to work full-time with their educational level being the same as for the overall population. The government has recently launched projects to increase the working ability of people with disabilities but the service system seems not to respond fully to the special needs of these people (Ministry of Social Affairs and Health, 2018). People with disabilities, although willing to work, face obstacles in entering the labour market due to the lack of coordination between supporting services and a fragmented social security system.

Youth unemployment has slightly decreased but remains above the EU average. In the second quarter of 2018, youth unemployment was 17.5 % (EU average 15.1 %). However, the rate of young

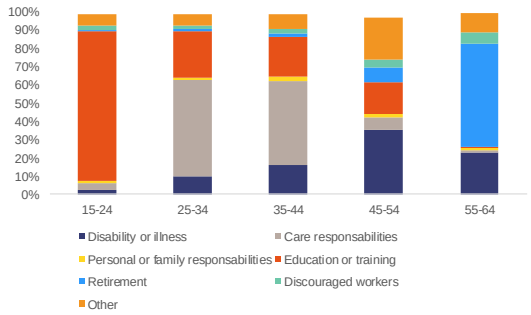
people not in employment, education or training is lower than the EU average (10.9 % compared to the EU average of 13.4 % for the age group 15-29 in 2017). The Finnish Youth guarantee scheme reached 66 % of young people not in employment, education or training aged 15-24 in 2017 (European Commission, 2018f). The one-stop guidance centres for young people were made permanent, with financial support secured until 2021. There are more than 50 one-stop-shops. The first national results from year 2016 were promising, showing that more than 13 000 people were directed to services or measures by the guidance centres (Kohtaamo, 2018). The test phase and the extension of the service model were co-financed by the European Social Fund.

Graph 3.3.5: **Reasons for inactivity by age (men, 2016)**



Source: European Commission

Graph 3.3.6: **Reason for inactivity by age (women, 2016)**



Source: European Commission

While the share of the foreign-born population remains small by international standards, its growth has been among the fastest in member countries of the Organisation for Economic Cooperation and Development. In 1990, the foreign-born population in Finland accounted for only 1.0 % of the population, but the share increased to 6.5 % in 2016 (Organisation for Economic Cooperation and Development, 2018d). The total foreign population in 2017 was 249 500, of whom approximately 20 % were Estonians (Statistics Finland, 2018a). Over 65 % of the foreign population lives in 10 largest cities, most of them in Helsinki where 10 % of the population are migrants. The net migration is expected to remain positive in the coming years with an increasing number of people moving to Finland from non-EU countries.

The employment gap of Finland's foreign-born population is high. Foreign-born population in Finland has lower employment rates than people born in the country (49.9 % in 2017 compared to EU average of 57.4 %), particularly for foreign-born women (36.1 %, compared to EU average of 47.1 %). The employment gap is one of the largest in the EU, which may be due to the family benefit system. It could also affect the integration of children with foreign-born parents, who are struggling to thrive in the Finnish school system (Organisation for Economic Cooperation and Development, 2018e). Several integration policies have been developed in response to the inflows of asylum seekers in 2015. The Ministry of Education and Culture is implementing measures, such as funding educational institutions to improve immigrants' educational services.

In the past few years, considerable efforts were made to update the integration system. It included efforts related to settlement, early labour market contact and workplace diversity management. The social impact bond in particular aims to employ at least 2 000 migrants after a four to six months trial period. Full time employment is promoted by combining individual training needs with work trials in a flexible way. Private companies and institutional investors have invested in the fund that is implementing the measures. The Ministry of Economic Affairs and Employment will pay into the fund according to the results that the project delivers. The project started in 2016 and runs until the end of 2019.

Incentives to accept work and activation measures

The government has put more emphasis on activating the unemployed. A benefit scheme with financial sanctions, called 'active model', came into force in 2018 (European Commission,

2018b). The aim was to increase conditionality by reducing the benefit for the unemployed of the model. In June-July 2018, 158 000 unemployed faced cuts in their unemployment benefits (Yleisradio Oy, 2018). It seems that the possibilities for the unemployed to demonstrate sufficient activity are limited ([16]) and the public employment offices cannot offer sufficient activation services. The shortcomings in the system may drive the unemployed to seek compensation from social assistance, thus pushing them deeper into the benefits system rather than towards labour market inclusion. New rules to activate the unemployed through more intense job application and reporting to the employment services are being prepared.

A multi-professional working culture would allow better outreach to all target groups. Finland spends less on public employment services per unemployed than its Nordic peers (International Monetary Fund, 2017). It will be increasingly difficult to reduce and prevent long-term unemployment and inactivity without a multi-professional approach to deal with also non-work related problems (such as health issues and substance abuse). An integrated approach exists for some target groups, but not for all.

The public employment and entrepreneurship services will be integrated into public growth services. In the context of the regional government, health and social services reform, the current resources of the public employment offices and the entrepreneur service centres will be transferred to the counties (some 2 600 person-years). The growth services are expected to promote entrepreneurship, business growth, transformation and internationalisation of companies, meeting at the same time the evolving needs of the labour market. The aim of this part of the reform is to offer transparent, customer-oriented and more efficient services, including multi-professional services and integrated services for those who are hard to employ. Pilot projects are ongoing or planned to test the reform and the cooperation between municipalities, regions and private companies on how to provide effective employment services. There is a risk that the employment services especially for the long-term unemployed could deteriorate in particular from the vicinity point of view (European Commission 2018g).

([16]) Measures funded by the European Social Fund will be counted as demonstration of activity as from April 2019.

3.3.2. SOCIAL POLICIES

The risk of poverty or social exclusion remains low, though some regional and group differences exist. The share of population at risk of poverty or social exclusion fell to a 10-year low in 2017. At 15.7 %, it was well below the EU average of 22.5 %. Poverty rates of self-employed are higher than for employees (European Commission, 2018h). This is mainly because of their lower declared incomes and lower share of membership in voluntary insurances. Western Finland performed worst in 2017, with a share of population at risk of poverty or social exclusion at 18.5 %, while Helsinki-Uusimaa registered the lowest level (11.8 %). Children of low-skilled parents face a high risk of poverty or social exclusion (63.1 %, marginally higher than the EU average of 62.9 %). Children with a migrant background face a significantly higher risk of poverty than children of nationals, with a 20-percentage points difference. As part of the Europe 2020 strategy, Finland made a commitment to reduce the number of people at risk of poverty or social exclusion by 150 000 by the year 2020. Although statistics show that this target is currently short of reach by approximately 100 000, if Finland continues its 2016-2017 trend (reduction by 47 000), the goal remains achievable.

Income inequalities are among the lowest in the EU. In 2017, the income of the richest 20 % was stable at 3.5 times that of the poorest 20 %, compared to an EU average of 5.1. The tax-and-benefit system performs above the EU average in reducing income inequality. Inequalities in educational outcomes are low. The variation in the Programme for International Student Assessment 2015 scores due to socio-economic background of parents is among the lowest in the EU. Women still earn on average some 16 % less than their male counterparts. The Finnish Ombudsman for Gender Equality considers that wage transparency could help prevent discrimination against women and other lower-paid workers (Maarianvaara, 2018).

Reform of social assistance administration has not yet improved the service. The administration of the basic social assistance was transferred from municipalities to the Social Insurance Institution of Finland in 2017. The reform merged varying municipal systems aiming to simplify the application processes. However, the system is rigid and struggles to recognise individual circumstances, which is important in reaching out to the inactive. Waiting periods are long and contacts between the Social Insurance Institution and the municipal social assistance offices are difficult due to different information technology systems. In certain regions, service provision in the Swedish language has proven problematic. Food aid is not part of the official social security scheme, but it is delivered by voluntary organisations as a combination of food donated and purchased, together with social measures to accompany the aid recipients. Despite the recent economic growth, the demand has not decreased proportionally and is not expected to decrease.

Inactivity traps and social benefits

Inactivity and unemployment traps remain high. Social assistance and the housing allowance as well as other benefits are phased out rapidly as income increases, which creates the risk that taking up work might not be sufficiently financially rewarding. Furthermore, adequacy of benefits is very high ([17]) but their rules are very complex. Combined with administrative practices, this can result in 'bureaucratic traps'. Uncertainty surrounding the level of benefits and the time to reinstate them reduces the attractiveness of short-term or part-time work. The real-income register available to various authorities (see section 3.1) has the potential to address some of the bureaucratic traps related to reinstating the benefits. From 1 April 2019, the uncertainty surrounding the level of benefits will be partly alleviated by a change in the regulations concerning the period when income from part-time or short-time employment is taken into account and has an effect in the amount of unemployment benefit change.

([17]) In the case of single-person households, the level of the benefits was estimated at 75 % of the poverty threshold and 58 % of the income of a low-wage earner (see European Commission and Council of Ministers, 2018).

An in-depth reform of the social benefits system is yet to take place. Despite actions taken in recent years, there is widespread consensus that the social benefit system should be reformed. An expert group will make suggestions to the next government after the parliamentary elections.

The universal basic income experiment is expected to provide some information on possible options for reform. The tested reform simplifies the current benefit system by merging various basic security benefits paid by the Social Insurance Institution (Kansanelakelaitos, 2019). Preliminary results were presented on 8 February 2019. Another experiment on participative social security that is exploring different models of inclusive social security practices started in five municipalities in 2018 and will end in 2019. The aim of this experiment is to test if intensive counselling and more targeted labour market services could bring back to employment those caught in unemployment traps.

A reliance on home care is a hindrance to female labour force participation. Long spells of home care allowance weaken caretakers' — usually women — labour market position. However, the level of the allowance is low and often complemented by social assistance, especially if there is no other income in the household. The long caretaking responsibilities for women contribute to the gender employment gap as well as the gender pay gap (16 %). The government initiated a process to reform family leave, but did not carry it through.

The long-term care system is delivered at municipal level, which may limit its accessibility and funding. The cost of service provision varies considerably between populous and sparsely populated areas. At the same time, the municipalities rely on informal care delivered by family members, which may hinder labour market participation of the (mostly female) informal carers. Finland figures significantly above the EU average for informal homecare provision (8.9 % and 6.2 % respectively of the 16 years old population and over), especially with regards to less than 10 hours of weekly care. The municipalities support informal care by different measures, including training and financial support. However, there are challenges in coordinating the services delivered in home environment.

Equal access to social and healthcare services

The Finnish population enjoys a comparatively good health status. Even if life expectancy has slightly decreased in 2016, it remains 0.5 year higher than the EU average of 81 years (Organisation for Economic Cooperation and Development, 2018b). Inequalities in health status, measured by the gap in life expectancy between people with the lowest and highest education, are smaller in Finland than in the EU. Finland performs well in health promotion and disease prevention, and the government expects that the planned regional government, health and social services reform (see Section 3.1.) will lead to efficiency gains and reduced waiting times for health services.

3.3.3. EDUCATION AND SKILLS

The education system performs well, but educational outcomes have declined and gaps between different groups have increased. International tests in reading carried out for the Progress in International Reading Literacy Study by the International Association for the Evaluation of Educational Achievement confirmed the important performance gap between boys and girls (Leino *et al*., 2017) but reading skills of 10 year-olds remain strong and unchanged compared to 2011. The Programme for International Student Assessment 2015pointed to the country's strong position on basic skills even though its performance has been continuously weakening (European Commission, 2018i).

Early school leaving increased slightly. It amounted to 8.2 % in 2017 compared to the EU average of 10.6 % with differences between young people in rural areas (10.1 %) and those in cities (7 %). Foreign-born pupils drop out of school almost twice as often as pupils born in Finland (15.2 % compared to 7.9 %) and the gap between these groups on baseline levels of proficiency in all main domains (literacy, mathematics, science) is significant (42 percentage points compared to the EU average of 22 percentage points) (Organisation for Economic Cooperation and Development, 2018f). This is compounded by the worsening performance of pupils with a migrant background (European Commission 2018b).

The participation rate in early childhood education has improved. Between 2007 and 2016 it grew to 32.7 % for under 3-year-olds and to 87.4 % for those 4 years and older. The share of the former is at EU average but remains below other Nordic countries, while the share of the latter remains still 7.9 percentage points below the EU average. Slowly increasing differences are observed in education outcomes between regions and between schools, however, the causes are not yet fully understood.

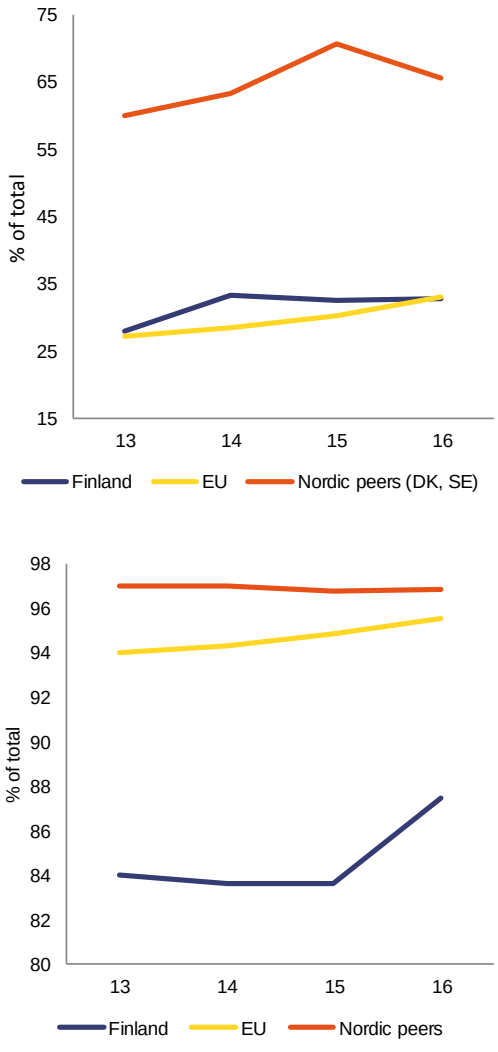
Recent initiatives aim to increase the quality and fairness of education. The new Act on childcare (January 2018) is overhauling regulation, better defines qualification of staff and improves data collection. By 2030, at least 2 out of 3 staff members will have a relevant tertiary degree instead of only one staff member right now. Municipalities have currently access to an annual total grant amount of EUR 12 million for improving childcare education and ensuring equal opportunities for all in basis education. The government has launched a set of initiatives that are promoting new approaches to strengthen the quality and relevance of education, such as a new proposal on upper secondary education.

The government is providing some additional strategic investment in education that is partly counterbalancing recent structural spending cuts. Government spending on education in Finland is well above the EU average and in line with spending of its EU Nordic peers (6.1 % of GDP in 2016 in Finland, 6.6 % in Sweden and 6.9 % in Denmark, respectively; Eurostat, 2018c). However, between 2010 and 2019 education budgets in Finland were cut by cumulative EUR 2.2 billion (Trade Union on Education, 2018). An important part of the financial burden for primary and earlier education was shifted to the municipalities as the state contribution was reduced from 50 % to 25 %. Furthermore, the government has reserved about EUR 1 billion for the initiatives to improve the quality of education. This investment is positive but falls short of offsetting the imposed cuts in spending at all levels of education, and particularly in higher education and vocational education and training system.

Tertiary education attainment is high, but not for all social groups. 44.6 % of 30-34 year-olds have obtained tertiary education in 2017, 2.7

percentage points less than in 2007. The gender imbalance remains large and, in 2017, only 27 % of people not born in Finland had obtained tertiary education, much less than in other Nordic countries. Tertiary attainment is the highest in Helsinki-Uusimaa (52.5 %) and the lowest in northern and eastern Finland (38 %). Cities show the highest share of tertiary graduates with 55.3 % and rural areas the lowest with 30.4 %. Between 2010 and 2017 the share of graduates in cities hardly changed (+0.2 percentage points) but it dropped around 9 percentage points in towns, suburbs and rural areas.

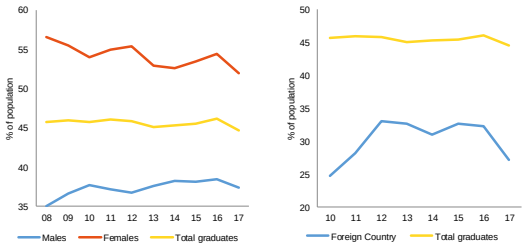
Graph 3.3.7: **Participation in early childhood education and care participation for less than 3- years -olds and younger (above) and participation for 4-year olds until school age (below)**



Source: European Commission

Undergoing restructuring and budget cuts could compromise the quality of higher education. Higher education was subject to cumulative budget cuts of EUR 850 million in 2011-2018. This led to staff reductions and deterioration of teaching and research conditions that have caused some of the best professors and key researchers to leave the country. The 'Vision for higher education and research in Finland 2030' aims to mobilise the higher education sector to find solutions to these challenges. It targets having 50 % of the 25 to 34-year-olds to finish at least a bachelor degree, improving opportunities for life-long learning and providing some additional resources for high quality research. The complex admissions process to universities could explain why Finnish students are older when they start studying, with 22 years as the median age (Prime Minister's Office, 2017). Finland has introduced policy measures on the student admission process to promote early take up of tertiary studies, but the trend has not yet reversed.

Graph 3.3.8: **Trends in tertiary attainment in Finland by country of origin and gender (30-34 year olds)**



Source: European Commission

A comprehensive reform of the vocational education and training system is being implemented since early 2018. The proportion of students in upper secondary education in vocational education and training remained stable in 2016 at the level of 71.3 %, which is well above the EU average of 49.3 %. The employment outcomes of vocational education and training participants in 2017 (at 76.9 % of the recent graduates from vocational education (age 20-34) and training participants) are slightly above the EU average (76.6 %). The key elements of the reform are to enhance the competence-based and customer-oriented approach, to offer individual, flexible and customer-oriented pathways for individuals and to integrate separate funding systems (institution-based, apprenticeship,

vocational adult education and partly employment training) into one coherent funding system. It also aims to develop and increase apprenticeship training and other forms of work-based and life-long learning. The reform introduces individual study plans for all learners. A successful implementation of the reform could improve labour market matching and contribute to a well-qualified workforce, as well as to the diffusion and adoption of latest technologies.

The highly performing adult learning systems continue to improve. Adult participation in learning is at 27.4 % of the age group 25-64 of the total adult population, the second highest in the EU. Each year, between 3 000 and 5 000 adults take part in basic education. New provisions on basic education for adults adopted in 2017 entered into force on 1 January 2018, with the aim to speed up the educational pathway to the basic education certificate. A personal study programme is drawn up for each student in which the student's prior learning is identified and acknowledged. The target group includes those 17 years of age and older, lacking basic education. Migrants make up more than 95 % of the target group. The personal study programme replaces the integration training for migrants. The new legislation gives greater responsibility to training institutions to provide language and vocational training to facilitate the integration of migrants and refugees. Obligatory national language proficiency tests are abolished. This has the potential to facilitate migrants' entry to vocational education and training, and to find employment.

Digital skills

Digital skills are one of Finland's strongest competitive advantages. Despite Finland's high ranking in terms of digital skills, almost 60 % of Finnish companies reported hard-to-fill vacancies for jobs requiring information and communications technology specialist skills. Nevertheless, in terms of human capital, 76 % of the population have basic or above basic digital skills, way above the EU average (57 %). However, companies in specific niches of information and communications technology report difficulties in finding the skilled workforce.

Finland does not have a national Digital Skills and Jobs Coalition (DSJC), neither a Digitising Industry strategy in place. The Digital Skills and Jobs Coalition brings together companies, education providers, social partners and public authorities to act to reduce the digital skills gap for four target groups: labour force, education, information and communications technology professionals and citizens. A critical success factor of the approach of the Digitising European Industry initiative is to mobilise all stakeholders, notably at high political level in the Member States, around meaningful actions that meet the needs of industry. The development of these national initiatives is an important element of the European Platform of National Initiatives on Digitising Industry (European Centre for the Development of Vocational Training, 2018).

3.3.4. INVESTMENT NEEDS

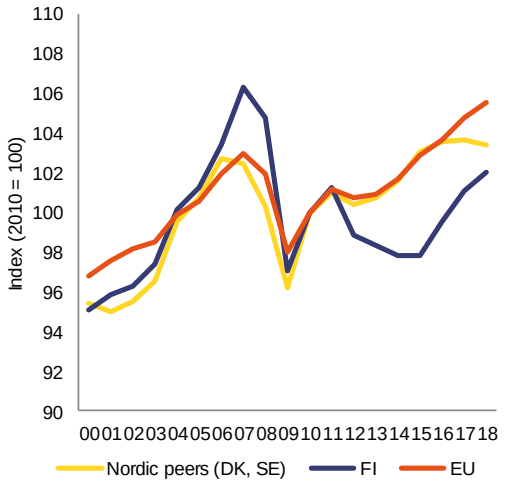
Increased investment in skills, education and training and social inclusion are important for improving Finland's productivity and long-term inclusive growth. Skills shortages and mismatches are among the main obstacles to business investment and to reducing structural unemployment, pointing at the need to invest more in training of unused and under-used labour potential and investing in matching training and anticipation of future skills needs. Using the full labour potential also requires matching investment in social inclusion, integration of different public services and the availability of long-term care services, paying due attention to geographical disparities in the availability of these services.

3.4. COMPETITIVENESS REFORMS AND INVESTMENT

3.4.1. PRODUCTIVITY AND INVESTMENT TRENDS

Labour productivity is recovering, but is still below its pre-crisis peak. Labour productivity declined in Finland in 2008-2015, while in the EU and the euro area on average it slightly increased. The decline affected all sectors, in particular manufacturing, because of the setback of the electronics sector. In 2016, labour productivity started recovering and increased across the board. In 2018, as recruitment accelerated, labour productivity growth slowed down to 0.6 %, far below its pre-crisis and 2017 levels (1.6 %).

Graph 3.4.1: **Total factor productivity (total economy)**



Source: European Commission

Total factor productivity is also still below its 2007 level but is growing fast. Total factor productivity gains in Finland had been negative in 2008-2015, also reflecting the shift from high tech goods towards medium tech goods. As of 2016, total factor productivity started to grow, at a pace that eventually overtook Finland's Nordic peers (see Graph 3.4.1). Yet, in 2018, Finland's total factor productivity is still expected to be far from the peak it reached in 2007 (European Commission, 2018b). This may reflect a still relatively low investment in equipment and intellectual property products (see also Section 1 and the section below under 'Investment needs').

Overall, investment in Finland remained above the EU average, but was predominantly devoted to construction (see Box 3.4.1.)**.** At around 22 % of GDP in the latest four quarters, overall investment remained among the highest in the EU, and was slightly on the rise. However, construction accounted for 59.4 % of overall investment, an increase by 3 percentage points in comparison with a year ago. At 13.3 % of GDP, it was the highest in the EU, and was still rising. Housing construction, one of the least productive categories of investment accounted for almost 50 % of total construction.

Equipment investment in Finland remains comparatively low. Equipment investment rebounded last year as capacity utilisation by businesses increased. However, at around 5.2 % of GDP and 23.0 % of total investment, lower levels than last year, equipment investment (gross) in Finland remained one of the lowest in the EU. In addition, it is expected to decelerate rather soon, as external trade, and as a result capacity utilisation in Finland, will in all likelihood be affected by rising international trade tensions.

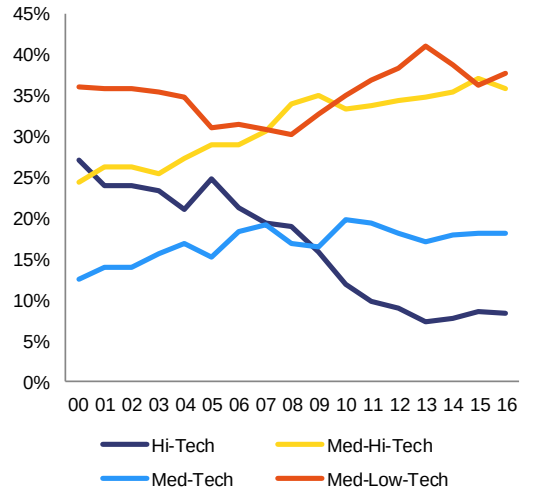
Finland's quality of products has broadly stabilised. The relative demise of the country's electronics sector (specifically the mobile phone industry) has had a strong negative impact on the volumes of high tech products it exports. Among the best performing manufacturers in productivity terms in the EU, ([18]) Finland currently has the lowest proportion of high tech exports. At the same time, a specialisation in exports of medium-to-low and medium-to-high tech exports has taken place (see Graph 3.4.2). By contrast, the country's export sophistication index (Hausmann's export sophistication index; International Monetary Fund, 2017) points to less worrying losses of non-cost competitiveness.

In the manufacturing sector, firm-level productivity differentials increase. In Finnish manufacturing firms, labour productivity grew at a solid pace until 2008, except for the least productive firms where it stagnated. After 2008, it has been relatively unchanged in the central parts of the productivity distribution, continued its fall in the lower end and continued to grow among the most productive firms. This has resulted in an increasing gap between the least productive and the most productive firms (European Commission, 2018b). Finland has a relatively high proportion of

([18]) Belgium, Denmark, Germany, the Netherlands, Austria, Finland, Sweden, United Kingdom.

financially distressed and largely unproductive firms which tie up a considerable amount of labour, capital and other resources which could better serve the economy if allocated to more productive activities (see Graph 3.4.3).

Graph 3.4.2: **Share of high, medium-high, medium-low and low technology in total manufacturing exports**

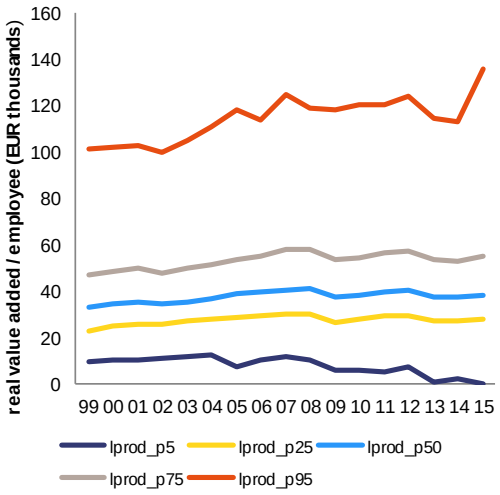


Source: European Commission

A large majority of investment in physical and intangible assets is made by a small number of firms. The investment ratio among the top 10 % investing firms is several times higher than that of the median firm, which in turn has an investment ratio close to the least investing firms. At the same time, firm-level data make it evident that the decline in the overall business investment ratio comes predominantly from the upper end of the investment distribution. In the middle of the distribution, the decline has been more modest, and, in the lower tail, the investment ratio has been largely stable over time.

The Finnish Productivity Board has been consulted in the ongoing European Semester exercise. Following the 2016 Council Recommendation, Finland appointed the Tuottavuuslautakunta as National Productivity Board in October 2018. National Productivity Boards are objective, neutral and independent institutions that can investigate the productivity challenges, contributing to evidence-based policy making and boosting domestic ownership of structural reforms.

Graph 3.4.3: **Real labour productivity in manufacturing**



(1) Sample size: 11 000–13 000 firms.
(2) Firms are sorted by productivity level: p50 denotes median firms; p25 and p75 are the lower and upper quartiles; p05 and p95 are the lower and upper tails of the distribution.
Source: CompNet database

Investment needs

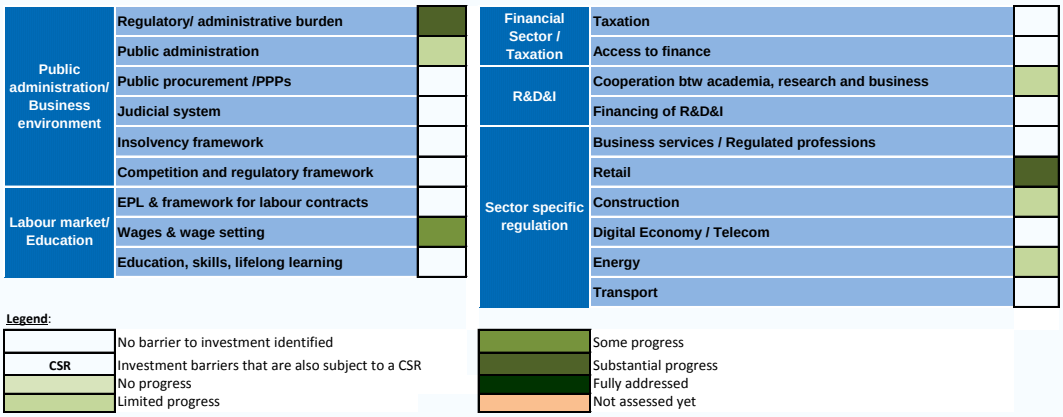
Focusing investments on human capital, on research and innovation, and on energy and transport infrastructure would strengthen Finland's long-term growth potential. Untapped human capital can hinder the progress of inclusion and employability and reduce the potential for increases in productivity (see Section 3.3). In parallel, research and innovation intensity has not yet recovered from the crisis years and appears insufficient to diversify exports towards higher-tech goods in the longer term. Amid dispersed population, lack of affordable housing in growth centres and transport bottlenecks may hinder labour mobility. Long distances to external markets are weighting on exporting businesses. The decarbonisation of the energy intensive industry and the transport sector will require higher private and public investment. Research and innovation are also needed to match Finland's carbon neutrality objectives.

Box 3.4.1: **Investment challenges and reforms in Finland**

Section 1: Macroeconomic perspective

In 2017, overall investment in Finland remained above EU average, but was even more concentrated on construction. Equipment investment remained one of the lowest in the EU. Overall investment in intellectual property in Finland was still declining. In manufacturing, the decline in research and development investment was not limited to the electronics sector. This might signal further specialisation in lower value-added industries. Public expenditure on research and development stabilised. Foreign direct investment remained relatively low, even though inflows were markedly on the rise (see Section 3.4).

Section 2: Assessment of barriers to investment and ongoing reforms



Source: European Commission

Finland has maintained a good environment for doing business and cost competitiveness has clearly improved. In particular, the pharmacy sector is being reformed. The opening to competition of the rail market is going ahead. Also, the government has tabled a proposal to amend the Competition Act so as to increase transparency from publicly owned entities (see Section 3.4).

Business Finland is the main public funding agency in Finland. It helps businesses go global. It also supports and funds innovations. Funding awarded by Business Finland in 2017 amounted to EUR 492 million.

Selected barriers to investment and priority actions underway

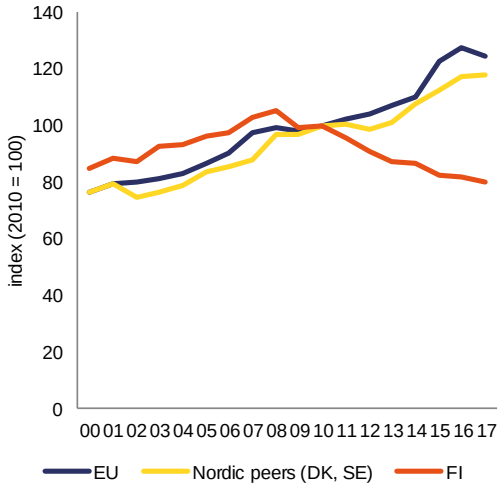
1/ Non-cost competitiveness and low productivity, although recovering, remain a concern. Finland has experienced a shift in specialisation towards intermediate goods and from high tech industrial sectors to medium tech industrial sectors. The shift partly underpins an insufficient level of research and development and innovation investment to kick-start growth and to diversify exports towards higher-tech goods in the medium-term. There is potential for further increasing cooperation between academia and businesses as an incentive to investment in research and development (see Section 3.4). Also, long processing times for permits slow down firms' investment progress (Confederation of Finnish Industries, 2019).

2/ Some problems remain in the labour market. A new Finnish wage-setting model has emerged. In this model, pay rises in the non-tradable sector are linked to the increases first agreed in the tradable sector. However, no formal agreement on this model has been reached (see Section 1). Also, obstacles to local bargaining persist, mostly for small and medium-sized enterprises and start-ups (European Commission, 2018b). Low labour mobility partly reflects housing and transport bottlenecks (Poghosyan, 2018 and International Monetary Fund, 2018).

Research & development and innovation

Falling investment in intellectual property ([19]) in Finland, including research and development, remains a source of concern. Since 2009 business research and development intensity declined strongly. One of the reasons for the decline was disruptive technological change, which strongly affected the country's largest private research and development spender (Nokia) (Fornaro *et al.*, 2018). As a result, Finland experienced the steepest drop in business expenditure on research and development among EU countries, from 2.7 % of GDP in 2009 to 1.8 % in 2016. Consistently, investment in intellectual property in volume terms still declined in Finland in 2017 (see Graph 3.4.4). The decline was no longer limited to the electronics sector. Other sectors were affected as well, notably electrical equipment (see Graph 3.4.5). Nevertheless, at 4.0 %, the share of investment in intellectual property in GDP in Finland remained slightly above the EU average (3.9 % of GDP).

Graph 3.4.4: **Intellectual property product investment in volume**

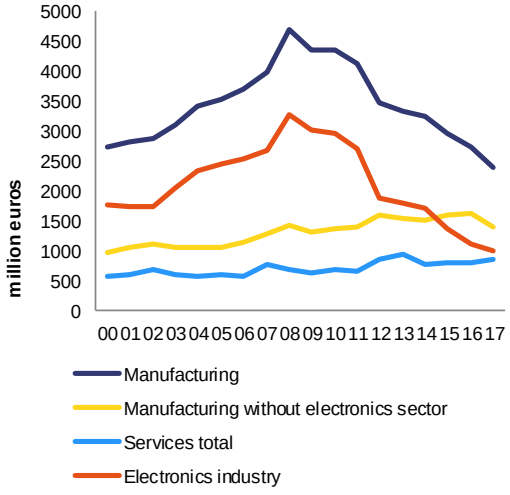


Source: European Commission

([19]) Intellectual property products is a national account concept (NA.117) that comprises research and development (NA. 1171), mineral exploration and evaluation (cost of drilling, aerial or other surveys, transportation, etc.) (NA.1172), computer software and large databases (NA.1173) and entertainment, literary or artistic originals of manuscripts, models, films, sound recordings, etc. (NA.1174).

The proportion of fast-growing innovative firms remains below the EU average ([20]). The growth of firms in innovative sectors is an important factor for structural change of the economy. This is important for Finland, where a disruptive technological change has led to a decline of certain sectors of the economy (mobile phones, paper industry). Despite various promotional activities ([21]), start-up rates in Finland remain below the EU average and there is potential for additional targeted policy action. In recent years, the availability of venture capital has declined considerably, compared to pre-crisis levels, but non-research and development innovation expenditure of firms has decreased as well (Eurostat, 2015).

Graph 3.4.5: **Research and development gross capital formation by industry and year - flows**



Source: European Commission

After a decline, public research and development expenditure is now stabilising. Public research and development intensity declined from 1.1 % in 2009 to 0.9 % in 2017 (see Graph 3.4.6). Nevertheless, Finland still ranks at the top of the EU in public research and development intensity. Public-sector funding of business research and development stood at only 0.08 % of GDP in 2015, a modest proportion

([20]) The share of employment in high-growth enterprises in innovative sectors was 9.5 % in 2015, down from 11.4 % in 2013 and ranking low in the EU.

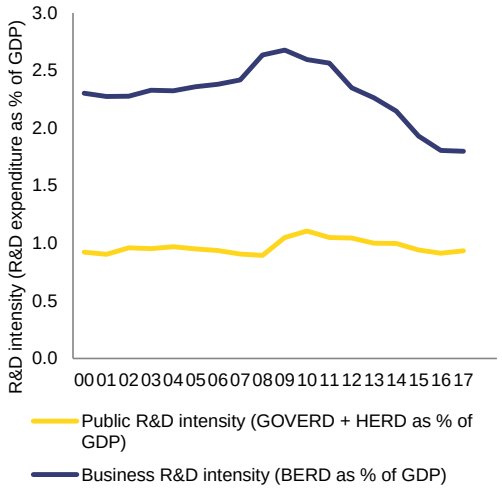
([21]) Including schemes such as Aalto University's 'Start-Up Sauna', a 1500 square meter industry hall and co-working space that is a focal meeting point in Northern Europe for entrepreneurs and investors alike.

compared to other innovation leaders ([22]) and has been stagnating since 2011. At the same time, private co-financing of public research, which is an important basis for knowledge transfer and an indicator of science-business cooperation, is also below the EU average (2015, Finland: 0.047 % of GDP, EU 0.050 % of GDP) and on a downward trend since 2007.

Overall, Finland remains an 'innovation leader'. In the European Innovation Scoreboard, Finland is an 'innovation leader' (European Commission, 2018j). While its performance declined between 2010 and 2014, it improved every year since. High-quality human resources, attractive research and development systems, an innovation-friendly environment, relatively high levels of public and private funding of research and development and innovation, and intellectual assets lead to a good performance in the European Innovation Scoreboard and constitute favourable framework conditions for innovation. However, these conditions are not yet matched by corresponding economic outputs. Relatively low sales and employment impacts constitute Finland's weakest innovation dimensions in the European Innovation Scoreboard.

([22]) Finland performs well below the EU average of 0.2 % in 2015 and ranked only 18th in the EU in this indicator in 2015.

Graph 3.4.6: **Evolution of public and business research and development intensity**



GovERD: government expenditure on research and development
HERD: higher education expenditure on research and development
BERD: business enterprise expenditure on research and development
Source: European Commission

Recent policy initiatives are expected to address some of Finland's weaker elements in the European Innovation Scoreboard. In its National reform programme of spring 2018, the government highlights cooperation between higher education institutions and business as one of the key bottlenecks to be addressed in order to stimulate innovations and placing them on the market. The policy focus, as reflected in the reform programme, has shifted towards the creation of internationally competitive centres of expertise as well as to the support of research infrastructures and the development of favourable business environments in technology-intensive sectors with the potential for upscaling, such as clean-tech, the bio-economy, information and communications technology and health.

Finland promotes research and development projects in areas relevant for the National energy and climate plan. Finland shows strong leadership in clean energy innovation and private research and development spending. ([23]) A few years ago, the country was doing more than three times better than EU average in terms of financing

([23]) Finland is strong as regards resulting patents in energy field (twice the EU average of the number of patents per inhabitants).

clean energy research (in % of GDP). It is committed to double the funding of some of its clean energy funding programmes by 2021. Still, it has to be seen how recent cuts in overall research and development funding will affect Finland's performance on clean energy research.

Digital transformation of public services still falls short of what could be expected by businesses. Digital public services for businesses remain limited and significant differences persist among businesses in integration of digital technology. Finnish small and medium-sized enterprises are also reluctant to use the untapped potential of online trade within and beyond the EU (European Commission, 2018k).

Mobility and transport infrastructure

Finland suffers from a very specific geographical situation. The country is sparsely populated with long internal distances. Finland is also an Arctic country, far from central market areas. From a logistical perspective, it is largely dependent on transport via the Baltic Sea. Overall, this is why transport costs have a relatively high impact on the final price of products in Finland in comparison to other countries. As a result, the functionality of the transport network has a great impact on the competitiveness of business and on mobility in general (Finnish Transport Agency, 2018a).

The quality of infrastructure is high but it has declined. The quality of roads, the rail network, ports, airports and energy networks remains high by EU standards (World Economic Forum, 2017). In the past, this underpinned the competitiveness of Finnish firms, including in rural and remote locations. However, the recession has put public finances under pressure and led to some regular maintenance and upgrading of infrastructure having to be scaled down or postponed, especially with respect to roads and railways. This has caused a gradual and relative decline in quality and services compared with other economies.

Recent analyses point to a relatively limited regional mobility in Finland compared to EU peers. The huge geographical distances across regions and the relatively low population density constitute natural impediments to cross-regional labour mobility, which is further hindered by housing cost differentials at regional level not matched by regional wage differentials (International Monetary Fund, 2018, and Poghosyan, 2018). The limited regional labour mobility can therefore contribute to persistent labour shortages in certain sectors (see Graph 3.4.8).

One of the government's strategic goals is to improve connectivity, but no concrete plans, including on financing, has been presented yet. Transport infrastructure projects, especially around vibrant urban areas, are currently being considered. In addition, high speed railway lines between Helsinki and Tampere and between Helsinki and Turku are considered. The objective is to reduce travel time to an hour on both lines. A high-speed railway between Helsinki and Kouvala is also being considered. The current government's budget proposal for 2019 comprises a EUR 40 million transport package. However, the government has still to present a plan how to finance the implementation of these projects. In February 2019, the Ministerial Committee on Economic Policy gave its support for the proposal by the Ministry of Transport and Communications to establish project companies in order to comprehensively develop the railway sector and promote large-scale rail transport investments.

Finland is linked to continental Europe along two core Trans-European Networks transport corridors: North Sea-Baltic (links Baltic ports to North Sea ports) and Scandinavian–Mediterranean (Scan-Med, extends from Finland and Sweden to the Mediterranean Sea). The total length of the core network in Finland is 2 460 kilometres. The use of Connecting Europe Facility funding for Finnish infrastructure projects has been modest in the current Multiannual Financial Framework and could be improved in the next generation of the Connecting Europe Facility.

As a result, major infrastructure investments are being planned to improve Finland's accessibility. New transport connections to both the north and the south are currently considered (The Barents Observer, 2018; Prime Minister's Office, 2018b): to the north, a connection to the Arctic Ocean and to the south, a connection to the European rail network via a Helsinki-Tallinn tunnel and Rail Baltica.

Energy and climate

Finland is broadly on track to reach its Europe 2020 climate targets, but without further policy measures, it is expected to miss its 2030 climate target. Finland aims to reduce its greenhouse gas emissions in the non-Emission Trading Scheme sectors by 16 % by 2020 (compared to 2005). According to the latest national projections and taking into account existing measures, the 2020 target is expected to be missed by a small margin of 0.7 percentage point. However, under the Effort Sharing Regulation, the country has an objective of reducing non-Emission Trading Scheme emissions by 39 % by 2030 (from 2005 levels). This appears challenging as there is a gap of 17 percentage points between the 2030 target and the country's own projected emissions reductions. The decarbonisation of the energy intensive industry and the maintenance of a sustainable forest carbon sink are important challenges in a longer term perspective. Together, these will require significantly higher private and public investments in low carbon technologies and practices.

As transport emissions make up the largest — and growing — share (40 %) of the non-Emission Trading Scheme emissions, measures to decarbonise that sector are critical to meeting the 2030 climate-related objective. This will be done by cutting by half the oil consumption compared to 2005 and developing further electric vehicles, according to the national energy and climate strategy and the medium-term climate change policy plan for 2030. In particular, Finland is a global leader in developing second-generation biofuels. Electric transport presents another cost-efficient option for the sector, given the advanced decarbonisation of the power sector and significant cost reductions notably in wind power. ([24]) Two new nuclear power plants, if they become operational as expected, will increase the share of carbon-free electricity. ([25])

In 2018, Finland adopted a climate change policy plan and submitted a draft national energy and climate plan. In its national energy and climate plan to be adopted by 31 December 2019 in line with the Regulation on the Governance of the Energy Union and Climate Action, ([26]) Finland will provide an overview of its investment needs until 2030 for the different dimensions of the Energy Union, including renewable energy, energy efficiency, security of supply, and climate mitigation and adaptation. The information provided will further contribute to the identification and assessment of energy- and climate-related investment needs for Finland. According to the draft submitted on 20 December 2018, the investment needs on energy supply would reach close to EUR 3 billion, covering the further deployment of renewable electricity (EUR 600-750 million) and the ban of coal, a new interconnector with Sweden (EUR 200 million), public charging infrastructure for electric vehicles (EUR 415 million), data exchange solutions, and the development of biofuels notably in the transport sector (EUR 1.3 billion). In addition to these, the security of electricity networks is also expected to require significant investments (the total investment by grid companies on security amounted to EUR 3 billion over 2016-2018).

Finland is on track on its 2020 renewable energy target, but the higher targets for 2030 will require additional efforts. With a renewable energy share of 40.0 % in gross final energy consumption in 2017 (increasing since 2017), Finland is already above its 2020 target of 38 %. However, the national energy and climate strategy aims at reaching over 50 % of renewable energy in gross final energy consumption by 2030. This aim encompasses an increase in all sectors, including a mandatory share of 30 % for biofuels in transport (18.8 % in 2017).

In parallel, Finland is also on track on its energy efficiency target, but energy demand is swiftly rising. In terms of energy efficiency, Finland was already doing better than its 2020 target in 2017 (-8 % for primary energy consumption and -5 % for final energy consumption compared to the 2020 targeted levels). After a slight increase in 2016 compared to 2015, final energy demand has stabilised in

([24]) In 2017, 3 600 km of railway line was electrified in Finland (Finnish Transport Agency 2018b). The current electrification project includes: the Turku-Uusikaupunki line electrification (EUR 21 million) (Ministry of Transport and Communications, 2018).

([25]) The launch of the Olkiluoto 3 nuclear power plant reactor has recently again been postponed. It is now expected to begin production in 2020. A licencing procedure has been started for another nuclear power plant, Hanhikivi 1.

([26]) European Parliament and the Council (2018).

2017 and primary energy demand has slightly reduced compared to 2016.

Potential for energy efficiency savings exists in all sectors. The energy intensity of the services sector and of households is above the EU average. In addition, the energy intensity of the industry sector in Finland is one of the highest in the EU, representing 44 % of the total final energy consumption in 2016 — well above the EU average (25 %).

The recycling rate of municipal waste remains below EU average. Finland has put a lot of effort into improving its recycling rate. However, despite its progress, the country is listed in the Commission's 'Early Warning report' as one of the EU Member States at risk of missing the 2020 municipal waste recycling target of 50 %. In particular, municipal waste is increasingly incinerated (60 % in 2017 compared to 55 % in 2016). Collection in rural areas has not been a priority so far because of the low collection volumes and long distances between properties. In parallel, door-to-door recycling collections in more suburban areas have also not been a priority, while the extended producer responsibility schemes have been fragmented. In addition, the roles and responsibilities of the municipalities have changed repeatedly in recent years. This has created uncertainty and resulted in a lack of investment.

3.4.2. EFFICIENT AND INTEGRATED MARKETS

Competition

The regulatory environment is being improved. A series of reforms aimed at improving the regulatory environment have been carried out, such as the liberalisation of shop opening hours, the amendments in 2017 to the Land Use and Building Act (132/1999), and the 2017 revision of the Alcohol Act (1102/2017). Finland scores among the less restrictive Member States on the Retail Restrictiveness Indicator published by the Commission (European Commission, 2018l).

The pharmacy sector is being reformed. The government has tabled two legislative proposals to amend the Medicines Act ([27]) with a view to enabling more pharmacies to be established, in particular independent pharmacies. Other aims of the reform are to shorten the time needed for starting a pharmacy, to promote price competition in non-prescription medicines, and to align the retail side of the pharmacy sector with the ongoing reform of the healthcare and social care systems (see Section 3.1). However, there is still scope to further ease operational restrictions as regards distribution channels for the sales of non-prescription medicines.

Efforts are being made to strengthen competition neutrality. The Finnish Competition and Consumer Authority already has the right to intervene in the provision of goods and services in public sector business activities carried out by the state, municipalities, joint municipal authorities or entities under their authority. This applies when the operating models or structures prevent or distort competition in the market. This can for instance be the case if prices do not reflect costs. In order to further strengthen competition neutrality, the government has tabled a proposal to amend the Competition Act. The aim is to make it mandatory for entities at state, municipality, or joint municipal authority level, or entities under their authority, to separately mention in their financial reports the provision of goods and services in their activities. The proposed amendment is currently being examined by parliament. Such transparency will make it easier to establish whether competition between private and publicly controlled entities is fair.

The opening of the rail market to competition is going ahead. On 1 January 2019, the new Rail Transport Act entered into force. The revised legislation aims to improve the functioning of the railway transport market, and implements the Fourth EU Railway Package in Finland. Market opening is based on tendering and on the corporate reorganisation of the incumbent railway undertaking, to guarantee an equal and competition-neutral environment for all service providers. The rolling stock company and the real estate company, separated from the incumbent company, are expected to be fully operational in spring 2019. Concession contracts will be concluded and the new transport systems will be operational by 2026.

([27]) Act 395/1987.

Public procurement

The merger of central purchasing bodies is delayed. The merger of the central purchasing bodies Hansel and KL-Kuntahankinnat did not take place on 1 January 2019 as provided for by parliament. Preparations for the merger took longer than anticipated. The merger is now expected to take place later in 2019. It is intended to lead to a more streamlined organisation with a shift in focus to larger contracts than previously and more uniform public tendering.

Network industries

Digital transformation and telecommunications

The country maintains its edge in digital transformation, overcoming the setbacks in its electronic sector. Finland is among the top most advanced digital economies in Europe, boasting high broadband penetration — the result of astute regulatory measures that have encouraged market competition. Despite the lack of specific skills in several information and communications technology niches, Finland's performance is particularly strong in digital skills, digital public services and integration of digital technologies. Strong advanced digital infrastructure ensures that digitisation is well embedded in the overall entrepreneurial environment. ([28])

There is scope for further automation in manufacturing. With 138 installed industrial robots per 10 000 manufacturing employees in 2016, Finland was above the EU average in automation. However, the density of industrial robots in manufacturing was considerably lower than in Germany (309), Sweden (223) and Denmark (211). In view of the structural similarities between Finnish and Swedish manufacturing and the fact that their exporters often compete for the same orders, a lower density of industrial robots is expected to weaken Finland's export competitiveness.

Artificial intelligence is expected to have a strong impact on the Finnish society. Finland has a stated ambition to be at the forefront in the application of artificial intelligence and consolidate its strong position globally in digitisation and automation. To prepare a national artificial intelligence programme, a steering group was appointed in 2017 with a mandate to deliver a final report by April 2019 (Ministry of Economic Affairs and Employment, 2017).

A north-east passage underwater fibre cable connection (Arctic Connect) has been under study for several years (Ministry of Transport and Communications, 2016). The cable connection would make it possible to implement a fast physical telecommunications route from Asia to Northern and Central Europe via Norway, Russia and Finland. This would be possible because it would be connected to the Baltic fibre cable connection between Helsinki and Rostock. In addition to providing speed, the cable would also respond to the rapidly increasing need for capacity and would provide a reliable alternative to the risky southern routes.

Electricity and gas

Interconnection of electricity grids with the Nordic and Baltic wholesale markets is still insufficient. Finland has reached its 2020 targets in terms of electricity interconnection, and price convergence with Estonia has improved following the completion of the EstLink2 project. However, despite this progress, wholesale electricity prices in Finland are still not fully aligned with those of the other Nordic countries. This results from insufficient interconnection capacities with the Nordic and Baltic market area. The slow implementation of the infrastructure project of common interest with Sweden, which includes an internal line in Finland, has delayed market integration. Insufficient attention has been given to further improving system flexibility, system stability and mitigating adequacy challenges arising from changes in the generation mix.

The Finnish gas market is currently dependent on one single supplier (Russia) leaving end users no choice. Finland's gas isolation will end and security of supply will improve after the completion of the first gas interconnector between Finland and Estonia. This project of common

([28]) Finland ranks second, after Netherlands, in the digital transformation enablers index. The latter is on five enabling factors: digital infrastructure (Finland, 4th), investments and access to finance (Finland, 1st), supply and demand of digital skills (Finland, 5th), e-leadership (Finland, 1st), entrepreneurial culture (Finland, 26th). In parallel, Finland ranks third in the digital technology integration index — outcome in terms of digitalisation.

interest is known as the 'Balticconnector'. It is expected to generate major benefits to the Finnish system and market, in conjunction with other projects of common interest in the region. The infrastructure projects need to be complemented by rapid implementation of market rules.

3.4.3. THE REGIONAL DIMENSION

Regional disparities persist. Regional disparities have slightly decreased (see Section 1), but remain strong, especially in the northeast. Finland's GDP per head of the population (in purchasing power standard) was at 109 % of EU average in 2016, with regional variation between 144 % in the Greater Helsinki area (Helsinki-Uusimaa) and 90 % in East-North Finland. The relative performance of East-North was the least satisfactory of mainland Finland regions in terms of productivity ([29]) and unemployment ([30]). Moreover, East-North's population growth rate (-0.02 % in 2010-2016), accessibility by road and rail, and internet use were the lowest among the five regions of Finland. East-North Finland also has an extremely low population density (8 persons per km^2 or less). It is thus set to continue to benefit from the specific Structural Funds allocation for the Northern Sparsely Populated Areas in 2021-2027. In terms of population, the regions with largest urban areas have grown. The rural areas further away from the centres as well as the smaller cities and towns tend to have been deprived in comparison with urban centres and areas directly or functionally linked to these centres.

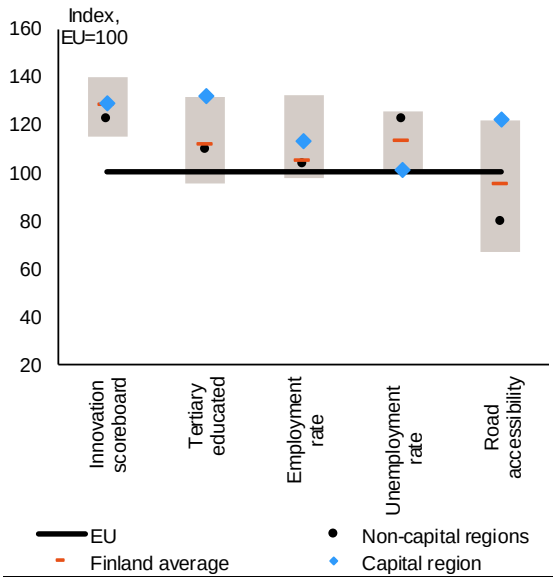
Regional differences in factor endowments are less pronounced than in convergence indicators. The disparities in terms of innovation performance between the NUTS2 regions ([31]) are not as significant as the differences in GDP per head. Finland's innovation performance stands at 128 % of the EU average (European Commission, 2017). The weakest region in this regard is East-North at 115 % (decrease against 2011), the strongest South Finland at 139 % (decrease), while Helsinki-Uusimaa is at 129 % (increase). All regions lag behind the EU-average in non-research and development innovation expenditure and exports of medium-high technology manufacturing. As regards the tertiary educated aged 30-34, Finland as a whole performs above EU-average, at 112 %. The Greater Helsinki area (132 %) and West Finland (109 %) are in the lead, but the other two mainland Finland regions lag behind the EU average (South 96 %, East-North 95 %; see Graph 3.4.7). While the Greater Helsinki area in Finland is faring better than the EU average in most respects, areas other than the Greater Helsinki area have more mixed records, most notably on road accessibility.

All Finnish regions score above EU average when assessing the quality and conditions in the regional innovation ecosystem (European Commission, 2018m). The main regional bottlenecks range from lower scores in the participation rate of adults in learning, access to broadband, the availability of technical and design/creativity skills in the private sector to foreign direct investment and technology transfer.

There are relatively high differences in road accessibility between the Finnish regions, but these are largely explained by geography. The average road accessibility in Finland is at 95 % of the EU average. The Greater Helsinki area stands at 122 % of the EU average and South Finland at 110 %, while West Finland is at 79 % and Åland Islands at 75 %. East-North Finland´s accessibility by road (67 % of the EU average) is the lowest. East-North has much more land per capita than the other regions. West Finland covers plenty of rural areas, and Åland Islands is an island region.

([29]) Purchasing power standard in 2016 (95.5 % of EU average, Greater Helsinki area 119 %). In Åland Islands, productivity at 90 % of the EU average is the lowest among Finland's NUTS2 regions.
([30]) Unemployment rate at 9.6 % of the labour force in 2017.
([31]) There are three levels of Nomenclature of Territorial Units for Statistics (NUTS) defined. This category refers to regions belonging to the second level (NUTS 2, also known as NUTS II), which is largely used by Eurostat and other European Union bodies.

Graph 3.4.7: **Regions in Finland and factor endowments**



Source: European Commission

3.4.4. INSTITUTIONAL QUALITY

Progress has been made in reducing the regulatory and administrative burden, but challenges remain. Simplification, cutting red tape and improving the regulatory and administrative environment, especially for small and medium-sized enterprises, have been prioritised by Finland for a number of years. Progress has been achieved, in particular in the digitisation of services and the simplification of procedures required to obtain various permits. Continuous attention is paid to evaluating and decreasing the overall regulatory burden on enterprises, in particular small businesses. Long processing times for permits slow down firms' investment progress. According to an indicative estimate, there are about EUR 2.7 billion worth of investment on hold because of delays in permit processing (Confederation of Finnish Industries, 2019).

Preparations are ongoing for an overhaul of the zoning and planning framework. The authorities are currently working on a reform of the planning framework. The new framework will take into account the developments in the construction sector and will allow for more strategic planning, in particular in urban areas. The draft proposal could be ready for public consultation in 2020.

ANNEX A: OVERVIEW TABLE

Commitments	Summary assessment ([32])
2018 country-specific recommendations (CSRs)	
CSR 1: Achieve the medium-term budgetary objective in 2019, taking account the allowances linked to the implementation of the structural reforms for which a temporary deviation is granted. Ensure the adoption and implementation of the administrative reform to improve cost-effectiveness and equal access to social and healthcare services.	Finland has made **limited progress** in addressing CSR 1.
Achieve the medium-term budgetary objective in 2019, taking account the allowances linked to the implementation of the structural reforms for which a temporary deviation is granted.	The compliance assessment with the Stability and Growth Pact will be carried out in spring 2019 when the final data for 2018 will be available.
Ensure the adoption and implementation of the administrative reform to improve cost-effectiveness and equal access to social and healthcare services.	**Limited progress** has been achieved on ensuring the adoption and implementation of the regional social and healthcare services reform. The draft laws on the reform are still expected to be adopted and to come into effect during the first quarter of 2019. However, the general elections in April 2019 risk to produce yet further delays. Preparative actions in the forthcoming counties, responsible for the reform, have been taken in such manner that they have a good degree of readiness for the adoption and implementation of the reform. Nevertheless, at the moment, it is unclear how the reform's savings mechanisms might deliver the planned containment of the costs arising from the ageing population**.**
CSR 2: Improve incentives to accept work and	Finland has made **limited progress** in addressing

([32]) The following categories are used to assess progress in implementing the country-specific recommendations (CSRs):
No progress: The Member State has not credibly announced nor adopted any measures to address the CSR. This category covers a number of typical situations to be interpreted on a case by case basis taking into account country-specific conditions. They include the following:
- no legal, administrative, or budgetary measures have been announced in the national reform programme, in any other official communication to the national Parliament/relevant parliamentary committees or the European Commission, publicly (e.g. in a press statement or on the government's website);
- no non-legislative acts have been presented by the governing or legislative body;
- the Member State has taken initial steps in addressing the CSR, such as commissioning a study or setting up a study group to analyse possible measures to be taken (unless the CSR explicitly asks for orientations or exploratory actions). However, it has not proposed any clearly-specified measure(s) to address the CSR.

Limited progress: The Member State has:
- announced certain measures but these address the CSR only to a limited extent; and/or
- presented legislative acts in the governing or legislative body but these have not been adopted yet and substantial further, non-legislative work is needed before the CSR is implemented;
- presented non-legislative acts, but has not followed these up with the implementation needed to address the CSR.

Some progress: The Member State has adopted measures
- that partly address the CSR; and/or
- that address the CSR, but a fair amount of work is still needed to fully address the CSR fully as only a few of the measures have been implemented. For instance, a measure or measures have been adopted by the national Parliament or by ministerial decision but no implementing decisions are in place.

Substantial progress: The Member State has adopted measures that go a long way towards addressing the CSR and most of them have been implemented.
Full implementation: The Member State has implemented all measures needed to address the CSR appropriately.

ensure adequate and well-integrated services for the unemployed and the inactive.	CSR 2
Improve incentives to accept work and	**Limited progress** has been made on reducing inactivity and unemployment traps. A number of reforms in the labour market have already been introduced. Nevertheless, further measures would be needed to address the still relatively high structural unemployment (NAWRU at around 7% in 2018). The Finnish authorities are waiting for the outcome of the basic income experiment, whose first results were presented on 8 February 2019. The experiment is expected to provide some information for revising the social security system. There has been a lot of discussion about the possible future reform of the tax-benefit system. However, given the political agenda, no movement in this area is expected before spring 2019. The government's budget for 2019 introduces complementary measures to promote employment and improve incentives to accept work.
ensure adequate and well-integrated services for the unemployed and the inactive.	**Limited progress** has been achieved on public employment services. The number of one-stop-shops, Ohjaamot, offering low-threshold, cross-sectoral information, advice and guidance to youth and young adults have been increased from 50 to 60, covering all regions in Finland. However, the formal adoption of the regional government, health and social services reforms, including the public employment and entrepreneur services, has not taken place. Also, integration of services could have regressed: with the vocational education and training reform, training related to active labour market policies is now under the responsibility of the Ministry of Education, and not any more of the Ministry of Employment, so further away from employment services.
CSR 3: Strengthen the monitoring of household debt including by setting up a credit registry system.	Finland has made **limited progress** in addressing CSR 3
Strengthen the monitoring of household debt	**Limited progress** is observed on monitoring the household debt, through the setting up of an expert working group assessing household debt developments and possibilities to introduce new macroprudential instruments into the legislation.
including by setting up a credit registry system.	**Limited progress** has been made on setting up a credit registry system. The Ministry of Justice has commissioned a report proposing the establishment of a centralized comprehensive (collecting both positive and negative information on debtors) credit

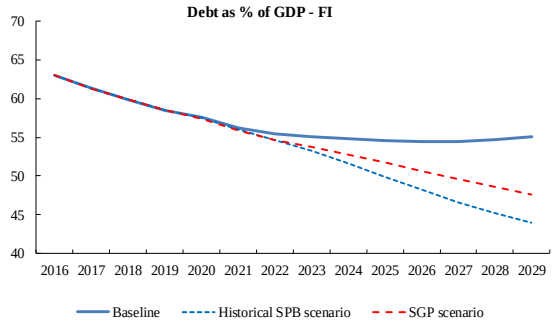
	registry. The proposal is now in circulation for comments after which the matter will be further assessed. The group should report of its work and conclusions by the end of March 2019. The required legislation would only be tabled after the next general election in April 2019.
Europe 2020 (national targets and progress)	
Employment rate target set in the NRP: 78 %.	The employment rate in Finland in 2018 increased to [76,3 %] (based on the average of first three quarters), an improvement of [2.3 %] points since 2017
R&D target set in the NRP: 4 % of GDP	In 2017, R&D intensity in Finland was 2.76% of GDP composed of 65% private investment (1.80% of GDP) and 34% public investment (0.94% of GDP). No progress towards the target has been made. While public R&D intensity has increased by 0.3 % per year in 2007-2017, business expenditure on R&D as a percentage of GDP decreased by 2.6 % per year over the same period, resulting in an annual decrease of total R&D intensity by 1.8 % since 2007. Finland will not reach its national target for 2020 unless the trend in business expenditure can be markedly reversed.
National greenhouse gas (GHG) emissions target: - 16 % in 2020 compared with 2005 (in sectors not included in the EU emissions trading scheme)	Projected emissions in 2020: -15 % compared to 2005 According to the latest national projections submitted to the Commission, and taking into account existing measures, Finland is expected to miss its 2020 emissions target by a small margin of 0.7 %. Non-ETS emissions in 2017: -9 % Finland missed its interim target for 2017 by 2 percentage points.
2020 renewable energy target: 38 %	Despite a significantly reduction of the contribution from biofuels use in transport compared to 2015, the share of renewable energy in gross final energy consumption reached 41 % in 2017, already exceeding the 2020 target. The contribution of heating and cooling, with almost a 54.85 % RES-share for that sector, is increasing.

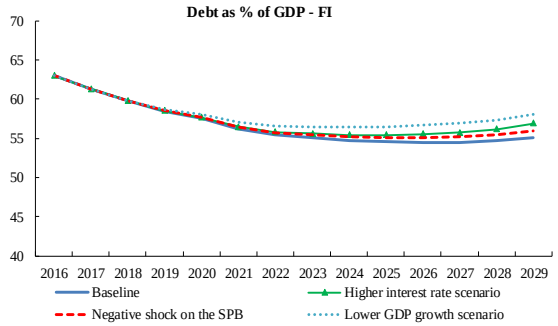
Energy efficiency, 2020 energy consumption targets: Finland's 2020 energy efficiency target is 35.9 Mtoe expressed in primary energy consumption (26.7 Mtoe expressed in final energy consumption)	Finland reduced its primary energy consumption by 1.1 % from 32.1 Mtoe in 2016 to 31.7 Mtoe in 2017. Final energy consumption remained stable at 25.2 Mtep in 2017. Finland has already levels of primary and final energy consumption that are below the indicative national 2020 targets. After an increase in 2016, the stabilisation (slight decrease of primary energy) observed in 2017 should be sustained to ensure the targets will be met in 2020.
Early school/training leaving target: 8 %.	Finland registered an increase in early school leaving in 2017 to 8.2 %, a 0.3 % pp increase compared to the previous year.
Tertiary education target: 42 % of population aged 30-34.	Finland registered a decrease in tertiary attainment by 1.5 pps to 44.6 % in 2017.
Target for reducing the number of people at risk of poverty or social exclusion, expressed as an absolute number of people: 770 000 (base year 2010: 911 000).	In 2017, the number of people in Finland at risk of poverty or social inclusion was 849 000, a decrease of 52 000 since 2008 and a decrease of 48 000 since 2016.

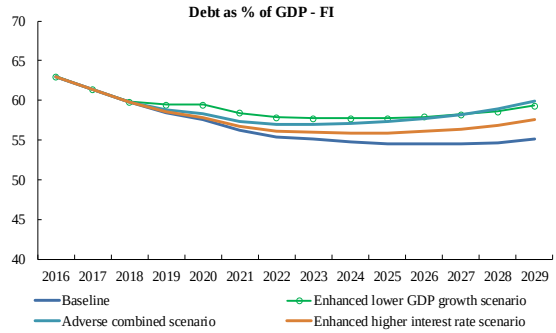
ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

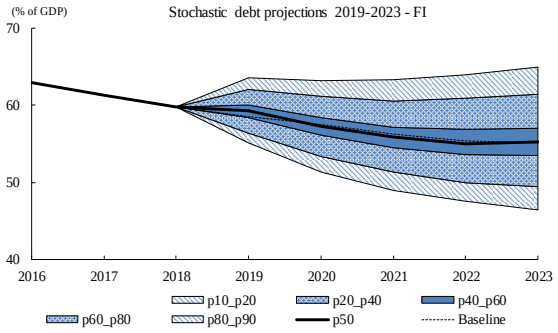
General Government debt projections under baseline, alternative scenarios and sensitivity tests

FI - Debt projections baseline scenario	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Gross debt ratio	**61.3**	**59.8**	**58.5**	**57.5**	**56.2**	**55.4**	**55.1**	**54.8**	**54.6**	**54.5**	**54.5**	**54.7**	**55.1**
Changes in the ratio (-1+2+3)	*-1.7*	*-1.5*	*-1.4*	*-0.9*	*-1.3*	*-0.8*	*-0.3*	*-0.3*	*-0.2*	*-0.1*	*0.0*	*0.2*	*0.5*
of which													
(1) Primary balance (1.1+1.2+1.3)	**0.3**	**0.1**	**0.6**	**0.7**	**0.5**	**0.1**	**-0.2**	**-0.3**	**-0.4**	**-0.5**	**-0.5**	**-0.6**	**-0.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.8***	***0.0***	***0.2***	***0.2***	***0.1***	***-0.1***	***-0.2***	***-0.3***	***-0.4***	***-0.5***	***-0.5***	***-0.6***	***-0.8***
(1.1.1) Structural primary balance (bef. CoA)	*0.8*	*0.0*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
(1.1.2) Cost of ageing					*0.2*	*0.5*	*0.8*	*1.0*	*1.2*	*1.4*	*1.6*	*1.8*	*1.9*
(1.1.3) Others (taxes and property incomes)					*0.1*	*0.3*	*0.4*	*0.5*	*0.7*	*0.8*	*0.9*	*1.0*	*1.0*
(1.2) Cyclical component	***-0.5***	***0.2***	***0.3***	***0.5***	***0.4***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***-0.1***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3)	**-1.2**	**-1.4**	**-1.3**	**-1.4**	**-0.9**	**-0.7**	**-0.5**	**-0.6**	**-0.6**	**-0.6**	**-0.5**	**-0.4**	**-0.3**
(2.1) Interest expenditure	*1.0*	*0.9*	*0.8*	*0.8*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.1*	*1.2*	*1.3*	*1.4*
(2.2) Growth effect	*-1.7*	*-1.7*	*-1.3*	*-1.1*	*-0.6*	*-0.4*	*-0.4*	*-0.5*	*-0.5*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(2.3) Inflation effect	*-0.5*	*-0.5*	*-0.9*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*
(3) Stock-flow adjustments	**-0.2**	**0.0**	**0.6**	**1.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**









Short term	Medium term	S1	Debt sustainability analysis (detail)							DSA	S2	Long term
				Baseline	Historical SPB	Lower GDP growth	Higher interest rate	Negative shock on SPB	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2029)	55.1	44.0	58.1	56.9	56.0				
			Debt peak year	2018	2018	2018	2018	2018				
			Percentile rank	55.0%	34.0%							
			Probability debt higher						27.2%			
			Dif. between percentiles						18.6			
LOW (S0 = 0.1)	LOW	LOW (S1 = -0.1)								LOW	MEDIUM (S2 = 2.7)	MEDIUM

Note: For further information, see the European Commission Fiscal Sustainability Report (FSR) 2018.

[1] The first table presents the baseline no-fiscal policy change scenario projections. It shows the projected government debt dynamics and its decomposition between the primary balance, snowball effects and stock-flow adjustments. Snowball effects measure the net impact of the counteracting effects of interest rates, inflation, real GDP growth (and exchange rates in some countries). Stock-flow adjustments include differences in cash and accrual accounting, net accumulation of assets, as well as valuation and other residual effects.

[2] The charts present a series of sensitivity tests around the baseline scenario, as well as alternative policy scenarios, in particular: the historical structural primary balance (SPB) scenario (where the SPB is set at its historical average), the Stability and Growth Pact (SGP) scenario (where fiscal policy is assumed to evolve in line with the main provisions of the SGP), a higher interest rate scenario (+1 pp. compared to the baseline), a lower GDP growth scenario (-0.5 pp. compared to the baseline) and a negative shock on the SPB (calibrated on the basis of the forecasted change). An adverse combined scenario and enhanced sensitivity tests (on the interest rate and growth) are also included, as well as stochastic projections. Detailed information on the design of these projections can be found in the FSR 2018.

[3] The second table presents the overall fiscal risk classification over the short, medium and long-term.

a. For the short-term, the risk category (low/high) is based on the S0 indicator. S0 is an early-detection indicator of fiscal stress in the upcoming year, based on 25 fiscal and financial-competitiveness variables that have proven in the past to be leading indicators of fiscal stress. The critical threshold beyond which fiscal distress is signalled is 0.46.

b. For the medium-term, the risk category (low/medium/high) is based on the joint use of the S1 indicator and of the DSA results. The S1 indicator measures the fiscal adjustment required (cumulated over the 5 years following the forecast horizon and sustained thereafter) to bring the debt-to-GDP ratio to 60 % by 2033. The critical values used are 0 and 2.5 pps. of GDP. The DSA classification is based on the results of 5 deterministic scenarios (baseline, historical SPB, higher interest rate, lower GDP growth and negative shock on the SPB scenarios) and the stochastic projections. Different criteria are used such as the projected debt level, the debt path, the realism of fiscal assumptions, the probability of debt stabilisation, and the size of uncertainties.

c. For the long-term, the risk category (low/medium/high) is based on the joint use of the S2 indicator and the DSA results. The S2 indicator measures the upfront and permanent fiscal adjustment required to stabilise the debt-to-GDP ratio over the infinite horizon, including the costs of ageing. The critical values used are 2 and 6 pps. of GDP. The DSA results are used to further qualify the long-term risk classification, in particular in cases when debt vulnerabilities are identified (a medium / high DSA risk category).

ANNEX C: STANDARD TABLES

Table C.1: **Financial market indicators**

	2013	2014	2015	2016	2017	2018
Total assets of the banking sector (% of GDP)[1)]	258,3	281,9	265,3	253,2	201,9	208,5
Share of assets of the five largest banks (% of total assets)	87,1	89,7	88,0	80,5	73,5	-
Foreign ownership of banking system (% of total assets)[2)]	71,2	71,6	67,5	65,5	54,0	54,3
Financial soundness indicators:[2)]						
- non-performing loans (% of total loans)	-	1,6	1,5	1,4	1,2	1,1
- capital adequacy ratio (%)	16,3	17,5	23,8	24,6	23,4	22,8
- return on equity (%)[3)]	8,1	9,1	8,3	8,7	8,8	6,2
Bank loans to the private sector (year-on-year % change)[1)]	6,3	3,8	0,2	1,6	3,1	3,8
Lending for house purchase (year-on-year % change)[1)]	2,3	1,7	2,5	2,3	2,2	1,9
Loan to deposit ratio[2)]	-	103,6	102,4	94,3	94,8	92,8
Central Bank liquidity as % of liabilities[1)]	-	0,4	0,3	1,9	2,5	2,0
Private debt (% of GDP)	147,7	149,8	152,9	148,5	146,4	-
Gross external debt (% of GDP)[2)] - public	45,9	53,9	52,0	48,5	46,3	41,5
- private	43,7	43,9	48,4	44,3	46,0	45,9
Long-term interest rate spread versus Bund (basis points)*	29,2	28,6	22,4	27,5	23,1	25,7
Credit default swap spreads for sovereign securities (5-year)*	25,1	24,0	20,6	24,4	19,0	10,3

1) Latest data Q3 2018. Includes not only banks but all monetary financial institutions excluding central banks.
2) Latest data Q2 2018.
3) Quarterly values are annualised.
* Measured in basis points.
Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); European Central Bank (all other indicators).

Table C.2: **Headline Social Scoreboard indicators**

	2013	2014	2015	2016	2017	2018 [6]
Equal opportunities and access to the labour market						
Early leavers from education and training (% of population aged 18-24)	9,3	9,5	9,2	7,9	8,2	:
Gender employment gap (pps)	2,8	1,9	2,1	3,3	3,5	3,7
Income inequality, measured as quintile share ratio (S80/S20)	3,6	3,6	3,6	3,6	3,5	:
At-risk-of-poverty or social exclusion rate[1] (AROPE)	16,0	17,3	16,8	16,6	15,7	:
Young people neither in employment nor in education and training (% of population aged 15-24)	9,3	10,2	10,6	9,9	9,4	:
Dynamic labour markets and fair working conditions[†]						
Employment rate (20-64 years)	73,3	73,1	72,9	73,4	74,2	76,2
Unemployment rate[2] (15-74 years)	8,2	8,7	9,4	8,8	8,6	7,4
Long-term unemployment rate[3] (as % of active population)	1,7	1,9	2,3	2,3	2,1	1,7
Gross disposable income of households in real terms per capita[4] (Index 2008=100)	102,6	101,4	102,6	103,5	104,2	:
Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average)	24085	24154	24346	24545	:	:
Annual net earnings of a full-time single worker without children earning an average wage (percentage change, real terms, three-year average)	-0,7	-0,8	-0,2	0,3	:	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction[5]	55,3	53,6	53,7	57,0	56,9	:
Children aged less than 3 years in formal childcare	28,0	33,2	32,5	32,7	33,3	:
Self-reported unmet need for medical care	4,3	3,3	4,3	4,1	3,6	:
Individuals who have basic or above basic overall digital skills (% of population aged 16-74)	:	:	74,0	73,0	76,0	:

1 People at risk of poverty or social exclusion: individuals who are at risk of poverty and/or suffering from severe material deprivation and/or living in households with zero or very low work intensity.
2 Unemployed persons are all those who were not employed but had actively sought work and were ready to begin working immediately or within two weeks.
3 Long-term unemployed are people who have been unemployed for at least 12 months.
4 Gross disposable household income is defined in unadjusted terms, according to the draft Joint Employment Report 2019.
5 Reduction in percentage of the risk of poverty rate, due to social transfers (calculated comparing at-risk-of poverty rates before social transfers with those after transfers; pensions are not considered as social transfers in the calculation).
6 Average of first three quarters of 2018 for the employment rate, unemployment rate and gender employment gap. Data for unemployment rate is seasonally adjusted (annual series, for EE, EL, HU, IT and UK data based on first three quarters of 2018).
Source: European Commission

Table C.3: **Labour market and education indicators**

Labour market indicators	**2013**	**2014**	**2015**	**2016**	**2017**	**2018** [4]
Activity rate (15-64)	75,2	75,4	75,8	75,9	76,7	:
Employment in current job by duration						
From 0 to 11 months	16,5	16,1	16,0	17,6	18,5	:
From 12 to 23 months	9,6	9,1	8,4	8,6	9,3	:
From 24 to 59 months	15,3	16,7	16,4	14,9	14,4	:
60 months or over	58,4	57,9	58,9	58,7	57,7	:
Employment growth* (% change from previous year)	-0,7	-0,5	-0,1	0,5	1,2	2,6
Employment rate of women (% of female population aged 20-64)	71,9	72,1	71,8	71,7	72,4	74,4
Employment rate of men (% of male population aged 20-64)	74,7	74,0	73,9	75,0	75,9	78,0
Employment rate of older workers* (% of population aged 55-64)	58,5	59,1	60,0	61,4	62,5	65,3
Part-time employment* (% of total employment, aged 15-64)	14,0	14,1	14,1	14,9	15,0	15,1
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	15,3	15,4	15,1	15,6	15,8	16,6
Participation in activation labour market policies (per 100 persons wanting to work)	28,4	29,0	26,8	27,4	:	:
Transition rate from temporary to permanent employment (3-year average)	31,4	31,1	28,8	25,9	:	:
Youth unemployment rate (% active population aged 15-24)	19,9	20,5	22,4	20,1	20,1	17,0
Gender gap in part-time employment	10,6	10,1	9,0	10,2	10,6	10,2
Gender pay gap[1] (in undadjusted form)	18,8	18,4	17,6	17,4	16,7	:
Education and training indicators	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Adult participation in learning (% of people aged 25-64 participating in education and training)	24,9	25,1	25,4	26,4	27,4	:
Underachievement in education[2]	:	:	13,6	:	:	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	45,1	45,3	45,5	46,1	44,6	:
Variation in performance explained by students' socio-economic status[3]	:	:	10,0	:	:	:

* Non-scoreboard indicator

1 Difference between the average gross hourly earnings of male paid employees and of female paid employees as a percentage of average gross hourly earnings of male paid employees. It is defined as "unadjusted", as it does not correct for the distribution of individual characteristics (and thus gives an overall picture of gender inequalities in terms of pay). All employees working in firms with ten or more employees, without restrictions for age and hours worked, are included.

2 Programme for International Student Assessment results for low achievement in mathematics for 15 year-olds.

3 Impact of socio-economic and cultural status on Programme for International Student Assessment scores. Values for 2012 and 2015 refer respectively to mathematics and science.

4 Average of first three quarters of 2018. Data for youth unemployment rate is seasonally adjusted (annual series, for EE, EL, HU, IT and UK data based on first three quarters of 2018).

Source: European Commission, Organisation for Economic Co-operation and Development.

Table C.4: **Social inclusion and health indicators**

Expenditure on social protection benefits* (% of GDP)						
Sickness/healthcare	7,4	7,5	7,5	7,4	7,1	:
Disability	3,4	3,4	3,4	3,2	3,1	:
Old age and survivors	11,9	12,5	13,0	13,4	13,6	:
Family/children	3,2	3,3	3,2	3,2	3,1	:
Unemployment	2,0	2,3	2,6	2,7	2,6	:
Housing	0,5	0,6	0,6	0,7	0,8	:
Social exclusion n.e.c.	0,9	0,9	0,9	0,9	1,1	:
Total	29,3	30,3	31,1	31,5	31,3	:
of which: means-tested benefits	1,5	1,6	1,8	1,9	2,0	:
General government expenditure by function (% of GDP, COFOG)						
Social protection	23,8	24,8	25,4	25,6	25,6	:
Health	8,2	8,3	8,3	7,3	7,2	:
Education	6,4	6,4	6,4	6,2	6,1	:
Out-of-pocket expenditure on healthcare (% of total health expenditure)	18,7	19,0	19,0	19,7	20,4	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	14,9	13,0	15,6	14,9	14,7	15,1
At-risk-of-poverty rate[1] (% of total population)	13,2	11,8	12,8	12,4	11,6	11,5
In-work at-risk-of-poverty rate (% of persons employed)	3,8	3,7	3,7	3,5	3,1	2,7
Severe material deprivation rate[2] (% of total population)	2,9	2,5	2,8	2,2	2,2	2,1
Severe housing deprivation rate[3], by tenure status						
Owner, with mortgage or loan	0,3	0,1	0,2	0,2	0,1	0,2
Tenant, rent at market price	3,0	2,0	2,4	1,8	2,4	1,9
Proportion of people living in low work intensity households[4] (% of people aged 0-59)	9,3	9,0	10,0	10,8	11,4	10,7
Poverty thresholds, expressed in national currency at constant prices*	12082	12009	11965	11852	11815	11936
Healthy life years (at the age of 65)						
Females	9,0	:	9,3	9,0	8,9	:
Males	8,4	:	8,8	9,3	9,4	:
Aggregate replacement ratio for pensions[5] (at the age of 65)	0,5	0,5	0,5	0,5	0,5	0,5
Connectivity dimension of the Digital Economy and Society Inedex (DESI)[6]	:	:	56,1	61,0	61,7	64,5
GINI coefficient before taxes and transfers*	48,2	48,5	49,1	49,2	50,3	50,2
GINI coefficient after taxes and transfers*	25,9	25,4	25,6	25,2	25,4	25,3

* Non-scoreboard indicator
1 At-risk-of-poverty rate (AROP): proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.
2 Proportion of people who experience at least four of the following forms of deprivation: not being able to afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.
3 Percentage of total population living in overcrowded dwellings and exhibiting housing deprivation.
4 People living in households with very low work intensity: proportion of people aged 0-59 living in households where the adults (excluding dependent children) worked less than 20 % of their total work-time potential in the previous 12 months.
5 Ratio of the median individual gross pensions of people aged 65-74 relative to the median individual gross earnings of people aged 50-59.
6 Fixed broadband take up (33%), mobile broadband take up (22%), speed (33%) and affordability (11%), from the Digital Scoreboard.
Source: European Commission, Organisation for Economic Co-operation and Development

Table C.5: **Product market performance and policy indicators**

Performance indicators	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Labour productivity per person[1] growth (t/t-1) in %						
Labour productivity growth in industry	-8,39	3,69	2,50	-0,11	3,04	6,02
Labour productivity growth in construction	-5,04	-0,69	-2,35	1,50	0,35	0,14
Labour productivity growth in market services	-0,24	-1,46	-0,22	0,97	1,27	1,84
Unit Labour Cost (ULC) index[2] growth (t/t-1) in %						
ULC growth in industry	11,75	-2,81	-0,95	2,54	-1,64	-6,59
ULC growth in construction	8,46	3,02	2,22	-0,31	1,00	1,38
ULC growth in market services	2,54	3,79	0,68	0,19	0,67	-0,81
Business environment	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Time needed to enforce contracts[3] (days)	375	485	485	485	485	485
Time needed to start a business[3] (days)	17,0	17,0	17,0	17,0	17,0	17,0
Outcome of applications by SMEs for bank loans[4]	0,23	0,41	0,57	0,23	0,26	0,39
Research and innovation	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
R&D intensity	3,42	3,29	3,17	2,90	2,74	2,76
General government expenditure on education as % of GDP	6,40	6,40	6,40	6,20	6,10	:
Employed people with tertiary education and/or people employed in science and technology as % of total employment	50	51	52	52	53	53
Population having completed tertiary education[5]	33	34	35	36	36	36
Young people with upper secondary education[6]	86	86	86	87	88	87
Trade balance of high technology products as % of GDP	-0,87	-1,02	-0,98	-1,23	-1,40	-1,40
Product and service markets and competition				**2003**	**2008**	**2013**
OECD product market regulation (PMR)[7], overall				1,49	1,34	1,29
OECD PMR[7], retail				2,86	2,89	2,86
OECD PMR[7], professional services				0,61	0,71	0,62
OECD PMR[7], network industries[8]				2,72	2,61	2,47

1 Value added in constant prices divided by the number of persons employed.
2 Compensation of employees in current prices divided by value added in constant prices.
3 The methodologies, including the assumptions, for this indicator are shown in detail here: http://www.doingbusiness.org/methodology.
4 Average of the answer to question Q7B_a. "[Bank loan]: If you applied and tried to negotiate for this type of financing over the past six months, what was the outcome?". Answers were codified as follows: zero if received everything, one if received 75% and above, two if received below 75%, three if refused or rejected and treated as missing values if the application is still pending or don't know.
5 Percentage population aged 15-64 having completed tertiary education.
6 Percentage population aged 20-24 having attained at least upper secondary education.
7 Index: 0 = not regulated; 6 = most regulated. The methodologies of the Organisation for Economic Co-operation and Development product market regulation indicators are shown in detail here: http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm
8 Aggregate Organisation for Economic Co-operation and Development indicators of regulation in energy, transport and communications (ETCR).
Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); Organisation for Economic Co-operation and Development (for the product market regulation indicators); SAFE (for outcome of SMEs' applications for bank loans).

Table C.6: **Green growth**

Green growth performance		2012	2013	2014	2015	2016
Macroeconomic						
Energy intensity	kgoe / €	0,18	0,18	0,18	0,17	0,18
Carbon intensity	kg / €	0,33	0,34	0,32	0,30	0,31
Resource intensity (reciprocal of resource productivity)	kg / €	0,95	1,08	0,91	0,90	0,90
Waste intensity	kg / €	0,49	-	0,51	-	0,64
Energy balance of trade	% GDP	-2,6	-2,6	-2,4	-1,8	-1,4
Weighting of energy in HICP	%	8,37	8,12	7,84	7,63	7,09
Difference between energy price change and inflation	%	-3,2	-1,6	-2,6	-2,3	-1,3
Real unit of energy cost	% of value added	17,2	17,0	15,1	15,5	15,8
Ratio of environmental taxes to labour taxes	ratio	0,13	0,13	0,13	0,13	0,14
Environmental taxes	% GDP	3,0	2,9	2,9	2,9	3,1
Sectoral						
Industry energy intensity	kgoe / €	0,23	0,23	0,23	0,23	0,23
Real unit energy cost for manufacturing industry excl. refining	% of value added	19,9	19,8	18,4	19,3	20,1
Share of energy-intensive industries in the economy	% GDP	10,8	10,9	10,8	10,7	10,6
Electricity prices for medium-sized industrial users	€ / kWh	0,07	0,07	0,07	0,07	0,07
Gas prices for medium-sized industrial users	€ / kWh	0,05	0,05	0,05	0,04	0,04
Public R&D for energy	% GDP	0,08	0,08	0,08	0,08	0,03
Public R&D for environmental protection	% GDP	0,02	0,01	0,01	0,01	0,02
Municipal waste recycling rate	%	33,3	32,5	32,5	40,6	42,0
Share of GHG emissions covered by ETS*	%	48,5	49,9	48,8	45,8	46,5
Transport energy intensity	kgoe / €	0,53	0,53	0,54	0,58	0,59
Transport carbon intensity	kg / €	1,34	1,34	1,27	1,29	1,46
Security of energy supply						
Energy import dependency	%	47,2	50,0	50,2	48,2	46,0
Aggregated supplier concentration index	HHI	68,1	68,3	67,4	67,6	67,2
Diversification of energy mix	HHI	0,20	0,20	0,21	0,21	0,21

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2010 prices)
Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR)
Carbon intensity: greenhouse gas (GHG) emissions (in kg CO2 equivalents) divided by GDP (in EUR)
Resource intensity: domestic material consumption (in kg) divided by GDP (in EUR)
Waste intensity: waste (in kg) divided by GDP (in EUR)
Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP
Weighting of energy in the harmonised index of consumer prices: the proportion of 'energy' items in the consumption basket used for the construction of the harmonised index of consumer prices
Difference between energy price change and inflation: energy component of harmonised index of consumer prices (HICP), and total harmonised index of consumer prices inflation (annual % change)
Real unit energy cost: real energy costs as % of total value added for the economy
Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2010 EUR)
Real unit energy costs for manufacturing industry excluding refining : real costs as % of value added for manufacturing sectors
Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP
Electricity and gas prices for medium-sized industrial users: consumption band 500–20 00MWh and 10 000–100 000 GJ; figures excl. value added tax.
Recycling rate of municipal waste: ratio of recycled and composted municipal waste to total municipal waste
Public R&D for energy or for the environment: government spending on R&D for these categories as % of GDP
Proportion of greenhouse gas emissions covered by EU emissions trading system (ETS) (excluding aviation): based on greenhouse gas emissions
(excl land use, land use change and forestry) as reported by Member States to the European Environment Agency.
Transport energy intensity: final energy consumption of transport activity (kgoe) divided by transport industry gross value added (in 2010 EUR)
Transport carbon intensity: greenhouse gas emissions in transport activity divided by gross value added of the transport industry
Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels
Aggregated supplier concentration index: covers oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.
Diversification of the energy mix: Herfindahl index covering natural gas, total petrol products, nuclear heat, renewable energies and solid fuels
* European Commission and European Environment Agency
Source: European Commission and European Environment Agency (Share of GHG emissions covered by ETS); European Commission (Environmental taxes over labour taxes and GDP); Eurostat (all other indicators)

ANNEX D: INVESTMENT GUIDANCE ON COHESION POLICY FUNDING 2021-2027 FOR FINLAND

Building on the Commission proposal for the next Multi-Annual Financial Framework for the period 2021-2027 of 2 May 2018 (COM (2018) 321), this Annex presents the preliminary Commission services views on priority investment areas and framework conditions for effective delivery for the 2021-2027 Cohesion Policy. These priority investment areas are derived from the broader context of investment bottlenecks, investment needs and regional disparities assessed in the report. This Annex provides the basis for a dialogue between Finland and the Commission services in view of the programming of the cohesion policy funds (European Regional Development Fund and European Social Fund Plus) ([33]).

Policy Objective 1: A Smarter Europe – Innovative and smart industrial transformation

Despite the focus on building a well-functioning innovation ecosystem, business research and development intensity, public research and development support and other innovation expenditure of firms have declined, and scope for improvement remains for science-business cooperation and internationalisation. Priority investment needs ([34]) have therefore been identified to **enhance research and innovation capacities and the uptake of advanced technologies,** where appropriate, in line with regional smart specialization strategies, and in particular to:

- strengthen innovation performance and foster productivity growth by identifying smart specialisation areas on the basis of national and regional needs and potential; develop research, competence and innovation clusters that draw from regional strengths in all regions, notably in northern sparsely populated and other transition regions; including making use of piloting, testing and demonstration environments; advancing development platforms; and increasing business-academia cooperation as well as interregional cooperation in new value chains, also across borders within the framework of any relevant strategy, markedly the EU Strategy for Baltic Sea Region;

- strengthen innovation work in companies; including promoting the development and commercialization of products, services and production methods and introduction of new technologies; supporting prototypes, piloting and demonstrations of new products, materials and production methods; developing applied research, studies and experiments as well operational and commercialization processes that support businesses; enhancing innovations that reduce harmful environmental effects and risks; and promoting research and development and innovation activities related to the quality and sustainable use of environment and resources that create important preconditions for businesses, as well as corresponding piloting and demonstration actions.

The proportion of fast-growing innovative firms and start-up rates remain below the EU average. Priority investment needs have therefore been identified to **enhance the growth and competitiveness of small and medium-sized enterprises** in line with the smart specialization strategy, and in particular to:

- create new business activities; including supporting start-ups and development of new business, as well as commercialization and entry into market of small and medium-sized enterprises´ ideas, products and services;

- promote small and medium-sized enterprises growth and expansion abroad; including strengthening the business competence and readiness to expand abroad of growth-oriented companies aiming to international markets; supporting investments and development projects by small and medium-sized

([33]) This Annex is to be considered in conjunction with the Proposal for a Regulation of the European Parliament and of the Council on the European Regional Development Fund and on the Cohesion Fund COM(2018) 372 and in the Proposal for a Regulation of the European Parliament and of the Council on the European Social Fund Plus COM(2018) 382 and in particular the requirements for thematic concentration and urban earmarking outlined in these proposals.

([34]) The intensity of needs is classified in three categories in a descending order - high priority needs, priority needs, needs.

enterprises; developing company clusters, networks and other forms of cooperation, involving also large companies and including improving the visibility of the Baltic Sea Region as a cluster of entrepreneurship to attract investment and expertise.

Even though Finland is among the advanced digital economies in the EU, digital transformation of public services require a sustained effort, digital public services for businesses remain limited, significant differences persist among businesses in integration of digital technology, e-commerce and selling online cross-border lag behind. Investment needs have therefore been identified to **reap the benefits of digitisation for citizens, companies and governments**, and in particular to:

- increase Information and Communications Technology up-take in small and medium-sized enterprises;
- enhance e-government and e-services, including the take-up of Europe wide and cross-border interoperable services.

Finland's innovation leadership lacks economic impact, skills shortages persist, and knowledge transfer remains insufficient. Investment needs have therefore been identified to **develop skills for smart specialisation, industrial transition and entrepreneurship**, and in particular to:

- promote innovation management in small and medium-sized enterprises; and support reskilling for smart specialization areas within firms, regions and smart cities, including in cooperation with the Baltic Sea Region;
- develop capacities of higher education and research institutions to enhance the commercial viability and market relevance of their research projects as well as to take part and cooperate in interactive and open innovation processes; and strengthen the integration of education and training institutions with innovation ecosystems, also across borders.

Policy Objective 4: A more social Europe – Implementing the European Pillar of Social Rights

The unemployment and inactivity rates are higher than in Nordic peers. The labour force is shrinking due to ageing. Priority investment needs have therefore been identified to **improve access to employment**, and in particular to:

- provide integrated support and services to unemployed and inactive, including for young people;
- support self-employment, entrepreneurship and business creation;
- develop work-life balance policies;
- mobilise the social partners, civil society and enterprises to address discrimination, gender inclusivity and the gender pay gap in the labour market.

Labour shortages are reported across sectors. The educational outcome for certain groups is markedly lower than the national average. High priority investment needs have therefore been identified to **promote life-long learning, notably flexible upskilling and reskilling opportunities for all, better anticipate change and new skills requirements based on labour market needs, facilitate career transitions and promote professional mobility**, and in particular to:

- support flexible learning pathways throughout the lifecycle, when relevant in cooperation with social partners, civil society and other stakeholders;
- support employers in fully utilising the human capital, adapting to change, developing workforce training and stimulating professional mobility;
- fight early school leaving for at-risk groups and improve transitions from school to work.

Inactivity rates, especially for men, are higher than in Nordic peers. Priority investment needs have therefore been identified to **foster active inclusion with a view to promoting equal opportunities and active participation, and improving employability**, and in particular to:

- develop integrated policies and services to increase social inclusion, including community based and long-term care services;
- ensure an effective move from activation measures towards employment, including for migrants and people with disabilities;
- address material deprivation through food assistance to the most deprived, including accompanying measures.[2]

Factors for effective delivery of Cohesion policy

- support social innovation, social experimentations and up-scaling of innovative approaches;
- adequate participation of social partners, civil society and other stakeholders in the delivery of the policy objectives;
- increased capacities of intermediate bodies and beneficiaries to prepare and implement projects;
- broader use of financial instruments and/or contribution to Finland´s compartment under InvestEU for revenue-generating and cost-saving activities;
- where appropriate build on the lessons learnt in East-North Finland during the implementation of the Commission pilot project on industrial transition.

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