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2020 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011

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EXECUTIVE SUMMARY

The Finnish economy faces some structural challenges, but the announced government policies, if fully implemented, could go some way towards reducing the problems identified ([1]). Finland is among the most advanced economies in the EU and among the front-runners in digital technologies and clean energy innovation. The government has also set particularly ambitious objectives for climate action, reaching carbon neutrality by 2035 and becoming the world's first fossil-free welfare society. Nevertheless, the country faces significant challenges, in particular a productivity decline after its electronic sector contracted and an ageing population combined with an employment rate lower than its Nordic neighbours. Furthermore, productive investment in Finland remains low compared to its EU peers. Addressing these challenges will strengthen the growth potential of the economy and make it more inclusive and resilient to external shocks. The medium-term reform plans announced by the new government look promising, although they may face political and implementation hurdles.

Finland's business cycle has passed its peak. Real GDP is expected to have increased by 1.4% in 2019 after 1.7% in 2018 and 3.1% in 2017. Lower GDP growth results mainly from lower net exports and less dynamic investment, in particular investment in equipment. Lower employment growth is weighing on consumer spending, while construction of residential housing is clearly decelerating. Inflation remains close to the EU average. Finland's economic growth is projected to slow down from 2.1% over the previous three years to an average annual rate of 1.0% in 2020-2021. In the coming years, public investment is expected to partly offset the loss of momentum in global trade expansion.

The country's shrinking workforce is set to affect growth potential relatively soon as well as the long-term sustainability of public finances. The workforce appears to be ageing faster than previously estimated. As a result, the labour force's contribution to potential GDP growth is expected to turn negative as early as 2021. The decline in the working-age population and the ageing of the overall population are soon expected to have a negative impact on public finances, notably through increasing health care, long-term care and pension expenditure weighing directly on the sustainability of public finances.

Raising employment to the declared target of 75% could help Finland deal with the demographic challenge and improve the sustainability of public finances. A major objective for the new government is to attain a 75% employment rate (15-64-year olds) by 2023 (72.6% in 2019). It will require a large range of measures, especially in a low economic growth context. In particular, several characteristics of the labour market and of the social benefit system tend to affect the job opportunities of people who belong to some specific groups, while rising vacancy rates and labour shortages suggest a need to invest in skills. Tackling these issues could require structural reforms of the social benefit system, which could be politically challenging. These could include addressing the 'unemployment tunnel', which allows extended unemployment benefit to older people ahead of the statutory retirement age.

Raising productivity appears to be key to offsetting the negative impact of the demographic challenge. Investment remains below EU average for categories that most support productivity growth, notably investment in equipment and in intellectual property. This impedes the growth potential and weighs on the country's competitiveness. Furthermore, labour shortages in high-skilled sectors suggest a need for investing in skills that contribute to higher productivity. The new government's plans to increase public investment in the coming years, notably in skills, education, R&D and infrastructure, could strengthen the economy's capacity to face these challenges.

Focusing investment-related economic policy on human capital, on research and innovation, on low carbon and energy transition, and on sustainable transport, would strengthen the country's long-term growth potential. While the

([1]) This report assesses Finland's economy in light of the European Commission's annual sustainable growth strategy, published on 17 December 2019. In this document, the Commission sets out a new strategy on how to address not only the short-term economic challenges but also the economy's longer-term challenges. This new economic agenda of competitive sustainability rests on four dimensions: environmental sustainability, productivity gains, fairness and macroeconomic stability.

overall investment level in Finland appears largely satisfactory, investing further in people's skills, education and training and in coordinated professional services available 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 investment in social inclusion. The ratio of R&D to GDP has not recovered since the crisis years and appears to be insufficient to diversify exports towards higher tech goods in the medium term. The decarbonisation of energy-intensive industries and the transport sector will also require higher private and public investment.

Finland has made limited ([2]) progress in addressing the 2019 country-specific recommendations.

There has been some progress in the following area:

- Reforms are being implemented to strengthen skills and inclusion, notably through well-integrated services and higher funding for continuous learning in vocational education and training and tertiary education.

- Measures to mitigate risks to the financial system as a whole have been adopted and other measures are being drafted to strengthen the monitoring of the household debt.

There has been limited progress in the following areas:

- The government plans to continue the social and healthcare reform initiated by Juha Sipilä's government (2015-2019). The reform is expected to be adopted by the end of the government's term.

- Improving incentives to work is a long-term process that entails simplifying the complex benefit system, while keeping its capacity to reduce poverty and inequalities. The benefits system reform process is expected to be implemented gradually over two government terms (to be completed by 2027).

- As regards investment-related economic policy on research and innovation, low carbon and energy transition and sustainable transport, the Finnish government has announced plans to strengthen investment in these areas.

- Work on the credit registry is still in the planning phase: the necessary legislative work on data protection has started in early 2020, while work on the credit registry itself might incur delays. The authorities are committed to having the necessary legislation in place by 2023.

- **Finland performs well on the indicators of the Social Scoreboard supporting the European Pillar of Social rights.** The good overall results reflect Finland's advanced welfare model with a strong social dialogue. Income inequalities are among the lowest in the EU and few people are at risk of poverty or social exclusion. Finland continues to have an education system that generally performs well. It scores well on digital skills, although a lack of specialists seems to create obstacles for companies in the information and communication services sector. Access to health care remains a concern, given the relatively high unmet health care needs.

Regarding progress in reaching the national targets under the Europe 2020 strategy, the employment rate target of 78% (20-64-years old) appears to be within reach, although the low-growth environment may pose challenges. The poverty rate is low compared to the EU average, but recently it has slightly increased and the national target seems to be out of reach. The school-drop-out rate ('early school leaving') remained slightly above the target of 8%. The very ambitious R&D investment target of 4% of GDP is unlikely to be met. However, Finland is broadly on track to reaching its 2020 climate and energy targets.

Finland is a front-runner in integrating the United Nations Sustainable Development Goals (SDGs) into public policies, and performs better than the EU average on most of those. Moreover, the country is further improving its ranking for most

([2]) 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.

SDGs, but with significant progress made on SDG8 — decent work and economic growth, while it is moving moderately away from SDG9 on industry, innovation and infrastructure ([3]).

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

- **Weaknesses in the policy framework have hindered the participation of certain groups in the labour market.** These groups notably include low-skilled men, workers close to retirement, people with a migrant background, people with partial work ability and persons with disabilities. Spending on policies to help people find or stay in work is lower in Finland than in other Nordic countries. Moreover, dispersed services for the unemployed and inactive may hinder the activation the activation of some specific groups in the labour marget.

- **Other factors holding back employment are related to weak incentives inherent in the complex social benefit system.** Unemployment and inactivity traps and lack of flexibility in combining income from part-time work and various benefits may somewhat hold back an increase in the employment rate. The government plans to address these issues, including through a long-term reform of the social benefit system; however, the reform is at an early stage of preparation and cannot be assessed yet.

- **Demographic trends pose some risks for the sustainability of public finances and accessibility of health and long-term care services.** Finland's shrinking workforce and the ageing-related long-term trends in spending is set to affect the long-term sustainability of the country's public finances (see above). Furthermore, the high unmet health care needs remain a concern, especially for people not covered by occupational insurance. A major reform of the healthcare system is currently being considered and is expected to be largely based on the plans and objectives of Juha Sipilä's government.

- **Productivity growth remains a challenge.** Finland's productive investment remains close to, or even below, the EU average for categories such as equipment, including information and communication technology equipment, and intellectual property products. Moreover, productive investment is rather narrowly concentrated, with an increasing gap between the most productive firms and those that are the least productive.

- **Some structural factors might be holding back investment.** The most commonly cited barrier to investment is the availability of skilled staff, notably in the information and communication services sector. Other impediments are: i) lengthy procedures for obtaining business permits; ii) the still limited cooperation between businesses and academia; iii) lack of coordination of smart specialisation at central level; and iv) the still modest access to finance for seed capital companies.

- **Household debt remains high but the banking sector is well capitalised.** Household debt, including through housing corporations, remains at historically high levels, supported by persistently low interest rates. The predominance of variable rates could create risks if interest rates rise in the medium term. Consumer credit is also rising. The lack of a comprehensive (positive) credit registry prevents banks from having a clear overview of households' overall debt. However, the servicing of debt remains solid, and banks remain well capitalised. Moreover, further measures to contain the rising household debt are being considered.

- **There are some weaknesses in the measures taken to tackle money laundering.** Finland intends to update its national risk assessment of money-laundering and terrorist financing, as the current assessment dates from 2015. Preparatory work is expected to be

([3]) Within the scope of its legal basis, the European Semester can help drive national economic and employment policies towards the achievement of the United Nations Sustainable Development Goals (SDGs) by monitoring progress and ensuring closer coordination of national efforts. The present report contains reinforced analysis and monitoring on the SDGs. A new annex (Annex E) presents a statistical assessment of trends in relation to SDGs in Finland over the past 5 years, based on Eurostat's EU SDG indicator set.

completed in 2020. The Finnish Financial Supervisory Authority has made progress in boosting its supervisory capacity but there is scope for further improvement as regards human resources. There is also scope for applying a risk-based approach to supervision. Cooperation with the Financial Intelligence Unit beyond providing guidance to obliged entities is limited.

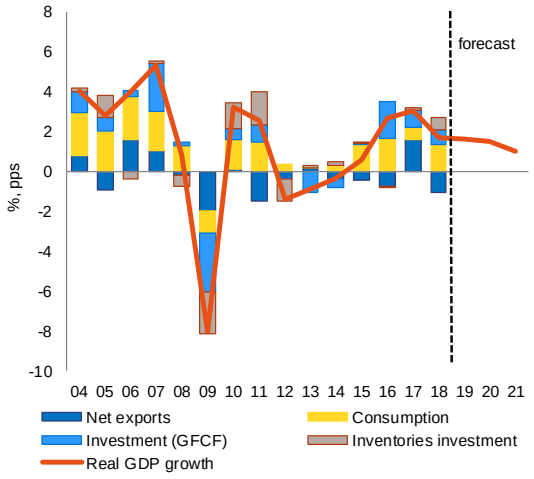
- **Finland is broadly on track to reaching its 2020 climate targets, but its objective of reaching carbon neutrality by 2035 will require an ambitious set of new measures.** The Finnish government intends to achieve this objective, notably with a further electrification of the economy, and by largely using nuclear fuel and renewable energy to generate power. This will require a comprehensive agenda of policies and measures. In this respect, decarbonising energy-intensive industries and the transport sector appear as key objectives. Sizeable investment in low carbon and energy transition as well as in sustainable transport infrastructure is being considered. The government has announced an overhaul of energy taxation and it will phase out fossil fuel subsidies on oil, coal and, possibly, peat. Waste management is advanced, but the country's recycling rate remains below the EU average. The Commission's proposal for a Just Transition Mechanism under the next multi-annual financial framework for the period 2021-2027, includes a Just Transition Fund, a dedicated just transition scheme under InvestEU, and a new public sector loan facility with the EIB. It is designed to ensure that the transition towards EU climate neutrality is fair, by helping the most affected regions in Finland to address the social and economic consequences. Key priorities for support by the Just Transition Fund, set up as part of the Just Transition Mechanism, are identified in Annex D, building on the analysis of the transition challenges outlined in this report.

1. ECONOMIC SITUATION AND OUTLOOK

GDP growth

Economic expansion is expected to ease. Finland's real GDP is estimated to have increased by 1.6% in 2019 (see Graph 1.1), having already decreased in 2018 (1.7%), following robust growth performances in 2016 and 2017. Growth is forecast to have been broad-based, with positive and balanced contributions from all components. Gradual cyclical slowdown in advanced economies, weakening external demand and a period of increased uncertainties, are all expected to weigh on growth. Falling consumer confidence and lower employment growth might affect private consumption, and construction investment is likely to fall. This is expected to be partly offset by an expansionary fiscal stance. In 2020 and 2021, GDP growth is forecast to decelerate, as the contribution from net exports turns negative.

Graph 1.1: **GDP growth and contributions**

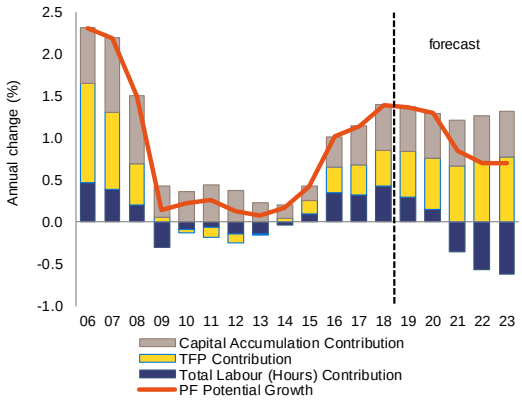


Source: European Commission (Autumn forecast 2019)

Potential growth

Finland's potential GDP growth prospects are affected by a gradually shrinking working-age population. The number of births declined by around 20% over the last decade and the latest update of the population projections implies even faster ageing than previously estimated. Labour contribution to potential GDP growth is expected to be negative as early as from 2021 onwards (see Graph 1.2). Assuming that current trends continue, this negative impact is anticipated to gradually increase over the coming years. While the contribution of total factor productivity and capital accumulation are projected to offset in excess the negative impact of ageing, these demographic trends are expected to represent a substantial drag on potential growth.

Graph 1.2: **Contributions to potential growth**



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

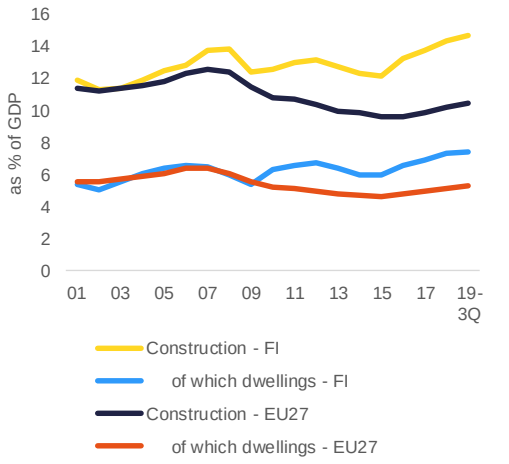
The impact of a structural change from manufacturing to services activities has affected Finland's aggregate productivity. From 2000 to 2018, the relative share of GDP at current prices of the highly productive manufacturing sector (average labour productivity growth of 3.4% over 2000-2018) declined by 10 percentage points (pps). At the same time, the aggregated share of construction, real estate, professional and non-market services activities, whose average productivity growth was close to zero or negative, increased by 8 percentage points. This progressive structural shift is a long-term phenomenon that could continue to negatively affect Finland's overall potential economic growth in the years ahead. Moreover, the share of high-tech services in GDP (information & communications), whose productivity growth is high (3.3% over 2000-2018), increased by only 1 percentage point.

Low levels in the categories of productivity-enhancing investment([4]) could prevent Finland from achieving higher potential growth rates (see Section 3.4). Finland's level of investment remains close to, or even below the EU average for investment categories that most support

([4]) Investment in skills not included.

productivity growth. In particular, equipment investment has been among the lowest in the EU for many years, which applies specifically to ICT equipment. This is a puzzling phenomenon in an otherwise strongly digitalised economy (see Section 3.4). Furthermore, after the technological disruption that affected the country's largest private R&D investor a decade ago, investment in intellectual property slightly recovered in 2018, but remains markedly below the level of its Nordic peers (Sweden and Denmark).

Graph 1.3: **Investment: total construction and housing construction - Finland and the EU – As a share of value-added**



Source: European Commission

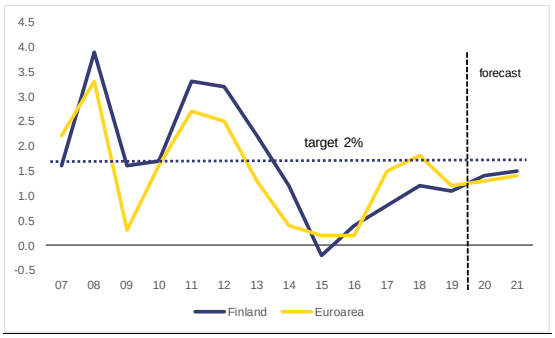
Construction, a less productive investment category, remains predominant at 61% of total investment ([5]). The country still has the highest level of construction investment in the EU (see Graph 1.3). Housing construction is particularly high, as people move from rural areas to dynamic urban centres. Beyond still favourable conditions provided to borrowers, public investment in social housing and public incentives to housing construction remain sizeable. The average labour productivity growth of the construction sector is close to zero (-0.1% over the 2000-2018 period). However, amidst high territorial dispersion and limited regional labour mobility, housing construction in dynamic urban centres is expected to contribute to higher allocative efficiency.

([5]) The ratio is 49 % for the EU-28 as a whole.

Inflation

Inflation failed to pick up in 2019, remaining below the euro area average (see Graph 1.4). The pass-through from higher wages into services was smaller than in the past. Expected slower economic growth and low external price pressures implies that the period of low inflation is likely to continue, remaining below 2% over the next 2 years.

Graph 1.4: **Annual harmonised index of consumer prices, Finland, annual average, % change**



Source: European Commission

Labour market

After 4 years of economic growth, the labour market situation has improved, but a slowdown is expected. Employment continued increasing in 2018, both in absolute terms and in the percentage of the workforce. It increased by 2.1 pps in 2018 to reach 76.3% (20-64 year-olds), partly due to a drop in inactivity. Employment is expected to continue growing in 2019 and 2020, albeit at a slower pace. The unemployment rate has been decreasing steadily since 2016. It stood at 7.4% in 2018 down from 8.6% recorded in 2017, although still slightly above the EU average. The new government has set an ambitious employment target to be reached by the end of 2023 (see Section 3.3).

The still relatively high unemployment suggests structural bottlenecks in the labour market. Youth unemployment decreased substantially in 2018 but remains above the EU average. Similarly, the activity rate is catching up but the employment figures are still below those of Nordic peers, and even below the EU average for some age groups. Among the reasons for inactivity are disincentives to work, inactivity traps, unemployment traps, bureaucratic traps, caring responsibilities, illness

or disability, as well as relatively low regional mobility.

Wage growth was moderate in 2018 and 2019. Real wages improved modestly in 2018. This should have changed in 2019, due to a tightening labour market (see Section 3.3). Unit labour cost is expected to have increasing in 2019 slightly faster than in the EU on average, thus not overly affecting competitiveness.

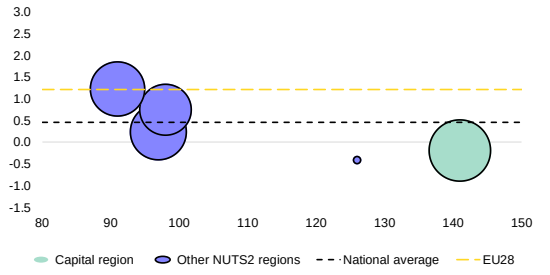
Social developments

The risk of poverty, social exclusion and income inequality remains among the lowest in the EU, despite a slight increase. At 16.5% in 2018 (15.7% in 2017), the risk of poverty or social exclusion remains below the EU average of 21.9%. The ratio of the income of the richest 20% compared to the poorest 20% has remained broadly stable (3.6 in 2018). Finland remains among the best performers in the EU as fighting poverty and social transfers play a major role in reducing poverty. In 2018, social transfers reduced the risk of poverty by 53.7% and the poverty gap by 82% (the EU averages are respectively 33.2% and 55%). In 2018, the income share of the poorest 40% of the population stood at 24%, being among the highest in the EU (EU average 21%). Still, the ageing population and the rising age-related expenditure remain concerns for the long-term sustainability of the Finnish public finances.

Regional disparities

Regional disparities have slightly decreased in recent years, but there is still a gap between the capital region and the less developed region of North and East Finland. In terms of GDP per head, the Greater Helsinki region stood notably above the EU average (142%) in 2017 and 1.5 times higher than the weakest North and East region, where GDP per head corresponds to 91% of the EU average. In 2010, the capital region´s GDP per head was 1.7 times higher than that for North and East Finland.

Graph 1.5: **Regional convergence: average GDP per head growth in 2010-2017 vs. GDP in 2010**



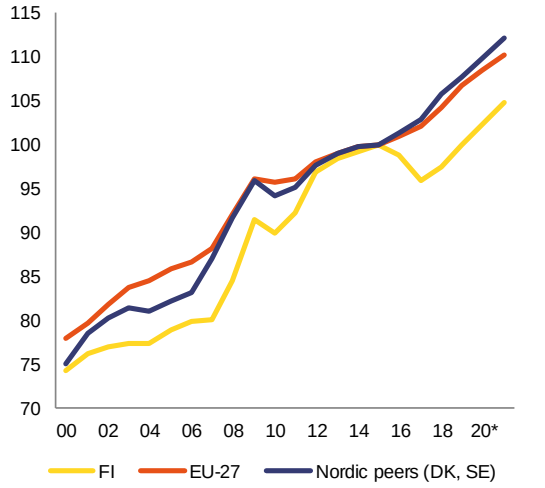
Source: European Commission – Staff calculations

The decrease in regional disparities is largely due to a slow recovery in the capital region in 2010-2017 (see Graph 1.5). During this period, all regions except North and East Finland expanded at a considerably slower pace than the EU average growth rate of 1.2%. The GDP per head in Helsinki region declined, while other regions in mainland Finland modestly grew (between 0.24% and 1.19% annually), with South Finland and North and East Finland above the country average.

Regional unemployment and activity rates have been converging in recent years. The dispersion of NUTS2 ([6]) regional employment rates is now at 3.2 pps, one of the lowest rates in the EU. The North and East region is lagging behind in terms of employment.

([6]) The NUTS classification (Nomenclature of territorial units for statistics) is a hierarchical system for dividing up the economic territory of the EU. NUTS2 are basic regions for the application of regional policies.

Graph 1.6: **Nominal unit labour costs in total economy (2015=100)**



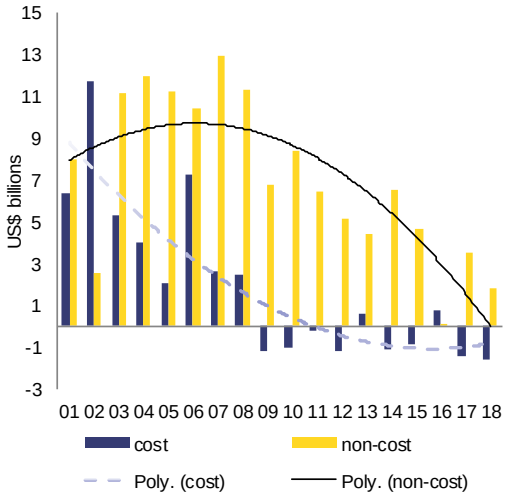
Source: European Commission

Competitiveness

In 2019, the nominal labour costs are expected to have increased in Finland slightly faster than in its Nordic peers (see Graph 1.6) . In 2019, nominal wages are expected to have grown relatively strongly (3.1%), only partly offset by a small recovery in productivity growth (0.4%). Overall, this is set to have further pushed up nominal unit labour costs, opening the risk of decreasing the cost-competitiveness edge gained in previous years. In parallel, comparatively lower productive investment is expected to continue to weigh on productivity, and therefore, in particular, on non-cost competitiveness (see Graph 1.7). Furthermore, if business creation were to be below EU average, it might hamper the swift economic redeployment towards high-tech activities (see Section 3.4).

In recent years, export market shares recovered, reducing past cumulated losses. In 2018, exports benefited from the continued recovery in world trade (see Graph 1.8) and increased shipbuilding export. However, overall, the recovery in Finland's market shares is small compared to accumulated losses since 2008. In 2019, unit labour costs are expected to have reverted to positive growth and the real effective exchange rate appreciated slightly. In the years ahead, import growth is expected to marginally outpace export growth. As unit labour costs are set to increase faster in Finland than in the EU as a whole, further market share gains for Finland are expected to be limited.

Graph 1.7: **Breakdown of balance of trade for goods (fuels not included) 2001-2018 – Cost and non-cost competitiveness impact**



(1) Only goods for which both imports and exports, as well as volumes, are taken into account. As a result, in 2018, the total trade balance (without fuels) in the Graph was US$ 0.13 bn or € 0.12 bn, instead of the actual trade balance of € 0.82 bn.
(2) Cost and non-cost competitiveness are defined in the report by comparing the unit values of exports (UVX) and imports (UVM) and the trade balance for each category of goods (four digits categories). If UVX > UVM, and if the trade balance for the particular category of goods TB > 0, it is a case of non-cost competitiveness. Another case of non-cost competitiveness is when UVX < UVM and TB < 0. When UVX < UVM and TB > 0 or when UVX > UVM and TB < 0), it is a case of cost competitiveness. Where there is strong non-cost competitiveness in a category of goods, there is a trade surplus, and, where non-cost competitiveness in a category of goods is weak, there is a trade deficit. The same applies to cost competitiveness (European Central Bank, 2012).
Source: European Commission

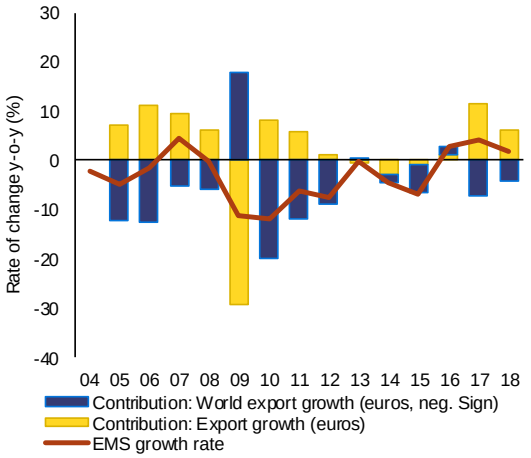
External position

In 2019, both current account and trade balance deficits narrowed slightly. The current account balance improved from -1.4% of GDP to -1.1% of GDP, while the trade balance improved by 0.5 pps to -0.7% of GDP (see Graph 1.9). The current account balance is still below (-0.7%) what can be explained by fundamentals (Countinho *et al.*, 2018). The trade balance for goods remained slightly positive, while the deficit on services decreased due to strong rise in exports of telecommunications, computer and information

services. These account for almost 35% of the total exports of services ([7]).

Overall, Finland is relatively more exposed to foreign currency fluctuations as 5 out of its top 7 export markets are non-euro area countries (goods exports by country in 2018: Germany 15.1%, Sweden 10.4%, United States and the Netherlands 6.8%, China 5.5%, Russia 5.2%, and the UK 4.5%).

Graph 1.8: Export market shares (EMS): EMS growth rate, export growth, world export growth (negative sign)

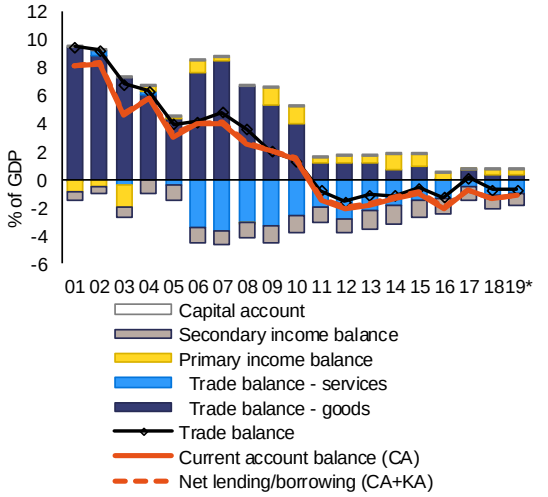


Source: European Commission

Finland's net international investment position has slightly improved and reverted to positive values in 2019. It improved from -2.0% of GDP in 2018 to 3.5% in 2019 (see Graph 1.10). Both gross assets and liabilities have increased markedly in the fourth quarter of 2018, due to the move of a major bank's headquarters from Sweden to Helsinki. At the end of 2019, the financial sector accounted for almost half of total liabilities, while the relative share of non-financial corporations in total liabilities declined. Government social security funds remain the largest net positive sector, followed by the central bank and collective investment schemes.

([7]) This export item includes hardware and software consultancy, software programs that improve business productivity, as well as computer game programs.

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



Source: European Commission

Financial sector and household debt

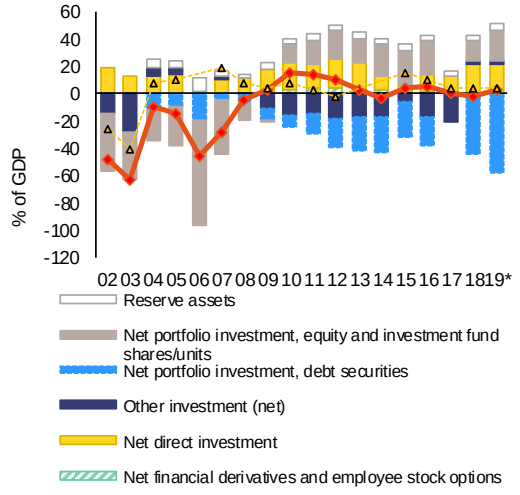
Finland's banking system remains robust and is now one of the EU's largest in relative terms. Its balance sheet is four times the country's GDP. The banks are highly capitalised and have low ratios of non-performing assets. In terms of risk, the banking sector is heavily reliant on wholesale market funding and has potential substantial exposure to other Nordic financial systems.

The credit risk is strongly linked to high households' indebtedness. It stood at 140% of household disposable income in 2019. Total private sector debt amounted to 142% of GDP in 2018, in line with fundamentals-based benchmarks (European Commission, 2018a) but above prudential, estimated at around 125% of GDP. Both non-financial corporations and household debt lie above their prudential values (of 56% and 68% of GDP, respectively), while household debt, at 65% of GDP in 2018 is also above its fundamental value of around 57% of GDP). European Systematic Risk Board issued recommendations in June 2019 (European Systemic Risk Board, 2019) that call for activation of income-related borrowers-based measures. As one of the proposed measures to curb household indebtedness, the authorities have started preparatory work to establish a comprehensive credit registry by 2023.

Housing market

There is continued and growing disparity in house prices between the bigger cities and the rest of Finland. On a country level, by third quarter prices increased in nominal terms both for new buildings and existing housing stock, but deflated prices of existing housing stock were slightly lower than in 2018. However, prices in Helsinki and the bigger cities (where there is a net migration) are clearly rising faster than in the rest of the country. There is likely to be little price pressure, due to the construction of a high number of new buildings in recent years, which increased the stock of unsold dwellings. As indicated by the decreasing number of building permits and building starts, it is likely that the supply of new dwellings will drop in 2020 and 2021, putting more upward pressure on prices in the medium term.

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



Source: European Commission

Public finances

The general government headline balance is forecast to deteriorate. According to the Commission 2019 Autumn Forecast, the deficit is expected to increase from -0.8% of GDP in 2018 to -1.1% of GDP in 2019. While economic and employment developments continue to support tax revenues and contain spending on social benefits, the outlook for government revenue has clearly deteriorated in line with macroeconomic trends. Furthermore, higher-than-expected spending by local authorities in the first half of 2019 further deteriorated the projected balance. The recent statistical data revisions also resulted in the balance for 2018 deteriorating by 0.1 pp. The general government balance is forecast to further deteriorate to -1.4% of GDP in 2020 and – assuming no-policy-change – to -1.6% of GDP in 2021.

The public debt-to-GDP ratio may approach the 60% benchmark ratio in the medium term. Finland reduced its gross public debt from the peak of 63% of GDP in 2016 to 59% of GDP in 2018. The Commission forecasts that the government debt ratio will remain close to this level in 2019 and 2020, and will start increasing in 2021. In the long term, the costs of ageing, in particular related to healthcare and long-term care, are projected to weigh on the sustainability of Finland's public finances.

Sustainable development governance

Finland is a front-runner in integrating the United Nations Sustainable Development Goals (SDGs) into public policies ([8]), and performs better than EU average on most of those. Finland was one of the first countries in the world to prepare a national programme to interpret the United Nations' 2030 Agenda. It was one of the first countries to voluntarily report on its progress at the UN High-Level Political Forum on Sustainable Development 2030 Agenda in July 2016 ([9]). Unsurprisingly, Finland ranks higher than EU average for most SDGs, except on a few sub-items. Overall, the country is improving its ranking for 11 SDGs, out of 17, but with significant progress made on three of them: Decent work and economic growth (SDG8), Climate action (SDG13) and Peace, justice and strong institutions (SDG16). It is

([8]) In 2015, the UN Member States adopted the 2030 Agenda for Sustainable Development (2030 Agenda) and the Sustainable Development Goals (SDGs) that will steer the promotion of sustainable development in 2016–2030. They aim at the eradication of extreme poverty from the world and at ensuring wellbeing in an environmentally sustainable manner.

([9]) In May 2019, Finland published a report measuring progress on the implementation of the 2030 Agenda and its SDGs (Towards the Finland we want by 2050: the State of Sustainable Development in 2019 in light of Indicators and Comparative Studies). Finland's Prime Minister's Office has also commissioned and funded a project (Polku 2030) to evaluate Finland's sustainable development policy and make recommendations for further action.

moving moderately away from three SDGs: Partnership for the goals (SDG17), No poverty (SDG1) and Industry, innovation and infrastructure (SDG9) (see Annex E).

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

Key economic and financial indicators - Finland

	2004-07	2008-12	2013-16	2017	2018	forecast 2019	2020	2021
Real GDP (y-o-y)	4,0	-0,7	0,5	3,1	1,7	1,6	1,5	1,0
Potential growth (y-o-y)	2,5	0,5	0,5	1,2	1,4	1,3	1,2	1,2
Private consumption (y-o-y)	3,6	1,0	1,1	1,0	1,8	.	.	.
Public consumption (y-o-y)	1,5	0,6	0,9	0,2	1,5	.	.	.
Gross fixed capital formation (y-o-y)	4,8	-1,3	0,6	4,0	3,3	.	.	.
Exports of goods and services (y-o-y)	8,6	-1,6	0,7	8,8	2,2	.	.	.
Imports of goods and services (y-o-y)	8,3	0,5	1,7	4,1	5,0	.	.	.
Contribution to GDP growth:								
Domestic demand (y-o-y)	3,2	0,4	0,9	1,5	2,1	.	.	.
Inventories (y-o-y)	0,3	-0,2	0,1	0,1	0,6	.	.	.
Net exports (y-o-y)	0,6	-0,8	-0,4	1,6	-1,0	.	.	.
Contribution to potential GDP growth:								
Total Labour (hours) (y-o-y)	0,5	0,0	0,1	0,4	0,4	0,3	0,2	0,0
Capital accumulation (y-o-y)	0,7	0,5	0,3	0,6	0,6	0,6	0,6	0,6
Total factor productivity (y-o-y)	1,3	0,0	0,1	0,3	0,3	0,4	0,5	0,6
Output gap	1,2	-1,2	-2,8	0,0	0,3	0,3	0,2	0,0
Unemployment rate	8,0	7,7	8,8	8,6	7,4	6,7	6,5	6,4
GDP deflator (y-o-y)	1,3	2,1	1,5	0,7	2,1	1,4	1,8	2,0
Harmonised index of consumer prices (HICP, y-o-y)	0,9	2,7	0,9	0,8	1,2	1,1	1,4	1,5
Nominal compensation per employee (y-o-y)	3,3	2,9	1,2	-1,1	0,7	3,1	3,0	3,2
Labour productivity (real, person employed, y-o-y)	2,4	-1,0	0,7	2,0	-0,9	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	0,9	3,9	0,5	-3,0	1,7	2,7	2,3	2,5
Real unit labour costs (y-o-y)	-0,4	1,7	-1,0	-3,7	-0,4	1,2	0,5	0,5
Real effective exchange rate (ULC, y-o-y)	0,0	1,1	-0,2	-2,9	1,6	-0,8	-0,2	0,5
Real effective exchange rate (HICP, y-o-y)	-1,4	-0,8	0,8	-0,5	2,3	-1,4	-1,0	-0,5
Net savings rate of households (net saving as percentage of net disposable income)	0,3	1,5	-0,2	-1,1	-1,2	.	.	.
Private credit flow, consolidated (% of GDP)	10,1	7,4	3,2	7,4	1,6	.	.	.
Private sector debt, consolidated (% of GDP)	114,9	141,9	148,8	145,3	142,1	.	.	.
of which household debt, consolidated (% of GDP)	45,8	57,5	62,9	64,5	64,7	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	69,1	84,5	85,9	80,8	77,4	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (2)	0,6	0,9	1,2	1,1	1,3	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	4,1	3,6	3,7	3,7	3,2	2,8	3,1	3,0
Corporations, gross operating surplus (% of GDP)	27,7	24,4	22,9	25,3	25,4	25,0	25,0	24,9
Households, net lending (+) or net borrowing (-) (% of GDP)	-3,2	-2,2	-2,7	-3,7	-3,7	-2,9	-3,0	-3,0
Deflated house price index (y-o-y)	6,0	0,2	-0,8	0,8	-0,3	.	.	.
Residential investment (% of GDP)	6,4	6,2	6,3	6,9	7,3	.	.	.
Current account balance (% of GDP), balance of payments	4,2	0,5	-1,5	-0,8	-1,4	-1,3	-1,4	-1,7
Trade balance (% of GDP), balance of payments	4,8	0,9	-1,0	0,1	-0,7	.	.	.
Terms of trade of goods and services (y-o-y)	-2,2	-1,1	1,0	-0,6	0,5	-0,4	-0,1	-0,2
Capital account balance (% of GDP)	0,1	0,1	0,1	0,1	0,1	.	.	.
Net international investment position (% of GDP)	-24,2	7,5	2,5	0,1	-6,0	.	.	.
NENDI - NIIP excluding non-defaultable instruments (% of GDP) (1)	12,3	4,1	12,6	4,6	-1,3	.	.	.
IIP liabilities excluding non-defaultable instruments (% of GDP) (1)	115,3	225,6	228,1	175,5	229,5	.	.	.
Export performance vs. advanced countries (% change over 5 years)	3,9	-11,2	-22,4	-7,5	-5,0	.	.	.
Export market share, goods and services (y-o-y)	-1,1	-7,5	-2,3	4,2	1,8	0,7	-0,9	-1,1
Net FDI flows (% of GDP)	.	1,8	.	.	4,9	.	.	.
General government balance (% of GDP)	3,5	-0,8	-2,4	-0,7	-0,8	-1,1	-1,4	-1,6
Structural budget balance (% of GDP)	.	.	-0,8	-0,7	-1,0	-1,4	-1,6	-1,6
General government gross debt (% of GDP)	38,6	44,6	60,4	60,9	59,0	59,2	59,3	59,8
Tax-to-GDP ratio (%) (3)	42,0	41,5	43,7	43,1	42,4	42,1	42,3	42,2
Tax rate for a single person earning the average wage (%) (4)	30,7	29,6	30,6	30,3	30,2	.	.	.
Tax rate for a single person earning 50% of the average wage (%) (4)	19,9	18,6	19,0	18,1	18,0	.	.	.

(1) NIIP 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

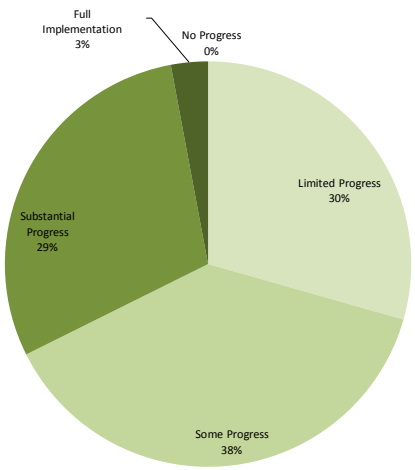
(4) Defined as the income tax on gross wage earnings plus the employee's social security contributions less universal cash benefits, expressed as a percentage of gross wage earnings

Source: Eurostat and ECB as of 4-2-2020, where available; European Commission for forecast figures (Winter forecast 2020 for real GDP and HICP, Autumn forecast 2019 otherwise)

2. PROGRESS WITH COUNTRY-SPECIFIC RECOMMENDATIONS

Finland has achieved some progress in implementing the country-specific recommendations (CSRs) addressed to it since 2011 ([10]). Overall, Finland has recorded at least 'some' progress on 70% of all CSRs addressed to it since 2011, and 'limited' progress on the remaining 30% of the CSRs. Over recent years, Finland has been addressing the challenges to the long-term 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 thanks in particular 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 2011-2019 county-specific-recommendations to date**



* The overall assessment of the country-specific recommendations related to fiscal policy excludes compliance with the Stability and Growth Pact
** 2011 annual assessment: Different CSR assessment categories
** The multiannual CSR assessment looks at the implementation of the CSRs since they were first adopted up until the 2020 Country Report.
Source: European Commission

The pension reform has strengthened the long-term sustainability of public finances. The ageing population is putting pressure on the pension and healthcare systems. The reform of the earnings-related pension system, which linked statutory retirement age to life expectancy, was enacted in late 2015. Under the reform, the lowest statutory retirement age has gradually started to rise from 63 to 65 as from 2018. In 2019, the minimum retirement age was 63 years and 6 months. 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 CSRs 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. A new Finnish wage-setting model was being discussed. In this model, pay rises in the non-tradable sector would have been linked to the increases first agreed in the tradable sector. However, no formal agreement on this link was reached.

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

Reforms in the labour market have advanced, but activity of some groups is still low. Several measures have been introduced to activate unemployed job seekers, such as carrying out regular interviews with the unemployed. In order to increase incentives to work, the earnings-related unemployment insurance was been cut in time several years ago. Nevertheless, dispersed services for unemployed and inactive people may still hamper the activation of some specific groups in the labour market. Moreover, spending on active labour market policies is still lower in Finland than in other Nordic countries.

Finland has taken measures in several policy areas and has made limited ([11]) progress in addressing its 2019 CSRs. To improve the long-term sustainability of public finances, the government plans to continue the social and healthcare reform initiated by the previous government. The reform still aims at addressing the fragmentation of the system and the related financial challenges faced by small, remote municipalities. The centralisation of service provision to the county level is being considered and would likely lead to increases in efficiency. Accessibility to health and long-term care would be promoted by means of strengthening the primary care system. The government plans to adopt the reform by the end of its term.

On addressing labour market and social challenges, more integrated and personalised services are expected thanks to the announced work ability reform as well as a result of the service experiments carried out in municipalities. The reform of vocational education and training is in its final stages of implementation and the funding model should increase incentives to strengthen links with businesses and provide more re-skilling and upskilling opportunities for adults. Similar development is expected in tertiary education in 2021, when its new funding scheme will enter into force. Moreover, the government is launching a 'continuous learning' reform to help adult workers address skills shortages.

Other factors holding back employment are related to disincentives inherent in the complex social benefit system. Unemployment and inactivity traps, the 'unemployment tunnel' as well as a lack of flexibility in combining work income and various social benefits — constitute impediments to higher employment rate. The government plans to address some of these issues through a long-term reform of the social benefit system. Increasing the minimum age for extended unemployment benefits, the so-called 'unemployment tunnel', from 61 to 62 and deployment of the real-time income register are improving incentives to take up work or to remain at work.

On investment-related economic policy, the amount of public money to support research and development is expected to increase. In parallel, the government's objective is to make Finland carbon neutral by 2035 and the world's first fossil-fuel-free society. This will require a comprehensive agenda of policies and measures, including large investments in low carbon and energy transition as well as in sustainable transport infrastructure. Sustainable infrastructure investment is being planned, notably to increase labour mobility. A new national transport system will be developed in 2020-2021 under the lead of a parliamentary steering group. The government has announced an overhaul of energy taxation, notably with a pledge to phase out fossil fuel subsidies on oil, coal and, possibly, peat.

Some progress has been observed in the monitoring of the household debt. Private-sector debt remains at historically high levels, as a result of persistently low interest rates. However, the servicing of debt remains solid, and banks remain well capitalised. Moreover, in early October, the Ministry of Finance proposed to limit to 60% the loan to value ratio (selling price ratio) applicable to housing companies. In parallel, a debt-to-income ratio will be applied to households when their loan requests exceed a certain threshold, while the legislation relating to consumer credit has been tightened. Further macro-prudential measures to contain the household debt are being considered.

([11]) Information on the level of progress and measures taken to act on 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.

Work on the credit registry is still being planned. The government has recently decided that the credit registry is to be managed by a public entity. The necessary legislative work on data protection was expected to start in January 2020, while work on the registry itself might be delayed. Nevertheless, the authorities are committed to having the necessary legislation in place by 2023.

Upon request from a Member State, the Commission can provide tailor-made expertise via the structural reform support programme to help design and implement growth-enhancing reforms. Since 2019, such support has been provided to Finland for three projects that involved i) facilitating domestic and foreign investment by assessing the impact of regulations on international investment in Finland, ii) measuring the size of the digital economy in Finland and its impact on taxation, and iii) proposing an improved VAT reporting model.

Table 2.1: **Assessment of 2019 CSR implementation (*)**

Finland	**Overall assessment of progress with 2018 CSRs: Limited progress**
CSR 1: *Ensure that the nominal growth rate of net primary government expenditure does not exceed 1.9% in 2020, corresponding to an annual structural adjustment of 0.5% of GDP.* *Improve the cost-effectiveness of and equal access to social and healthcare services.*	Finland has made **limited progress** in addressing the fiscal-structural part of CSR 1 ([1]): • Compliance will be assessed in spring 2020 when the final data for 2019 will be available. • The government plans to continue with the healthcare reform initiated by the previous government. The objectives are still efficiency increases and better accessibility. The government plans to adopt the reform by the end of its term.
CSR 2: *Improve incentives to accept work* *and enhance skills and active inclusion, notably through well-integrated services for the unemployed and the inactive.*	Finland has made **some progress** in addressing CSR 2: • Limited progress has been achieved on reducing inactivity and unemployment traps. The social benefits reform is a long-term process that is expected to be implemented gradually,over the course of two government terms. • Some progress has been made on active inclusion, as more personalised and more integrated services are expected to result mostly from trials currently carried out in municipalities and from the announced 'work ability' reform for which funding has already been earmarked. VET and 'continuous learning' reforms are ongoing.
CSR 3: *Focus investment-related economic policy* *on research and innovation,* *low carbon and energy transition* *and sustainable transport,* *taking into account regional disparities.*	Finland has made **limited progress** in addressing CSR 3: • Limited progress has been made on public research and development, since budgetary amounts are expected to increase. • Limited progress has been made on lowering carbon and on energy transition, with an overhaul of energy taxation, notably with a pledge to phase out fossil fuel subsidies on oil, coal and, possibly, peat. • Limited progress has been made on sustainable transport, as investment in sustainable infrastructure is being planned, notably to increase labour mobility.
CSR 4: *Strengthen the monitoring of household debt* *and establish the credit registry system..*	Finland has made **some progress** in addressing CSR 4: • Some progress has been achieved on strengthening the monitoring of the household debt, while further measures to contain the rising household debt are being considered. • Limited progress has been made on establishing a credit registry system, as the work is still being planned. The legislative work is expected to start in January 2020, with the authorities committing to having the necessary legislation in place by 2023.

(1) This does not include an assessment of compliance with the Stability and Growth Pact.
Source: European Commission
(*) The assessment of CSR 3 does not take into account the contribution of the EU 2021-2027 cohesion policy funds. The regulatory framework underpinning the programming of the 2021-2027 EU cohesion policy funds has not yet been adopted by the co-legislators, pending inter alia an agreement on the multiannual financial framework (MFF).

Box 2.1: **EU funds and programmes to address structural challenges and to foster growth and competitiveness in Finland**

Finland is a beneficiary of EU support. The financial allocation from the EU Cohesion policy funds for Finland amounts to €2.6 billion ([1]) in the current Multiannual Financial Framework, equivalent to around 0.2% of the GDP annually. By the end of 2019, some €2.1 billion (around 79% of the total) was allocated to specific projects and €1.2 billion was reported as spent by the selected projects ([2]) showing a level of implementation well above the average.

EU Cohesion policy funding also contributes to addressing structural challenges in Finland. The Cohesion Policy programmes for Finland have allocated EU funding of €581.9 million for smart growth, €186.5 million for sustainable growth and €502.7 million for inclusive growth. In 2019 following the performance review ([3]) €160.9 million have been made available within performing priorities.

EU Cohesion policy funding is contributing to transformations of the Finnish economy and society by promoting growth and employment via investments, among others, in research, technological development and innovation, competitiveness of enterprises, low carbon society, employment, education and social inclusion. By 2019, investments driven by the ERDF have already led to the creation of more than 5,800 new jobs and 320 new enterprises. Almost 10,000 companies had participated in projects run by research and development institutions, more than 1,400 companies had started to export or expand their exports. The ESF supported over 200,000 participants finding a job, among which over 30,000 long-term employed and 26,000 migrants. Moreover, to tackle youth unemployment, the ESF has invested in projects to improve educational outcomes and access to the labour market for over 37,000 participants under 30 years old ([4]).

Agricultural and fisheries funds and other EU programmes also contribute to addressing the investment needs. The European Agricultural Fund for Rural Development (EARDF) makes available in total €5.7 billion, and the European Maritime and Fisheries Fund (EMFF) in total €141 million (including the national co-financing for both). Finland benefits also from other EU programmes, such as for example the Connecting Europe Facility, which allocated EU funding of €190 million to specific projects on strategic transport networks; or Horizon 2020, which allocated EU funding of €1.1 billion (including 340 SMEs with about €216 million).

EU funding contributes to mobilisation of important private investment. European Structural and Investment funds (ESIF) supported programmes alone mobilise additional capital by committing about €43 million in the form of loans, guarantees and equity.

EU funds already invest on actions in line with the Sustainable Development Goals

(SDGs). In Finland, European Structural and Investment Funds support 12 out the 17 SDGs and up to 98% of the expenditure is contributing to those.

([1]) European Regional Development Fund, European Social Fund, including national co-financing.
([2]) https://cohesiondata.ec.europa.eu/countries/FI
([3]) The performance review is regulated by Article 22 of the Regulation (EU) No 1303/2013, whereby 5-7% of overall resources allocated are released to performing priority axes of the operational programmes (the amount includes national co-financing).
([4]) http://www.rakennerahastot.fi/documents/10179/1136679/Vuosikertomus+2018+tiivistelmä.pdf/9fd8234a-6409-4e56-982f-e39297488e6a

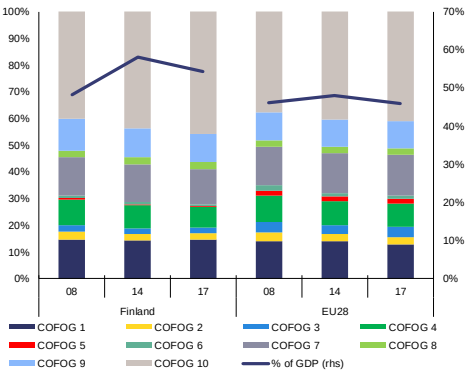
3. REFORM PRIORITIES

3.1. PUBLIC FINANCES AND TAXATION

3.1.1. FISCAL POLICIES

Fiscal policies helped lower the deficit by reducing public expenditure in 2015-2017. The general government balance improved from its lowest at -3% of GDP in 2014 to -0.8% in 2018, in the context of economic growth and fiscal consolidation. Between 2014 and 2017, the government expenditure as a proportion of GDP fell from 58.1% to 54.2% (see Graph 3.1.1). It was driven mainly by cuts in spending on health, education, economic affairs as well as social protection. The public wage bill has also come down due to the measures in the 2017 Competitiveness Pact (wage freeze and a temporary reduction in holiday bonuses), lowering expenditure on general public services by 0.4% of GDP. Total public spending remained second highest in the EU, still well above the EU average (54.2% vs 45.8%).

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

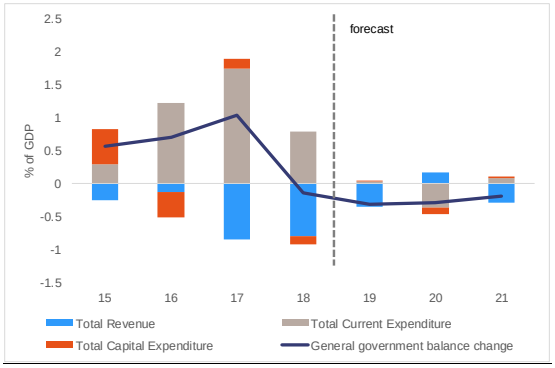


(1) The classes of the functions of government (COGOF) are: 1. General public services; 2. Defence; 3. Public order and safety; 4. Economic affairs; 5. Environmental protection; 6. Housing and community amenities; 7. Health; 8. Recreation, culture and religion; 9. Education and 10. Social protection.
Source: Eurostat

In 2019, the government decided to change the fiscal stance and pursue expansionary policies by means of fostering structural reforms. The government's plans anticipate a permanent increase in annual expenditure by €1.1 billion (0.5% of GDP) in 2020, increasing to €1.4 billion by 2023. The government also plans to spend a total of €3.1 billion (1.3% of GDP) on 'future-oriented investments' in 2020-2023. The planned increases in spending will be directed towards labour market and social security reforms, investment in education and health care as well as the maintenance of transport infrastructure.

Tax hikes, asset sales and the projected increase in income taxes from new jobs are the main sources of finance for the government programme. The new permanent expenditures are planned to be primarily covered through increases of excise duties reaching €0.7 billion (0.3% of GDP) by 2023. The government plans to cover the remaining gap to achieve a balanced budget in 2023 from the expected revenue from the higher employment rate. The 'future-oriented investments', which the government plans to phase out by 2023, are to be financed by sales of State assets. The initial expenditure-revenue mismatch on top of underlying trends is expected to lead to the general government balance deteriorating (see Graph 3.1.2). The headline deficit is forecast to increase from 1.1% of GDP in 2019 to 1.4% of GDP in 2020 and 1.6% of GDP in 2021.

Graph 3.1.2: **Drivers of change in general government balance**



Source: European Commission

It is not certain that the higher public spending will lead to a proportional increase in the public debt. Finland has a large stock of financial assets that the government is going to use to finance part of this planned expenditure. Finland reduced its gross public debt from the peak of 63% of GDP in 2016 to 59% of GDP in 2018. The Commission forecasts that the government debt ratio will remain close to this level in 2019 and 2020. It will

start increasing in 2021, not least due to substantial military expenditure that will kick in.

Taxation

Finland's tax structure is characterised by a high overall tax burden skewed to labour and consumption. In 2018, the total tax burden (43.2% of GDP) was among the highest in the EU. This is mostly driven by a relatively high level of personal income taxation (12.2% of GDP) and of taxes on consumption (14.2% of GDP). By contrast, revenues from capital taxes, including recurrent immovable property taxes, are at 7.1% of GDP, somewhat below the EU average.

The government decided to continue the gradual tax shift away from taxation of labour income towards consumption taxes. It proposed a moderate decrease of the personal income tax by adjusting lower and middle income tax brackets. The tax base will be strengthened by phasing out the mortgage interest deduction and reducing the tax credit for household expenses. At the same time, increases in excise duties on tobacco products, soft drinks are scheduled, which can lead to health and welfare benefits. Taxes on transport fuels will also increase in 2020.

The reform of immovable property taxation remains on the agenda. The aim is to ensure a better overall match between the immovable property tax base and the market value of properties. The government programme points out that immovable property taxes must take into account the environmental aspects. Regarding taxes on capital, the government is also studying the prospects for introducing, from 2022 onwards, a 5% withholding tax on dividends payable to foreign funds and other corporations that are currently exempt from dividend tax.

Revenue from environmentally-related taxes remains above the EU average,. Environmental taxes accounted for 2.9% of GDP in 2018 (EU average 2.4%), and energy taxes for 1.9% of GDP on the same level as the EU average. While subsidies had almost disappeared by 2016, tax exemptions remained in place in 2016 for fossil fuels used in transport ([12]), mobile machinery, agriculture, energy-intensive businesses, heating, etc. These exemptions totalled €1.6 billion (or 0.7% of GDP) in 2016 (Organisation for Economic Co-operation and Development, 2020). A general tax reform for sustainable development will cover energy taxation, transport taxation, promotion of the circular economy and will include a study on the taxation of emissions-based consumption. The General Government Fiscal Plan for 2020-2023 includes appropriations for the carbon neutrality targets, the wellbeing of the environment and biodiversity, reducing emissions, supporting renewable energy and public transport.

Efforts to improve tax compliance continue with the implementation of the income register and deployment of special tax number systems. The income register (see also European Commission, 2019a) became operational in 2019, and the first experiences have revealed that some corrective measures are needed to make sure that the data are reported correctly. There will be more support provided to small businesses and civil society organisations. The income register will be expanded in two separate stages. As from 2020, all data users who are covered under the Income Register Act began to use the income register data. From 2021, data on pensions and benefits will also be reported and enforcement authorities will begin to use income register data. The Finnish Tax Administration has introduced special tax number systems to improve tax collection and prevent a grey economy from developing. Based on the positive experience in the construction industry ([13]), the system will be introduced in the shipbuilding sector. The need to introduce it in other sectors, such as tourism and restaurants, will be assessed.

([12]) The Energy Taxation Directive (2003/96/EC) has a mandatory exemption for aviation and sea navigation fuels.

([13]) Under the special tax number system, a construction worker cannot be employed at a building site in Finland without a personal tax number. The registration for Finnish personal identity code is required for obtaining the tax number, which is printed on the nametags worn by everyone at any construction site. The public authorities for occupational safety and health control the use of nametags. The Finnish Tax Administration's online information service allows e.g. employers to check whether the registration of an individual worker's name and number is valid.

Fiscal framework

Finland is the only euro area Member State that has designated a Ministry of Finance department as the independent forecast producer in the meaning of Regulation (EU) 473/2013. The management of the Economics Department and the Budget Department of the Ministry of Finance are separated and the Economics Department carries out its forecasting activities independently. However, this particular arrangement warrants regular surveillance to ensure that the separation and independence of both functions within the one institution are preserved.

The government follows some 'green budgeting' practices. Since 2017, budget proposals include a chapter focusing on climate change and sustainable development (see Section 3.5). It examines which appropriations included in the budget foster green targets. In particular, it presents the appropriations that promote i) the use of renewable energy, ii) biodiversity and the wellbeing of the environment and nature, iii) emissions reduction, iv) bio-economy solutions and v) developing Finland into a low-carbon society. The chapter also covers taxes that are significant in terms of the goal of a carbon-neutral Finland, such as energy taxes, motor vehicle tax, car tax, excise duty on certain beverage packaging and waste tax. Furthermore, it includes a qualitative assessment of components of public funding that are detrimental to the environment, on the basis of earlier studies.

At the beginning of the new term, the government carried out a spending review. Spending reviews are detailed inspections of public expenditure aimed at identifying savings and efficiency gains against the current composition of public expenditure. The previous spending review aimed at providing a detailed description of central government expenditure to be considered in government negotiations after the 2015 elections, with a view also to informing ministers of the new government. The 2019 elections triggered an update of the spending review process. The spending review carried out in the first half of 2019 covered all central government expenditure, including transfers to local governments and social security funds and excluding operational expenditure, expenditure items of less than €50 million and VAT expenses.

3.1.2. DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

No significant risks of fiscal stress are anticipated for Finland in the short term. The value of the S0 indicator, the Commission's early-detection indicator of fiscal stress over one year, is below its critical threshold, for both the fiscal and financial competitiveness sub-indices (see Annex B). The low spreads on sovereign yields and credit-default swaps point to a favourable financial market perception of Finland's solvency.

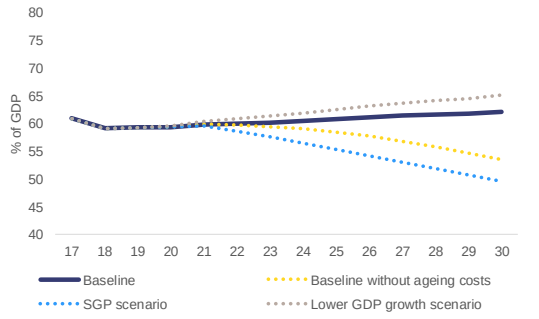
Finland is facing fiscal sustainability risks in the medium to long term. The sustainability gap indicator S1 points to medium risks, mainly due to the projected increase in age-related public spending. According to this indicator, a cumulative gradual improvement in the structural primary balance of 0.5% of GDP, relative to the baseline scenario, would be required over 5 years to reach the debt ratio of 60% of GDP by 2034. In the long term, the fiscal sustainability gap indicator S2 points to medium risks. Based on the no-policy-change scenario, the S2 indicator ([14]) is estimated at 3.6% of GDP. This is worse than estimated last year, due to the more unfavourable initial budgetary position that will impact the S2 indicator to the tune of 1.7% of GDP out of the 3.6% of GDP (up from 0.7% of GDP last year). The projected contribution of the increase in ageing costs remains high (1.9% of GDP), driven by the projected increase in expenditure on long-term care (1.6% of GDP).

Public debt is projected to increase over the forecast period. The debt sustainability analysis points to medium risks over the medium term. Under the baseline scenario of no policy change, the debt ratio is projected to increase gradually to about 62% of GDP in around 2030. The debt will primarily grow due to ageing. 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 53% of GDP in the same period (see Graph 3.1.3). In addition, debt is also projected to grow due to negative primary balances, which will be partially

([14]) 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.

compensated by a favourable contribution of the snowball effect (see Annex B). If Finland was to comply with all fiscal rules under the Stability and Growth Pact, the debt-to-GDP ratio would decline to about 50% of GDP in 2030. By contrast, government debt in 2030 would reach 65% of GDP if economic growth were lower than in the baseline scenario.

Graph 3.1.3: **Debt as % of GDP**



Source: European Commission

Healthcare and social care reform

The increasing spending on long-term care highlights the urgent need to address the sustainability of the health care system. While expenditure on health care alone is below the EU average in terms of current spending (5.5% of GDP vs 6.6% of GDP in the EU), expenditure on long-term care is at 2.2% of GDP, the fourth highest in the EU. By 2070, spending on health and long-term care is expected to grow due to an ageing population and other non-demographic drivers by 13% and 93% respectively. The financing of healthcare consists mainly of government schemes, 62% compared to 36% of the EU average (Organisation for Economic Co-operation and Development/EU, 2018). However, the current system is fragmented, and consists of three channels: the municipal system, the national health insurance system and occupational healthcare. The level of out-of-pocket payments is higher than the EU average and has been increasing over the last three years.

After the setback in March 2019, the reform of the healthcare system remains on the political agenda. The regional government health and social services (SOTE) reform prepared by the government in 2015-2019 was not presented to the Parliament in the end, due to, among other things, constitutional concerns. The government is planning to implement the revised reform by spring 2023. The main item of the reform is still the consolidation of management of both health and social care services at regional level. The related plans to reorganise public sector administration for these services at State, regional and municipal levels are also maintained. The reform will put more emphasis on equal access to services and their quality. However, increasing the role of private healthcare providers and granting the patients freedom of choice between public and private services, which was included in the previous version of the reform, is no longer considered.

The government's reform of the healthcare system is to focus on primary care services. About €140 million will be spent over the next three years and 1,000 additional doctors are to be hired in health and social care centres. In particular, the government plans to i) raise the minimum staffing level for care personnel; ii) improve access to basic-level services (shorter maximum waiting times); iii) increase home care resources and informal care; iv) design a national mental health strategy; v) continue the programme to address child and family services; and vi) reform the Act on Disability Services and Assistance. The second aspect of the reform is the transfer of healthcare matters from the 295 municipalities to new administrative entities (15 to 18 counties), albeit at a slower pace than initially planned. Preparations for the administrative reform have started with a study on special arrangements for Uusimaa, the Helsinki metropolitan area.

Management at the regional level is expected to improve efficiency. The reform aims at addressing the financial weakness of municipalities, some of which struggle to fulfil their legal obligations in healthcare provision. The consolidation is expected to strengthen the management of the system. The risk-pooling of the population and the access to specialists are likely to improve. The main factor for boosting efficiency will be the ability of the Ministry of Social Affairs and Health to monitor and manage the performance of the future regional healthcare entities. However, no study has been initiated so far on possible cost savings from the reform.

Reaching an agreement on the reform has been a challenge for the last 15 years. The new stepwise and consultative approach adopted by the government may prove to be a more effective way to adopt the reform. However, whereas the expansion of primary healthcare to improve accessibility has a clear budget, deadlines and deliverables, the governance reform aiming at improving fiscal sustainability is still being formulated.

3.2. FINANCIAL SECTOR

3.2.1. BANKING SECTOR

The banking sector is large and its profitability has been slightly declining in recent years. Finland's banking sector is highly concentrated with the top three players occupying over 70% of the market across all main segments. It is one of the largest in Europe in relative terms, with a balance sheet equivalent to four times the country's economic output. Banks remain profitable but profit margins have somewhat deteriorated over recent years, and remained mostly stable in 2019 (see Table 3.2.1). A major factor involved are the heavy investments in modernising the IT infrastructure, pushing the average cost/income ratio to 63% in the first 6 months of 2019.

Banks are highly capitalised, but the Finnish banking system's reliance on wholesale funding remains a vulnerability. The sector's capital levels exceed minimum requirements by a large margin. The sector's aggregate Common Equity Tier 1 (CET1) ratio declined to 16.6% in 2019. The decline reflected the move of Nordea Group to Helsinki (end-2018), as well as the impact of a minimum risk-weight of 15% on mortgages imposed by the Finnish Financial Supervision Authority in January 2018. Capital ratios are bound to be further challenged by the introduction of Basel III capital requirements. The quality of the loan books is very good, with a low ratio of non-performing loans. However, with a system-wide loan-to-deposit ratio of 127.2%, Finnish banks are more dependent on market funding than some of their European competitors. This is one of the long-lasting structural vulnerabilities of the system, even if at present market access remains relatively easy and prices are favourable. The banks are limiting this vulnerability with a large pool of liquid assets that is higher than the aggregate funding gap, and a steadily increasing issuance and use of long-term debt, mainly covered bonds. They are slowly (on average by €5 billion yearly) replacing securities with a shorter-term repayment profile. While this limits the refinancing risk, it also increases the interconnectedness of credit institutions and their exposure to the Nordic housing markets.

Access to finance remained easier than in most EU countries. According to the 2019 survey on access to finance of enterprises, access to finance for small and medium-size enterprises in Finland is deemed the least problematic of all surveyed countries (European Central Bank, 2019). However, in 2017, the size of investment in seed capital companies remained relatively modest, even though it increased in line with the EU average (Flachenecker *et al.*, 2020). Also, the cost of borrowing small amounts relative to large loans is higher than the EU average.

3.2.2. HOUSEHOLD DEBT

Robust domestic demand remains the driver behind loan growth. The loan books of Finnish banks' continue to grow at 2.4% and 6.6% (second quarter 2019) in the household and corporate segments respectively. Loans to non-financial corporations currently represent about 40% of banks' aggregate loan book to the private sector. In the current environment of low interest rates, most firms and retail clients can easily afford bank credit for any purpose. It is nevertheless

Table 3.2.1: **Financial soundness indicators, all banks in Finland**

	2014	2015	2016	2017	2018	2019q2
Non-performing loans	1.6	1.5	1.4	1.2	1.5	1.4
o/w foreign entities	1.6	1.7	-	-	1.0	0.8
o/w NFC & HH sectors	2.3	2.1	2.0	2.0	2.0	-
o/w NFC sector	3.1	3.0	2.3	2.1	2.8	2.7
o/w HH sector	1.7	1.6	1.8	1.9	1.3	1.4
Coverage ratio	30.4	31.5	29.4	27.8	26.5	25.4
Return on equity(1)	9.1	8.3	8.7	8.8	8.1	7.2
Return on assets(1)	0.4	0.5	0.5	0.6	0.5	0.4
Total capital ratio	17.5	23.8	24.6	23.4	20.9	20.6
CET 1 ratio	16.1	21.4	22.2	21.0	17.2	16.6
Tier 1 ratio	16.6	22.4	23.1	21.5	18.6	18.4
Loan to deposit ratio	103.6	102.4	94.3	94.8	133.2	127.2

(1) Annualised data
Source: ECB, CBD

concerning that households seem to resort also to borrowing from unsupervised payday loan companies, which aggressively market their services. Household debt to disposable income remains high, close to 140%, similarly to 2018. As in recent years, most of the credit stock, including new lending, is taken at variable rates, which makes borrowers vulnerable to potential rapid changes in the monetary policy stance.

The legislative framework required for developing the credit registry is being put in place. A comprehensive credit registry would allow a more complete picture of the overall indebtedness level of households. Following the 2018 report commissioned by the Ministry of Justice that proposed establishing a centralised credit registry, preparatory and analytical work started in 2019. Legislative work has started in early 2020. The registry is expected to be established by the end of the government's term. It will run alongside the income registry system that is already in operation. A key feature of the credit registry is data protection,. The feasibility study estimates the total cost of the credit registry project at €20 million,. While the registry is expected to ultimately become a fully comprehensive system covering all credit granted to individuals, the coverage of the registry is expected to be developed gradually. At the first stage, at least consumer credit would be included.

3.2.3. ANTI-MONEY LAUNDERING

Finland adopted its action plan for the prevention of grey economy and economic crime in June 2018. Money laundering risk in Finland comes primarily from the grey economy. In recent years there have been large-scale alleged money laundering cases in the Nordic EU Member States, which have been looked at in the 'Report on the assessment of recent alleged money laundering cases involving EU credit institutions'(European Commission, 2019b).

The Finnish Financial Supervisory Authority (FIN-FSA) has made progress in boosting its supervisory capacity but more needs to be done. Finland is currently working on a preparatory study for a new national risk assessment, to be completed in 2020. The mutual evaluation report released by the Financial Action Task Force in April 2019, assessed Finland's anti-money laundering and counter-terrorist financing system and concluded that the financial supervision needed to be strengthen. In particular, it concluded that the following steps were needed: i) the development of a risk classification tool; ii) a better understanding and correct application of the risk-based approach; iii) the revision of inspection procedures and iv) the establishment of a dissuasive sanctioning policy could all enhance the supervisor's ability to adequately address money-laundering and terrorist financing risks. Following the evaluation, Finland is subject to enhanced monitoring and will have to regularly report on progress made. Finland is committed to rapidly strengthening capacity and has recently provided additional financial and human resources to key competent authorities. Yet, more such resources need to be provided to FIN-FSA. In several cases, the financial supervisor has looked at suspected money laundering in the banking sector. The first sanctions were issued in December 2019 against one bank and one investment company for breaches of money laundering / terrorism financing obligations.

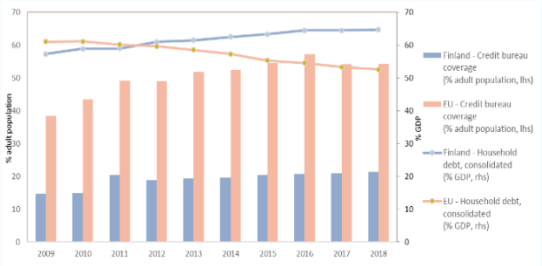
The workload for the Financial Intelligence Unit (FIU) has increased markedly over the past year. The number of suspicious transaction reports received by the FIU increased by 64.2% in 2019. In response, the FIU increased its number of staff. In many areas, such as giving guidance to obliged entities, there is a close cooperation between the supervisor (FIN-FSA) and the FIU. However, cooperation is lacking in the consultations on fit and proper tests and the contact between FIN-FSA and the FIU is otherwise limited, as the FIU can only share little information with the FIN-FSA, while the FIN-FSA only shares general information..

Box 3.2.1: **A credit registry in Finland**

A credit information system collects, processes and distributes information for managing credit-related decisions and for financial supervision. The key participants in credit reporting are the data subjects, the data providers, the service providers and the users. There are two main types of service providers. *Credit registries* (typically government owned) have as their primary objective to support financial sector supervision and monitor systemic risks. *Credit bureaus* (in most cases privately owned) aim principally at improving the quality and availability of data so that creditors can make better-informed decisions. In terms of reported information, credit information systems may deal with negative and positive data. *Negative data* is normally limited to the reporting of unfulfilled financial obligations, such as late payments, defaults and bankruptcies, and is only registered when there is an adverse event. *Positive data* complements the data captured by negative-only files. Among other things, it may include information on assets and liabilities, debt ratios, loan types, lending institutions, guarantees, debt maturities, or repayment patterns.

In Finland, credit information is provided by credit bureaus that collect mainly negative information, with notably low coverage when compared to the EU. The coverage ratio has been stable over recent years, whereas in the EU there was a general tendency to increase the coverage of credit information. Furthermore, many EU countries have established public credit registries, and the vast majority of EU credit information systems incorporate positive data as well. At the same time, since 2012, household debt in Finland has been increasing and has exceeded the EU average, while in the EU it has been decreasing (see Graph 1). In this context, the 2019 Country Specific Recommendation (COM(2019) 526) calls for the establishment of a credit registry system in Finland to strengthen the monitoring of household debt (see Section 3.2.2 for recent developments).

Graph 3.1.3a: **Household debt and credit bureau coverage**



Sources: Eurostat (2019a), World Bank (2019)
Note: Coverage indicates the number of individuals and firms listed in a credit bureau, with current information on repayment history, unpaid debts, or credit outstanding. The number is expressed as a percentage of the adult population.

Well-developed credit information systems with wide coverage are recognised as having several advantages. First, information sharing has a positive impact on information asymmetries and repayment behaviour. Second, credit information systems are important for financial sector regulation and supervision, as well as for the assessment of micro- and macro-prudential risks. Third, and particularly pertinent for Finland, is the link with indebtedness. Credit information sharing can function as a mechanism for borrower discipline and can mitigate the incentive to over-borrow. It reveals borrowers' debt exposure to all lenders and could eventually reduce aggregate indebtedness, as highly indebted parties receive less credit. Information sharing arrangements are also powerful determinants specifically for household debt, and for related insolvencies and defaults (van Roy *et al.*, 2017; Bennardo *et al.*, 2015, Jappelli *et al.*, 2005, 2013; Padilla *et al.*, 1997, 2000; Girault *et al.*, 2010; Brown *et al.*, 2007).

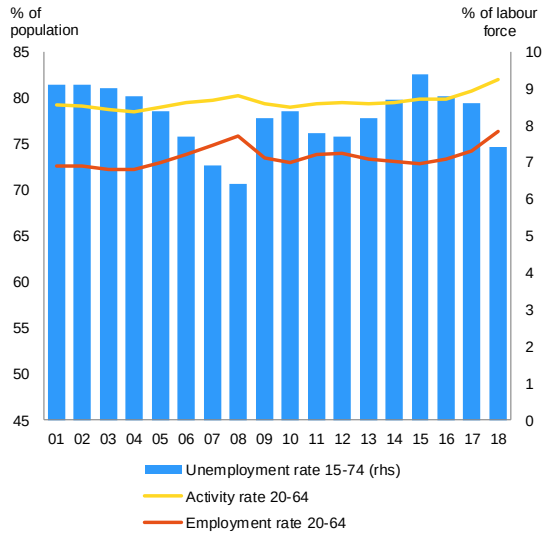
The benefits of collecting positive data are also accredited. In systems without positive data, there may be information gaps and limited oversight of the overall debt level. For example, there would be no information available on debtors that meet their financial obligations regularly, without any adverse events. By contrast, positive data is more comprehensive. Its use improves the ability of lenders to separate low- from high-risk borrowers and, therefore, assists in the efficient extension of credit. Studies link the inclusion of positive information with better lending decisions, credit that is low-priced and fairly distributed, lower default rates and reduced loan losses (Doblas-Madrid *et al.*, 2013; International Finance Corporation, 2012; Turner, 2010). Finally, while credit information systems that include positive data can be useful, regulatory and legal frameworks on privacy and data protection issues should be complied with accordingly.

3.3. LABOUR MARKET, EDUCATION AND SOCIAL POLICIES

3.3.1. LABOUR MARKET

After four years of economic growth, the employment rate is historically high, but a slowdown is expected. The employment rate (20-64 years) increased by 2.1 pps in 2018 to reach 76.3% (see Graph 3.3.1). In parallel, the unemployment rate has been decreasing and stood at 7.4% in 2018, a sharp reduction from the 8.6% recorded in 2017. The decline in unemployment also led to a drop in long-term unemployment, which decreased by 0.5 pps to 1.6% in 2018, well below the EU average. Employment is expected to have increased in 2019 and to continue increasing in 2020, albeit at a slower pace. However, some groups, e.g. people of a migrant background still have low employment rates (see the section on social policies below).

Graph 3.3.1: **Activity, employment and unemployment rates**



Source: Eurostat

Labour shortages are growing, especially in the ICT sector. According to the Finnish public employment service, the number of vacancies increased by 4% in the first two quarters of 2019 to reach 114 000 in 2019. Out of those, around 50% were reported as hard-to-fill vacancies. In particular, the percentage of companies reporting hard-to-fill **([15])** vacancies for jobs requiring ICT specialist skills is above the EU average (see also section on skills below).

([15]) Reported by employers that recruited or tried to recruit, and had difficulties in filling these vacancies

Wages are expected to have grown further in 2019 due to the tightening labour market and to higher contractual wage increases. Nominal wages are expected to have grown in 2019 by 3.1%, above the expected rate of inflation (see Section 1). Most of the collective agreements will expire by 2020. Wage negotiations with public and private sectors for 2020 and beyond started in autumn 2019 and are expected to end in spring 2020. So far, it is difficult to predict to what extent the outcome will take account of productivity developments, competitiveness considerations and wage adequacy. Based on the first round of negotiations, wages are expected to grow by around 3% in the next two years ([16]). The most contentious issue will likely be the working time extension (of up to 24 hours per year) that had been agreed in the Competitiveness Pact in 2016. The technology industry dropped the working time extension in exchange for the possibility to agree locally on extra working hours.

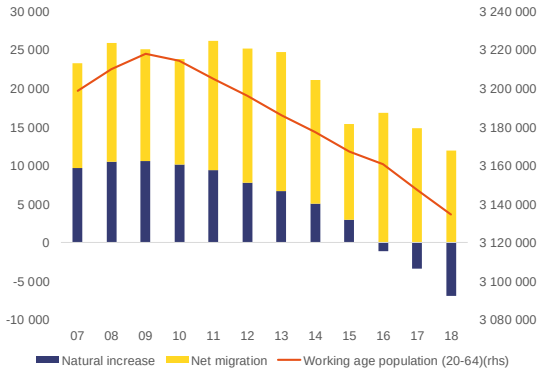
The gender pay gap remains at 16.7% just above the EU average. The gender pay gap is partly due to gender occupational segregation in the labour market and long family leaves used mostly by mothers. More women are hired on temporary contracts, with Finland having the second largest gender difference in the EU. The government proposes tackling unjustified pay differences and pay discrimination by improving pay transparency with legislation (Valtioneuvoston kanslia, 2019). Addressing gender segregation through targeted employment and educational policies could increase labour supply in sectors that are facing shortages.

Demographic trends are putting pressure on the labour market. The working-age population has been shrinking since 2016 because of ageing (see Graph 3.3.2). Until now, the impact of this on total population growth has been more than offset by positive net migration. Nevertheless, declining fertility puts a strain on the long-term outlook for labour supply. The fertility rate has dropped dramatically in the last 10 years and now ranks among the lowest in the EU (Official Statistics of Finland, 2019). By the end of 2060, the share of

([16]) Based on the agreement between Technology Finland and the industry union that will increase wages by 3.3% (1.3% in 2020 and 1.4% in 2021. An additional 0.6% will be settled locally)

working-age population is projected to reduce by 5 pps. The causes of this sudden drop are unclear, but the following possibilities could be considered as reasons: i) difficulty to reconcile family and working life; ii) concerns about the future; iii) the postponement of having children; iv) increased childlessness and v) policy measures that discourage people from having children such as the non-indexation of the universal child allowance or limitations to the universal right to child-care have been eased since 2020.

Graph 3.3.2: **Population change, 2007-2018**

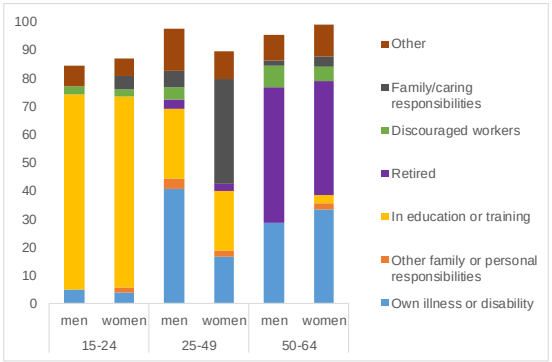


Source: European Commission calculations based on Finland Statistics (data for 2019 are until August)

Activity has surged in recent years, but structural bottlenecks remain in the labour market. The total activity rate reached 82% in 2018, up from 80.7% a year earlier. This is above the EU average (78.4%). However, the activity rate of men between 25 and 54 is below the EU average. According to labour force survey in September 2019, the unemployment rate of men increased by 0.4% compared to September 2018, whereas the unemployment rate of women decreased by 1.3%. The activity rate for women at childbearing age (20-39), even though higher than EU average, is around 4 pps. lower in Finland than in its Nordic EU peers. The activity rate of older cohorts (55-64) is 8 pps above the EU average, but remains lower than in other Nordic countries. The government has set ambitious employment targets; removing structural bottlenecks to activity will be key to achieve it (see Box 3.3.2). It will would contribute to achieving the UN Sustainable Development Goal 8 on full employment and economic growth.

Drivers for inactivity appear somewhat gender and age specific, in addition to low educational attainment. Family and caring responsibilities appear to affect women disproportionally more than men. The main drivers for men's inactivity are illness or disability (see Graph 3.3.3). Retirement is the main reason of older cohorts'(55-64) inactivity. The employment rate of low-skilled adults remains below the EU average. However, the number of low-skilled adults is relatively small in Finland ([17]). Addressing inactivity requires a variety of measures depending on the target group.

Graph 3.3.3: **Reasons for inactivity as a proportion of inactive population by sex and age group. 2018**



Source: Eurostat

Incentives to work

Inactivity and employment traps remain, but some measures have been taken in recent years to address them. Certain benefits, and their combinations, constitute unemployment or inactivity traps (European Commission, 2016a, 2017, 2018b & 2019b). A reform of the social security system has started, which addresses the overall challenge of inactivity and employment traps (see Box 3.3.2). To address bureaucratic traps (European Commission, 2019b), Finland deployed a real-time income register in 2019. It contains real-time information on salaries and benefits (the latter starting from 1 January 2020). It has the potential to speed-up handling times of unemployment and other benefits, thus increasing certainty of income level if taking-up part-time or short-term work. Moreover, it could open up possibilities for a more effective combination of work-related-income and benefits in the future.

([17]) Only 10.8% of the adult population do not possess an upper-secondary or higher qualification, compared to an EU average of 21.9%.

Incentives for carers could improve their long-term employment prospects. Long spells involving caring responsibilities, which fall often on women, weaken the labour market position of carers. Women with a migrant background are disproportionally underrepresented in the labour market. The activity rate gap between women born outside the EU and in the EU in 2018 was very high (non-EU 18.2pp - EU 9.5pp). The government has passed legislation to restore full access rights to childcare for children from families experiencing unemployment or inactivity.

The government aims to reform family leave. The main objective is to grant both parents an equal number of non-transferable days of family-related leave. The proposed reform could have a positive effect on work-life balance and gender equality. The government is exploring the idea of streamlining the homecare leave system by looking into for example the possibility of paying the home care allowance directly to grandparents. This could open up more opportunities for some parents to return to work or to education. A deeper reform of home-care leave combined with increased investments in access to and quality of early childhood education and care could bring about sustainable results in terms of integrating women into the labour market, especially those from the above-mentioned groups.

The pension reform has reduced the number of new old-age retirees. Based on the 2017 pension reform, the earliest eligibility threshold for old-age retirement rises per age group until it reaches 65 years old in 2027. The reform has affected the number of people moving from employment to retirement. The Finnish Centre for Pensions estimates that the number of old-age retirees dropped by 8% between 2017 and 2018, mainly because of the reform. This could partly explain the positive trend of the employment rate for people over 55 years old and it is expected to continue due to the increasing retirement age.

The extended unemployment insurance benefits for older workers partly contribute to unemployment in the oldest age groups. The eligibility of older unemployed people, over 61 years of age, for extended benefits reduces their incentives to return to work before retirement. Moreover, it could involuntarily encourage employers to dismiss those employees who qualify for the extended benefits. The social partners proposed to the government an increase of the eligibility age for extended unemployment benefits from 61 to 62 for those born after 1961. The amendment came into force at the beginning of 2020. According to an estimation, the extension would decrease the number of unemployed people by 7,400 by the end of 2025 (Reipas, 2019). In the current context, the full phasing out of such a system and improving incentives for older workers to stay at work would contribute to reduce labour shortages.

Activation measures

Sustainable activation of target groups is a challenge. Finland is spending more than the EU average on active labour market policies but less than its Nordic peers. In particular, Finland spends one third of its total budget for labour market policies on active measures, whereas Sweden spends around half (Organisation for Economic Co-operation and Development, 2016). The public employment services (PES) have suffered from staff reductions over the last ten years, partly due to efforts to digitalise the services. Deployment of new technologies in the services could also have a negative consequence: putting the PES under threat of losing its position in the labour market as the main player that helps unemployed people find work. It could be beneficial to focus more on activating unemployed men in their prime working age, people with partial work ability and migrants, given their low employment rates.

There is a lack of coordination in providing integrated services for people who are 'hard-to-place'. In recent years, multi-professional services have been launched for different target groups (European Commission, 2017 & 2018b). However, the services for long-term unemployed people and people with 'partial work ability' could benefit from tighter coordination and commitment on the part of key players, especially between local PES and municipalities. The challenges are seemingly the lack of human resources as well as incompatible data exchange systems that are preventing services from being effectively integrated.

Municipal level experiments seek to address the challenges. Municipalities participating in the experiment were selected in 2019. A law for

piloting transfer of employment services from the government's employment offices to municipalities is under preparation. The new programme promotes the decentralisation of employment and entrepreneurship services to municipality level. The experiments will continue until 2022 and the results will feed into the design of future service structures.

The government has repealed the 'active model', a conditional unemployment benefit scheme that was introduced in 2018 (European Commission, 2018 & 2019). Based on the government's proposal, the automatic reduction of unemployment benefits has now been removed, while leaving the other parts of the system untouched. According to an evaluation on its effectiveness (Kyyrä *et al.*, 2019), it was difficult to prove the direct effects of the active model on employment due to the fast economic growth and increased demand for labour. At the same time, the evaluation acknowledged that the model was successful in encouraging unemployed people to use the employment services and that it increased their participation in active labour market measures. It is important that the PES are strengthened so they can intervene rapidly to reduce the risk of long-term unemployment and shifts to inactivity. Following the revision of the 'active model', consideration could be given to designing other mechanisms that would increase incentives to look for work or take part in training.

Pay subsidies are a key measure put forward by the government to increase employment. The government increased available funding for pay subsidies by €17 million in the 2020 budget. Moreover, measures to simplify the use of pay subsidies by employers are in the pipeline. These changes have a potential to improve the targeting of the subsidies to the private sector and increase their effectiveness in terms of sustainable employment results (Asplund *et al.*, 2018). However, if the pay subsidies are used as an all-around support, it may lead to negative effects, because many unemployed could have been employed even without the subsidy. More concrete proposals are expected over the course of 2020.

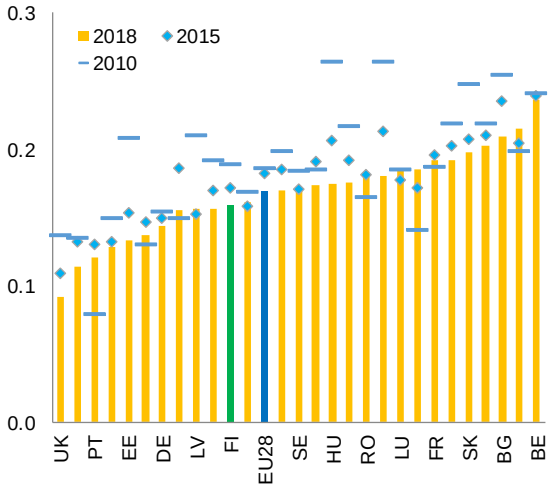
Measures to increase employment of those with partial work ability are in the pipeline. The previous government launched a 'work ability programme' targeting people with partial work ability (see European Commission, 2019b). The reform aims to integrate and clarify the responsibilities of all the relevant services for those with partial or reduced work ability. Moreover, legislative work on a reform of the disability pension has started. It seeks to incentivise people on part-time disability pensions to come back to the labour market. The aim of the reform is to increase the beneficiary's net income with the uptake of work. To achieve this, the reform would introduce an 'earnings disregard' of 50% of the pension. The earnings that exceed the disregard would reduce the pension by 50% of each euro earned (Knuuti *et al.*, 2019).

Policy measures to facilitate access to finance for social enterprises are considered. Social enterprises in Finland play an important role in actively including marginalised groups. However, many of these organisations have difficulty finding financial support. In addition, most financial tools are designed either for conventional business or not-for-profit associations and therefore do not cater specifically for social enterprises. The Finnish government's 2019 programme aims to improve the operating environment for social enterprises, which may improve their potential further.

Skills and future of work

Skills mismatches at macroeconomic level are below the EU average. The level of disparities in the labour market outcomes of the different skill groups (low-, medium-, and high-skilled) is below the EU average and has decreased since 2010 (see Graph 3.3.4). The vertical skills mismatch, i.e. when people are over-qualified, remained largely constant in Finland between 2008 and 2018, with a rate below 20%. In recent years, Finland has experienced an increase in high-skilled tasks relative to middle-skilled tasks and a decline in routine tasks. This indicates that in the short term the adult workforce needs to be reskilled and upskilled so it can better match labour market demand. The recent vocational education and training (VET) reform and reform of higher education funding increase incentives to provide more upskilling and reskilling training to adults (see education section below).

Graph 3.3.4: **Relative dispersion of employment rates by education level (2010, 2015, 2018)**

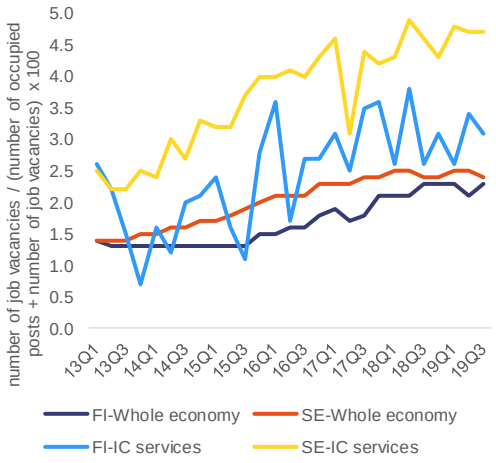


(1) Annual average based on the average of four quarters
Source: European Commission calculations based on Eurostat

There is only a low risk of jobs in Finland being squeezed out by automation. The exposure to automation poses a challenge to about 5 – 8% of jobs depending on the region (Gonzalez *et al.*, 2019). These figures are the lowest in the EU. However, job profiles are changing due to digitalisation, robotics and artificial intelligence. The labour market will have higher demand for non-cognitive and digital skills. Finland scores well in digital skills (Box 3.3.3; Gonzalez *et al.*, 2019) with around 50% of the population having above-basic digital skills (see also Section 3.4.2).

Despite good availability of digital skills, labour shortages risk becoming a drag on the development of the information and communication services (ICT) sector. (see Graph 3.3.5). While Finland has the best availability of scientists and engineers in the world (World Economic Forum, 2016), the percentage of companies reporting hard-to-fill vacancies for jobs requiring ICT specialist skills is above the EU average (6.9% compared to 4.6%) (European Commission,2019d). Intense shortages were found in several knowledge areas such as computers, electronics and mathematical knowledge. The proportion of ICT graduates remains well above the EU average, but shortages still exist. Moreover, costly residence permit processes limit possibilities for foreign students to stay in Finland after graduating. Furthermore, Finnish companies face administrative difficulties in hiring foreign experts. A softening of the relatively stringent immigration policies is being considered, in particular extending working permits after graduation to 2 years.

Graph 3.3.5: **Job vacancy rates in the whole economy and in the information and communication services sector in Sweden and Finland**



(1) Seasonally adjusted data, not calendar adjusted data
Source: European Commission

Finland has an effective 'skills anticipation' system to deal with future challenges. Skills anticipation activities are linked to policy-making and are aligned with labour market needs (European Centre for the Development of Vocational Training, 2017). Finland launched its 'Skills Anticipation Forum' in 2017. It organised its activities around two main pillars: one provides skills forecasts based on the economic developments until 2025, and the second is focused on anticipating education and training needs. In addition, many regional anticipation and foresight projects are ongoing. Regional anticipation activities have developed rapidly in recent years, involving local authorities and educational establishments. Skills anticipation feeds into a range of government educational policies from vocational training to higher education.

Reskilling and upskilling are key to maintaining the employability of the labour force and ensure the right supply for future skills needs. Participation in adult learning is already high in

Finland. In 2018, 28.5% of adults aged 25-64 reported in a survey that they took part in a learning course during the previous 4 weeks (EU average 11.1%). Despite the high uptake in adult learning, the government will put forward a continuous learning reform starting in 2020. Time constraints have been one of the reasons for workers not to join training (European Commission, 2019b). The reform aims to increase the possibilities for people of a working age to participate in 'continuous learning' courses, combining work and study in a flexible manner and supporting learning at the work place. There will also be improvements to the anticipation of individual skills' needs and guidance services for adult learners (Ministry of Education 2019a). In 2020, €7.5 million of extra funding will be allocated to educating adults with a low level of basic skills.

3.3.2. SOCIAL POLICIES AND HEALTHCARE

The risk of poverty or social exclusion has been rising slightly but remains well below the EU average. Material and social deprivation (MSD) ([18]) is at a low level in Finland compared to the EU average. Finland also has one of the EU's lowest rates of population at risk of poverty or social exclusion (AROPE) and child poverty. However, in the context of a general decrease in other Member States, the MSD has stabilised and the AROPE rate increased slightly in 2018. Elevated risk of poverty and social exclusion remains an issue for specific vulnerable groups, such as self-employed people, children of low-skilled parents and people with a migrant background.

Social transfers play a major role in reducing poverty, in particular unemployment benefits, sickness and disability benefits ([19]). Income inequality remains among the lowest in Europe (see Section 1). Relative spending on social protection is among the highest in the EU and has increased over recent years. In 2018, social transfers reduced the at-risk-of-poverty rate by 53.7% (compared to an EU average of 33.2%). On average, unemployment benefits have the largest impact on the at-risk-of-poverty rate, followed by family benefits, sickness and disability benefits, and housing benefits.

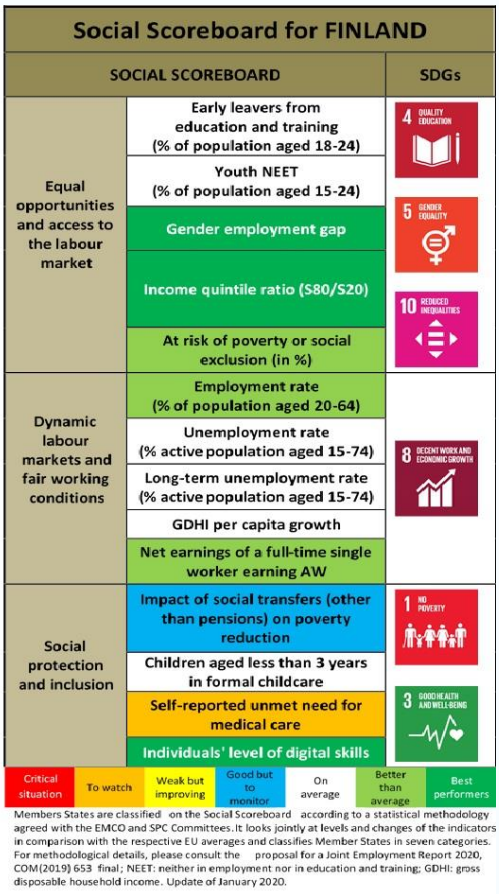
The recent increase in social benefits could address slowly growing poverty. As part of its economy of well-being strategy and in line with the UN Sustainable Development Goals 1 (No poverty) and 10 (Reduced inequalities), the government has announced measures to reduce income inequality. The level of different social security benefits was increased in early 2020. The level of increase varies between benefits. These benefits include minimum rehabilitation allowance, sickness and parental allowance, basic unemployment allowance and labour market subsidy. In addition, the level of the lowest pensions will be increased. These reforms should reduce beneficiaries' dependency on social assistance (the 'last resort' benefit).

([18]) The MSD is the result of a revision of the material deprivation indicator (MD). It takes into consideration a broader concept of deprivation as it also includes items related to social activities, whereas the MD measured only material deprivation. It is based on 13 items (of which some are common to the MD). The MSD rate is the proportion of people in the total population lacking (because of an enforced lack) at least 5 items out of the 13 MSD items (as opposed to 3 or more out of 9 items for the MD).

([19]) The impact of each type of transfer is the percentage decrease in the at-risk-of-poverty (AROP) rate/ poverty gap 'caused' by the given type of transfer in a given country and year. More precisely, it is measured as the percentage difference between a counterfactual AROP rate/poverty gap, calculated based on disposable household income including all transfers except the type analysed, and the AROP rate/poverty gap, taking into account all transfers.

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

The European Pillar of Social Rights is a compass for a renewed process of upward convergence towards better working and living conditions in the European Union. 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.



The Social Scoreboard supporting the European Pillar of Social Rights points to the overall good performance of Finland. The employment rate is now higher than before the crisis, at 76.3% in 2018, and the gender employment gap is the second lowest in the EU at 3.7 pps. Income inequalities are among the lowest in the EU. In 2018, the income of the richest 20% was stable at 3.6 times that of the poorest 20% and low compared to the EU average of 5.2 times. The risk of poverty or social exclusion remains also low (16.5% in 2018), although it has been rising slightly, especially due to the non-indexation of unemployment benefits. This also explains the slight decrease in the impact of social transfers on poverty reduction, though Finland remains the best performer in the EU with 53.6% (versus an EU average of 33.2%). The risk of poverty and social exclusion remains an issue for specific vulnerable groups, such as people with a migrant background and children of low-skilled parents.

Self-reported unmet needs for medical care have increased from 3.6% of the population in 2017 to 4.7% in 2018. This is particularly the case for the lowest income group (6.6% of the lowest income group (Q1) reported unmet needs compared to 2.9% of the richest income group (Q5)) and for the unemployed (8.8% reported unmet needs in 2018). Access to care remains an issue in Finland, mainly due to long waiting times for primary health care and specialised services for those not covered by occupational or private healthcare insurance. It is being addressed by a reform of the healthcare and social services that has faced multiple delays.

Finland performs well in upskilling and reskilling, particularly for digital skills. Finland has the highest uptake in adult learning in the EU with 28.5% of adults aged 25-64 having had a learning experience in the last 4 weeks (the EU average is 11.1%). Time constraints are considered as a main reason for not joining a training programme in 2019. The government will roll out a continuous learning reform in 2020 to enable people to combine work and studies in a flexible manner. Furthermore, Finland has a well-performing skills forecasting system to inform policies. This is reflected in the good results obtained in digital skills, with 76% of 16-74 years-olds having basic or above basic digital skills in 2017.

The final results of the basic income experiment will be published in 2020. The experiment, which attracted worldwide attention, ran in 2017 and 2018. Its primary objective was to find out whether introducing basic income could reduce the relatively high unemployment and help eliminate inactivity traps. According to the preliminary results published in early 2019, the employment level of the participants in the first year of the experiment had not changed compared to the

control group. However, the participants reported higher level of well-being. This result may have been driven by the specific setup of the experiment, in which basic income replaced the unemployment benefits only in a very limited way.

A comprehensive reform of the social security system is being prepared. To meet the long-term challenges posed by the changing world of work and the ageing population, the government has launched a reform of the social security system. The previous government started a reform by carrying out a project to provide different proposals for the future social security system. In order to give all political parties a sense of ownership over the project, the preparatory work has been carried out in a parliamentary working group and the reform will be prepared in a parliamentary committee. The aim of the reform is to streamline the complex social security system to make it more adaptable. The focus is on the basic social security, earnings-based benefits and social assistance. Another main objective is to address inactivity and unemployment traps. Due to the magnitude of the reform, it will be implemented in parts. The reform should be ready by 2027. Although this is a lengthy schedule, the experience with the regional, healthcare and social care reform, which has suffered a setback due to constitutional concerns, suggests that careful preparation could be an advantage when designing such a large-scale reform.

Ensuring the long-term integration of refugees and other migrants into the Finnish labour market and society remains a challenge. In particular, non-EU born continue to face integration challenges (see also the paragraph on incentives above). The employment rates are improving along with the general employment situation, but the employment gap between non-EU born and native-born people is still high (17.5 pps in 2018). The poverty gap is high, but slightly improving (17.9 pps. in 2018 from 19.5 pps in 2017). The gap between non-EU born and native people for severe material deprivation was above the EU average in 2018 (FI: 7 pps; EU: 5.9 pps).

Finland has reformed its integration policies since 2015 to address these challenges. The policy focus has shifted from language training towards swifter labour market integration (European Commission, 2018 & 2019). The reforms are showing some positive results in terms of increased employment rate for migrants, although it may be difficult to disentangle the impact of reforms from the general increased labour demand. However, some innovative experiments, such as the Social Investment Bond for integration, have had encouraging first results. Continuous efforts to improve the integration of migrants into the labour market and into society would also achieve a more balanced economic dependency ratio in the long run. This is especially important in the context of the rapidly ageing population.

Access to healthcare services and long-term care

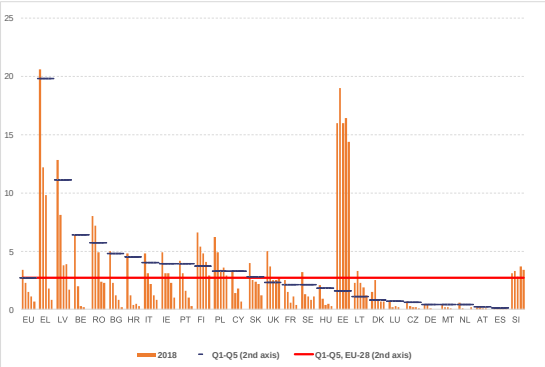
The life expectancy of the Finnish population has increased since 2000, but mental disorders are a growing burden. Life expectancy at birth is 81.7 years, higher than the EU average of 80.9 years. However, the number of healthy life years is lower than the EU average and substantial health inequalities, both geographical and socioeconomic, persist (e.g. education gap in life expectancy of 5.6 years for men and 3.5 years for women at the age of 30). This can be linked to behavioural risks being more pronounced among people with a lower level of income and/or education. The estimated prevalence of mental health disorders is one the highest in the EU, increasing the risk of early school leaving, unemployment, inactivity and social exclusion.

The health system is effective but access is a concern, particularly for primary care and specialised services. The treatable mortality rate in Finland is significantly lower than the EU average, indicating that the health system is effective. The healthcare system puts a strong emphasis on promoting health and preventing disease. Care for many chronic conditions has improved, probably because of several large-scale national prevention and treatment programmes. However, access to care remains an issue in Finland, mainly due to long waiting times for primary health care and specialised services. As highlighted in the Social Scoreboard accompanying the Social Pillar, the proportion of Finnish citizens who reported unmet needs for care increased to 4.7% of the population in 2018, which is above the EU average. This is particularly the case for the lowest income group (6.6% of the

lowest income quintile reported unmet needs compared to 2.9% of the highest quintile) and for the unemployed (8.8% reported unmet needs in 2018). The issue of access is being addressed by a complex reform of both health and social care systems, taken over by the new government with several adaptations (more details in Section 3.1).

The current system of healthcare services delivered by various providers leads to an unequal placement of medical staff across the country, also affecting access to healthcare. Public healthcare centres do not attract doctors due to difficult working conditions. Finland acknowledges this challenge and considers the strengthening of primary care as the highest priority. The number of physicians has been growing strongly, although regional disparities are considerable. The number of physicians has increased particularly in health care districts with universities, whereas elsewhere the trend is often negative. When it comes to specialists, there are shortages in some specialisations, such as psychiatrists. This is a concern, considering the increasing number of mental disorders. The number of nurses per capita is one of the highest in the EU. The role of nurses is expanding in primary care and home care and this may help improve access, especially where shortages of doctors exist. (Organisation for Economic Co-operation and Development, 2019b).

Graph 3.3.6: **Self-reported unmet needs by income quintile declared (% pop)**



(1) 2018 data (2017 data for UK, SK, IE)
Source: Eurostat

The need for long-term care is projected to increase in the coming decades due to the ageing of the population. The Finnish social care system is among the most generous and comprehensive in the EU, both in terms of public expenditure and coverage of the population (European Commission, 2018c), but it still faces challenges. Long-term care is provided at municipal level, which may lead to inequalities in the quality and accessibility of care across municipalities. As well as on the formal care and cash benefits, municipalities rely on informal care provided by family members, which may hinder labour market participation of the (mostly female) informal carers (European Commission, 2019c), although the gender employment gap is particularly low in Finland (European Commission, 2016b).

3.3.3. EDUCATION AND SKILLS

Education in Finland remains among the best in the EU, although there are signs that performance and equity in the Finnish education system are deteriorating (Volante *et al*., 2019). Though starting from a high level of accomplishment in providing quality education (UN Sustainable Development Goal 4), not only has the average performance of Finland been falling in recent cycles of the PISA survey, but also inequality in achievement appears to be increasing. Municipalities are concerned about the lack of sufficient financial resources to implement recent educational reforms, both in early childhood education and care and in compulsory education.

The levels of basic skills as measured by the PISA 2018 survey remain comparatively high, but have worsened since the PISA 2015 survey. The performance of Finnish students in reading, mathematics and science has been at, or near, the top of the participating countries in the PISA survey. However, results from the PISA 2018 survey (Organisation for Economic Co-operation and Development, 2019c) show a statistically significant decline of performance in science. The proportion of 15-year old students underachieving also increased, while remaining below the EU benchmark level of 15% for each subject area. In addition, after accounting for socio-economic status, the difference in reading performance between immigrant and non-immigrant students is the largest in the EU. The Finnish Education Evaluation Centre reported for 2018 that the low level of appreciation for studies and insufficient student support might influence students'

outcomes in basic skills (Finnish Education Evaluation Centre , 2018).

Participation in early childhood education and care remains low by international comparison despite a recent increase. By 2017, the participation rate of children under age of three had increased to 33.3%, close to the EU average (34.2%). However, Finland remains among the EU countries with the lowest participation rate of children aged between four and the starting age of compulsory education (87.8% – EU average 95.4%) in 2017, with large regional disparities.

Education funding is expected to increase over the coming years, progressively offsetting significant budget cuts in 2016-2019. Between 2016 and 2019, the government reduced spending by around €950 million (0.4% of GDP), mainly in vocational education and training (€190 million) and in early childhood education and care (€155 million). According to the General Government Fiscal Plan 2020-2023, total annual expenditure on education will increase by about €518 million by 2023, with additional spending over 2020-2023 totalling €455 million. The 2020 budget plans a 6% increase in expenditure (11% more in general education including early childhood education and care, 12% more in vocational education and 5% more in tertiary education).

As from 2021, higher education institutions will apply new funding models to foster transitions from education to work. Universities of applied sciences will receive 6% (currently 4%) of their basic funding depending on the number of graduates that enter into employment and on the quality of their employment. For the other universities, such funding will represent 4% (currently 2%). The new funding mechanism aims to improve incentives to provide continuous learning courses. It will increase funding based on continuous learning indicators for universities of applied sciences from 5% to 9%, and for the universities from 2% to 5%. This should contribute to tackling imminent skills shortages in the labour market.

The education system fares relatively well in terms of inclusiveness, although challenges remain for some groups. Pupils with disabilities go to mainstream schools and receive support from special teachers or assistants, interpretation or communication services, support services, assistive devices, transport services, etc. If needed, municipalities provide services for special education. However, choosing a certain type of secondary education may depend on the physical accessibility of a school building rather than on genuine interests of pupils with disabilities (Hoffrén, 2017). The early school leavers' gap between pupils with disabilities and other pupils is higher than the EU average (15.6 pps vs the EU average of 10.1 pps). In parallel, the early school-leaving rate for non-EU born pupils stood at 13.6% in 2018, being 5.5 pps higher than that for native born pupils.

Finland plans to raise the mandatory school age to 18 years and provide upper secondary ([20]) **education free of charge.** The planned reform (Ministry of Education, 2019b) aims to ensure that students gain an upper secondary qualification. The plan is to introduce a range of study and support options for compulsory education. The material fees for upper secondary education is expected to be abolished. Finland will also carry out a study on non-material-fee-paying upper secondary education and a reduction in learning material costs and, based on that, take the appropriate measures to implement upper secondary education that is genuinely free of charge. The government legislative proposal is expected to be submitted for consultation by May 2020, sent to the Parliament by September 2020 and come into effect in 2021.

There are shortages of teachers in special education and care. The latest forecast from 2018 on the national demand for qualified teachers in primary, secondary and vocational schools in Finland, carried out in spring 2018, points to shortages of special education teachers (2.2% of the total workforce) and career counsellors (6.2%) (Nissinen & Välijärvi, 2018). The lack of special needs teachers increases also in vocational education and training. According to the Organisation for Economic Co-operation and Development's survey (Organisation for Economic Co-operation and Development, 2019d), only

([20]) In Finland, secondary education covers two phases on the International Standard Classification of Education (ISCED) scale. Level 2 or lower secondary education is considered the second and final phase of basic education, and level 3 (upper) secondary education is the stage before tertiary education.

21.5% of lower-secondary teachers in Finland consider themselves well or very well prepared to use information and communication technologies (ICT) for teaching when they finished their studies (the second lowest in the EU), and only 14% of the teachers feel well or very well prepared to teach in a multicultural and/or multilingual setting (among the lowest in the EU).

Reaching the new tertiary education attainment target will require taking into account the availability of study places. The government plans to raise the proportion of young adults (25-34 year-olds) with a tertiary education degree to 50% by 2030. This could require an increase of study places in certain regions. Compared to the rest of Finland, there is a major lack of higher education study places and a growing demand in the Uusimaa region (i.e. the extended Helsinki metropolitan area). In spring 2018, Uusimaa had available 12,369 university study places (26% of the total in the country), while 53,982 students submitted an application (35% of the total in the country). Consequently, each year, around 60% of Finnish students starting their higher education outside Finland are from the Uusimaa region. It can be particularly difficult to enter university in some regions because of the restricted number of places. This delays tertiary education for several years for many students.

Vocational education and training (VET)

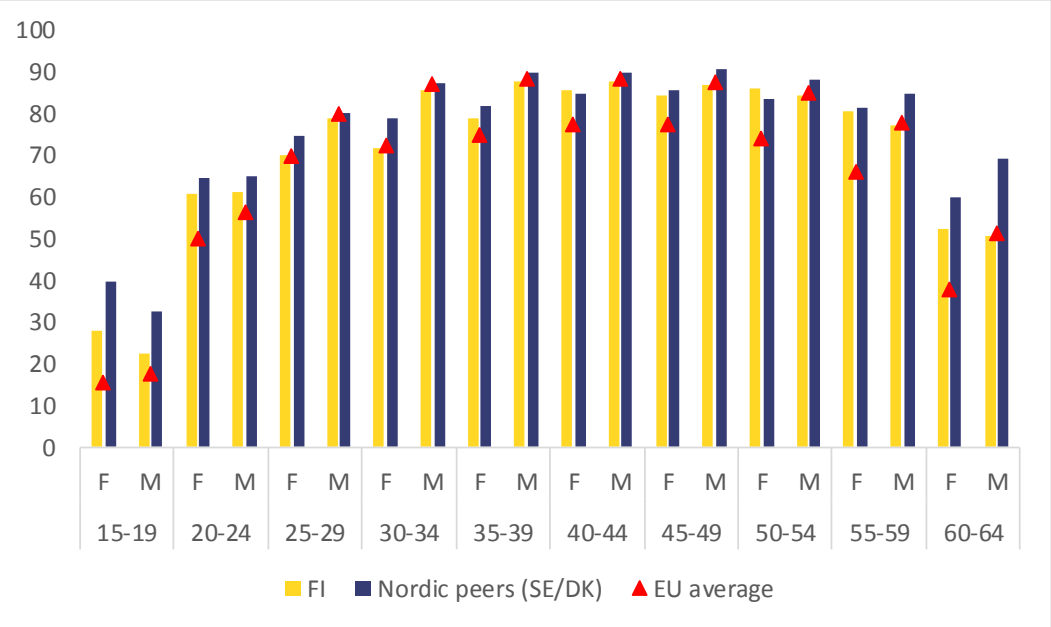
VET remains an attractive study path in Finland. In 2017, more than 52,000 new students entered upper secondary VET programmes in Finland, compared to 33,000 who entered general upper secondary education. The proportion of pupils enrolled in upper secondary VET out of the total number of upper secondary students was 71.6% in 2017, which is markedly higher than the EU average. However, despite the attractiveness of VET, the employment rate of recent graduates (78.5%) was slightly below the EU average (79.5%) in 2018.

The recent VET reform pushes for more responsiveness to the labour market needs. The key components of the reform were to provide individualised and flexible study pathways and to integrate separate funding strands into one coherent funding system. One of the objectives is to open up more possibilities for VET organisers to provide modular, not degree related, reskilling and upskilling trainings for adult learners. The new funding system was planned to be gradually rolled out until 2022 and was based on core funding (50%), performance based funding (35%) and effectiveness funding (15%). The funding system is based on core funding (70%), performance based funding (20%) and effectiveness funding (10%). The effectiveness funding has the potential to speed up transitions from education to work or education to education by linking part of the funding to success rate in these fields. Further changes to the legislation are being prepared and should come into force in 2021.

Box 3.3.2: Reaching the 75 % employment rate target

The government has set a target to increase the employment rate for 15-64 years old to 75% by 2023. The employment rate for this age group stood at 72.1% in 2018. According to the government's initial estimation, reaching the target would require around 60,000 new jobs compared to the Ministry of Finance forecast (spring 2019) ([1]). Based on Eurostat population projections for 2023, the 75% employment rate objective would require additional 86,000 employed compared to the 2018 level. In 2019, the employment rate continued to grow to reach 72.9% by the third quarter. Nevertheless, the target appears very ambitious, as employment is historically high whereas economic growth is forecast to slow down. However, the example of Sweden (77.5% employment rate in 2018) shows that it is possible to reach an above 75% employment rate in a similar economic and social context.

Graph 3.3.6a: **Employment rate by age and gender, 2018**



Source: Eurostat

While the overall employment rate is above the EU average, it falls short of Finland's Nordic peers. The employment rate of working-age men is even below EU average. The female employment rate is better than the EU average, for all age groups except 30-34 year-old, and it is better than the male one for young (15-24) and old (50-64) cohorts. This is the result of structural changes during the last decade as the drop in employment in the industry (drop of 47,900 jobs in total, 30,000 for men) and the shift towards services disproportionately affected male workers ([2]).

Making work pay in all circumstances is paramount to reaching higher employment. One of the reasons for inactivity and unemployment are disincentives to work due to the comprehensive and complex social security system that creates traps. The caring responsibilities that disproportionately affect women, own illness and disability that affect more men as well as relatively low regional mobility, are additional reasons that limit employment opportunities. Since the Finnish social security system includes cash-benefits, benefits-in-kind and other services, all of these sides need to be taken into consideration when reforming the system. To further improve incentives to take up work, the social security system could better balance work-related income and benefits to ensure that working would be financially more rewarding than receiving benefits in

all circumstances. A step in the right direction could be streamlining the reinstating of the benefits and making it more transparent through the real-time income register put forward by the government in 2019. The register's information is used for adjusting the unemployment benefit to the income from work at the time it is actually paid to an individual. This could make short-term and part-time work more attractive, thus having a positive impact on employment. Finland is behind other Nordics on the proportion of part-time work.

Participation in active labour market measures, especially incentives to look for jobs, has a key role in tackling unemployment. The government has decided to discontinue the active model that was introduced in 2018 (see also Section 3.3.1). While there is some uncertainty about the employment results of the model, participation in active labour market measures has clearly increased. This could be due to the penalties that were introduced as part of the model and to regular interviews, which will remain in place. In addition, the supply of active labour market measures increased with the introduction of the model. Its discontinuation may have a negative impact on employment, even though unemployed may still lose their right to unemployment benefits for a fixed period in case of not participating in active labour market measures and in the regular interviews. It is essential that the government, together with social partners, come up with a system that ensures that the unemployed actively participate in measures that foster their employability and that they actively apply for available jobs. Coupling activity requirements and/or compliance with employment plans with a credible threat of penalties could increase effectiveness of the policies. The recent decisions to increase funding for active labour market policies, in particular for subsidised salaries, and the improvement of service provision by integrating relevant services could have a positive impact on employment, if they are properly designed and focused on the most vulnerable groups.

Many groups require special attention to increase their employment opportunities. Youth unemployment has improved substantially in 2018, but it remains above the EU average (17% vs 15.2%). Activation of the unemployed was successful in recent years and should remain a priority in the future, especially for those who are the most difficult to activate. Since the 2017 pension reform, the employment rate for the over 55 years old has increased and should continue to rise. However, the extended unemployment insurance benefits for older workers partly contribute to the unemployment in the oldest groups, creating an 'unemployment tunnel' towards retirement. The decision to increase the minimum eligibility age by one year could decrease the number of unemployed by 7,400 persons by the end of 2025 (Reipas, 2019). A gradual phasing out of the 'unemployment tunnel' could increase employment in the older cohorts and have a positive impact on the effective pension age. Other groups with unused labour potential that require specific attention are people with partial work ability and migrants. Measures to increase the employment of those on a disability pension are already in the pipeline, and the integration system for migrants has been reformed thoroughly in the past few years. However, the demand side might be insufficient to open up job opportunities for these groups who often suffer from long-term unemployment. In this respect, the government's plans to increase subsidised salaries could overcome some reluctance of private sector companies to hire long-term unemployed. To optimise the positive impact, the salary subsidies could be coupled with relevant labour market trainings and with close follow-up by public employment services (PES).

Boosting labour migration could also contribute to reaching the objective. Finland has streamlined the application process for work-based residence permits. However, some obstacles remain that discourage recruitments from abroad. For people with no specific skills, the employment process is two staged: the Employment and Economic Development Office makes a partial decision on the application, and, only after that, the Immigration Service can make the final decision. Specialists, top or middle managers and researchers undergo a one-stage process, but the handling times can be up to 4 months. In the sectors where competition of specialists is high, such as in the information and communication services sectors, long handling times constitute a disadvantage for Finnish companies vis-à-vis their foreign competitors. In parallel, a successful

integration of foreign students could be an asset for the Finnish labour market. The number of foreign students in the Finnish universities was over 21,000 in 2018 (Opetushallitus, 2019). However, at the end of the studies, the administrative burden of costly residence permit processes may discourage the graduates from staying in Finland. The Sipilä government introduced a new type of residence permit for growth and start-up entrepreneurs. However, the handling times for residence permits are still rather long, even for these types of permits (up to 5 months). The responsibility of labour and student migration was transferred to the Ministry of Economic Affairs and Employment starting from 1 January 2020. This shift is expected to strengthen the links between migration policies and promotion of employment.

The government has set up a ministerial working groups with seven tripartite sub-groups to prepare the needed labour market reforms. The working groups are focusing on: 1) service structure of labour market policy; 2) pay subsidies and other benefits, including unemployment benefits; 3) promotion of fitness for work and employment of persons with partial work ability; 4) matching skills with labour market needs; 5) work related migration, including integration; 6) labour law; and 7) local bargaining. Some initial results of the working groups have already fed into the 2020 budget, such as the increase of allocation to subsidised salaries. However, the main policy recommendations are expected to be published by spring 2020. Concrete policy actions with assessed employment and budgetary impacts are expected in the 2021 budget. The policy measures and reforms should take into account both supply and demand sides.

Due attention would have to be devoted to good working conditions and future labour market developments. In the context of a well-performing social safety net system, the outreach to more vulnerable populations with complex barriers and attracting foreign workers are likely to be more successful, if the quality and attractiveness of vacancies are maintained and if taking up a job is profitable. Impact assessments could be necessary to ensure that all proposed measures are conducive to achieving the target and the largest possible synergy between them. The demand side could also be affected, positively or negatively, by the outcome of the current bargaining round. Maintaining the labour market relevance of the education and training system and further stimulating the high participation rates in adult learning will remain essential to provide workers with the skills needed for the future.

([1]) This forecast is prepared independently by the Ministry of Finance Economics Department based on the Act on the implementation of the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union and on multi-annual budgetary frameworks (869/2012).

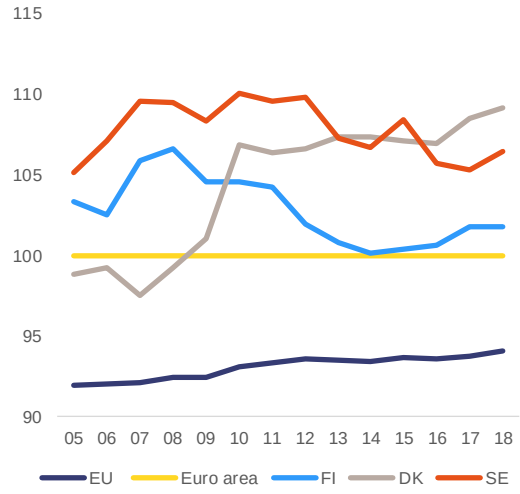
([2]) Eurostat, lfsa_egan2

3.4. COMPETITIVENESS, REFORMS AND INVESTMENT

3.4.1. PRODUCTIVITY AND INVESTMENT TRENDS

Real labour productivity declined in 2018, as value added in some industrial subsectors markedly decreased. Labour productivity has suffered a significant setback with the crisis and has not caught up with Finland's Nordic peers since then (see Graph 3.4.1). This primarily reflected the setback of Finland's electronics sector. Moreover, continuing wage increases immediately after the crisis affected cost competitiveness and, thereby, economic output (Finnish National Productivity Board, 2019) (see Graph 3.4.1). The progressive recovery that started in 2014, and accelerated in 2016-2017, halted in 2018. This partly reflects the cyclical effects of the economic slowdown, as employment continued to increase strongly (2.6%), while external demand fell and investment in equipment declined, which particularly affected the manufacturing sector.

Graph 3.4.1: **Labour productivity per person and hour worked in PPS (EA=100)**

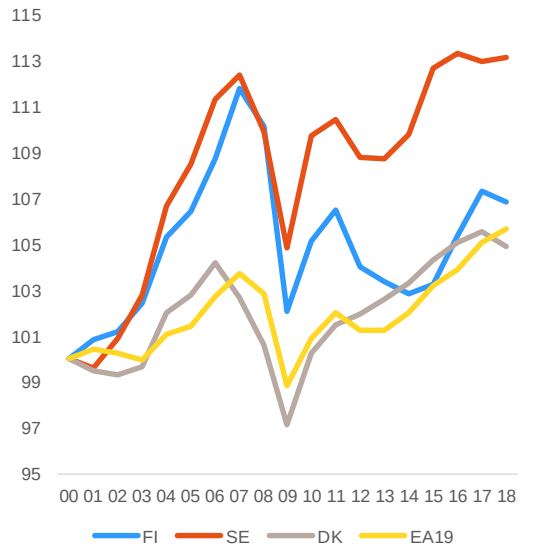


Source: European Commission

Total factor productivity (TFP) has been stagnant since 2017 (see Graph 3.4.2) **and remains below that of Finland's Nordic peers.** Following two years of strong growth in 2016 and 2017, TFP growth decreased in 2018. While TFP in Finland remains close to the euro area average, it falls short of levels observed in a peer country such as Sweden, where TFP growth grew by 13% since 2000, compared to only 7% in Finland.

There is an increasing gap in productivity performance across Finnish firms. Productivity growth over the last decade has been concentrated in the most productive firms (top 10%), whereas the bottom 10% of firms have stagnated. This resulted in an increasing gap, even across firms within the same sector. The gap has also increased between small and large firms, both in terms of labour productivity and TFP, with large firms' productivity growing faster. Weak productivity affected mostly firms in the non-exporting sector. Therefore, it seems that productivity is growing only in a small proportion of firms 'at the frontier', while stagnating elsewhere.

Graph 3.4.2: **Total factor productivity (TFP) (2000=100)**



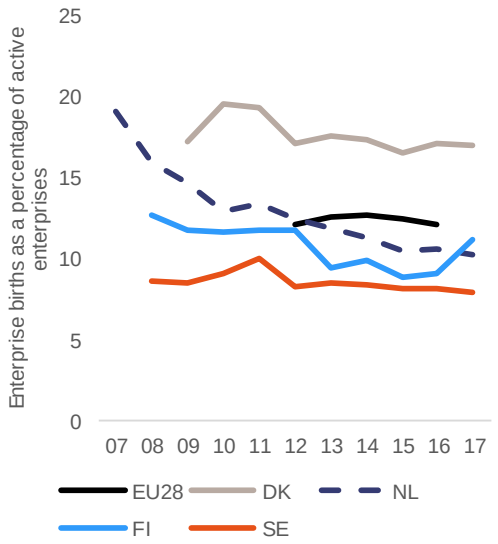
Source: European Commission

Several drivers may explain this trend of divergence. Technological diffusion across firms seems to have weakened, in part because of weak investments and training in laggard firms. At the same time, firms 'at the frontier' are more likely to be exporters, and production for exports is highly concentrated in Finland.

The relative proportion of high-growth firms in Finland remains low, but the highest shares are observed in knowledge-intensive services. Despite the strong performance of the innovation ecosystem (see below under 3.4.2) and the high level of innovation-driven entrepreneurship in Finland, the relative proportion of high-growth firms in Finland (9.5% across the business

economy) and their proportion in total employment are still below EU average and well below their Nordic peers. Nevertheless, the highest proportion of high-growth firms is found in knowledge-intensive services and transportations, and particularly in knowledge intensive market services, such as employment activities, security and investigation activities, postal and courier activities, but also computer programming and consultancy, and telecommunications (Flachenecker *et al*., 2020).

Graph 3.4.3: **Birth rate of enterprises in the information and communications services sector '(to be updated)**



Source: European Commission

There seems to be scope to improve productivity growth by further stimulating business start-ups in Finland. In 2017, the birth rate of businesses in Finland was at 9.6% in line with the EU average and above that of Sweden. Entry rates in services increased from 8.3% in 2008 to 11% in 2017. However, this rise is largely explained by a surge of companies entering the real estate sector. Excluding this sector, entry rates in 2017 remained below the 2008 level (7.5% in 2008 versus 6.4% in 2017). The entry rate for companies with 10 or more employees in the business services sector was 0.8% in 2017 (up from 0.3% in 2008), below the EU average of 1.5% (Bauer *et al.*, 2020). The information and communication services sector has experienced a significant increase in the number of new-born businesses (26% in 2017, after 4% in 2016) (see Graph 3.4.3). However, this represents only a partial recovery compared to its pre-crisis level.

Some structural factors are holding back investment and productivity growth. Finland's investment remains close to, or even below the EU average for investment categories that are the most supportive of productivity growth: investment equipment and investment in intellectual property products (see Section 1 and Box 3.4.1). At the same time, according to the EIBIS Survey 2019 (European Investment Bank, 2019), the most commonly cited barriers to investment are availability of skilled staff and uncertainty about the future (80% and 73% of respondents respectively). The constrained availability of information and communication servicesexperts is becoming a rising concern for digitalisation (see Section 3.3). Further possible obstacles include: i) the still limited cooperation between businesses and academia; ii) lack of coordination of smart specialisation at central level iii) still modest access to finance for seed capital companies (Flachenecker *et al.*, 2020). Furthermore, some structural features of labour market institutions could also be holding back investment (see Section 3.4.2).

Investment needs (see also under Section 3.5)

Research and Innovation

R&D expenditure remains among the highest in the EU, but remains well below the national 2020 target of 4 % of GDP and also falls short of Finland's Nordic peers (see Graph 3.4.4). Finland ranked second after Sweden in the EU in the 2019 European Innovation Scoreboard (European Commission, 2019d). Nevertheless, the technological change, which contributed to the decline of the handset business and the consequent industrial restructuring, led to a steep decline in business R&D expenditure (see Graph 3.4.5). The decline was mostly driven by the manufacturing sector and in particular by the electronics industry and in companies with over 500 employees. In companies with less than 500 employees, the volume of R&D has actually grown in 2011–2018. Since 2016, the service sector has accounted for the majority of the increase in the Finnish business enterprise sector's R&D expenditure, while R&D expenditure by the manufacturing sector as a whole has only been slowly recovering (see Graph

3.4.6). Overall, addressing the R&D challenge would lead to progress on the UN sustainable development goal (SDG) 9 — Industry, innovation and infrastructure (see Annex E).

Box 3.4.1: Investment challenges and reforms in Finland

Section 1: Macroeconomic perspective

Investment (share of gross fixed capital formation in GDP) increased in 2018, and remained well above the EU and euro area averages, contributing to progress on SDG8 — Decent work and economic growth (see Annex E). However, this high share is driven by the relatively high rate of construction investment, which, in 2018, accounted for 7.3% of gross value added. By contrast, productive investment, such as equipment investment and investment in intellectual property products, remains below or at EU average (see Sections 1 and 3.4).

Section 2: Assessment of barriers to investment and ongoing reforms

Table 3.2.1a: **Assessment of barriers to investment and ongoing reforms**

Public administration/ Business environment	Regulatory/ administrative burden		Financial Sector / Taxation	Taxation	
	Public administration			Access to finance	
	Public procurement /PPPs		R&D&I	Cooperation btw academia, research and business	CSR
	Judicial system			Financing of R&D&I	
	Insolvency framework		Sector specific regulation	Business services / Regulated professions	
	Competition and regulatory framework			Retail	
Labour market/ Education	EPL & framework for labour contracts			Construction	
	Wages & wage setting			Digital Economy / Telecom	
	Education, skills, lifelong learning			Energy	CSR
				Transport	

Legend:

	No barrier to investment identified		Some progress
CSR	Investment barriers that are also subject to a CSR		Substantial progress
	No progress		Fully addressed
	Limited progress		Not assessed yet

Source: European Commission

Finland is among the most advanced economies in the EU and offers one of the best business environments with continuous improvements. Moreover, Finland is among the best performers in digital technologies and clean energy innovation. However, Finland is among the most restrictive EU Member States as regards the sales of medicines.

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 2018 amounted to €535 mln.

Selected barriers to investment and priority actions underway

1/ The most frequently cited obstacle for investment (EIB, 2019) is the availability of skilled staff, while the constrained availability of information and communication services experts is a rising concern for digitalisation going forward. However, Finland has an effective skills anticipation system to identify future challenges. Moreover, the 2020 budget includes a 12% increase in vocational education and a 5% increase in tertiary education.

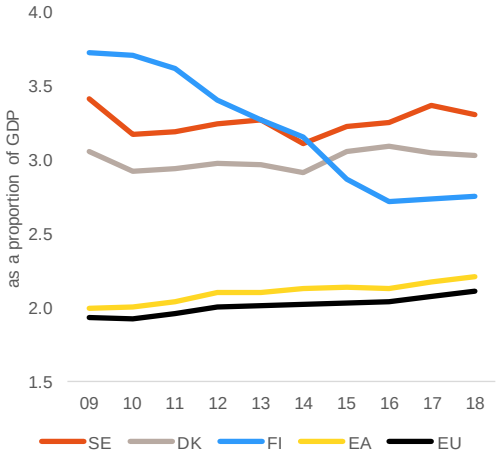
2/ There is potential for further increasing cooperation between academia and businesses and for subsequent translation of research into innovation. At the same time, coordination of smart specialisation at central level appears insufficient to consolidate regional smart specialisation strategies and to link them with the national R&D and innovation system.

3/ Finland remains a modest performer in entrepreneurship and business creation. A the same time, lengthy procedures for obtaining business permits, including environmental permits, and still modest access to finance for 'seed capital' companies might constitute further impediments.

Public R&D investment has largely stabilised. After a strong decline between 2010 and 2017, public R&D expenditure stabilised at 0.9% of GDP in 2017 and 2018. While public support to private R&D is directed mostly at small and medium-sized enterprises (SMEs), investment by SMEs in R&D remains low, when compared to that of larger companies. In its recent programme, the new Finnish government has committed to increasing public R&D investment and has kept the target of 4 % of GDP for 2030 (see below).

Examples of successful academia-business links exist at regional level. The research and innovation system leads to high-level academic performance ([21]). At the same time, the translation of research results into business innovation is less effective. On a positive note, Aalto University offers research and innovation services to students and businesses ([22]). In particular, Europe's leading start-up event in Europe, 'Slush', originated in Aalto's student community, while a significant proportion of Finnish start-ups entrepreneurs are Aalto graduates. Another successful example is research and innovation in the forest industry, which made Finland one of the world's frontrunners in the bio-economy area. Neste, the former state petrol company of Finland, has emerged as an example of a fossil-fuel-based company turning to biofuels. Furthermore, Finland has: i) devoted substantial funding to the bioeconomy; ii) sustainably managed large forestry resources; and iii) generated excellent research in the area of wood-derived materials. Its largest bio-product mill in Äänekoski received investment funding from the European Investment Bank and the European Fund for Strategic Investments ([23]). Numerous research projects develop novel products from wood fibres. Cutting-edge research and technology allows Finland to compete with countries where forests grow ten times faster and harvesting takes place all year round. At the same time, the Technical Research Centre of Finland, which has traditionally played a major role in supporting innovation in the business sector, suffered substantial funding cuts and lost some of its co-financing from the private sector ([24]).

Graph 3.4.4: **Development of R&D expenditure (as a proportion of GDP)**



Source: European Commission

Recent policy initiatives aimed at strengthening the country's research and innovation performance are being implemented. The merging in 2018 of Tekes (Finnish Funding Agency for Technology and Innovation) and Finpro (Finnish Export Promotion Agency) into Business Finland, together with structural changes to the Finnish Innovation Fund Sitra, aimed at exploiting synergies and at strengthening Finland's research and innovation performance (Halme *et al.*, 2020). More recently, the new government has acknowledged the need to promote Finland's attractiveness to encourage both foreign and domestic R&D investment. In addition, the new government's fiscal plans include an increase in expenditure on education and additional investment in research, environment and

([21]) The country has a relatively strong scientific performance (ranked 6th and 10th in the EU in terms of top publication and international co-publications), even though its Nordic peers outperform it.

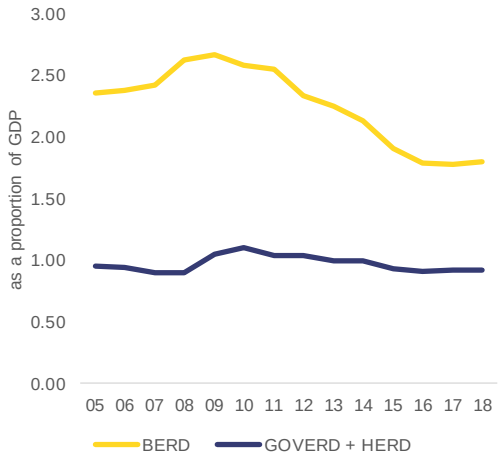
([22]) For example, incubator, business modules and web-based information technology courses.

([23]) The cost of the plant was €1.2 billion, of which €200 million was a loan from the European Investment Bank. The European Fund for Strategic Investments guaranteed a €75 million loan, as announced during the launch of 'Investment Plan for Europe' in July 2015. The Government provided €32.1 million state aid supporting renewable energy and energy efficiency investments. In addition, state-owned Finnvera guaranteed a €400 million loan.

([24]) The VTT Technical Research Centre of Finland Ltd is a state-owned and -controlled non-profit limited liability company. It provides research and innovation services and information for domestic and international customers and partners, both in private and public sectors. VTT is part of Finland's innovation system and operates under the mandate of the Ministry of Economic Affairs and Employment.

infrastructure in order to increase the international competitiveness of the Finnish research framework.

Graph 3.4.5: **Trend of public and business R&D expenditure intensity by sectors of performance (as a proportion of GDP)**



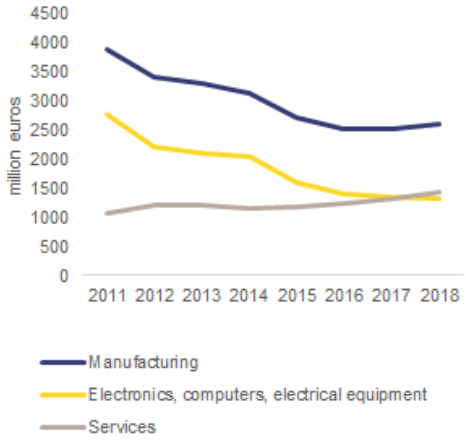
BERD: business R&D expenditure
GovERD: government R&D expenditure
HERD: higher education R&D expenditure
Others: private non-profit sector R&D expenditure
Source: European Commission

There are promising developments regarding smart specialisation in Finland's regions, but there remains insufficient coordination of the process at central level. In Finland, smart specialisation is tightly linked with smart regions. Finland's aim for 2014-2020 was to complement regional strategies with the national innovative cities (INKA) programme. One of its goals was to match the objectives of the national innovation strategy and regional R&I strategies (Suomen kumppanuussopimus, 2014-2020). However, the programme was abolished in 2017. At present, it is not clear how regional smart specialisation strategies will be consolidated and linked to the national R&D and innovation system. In particular, it is not clear which tool or which body will be used to achieve this.

3.4.2. BUSINESS ENVIRONMENT AND MARKET INTEGRATION

Overall, Finland offers one of the best business environments in Europe, and there are continuous improvements. Finland is performing better than EU average for most of the indicators in the Small Business Act ([25]). In addition, Finland has the highest proportion of venture capital investment in Europe (mostly concentrated in the manufacturing and information and communication technology sectors) (Flachenecker *et al.*, 2020). Also, according to the World Bank 'Doing Business' indicators' (World Bank, 2020), Finland often scores among the top performing countries worldwide. Moreover, a bill entered into force in July 2019 that removed the capital requirement of €2,500 for registering a private limited liability company (it is now possible to establish such a company without minimum capital), along with other simplification measures. Finland ranks best in the world for resolving insolvency cases. In 2019, amended bankruptcy legislation was passed by Parliament to further speed up bankruptcy proceedings.

Graph 3.4.6: **Research and development expenditure by industry and year (current prices)**



Source: Statistics of Finland

Liberalisation is ongoing in the retail sector, even though the planned reform of the pharmacy sector has not advanced substantially. A series of reforms aimed at improving the regulatory environment in the retail sector have been carried out over recent years. They included liberalising the opening hours of shops, and amendments to the Land Use and Building Act (132/1999) in 2017. Currently, the

([25]) The Small Business Act (SBA) is an overarching framework for the EU policy on small and medium-sized enterprises (SMEs). It aims to improve the approach to entrepreneurship in Europe, simplify the regulatory and policy environment for SMEs, and remove the remaining barriers to their development.

Finnish authorities are working on a further comprehensive reform of the Land Use and Building Act to take account of recent developments in the construction sector and to allow for more strategic planning, particularly in urban areas. The draft law should be ready in 2020. The 2017 amendments to the legislation on retail are being evaluated to assess their fitness for the changing retail environment and evolving consumer preferences. In the pharmacy sector, reform bills are being prepared, although, with the change in government, the scope seems to have been revised, with less ambition to open up the market to private operators. Currently, strict rules on establishing pharmacies as well as price controls for medicines, including non-prescription medicines, place Finland among the most restrictive EU Member States as regards the sales of medicines.

Nevertheless, there is scope to improve some aspects of the business environment such as permits and the level of entrepreneurship. There seems to be scope to further simplify business permits, including environmental permits. In 2018, the previous government continued its deregulation programme 'Norminpurku' and some small initiatives focused on streamlining permits and appeal processes. According to the Small Business Act, in Finland, the time required to transfer property is about 47 days, double the EU average. Access to finance remains easier than in most EU countries, but remains modest for 'seed capital' companies (Flachenecker *et al.*, 2020)([26]). Moreover, the cost of borrowing small amounts relative to large loans is higher than the EU average (see Section 3.2). While the governments have put several policy initiatives in place over recent years, the indicator 'Entrepreneurship as a desirable career choice' remains below EU average. At the same time, the level of innovation-driven entrepreneurship in Finland is above EU average. Nevertheless, there seems to be scope to further stimulating business entry in Finland (see above under 3.4.1). The new government is planning to further broaden the scope of the entrepreneurial strategy.

([26]) Seed capital is the initial funding used to begin creating a business or a new product. Obtaining seed capital is the first of four funding stages required for a start-up to become an established business.

Some structural features of labour market institutions could be holding back economic dynamism. At the last round of wage negotiations, pay rises in the non-tradable sector were linked to the increases agreed in the tradable sectors. Contrary to the system in Sweden, no formal agreement was reached on applying this model. This absence of formal agreement could increase the uncertainty about the level of wage increases across sectors (see Section 3.3). Some obstacles to local bargaining persist for non-organised employers. However, the new working time arrangement that entered into force on 1 January 2020 should open up possibilities for wider use of flexible working time arrangements, also in non-organised enterprises. Non-compete agreements ([27]) might hinder job-to-job transitions. At the same time, small and medium-sized enterprises incur proportionally larger dismissal costs compared to other firms, and clauses that specify a minimum employment period when it comes to re-employing someone are considered a deterrent by employers (International Monetary Fund, 2018). In this context, a new piece of legislation entered into force in September 2019, allowing courts to take the size of the firm into account when considering dismissal cases and reducing from 90 to 60 days the period during which individually dismissed workers would not receive unemployment benefits.

Digitalisation

Finland is among the best performers in the EU in terms of both digital enablers and digital transformation (European Commission, 2019e). The Finnish government has invested over €100 million, including direct capital funding and regional grants, to support digital projects run by the local authorities in 2018-2022. The planned regional digitalisation process will require new legislation on information management and the establishment of a one-stop-shop service system. Actions include defining the priority areas such as clean-tech, bio-economy, information and communication technologies and health to focus investment on technology-intensive sectors with the potential for upscaling. However, the proportion of organisations with effective risk management approaches to cybersecurity remains low. In particular, small and medium-sized

([27]) Commitments by employees not to carry out a similar activity within 6 months after leaving a firm.

enterprises (SMEs) are lagging behind in implementing practices that concern digital security risk management. In addition, FinnishSMEs are to some extent lagging behind in online trade within and beyond the EU. Specific initiatives may help them increase their e-commerce business and the use of new technologies.

The government plans to continue setting up a real time economy. This means that information on business transactions is to be transferred in electronic format and in real time from one company to another and from companies to the authorities. For the information exchange to work automatically, receipts and invoices need to be in electronic format. The Finnish State Treasury has been developing e-invoicing and electronic receipts, and now the work is continuing on a Nordic level through the Nordic smart government project. The Finnish Patent and Registration Office in collaboration with the State Treasury and the Tax Administration lead this project for Finland's part.

Finland is committed to advancing new digital technologies and to investing strategically in them through EU-coordinated programmes. Finland is a member of the Euro-High-Performance-Computing-Joint Undertaking. It has also signed the Declaration on Cooperation on Artificial Intelligence. Eight sites for supercomputing centres have been selected across the EU to host the first European supercomputers. One of the hosting sites will be located in Finland at Kajaani.

3.4.3. INSTITUTIONAL QUALITY

Finland is a top performer in public administration and governance and continues to maintain its competitive edge. The public procurement system is being modernised. The merger of the two main procurement bodies (*Hansel* and *KL-Kuntahankinnat*) eventually took place in September 2019, instead of January 2019 as initially planned. The rationale behind this merger is to create a single national purchasing body, serving contracting authorities at all levels of government. The merger is expected to increase efficiency and to centralise procurement expenditure (representing about 16% of GDP and worth about €35 billion annually), focusing on larger contracts and a more uniform system for public tendering. The merger is expected to lead to savings of up to 20% and will also help harmonise practices to make access to public procurement easier for companies. The merger will also help coordinate large-scale improvement programmes for procurement. In parallel, Finland aims to fully digitalise its procurement system by 2021.

Finland excels in offering efficient digital public services and is one of the world leaders in the field. The Finnish government has prioritised the digitalisation of public services, presenting it as a transversal theme cutting across all milestone projects. The ultimate goal is to make digital and user-centred public services available, by developing: i) principles for digitalising all public services; and ii) a one-stop-shop service system for citizens and businesses, backed by the necessary legislation on information management. Finland's success is specifically thanks to the improved availability of open data and digital healthcare services. Online interaction between public authorities and the public is high, as 92% of Finnish online users actively engage with e-government services.

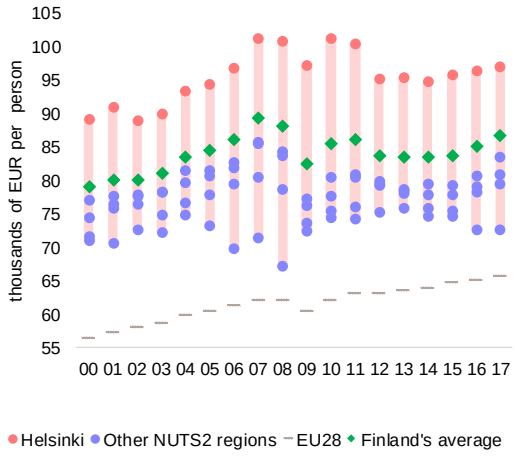
3.4.4. REGIONAL DIMENSION

There are strong disparities in economic performance at regional and local level. Helsinki contributed 36% to the country's overall growth between 2000 and 2017. The other two main cities, Tampere and Turku, further added 7%, but their performance over that period was considerably below the national average of 18% due to strong GDP contraction during the economic crisis. Several intermediate ([28]) or predominantly rural areas grew economically more over this period, but their performance differed significantly from a contraction of -7% in Kymenlaakso to an expansion of 26% in Ostrobothnia (Organisation for Economic Co-operation and Development, 2019e).

([28]) 'Intermediate', if the proportion of the population living in rural local units is between 15% and 50%; 'predominantly rural', if the proportion of the population living in rural local units is higher than 50% (Organisation for Economic Cooperation and Development, 2011).

Productivity growth is steady across Finnish regions. Productivity is slowly recovering from losses incurred during the 2008 economic crisis, although productivity remains below pre-crisis levels. However, even in the least productive region, North and East Finland, productivity is clearly above the EU average. At the same time, the productivity patterns appear largely static, with unchanged ranking over the last 18 years (see Graph 3.4.7). Between 2000 and 2017, the changes in labour productivity were modest: from 2 % in Åland to 11 % in North and East Finland.

Graph 3.4.7: **Regional value added per worker**



Source: European Commission

Finnish regions benefit from higher quality governance than the EU on average. All Finnish regions register a very strong performance in terms of quality of governance: all regions mark at least around 80 against an EU average of 49 in the European Quality of Governance Index ([29]). As a result, Finnish regions are more competitive than the EU on average ([30]). Still, there is a considerable gap (approx. 20 pps) between Helsinki and North and East Finland.

([29]) The European Quality of Government Index (EQI), 2017 edition, developed by the Quality of Government Institute of Gothenburg University, is the only measure of institutional quality available at the regional level in the European Union. Institutional quality is defined as a multi-dimensional concept consisting of high impartiality and quality of public service delivery, along with low corruption. Funded by the European Commission in 2010, 2013 and 2017, the EQI aims at capturing average citizens' perceptions and experiences with corruption, and the extent to which they rate their public services as impartial and of good quality in their region of residence. https://ec.europa.eu/regional_policy/en/information/maps/quality_of_governance

([30]) https://ec.europa.eu/regional_policy/en/information/maps/regional_competitiveness

3.5. ENVIRONMENTAL SUSTAINABILITY

Sustainable development governance

Finland has a good track record on environmental sustainability and governance. Finland has an action plan on 'open government', which encourages citizens to participate across the board. While education plays an important role in training experts in the circular economy, Finland is paving the way by including 'circular economy' in university curricula. Moreover, as Finland uses about €35 billion annually for public procurement, (16% of GDP; Institute for European Environmental Policy, 2019), it has introduced a national strategy on green public procurement with specific targets for central, regional and local governments. The strategy has set targets that gradually increase over time. Finnish SMEs perform above the EU average in the environmental dimension of the Small Business Act (European Commission, 2018d).

A faster pace towards a carbon neutral economy

The new government programme for 2019-2023 includes an ambitious objective of attaining carbon neutrality by 2035. Finland has fully embraced climate objectives in its domestic policies and the government has stepped up ambitions by setting an objective to reach carbon neutrality by 2035. Reaching this target will require a comprehensive set of policies and measures in a whole-economy approach.

Accordingly, the government starts the preparation of a medium-term climate change policy plan in 2021, as laid down in the Climate Change Act. The government also plans to amend the country's original Climate Change Act to include legally binding greenhouse gas emission reduction targets, including land use, land use change and forestry. It will be important to offset any negative regional economic and social impacts, including energy poverty.

Finland's increased ambition needs to be translated into a significant step-up of mitigation policies, including those for emissions in sectors not covered previously. Greenhouse-gas emissions in Finland have decreased at the same pace as in the EU as a whole (-20.5% in 2017 since 1990). However, the country's emissions in sectors not covered by the EU emissions trading scheme are still higher than the 2020 target and reaching carbon neutrality by 2035 will require additional measures to deal with emissions in these sectors. To achieve the carbon neutrality objective, emissions reduction measures will need to address all greenhouse gas emissions sources. Currently, although the energy mix of the country is already 80% carbon-free, the energy supply sector still represents 31% of the total emissions ([31]), ahead of transport (20%), manufacturing (12%) and buildings (7%). Mitigation policies will also need to factor in the decrease of Finland's forest-based carbon sink witnessed in recent years, which may further challenge the country's objective of achieving carbon neutrality. Given the weight of the forest sector in Finland's economy (second largest export sector), policies affecting the sector bear significance both for the economy and the climate policy.

The government's climate policies are expected to have a significant impact on the structure of the national budget, and given the increased ambition, this effect could become manifest at an earlier stage. The government has announced an overhaul of energy taxation to help achieve a carbon neutral economy and to benefit renewable energy. It has notably pledged to phase out fossil fuel subsidies for oil, coal and, possibly, peat. Tax expenditure allocated to the energy sector is expected to decrease and consumption taxes are to include a CO_2-content element. Mining activities will be removed from the scope of the tax rebate for energy-intensive companies, while the rebate itself will be abolished over a transition period, with cost neutrality to be achieved by means of reducing the electricity tax. However, no assessment of the measures' environmental impact is available at this stage ([32]). To ensure that the transition to a climate neutral economy leaves no one behind, the government will need to take into account the distributional effects of environmental taxation and its effects on the most vulnerable households (European Commission, 2019f).

([31]) Sectoral GHG emissions: https://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer

([32]) In connection with the budget negotiations of the 2020 budget, the Government announced that it intends to launch preparatory work aimed at making cuts to environmentally harmful subsidies and redirect the funds released to more productive and sustainable uses. Decisions based on this preparatory work are scheduled for autumn 2020.

The climate and energy challenge

The contributions of fossil fuels to domestic energy production are progressively decreasing, while biofuels and electricity are expected to progressively replace those in transport. In 2018, contributions of fossil fuels to domestic energy production reached 8.3% for coal, 26.9% for oil and 6.6% for natural gas. Coal-fired electricity still represents about 13% of the total production of Finland (in 2017). Almost half of the coal-fired power plants are over 35 years old, and most are over 20 years old. The decided coal phase-out for 2029 should lead to no new investments in coal-fired power plants ([33]). According to the national energy climate plan (NECP) ([34]), the coal phase-out should cost about €34 million. The NECP also significantly targets the reduction of oil consumption in the transport sector, to be substituted by biofuels (which would increase to an expected share of 30%) and by electricity not generated by fossil fuels.

Finland is currently meeting its 2020 energy efficiency target, but its progress will have to be monitored in view of the 2030 target. The NECP envisages a very moderate decrease in final energy consumption as well as an increase in primary energy consumption for 2030. This would constitute a very low contribution to the EU energy efficiency target. Finland uses voluntary agreements with industry and has sector-specific energy efficiency targets for transport and building codes setting high energy performance standards for new buildings. However, improving energy efficiency in the existing building stock ([35]) consistently with the EU 2030 energy efficiency target will very likely require substantial investment, notably from households (see below under 'Low carbon and energy investment'). Addressing this challenge would contribute to further progress on the United Nations Sustainable Development Goal (SDG) 7 – Affordable and clean energy and SDG 12 – Responsible consumption and production (see Annex E).

Finland already meets its 2020 renewable energy target. The proportion of renewables in the gross final energy consumption stood at 41% in 2018, 3 pps above the target, thanks notably to contributions of biomass (29% of total energy in 2017) and wind (7% of electricity). The proportion of renewables is expected to keep increasing in the future, with the final NECP indicating a target of 51% in 2030 (in line with the Commission recommendation). This would contribute to further progress on SDG7 — Affordable clean energy —, on SDG12 — Responsible consumption and production — and on SDG13 — Climate action (see Annex E).

Moving towards more sustainable transport and housing can bring along considerable savings. As transport alone accounts for one fifth of Finland's emissions, it will play a key role in reaching carbon neutrality. The new government has set an ambitious target of halving transport emissions by 2030, through tightening fossil fuel taxation and subsidising the electrification of transport. Further investment in railways is also planned (see below under 'Sustainable transport infrastructure investment'). Studies suggest that improving the energy efficiency of buildings could reduce total heating demand by half (MEAC, 2017).

Low carbon and energy transition investment

The planned transformation towards carbon neutrality is expected to require substantial investment, particularly in the energy sector. The largest investment needs are identified in the area of electricity networks.. Total investments by distribution grid companies amounted to €9.5 billion for 2016-2028. Finland is already above the EU target level for electricity interconnection for each Member State in 2020 (10%) and, for 2030, it aims to keep its connectivity level above the 2030 target of 15% for each EU Member State. There is potential for intensifying the existing cooperation arrangements between Nordic countries and for broadening the geographic reach to include the Baltic States.

The projected increased contribution of renewable energy, notably to the power sector,

([33]) According to the final NECP, this covers 'premature investment cost' to replace coal in boilers.

([34]) Finland submitted the final version of its NECP to the European Commission on 20 December 2019. The Commission monitors the attainment of the EU's 2030 energy and climate targets with the help of each Member State's plans. The Commission will assess, in the course of 2020, the final energy and climate plans submitted by the Member States.

([35]) Which represented 35% of the final energy demand in 2017 (23% for residential and 12% for services) and has been increasing since 2015.

will require further investment in this sector. According to the NECP, Finland intends to reach a 51% proportion of renewable energy in gross final consumption of energy in 2030. This will make the country one of the EU frontrunners in renewable energy. In this context, in 2018, the government reformed the renewable support scheme to increase competitive tenders. The country's aim of increasing the proportion of transport biofuels (to 30%) and of ramping up the number of electric vehicles will require investments in biofuel facilities (estimated €1.3 billion in the final NECP), as well as in recharging infrastructure (estimated, in the final NECP, at €415 million by 2030).

Based on Finland's plans, nuclear energy represents another significant part of the investment needs for the energy supply sector in the coming years. First of all, two nuclear reactors are under construction: Olkiluoto 3 (OL3), planned for commissioning in 2020-2021, and Hanhikivi 1 (reactor supplied by Russia's Rosatom), which should be commissioned in the end of the 2020s. In addition, a site for long-term nuclear waste storage is to be commissioned in the mid-2020s.

Sustainable transport infrastructure investment

Infrastructure investment plans aim at increasing sustainable mobility. A new national transport system is being developed by 2021 under the lead of a parliamentary steering group. The plan is expected to cover 2021-2032 and thereby move towards a long-term planning scheme, the lack of which has been criticised by stakeholders. Three high-speed railroad lines are being considered; however, these are at an early stage of preparation. The 2020 budget proposal includes funding for preparatory works and studies for the Helsinki-Turku and Helsinki-Tampere high-speed lines (estimated 8-9 million annual passengers). Improvements could contribute to progress on SDG9 — Industry, innovation and infrastructure (see Annex E). As regards electronic data transmission networks, commercial networks of 5G technology are becoming available. The government is currently taking care of the allocation of market segments.

Some major international connection projects have suffered delays or have been suspended. The northeast broadband cable connection to China and Japan is delayed due to political discussions with Finland's neighbours, but the whole project could be constructed between 2020 and 2022. For now, the new government has decided not to join the Rail Baltica consortium, but continues to take part as an observer. The Rail Baltica project remains an important part of the Trans-European Transport Network (TEN-T) Scandinavia-Mediterranean corridor.

Just Transition analysis

Phasing out peat could notably contribute to Finland's goal of achieving carbon neutrality by 2035. Finland is one of the main producers and the main consumers of peat in Europe ([36]). The country uses peat mainly as an energy source. According to the final NECP, peat accounted for 4-5% of the total energy supply in 2018. Peat plays a significant role as a fuel in combined heat and power plants. The CO2 emission intensity of peat is higher than that of brown coal or natural gas, and peat used as a domestic fuel enjoys favourable tax treatment to ensure it can compete with imported fossil fuels (IEA 2018).

The government is committed to decreasing the use of peat for energy by at least half by 2030. As part of the overhaul of energy taxation, the government intends to assess the necessary changes to the taxation of peat, so that the country can achieve its 2030 target. At the same time, the government wants to ensure that timber material does not end up being incinerated. The government will have to take into account the distributional effects of peat taxation and respective compensatory measures for the most vulnerable households (European Commission, 2019g).

The peat stock, the production of peat, and its use for energy is particularly concentrated in the north and centre of the country. The sparsely populated East and North of the country appears to be the NUTS2 region that is most affected by the transition from peat to carbon neutral energy production. As a region that is slightly weaker economically ([37]), it may have a

([36]) Production: 0.7 Mtoe or 45.6% of EU total in 2017; consumption 1.28 Mtoe or 60% of EU total in 2017.

([37]) The GDP per head (PPS) of the East and North region was 91% of EU average in 2017, while the national average was 109%. The East and North´s employment rate was 73% in 2018, while that of Finland was 76.3%.

more limited capacity to absorb transition shocks on its own.

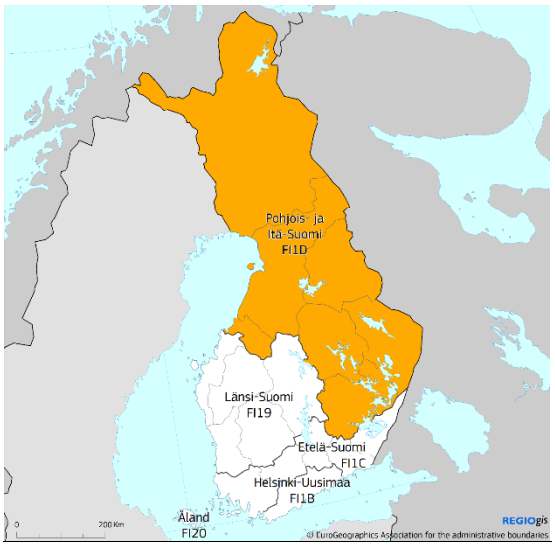
It is important that people can benefit from new opportunities in the green economy. The industry has estimated that the direct employment effect of peat production was 2,300 person-years in 2018 and, when the indirect effect is taken into account, the number increases to 4,200 person-years (Maaseudun tulevaisuus, 2019) ([38]). If peat production were to be phased out, it would mainly be employees in direct jobs who would be at risk of unemployment. Some indirect jobs may also be at risk, due to decreasing economic activity in peat-producing regions. This calls for the regional economy to be diversified, ensuring the attractiveness of the region for future investments, as well as the reskilling and upskilling of the workers concerned. The European Commission has proposed a Just Transition Fund to support the people and the territories most affected. Dedicated investment guidance for the Fund is in Annex D.

Moving towards a more circular economy

Finland strives to move towards a more circular economy, but the challenge is big. In 2020, Finland is preparing a National Circular Economy Action Plan with concrete actions and initiatives to accelerate the transition towards a climate neutral circular economy. Furthermore, a digital market place was established in 2019 to serve as a digital platform for producers and suppliers to announce waste, side streams, and services connected to recycling and waste management. Finland is also promoting the circular economy higher up on the international agenda. However, compared to other EU countries, Finland remains a resource intensive economy. In particular, materials and energy consumption intensities are well above EU average (European Commission, 2019g).

Waste management is advanced, but there is room for further improvements. The generation of municipal waste in Finland was above the EU average (Eurostat, 2019b) and has fluctuated over recent years. The landfilling rate is among the lowest in the EU (1% in 2016) and far below the EU average (24%). However, the recycling rate for municipal waste, using calculation method 2 as set out in Commission decision 2011/753/EU, was 49% in 2017, above the EU average of 47%. It seems quite likely that Finland will achieve the EU 2020 municipal waste recycling target of 50%. In any case, further measures are needed to achieve the ambitious targets laid down in the revised Waste Framework Directive for years 2025, 2030 and 2035.The 'Early Warning report' on waste management (European Commission, 2018e) recommended that Finland set mandatory recycling targets for municipalities in line with the national targets of 50%. It also recommended greater cooperation between producer responsibility organisations ([39]), municipalities and waste collection companies to drive efficiency savings and to reduce fragmentation. Measures to increase the recycling rate would contribute to advancing further towards SDG 11 – Sustainable cities and communities and SDG12 – Responsible consumption and production (see Annex E).

Graph 3.5.1: **NUTS2-region the most affected by the transition from peat to carbon neutral energy production**



Source: European Commission

Finland ranks among the best performing countries regarding eco-innovation in the EU, while public investment in environmental protection appears to be rather modest. The

([38]) VTT 2010 report held that employment of fuel and horticultural peat production and fuel peat use was 12,350 person-years. At 2.19 Mtoe, production of peat was three times higher in 2009 than in 2017, however.

([39]) A producer may choose to delegate its environmental responsibility to a third party, a so-called producer responsibility organization, which is paid by the producer for used-product management.

country's ranking is very high in terms of both the EU eco-innovation index and the development and diffusion of environmental technologies. Most of the investment in environmental protection is carried out by industry and specialised providers, while the government contributes comparatively little, both relative to government spending elsewhere in the environmental field and relative to the private sector. More generally, the government's stake in environmental protection appears relatively modest as reflected by the GDP proportion of its environmental protection expenditures and output, both ranking among the lowest in the EU.

Achieving climate neutrality will bring significant opportunities to create jobs. The transition to climate neutrality is expected to favour job creation for all skill groups. In particular, it is expected to introduce more low to middle-skilled, middle-paying jobs in the service, industry and construction sectors (Eurofound 2019). It is essential to prepare the labour force in order for the green transition to be successful. To make this transition effective and socially balanced, Finland needs to continue investing in up-skilling and re-skilling its labour force to support the deployment of green technologies and target learning schemes towards the overall greening of the economy.

Just transition includes a gender dimension. New green jobs are expected mainly in sectors with traditionally limited female representation, such as forestry and clean-tech (Ministry of Economic Affairs and Employment, 2017). This might help Finland compensate for the comparatively high inactivity of men between 25 and 54 (see chapter 3.3), if the appropriate activation and support measures are in place. Nevertheless, education and training schemes need to be geared towards mitigating existing gender inequalities by encouraging women to participate more in science, technology and engineering studies. In this context, social dialogue also plays an important role.

ANNEX A: OVERVIEW TABLE

Commitments	Summary assessment ([40])
2019 country-specific recommendations (CSRs)	
CSR 1: Ensure that the nominal growth rate of net primary government expenditure does not exceed 1.9% in 2020, corresponding to an annual structural adjustment of 0.5% of GDP. Improve the cost-effectiveness of and equal access to social and healthcare services.	Finland was **not assessed** as regards addressing CSR 1
Ensure that the nominal growth rate of net primary government expenditure does not exceed 1.9% in 2020, corresponding to an annual structural adjustment of 0.5% of GDP.	**The compliance assessment with the Stability and Growth Pact will be carried out in spring 2020, when final data for 2019 will be available.**
Improve the cost-effectiveness of and equal access to social and healthcare services.	**Limited progress has been achieved on improving cost-effectiveness of and equal access to social and healthcare services.** The government plans to continue with the healthcare reform initiated by the previous government. The reform still aims at addressing the fragmentation of the system and the related financial challenges faced by small, remote municipalities. The considered centralisation of service provision to county level is likely to lead to increases in efficiency. Accessibility would be promoted through a strengthening of the primary care system. The government plans to adopt the reform by the end of its term.

([40]) 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 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.

CSR 2: Improve incentives to work and enhance skills and enhance active inclusion, notably through well-integrated services for the unemployed and the inactive.	Finland has made **some progress** in addressing CSR 2
Improve incentives to work	**Limited progress has been made on reducing inactivity and unemployment traps.** The social security reform is a long-term process aiming at simplifying the benefit system. The reform could be a major component in helping the government attain its objective of a 75% employment rate for people aged 15-64 by making work pay more in all circumstances. Moreover, it should improve the coordination of different benefits. The government plans to implement the reform gradually, over the course of two government terms. The groundwork started during Sipilä's government term. In 2019, Finland deployed a real-time income register that could reduce the bureaucratic traps. This register has the potential to speed up handling times of benefits, thus increasing the 'certainty of income' level, whenever part-time or short-term work is taken up. Moreover, it could open up possibilities for a more effective combination of work-income and benefits in the future. The government has set up seven ministerial working groups with tripartite sub-groups to prepare labour market reforms to explore ways to increase employment.
and enhance skills	**Some progress has been achieved on skills.** The government programme recognises inequality, exclusion and differences in learning outcomes as the most serious threats in education. The budget has been increased to address these challenges. The recent VET reform pushes for more responsiveness to the labour market needs and is in its final stages of implementation. Participation in adult education is concentrated on the highly educated, high-skilled, and high-earning employees. The government is launching a 'continuous learning' reform to address skills shortages of adult workers. Notwithstanding, labour shortages, especially of high-skilled workers, are reported to be the most important obstacle to investment and risk becoming a drag on growth. There is a concern about the lack of sufficient funds to implement recent educational reforms in early childhood education, as well as in compulsory and tertiary education.
and enhance active inclusion, notably through well-integrated services for the unemployed and the	**Some progress has been achieved on active inclusion.** The announced 'work ability' reform is expected to result in better coordinated benefits,

inactive.	more personalised, more integrated services. The same results are also expected from trials carried out in municipalities to improve integration of employment services, education and training services, and social and health services in order to support employability of jobseekers who have weak labour market status (those receiving labour market support,, i.e. basic unemployment benefit, young people under 30 years old, and immigrants). The assumption is that more locally provided services would be more efficient. The Parliament will decide on the law in February-March 2020, and the trials are expected to follow in April-May. The government has earmarked €36 million for implementing the 'work ability' programme. This programme aims to increase the inclusion of people with partial work abilities in the labour market. Employment services, and social and health services will be strengthened. Some 20 work ability coordinators will be hired in the employment offices. As a part of the work ability programme, public procurement will be used to hire those people in the weakest position in the labour market.
CSR 3: Focus investment-related economic policy on research and innovation, taking into account regional disparities, focus investment-related economic policy on low carbon and energy transition, taking into account regional disparities, and focus investment-related economic policy on sustainable transport, taking into account regional disparities	Finland has made **limited progress** in addressing CSR 3
Focus investment-related economic policy on research and innovation, taking into account regional disparities,	**Limited progress has been made on public research and innovation investment.** The amount of public money for research and development support is expected to increase, but remain broadly stable as a proportion of GDP. A roadmap will be drawn up to raise overall R&D investment to 4% of GDP and to make Finland the best place in the world for innovation and experiment.
focus investment-related economic policy on low carbon and energy transition, taking into account regional disparities,	**Limited progress has been made on investment in low carbon and energy transition.** The government's objective is to make Finland carbon neutral by 2035 and the world's first fossil-free social society. This will require a comprehensive agenda of policies and measures. The government has announced an overhaul of energy taxation by the 2020 budget, notably with a pledge to phase out fossil fuel subsidies on oil, coal and, possibly, peat.

and focus investment-related economic policy on sustainable transport, taking into account regional disparities	**Limited progress has been achieved on investment in sustainable transport.** Sustainable infrastructure investment is being planned, notably to increase labour mobility. Three high-speed railroad lines are being considered to improve labour mobility, but economic studies have not been carried out yet by independent analysts. A new national transport system will be developed in 2020-2021 under the lead of a parliamentary steering group.
CSR 4: Strengthen the monitoring of household debt and establish the credit registry system Strengthen the monitoring of household debt and establish the credit registry system	Finland has made **some** progress in addressing CSR 4 **Some progress has been made on monitoring the household debt.** In October 2019, the Ministry of Finance proposed to limit to 60% the loan to value ratio (selling price ratio) applicable to housing companies. In parallel, a debt-to-income ratio cap will be applied to households when their loan requests exceed a certain threshold. The Ministry of Finance is drafting further macro-prudential measures. The legislation on consumer credit has been tightened. An interest cap at 20% entered into force in September 2019. **Limited progress has been made on the setting up a credit registry system.** The work on the credit registry is still being planned. The government has recently decided that the credit registry is to be managed by a public entity. The official working group is expected to be established in early 2020. The necessary legislative work on data protection is expected to start in January 2020, while work on the registry itself might incur delays. Nevertheless, the authorities are committed to having the necessary legislation in place by 2023.
Europe 2020 (national targets and progress)	
Employment rate target set in the NRP: 78%.	Latest figure: 76.7% (October 2019).
R&D target set in the NRP: 4% of GDP	According to Statistics Finland, R&D expenditure amounted to €6.4 billion in 2018. Expenditure had increased by as much as €265 million from the previous year. This was the biggest increase in volume terms since 2008. Growth occurred in all sectors: in the business sector it was 5%, in the

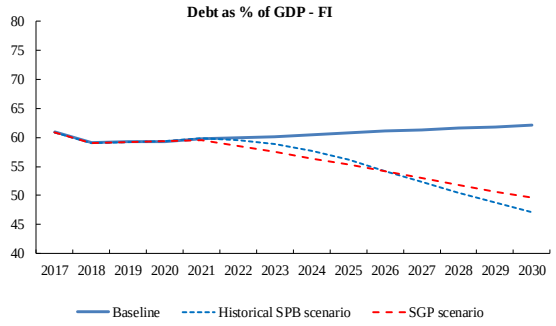
	public sector 2% and in the higher education sector 4% compared to 2017. This was the second favourable year in a row following the decreasing trend of R&D expenditure that lasted for 5 years before that. The GDP proportion of R&D expenditure in 2018 was 2.75% (cf. 2.73% in 2017). At its highest, the proportion was 3.75% in 2009. Although Finland's proportion has dropped by 1 pp. over the past 10 years, it is still significantly above the Organisation for Economic Co-operation and Development and EU average. In 2018, businesses accounted for 66% of R&D expenditure and for 61% of R&D funding. The business sector's proportion of total R&D expenditure has declined markedly from 2008 when it was 74%. The public sector is responsible for 9% of R&D expenditure. However, for R&D funding, its proportion is 32%, including basic funding for the higher education sector provided by the Ministry of Education and Culture. According to the official estimates by Statistics Finland, the GDP proportion of R&D will decrease again in 2019. Although R&D expenditure will most likely grow in 2019 by over €110 million, the GDP proportion will go down to 2.71%. This is because the growth rate of the economy is higher than that of R&D expenditure. According to recent estimates from the Ministry of Economic Affairs and Employment, the proportion will remain at the level of 2.70-2.75% over the next few years.
National greenhouse gas (GHG) emissions target: - 16% in 2020 compared with 2005 (in sectors not included in the EU emissions trading scheme)	According to Statistics Finland's instant preliminary data, the total emissions of greenhouse gases in 2018 totalled 56.5 million tonnes of carbon dioxide (CO2 eq.). Emissions grew by 2% from the previous year. The growth in emissions was most influenced by increased consumption of natural gas and peat. Those emissions not included in the EU emissions trading system remained at last year's level, but exceeded the EU's annual emission allocations by 0.4 million tonnes of CO2 equivalent. According to most recent projections, the non-ETS emissions, with existing national policies and measures in place, will be slightly over the emission target in the year 2020. However, it is expected that Finland can close the projected gap between the emission target in 2020 and actual emissions by

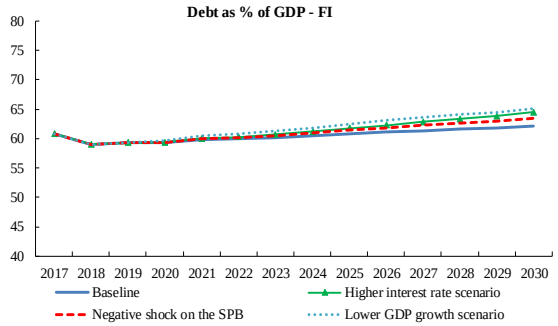
	using flexibility measures such as the transfer of surplus annual emission allocation from the earlier years to the later years of the period 2013-2020.
2020 renewable energy target: 38%	Finland's renewable energy share, expressed in percentage of gross final energy consumption, was 41% in 2017. Also in 2018, the share is expected to have been clearly over 40%, thus already above Finland's 2020 target.
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)	The primary energy consumption amounted to approximately 32.3 Mtoe in 2018. With existing policies and measures, the energy consumption is projected to be 32.4 Mtoe in 2020.
Early school/training leaving target: 8%.	Eurostat figure for 2018: 8.3%.
Tertiary education target: 42% of population aged 30-34.	Eurostat figure for 2018: 44.2%.
Target for reducing the number of people at risk of poverty or social exclusion, expressed as an absolute number of people: 770,000 less people at risk of poverty or exclusion (base year 2010: 911,000).	The latest statistics (May 2019) show that 890,000 Finns, or 16.4% of the household population, were at risk of poverty or social exclusion in 2017 (compared to 849,000 in 2016). Most of the people that are at risk of poverty or social exclusion live in low income households, which made up 12.1% of the population. The second most at risk group of poverty or social exclusion were those who live in households with low work intensity, affecting 7.6% of the population. Only 2.6% of households in Finland suffer from severe material deprivation.

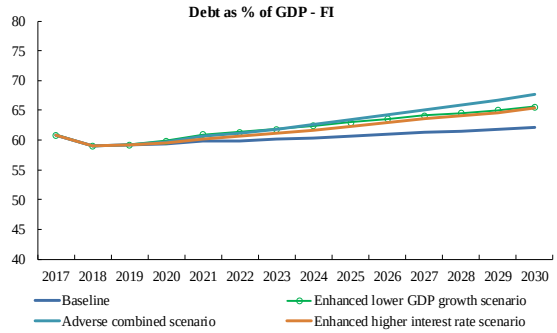
ANNEX B: COMMISSION DEBT SUSTAINABILITY ANALYSIS AND FISCAL RISKS

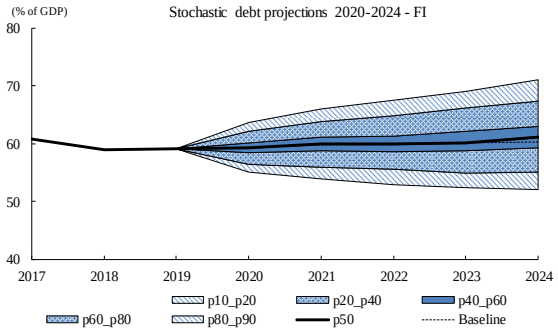
General government debt projections under baseline, alternative scenarios and sensitivity tests

FI - Debt projections baseline scenario	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gross debt ratio	**59.0**	**59.2**	**59.3**	**59.8**	**59.9**	**60.1**	**60.4**	**60.7**	**61.1**	**61.3**	**61.5**	**61.7**	**62.1**
Changes in the ratio (-1+2+3)	*-1.8*	*0.2*	*0.1*	*0.5*	*0.1*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.4*
of which													
(1) Primary balance (1.1+1.2+1.3)	**0.1**	**-0.3**	**-0.7**	**-0.9**	**-1.1**	**-1.2**	**-1.3**	**-1.4**	**-1.5**	**-1.5**	**-1.6**	**-1.6**	**-1.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.1***	***-0.6***	***-0.8***	***-0.9***	***-1.1***	***-1.2***	***-1.3***	***-1.4***	***-1.5***	***-1.5***	***-1.6***	***-1.6***	***-1.8***
(1.1.1) Structural primary balance (bef. CoA)	*-0.1*	*-0.6*	*-0.8*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*
(1.1.2) Cost of ageing					*0.3*	*0.6*	*0.8*	*1.0*	*1.2*	*1.4*	*1.6*	*1.7*	*1.8*
(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	***0.2***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***0.1***	***0.0***	***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)	**-1.4**	**-0.8**	**-0.9**	**-1.0**	**-1.0**	**-1.0**	**-1.0**	**-1.1**	**-1.2**	**-1.3**	**-1.4**	**-1.4**	**-1.4**
(2.1) Interest expenditure	*0.9*	*0.8*	*0.8*	*0.7*	*0.7*	*0.7*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.5*	*0.5*
(2.2) Growth effect	*-1.0*	*-0.8*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.6*	*-0.6*	*-0.7*	*-0.8*	*-0.7*
(2.3) Inflation effect	*-1.3*	*-0.8*	*-1.1*	*-1.1*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.2*
(3) Stock-flow adjustments	**-0.4**	**0.6**	**0.3**	**0.6**	**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	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM	MEDIUM			
			Debt level (2030)	62.1	47.2	65.1	64.5	63.4				
			Debt peak year	2030	2021	2030	2030	2030				
			Percentile rank	72.0%	43.0%							
			Probability debt higher						60.0%			
			Dif. between percentiles						18.9			
LOW (S0 = 0.3)	MEDIUM	MEDIUM (S1 = 0.5)								MEDIUM (S2 = 3.6)	MEDIUM	

Note: For further information, see the European Commission Debt Sustainability Monitor (DSM) 2019.

[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 and the DSM 2019.

[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 after that) to bring the debt-to-GDP ratio to 60 % by 2034. The critical values used are 0 and 2.5 pps of GDP. The DSA classification is based on the results of five 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**

	2014	2015	2016	2017	2018	2019
Total assets of the banking sector (% of GDP)(1)	280.0	262.9	251.6	200.1	268.1	293.4
Share of assets of the five largest banks (% of total assets)	89.7	88.0	80.5	73.5	81.6	-
Foreign ownership of banking system (% of total assets)(2)	71.6	67.5	65.5	54.0	10.8	13.1
Financial soundness indicators:(2)						
- non-performing loans (% of total loans)	1.6	1.5	1.4	1.2	1.5	1.4
- capital adequacy ratio (%)	17.5	23.8	24.6	23.4	20.9	20.6
- return on equity (%)(3)	9.1	8.3	8.7	8.8	8.1	7.2
Bank loans to the private sector (year-on-year % change)(1)	3.8	0.2	1.6	3.1	4.5	4.6
Lending for house purchase (year-on-year % change)(1)	1.7	2.5	2.3	2.2	1.7	2.3
Loan-to-deposit ratio(2)	103.6	102.4	94.3	94.8	133.2	127.2
Central bank liquidity as % of liabilities(1)	0.4	0.3	1.9	2.5	1.8	0.9
Private debt (% of GDP)	148.8	151.5	148.0	145.3	142.1	-
Gross external debt (% of GDP)(2) - public	53.5	51.5	48.2	45.9	40.7	41.3
- private	43.6	48.0	44.0	45.6	48.8	51.9
Long-term interest rate spread versus Bund (basis points)*	28.6	22.4	27.5	23.1	26.6	32.4
Credit default swap spreads for sovereign securities (5-year)*	24.0	20.6	24.4	19.0	10.3	9.8

(1) Latest data Q3 2019. Includes not only banks but all monetary financial institutions excluding central banks.
(2) Latest data Q2 2019.
(3) Quarterly values are annualized.
* Measured in basis points.
Source: European Commission (long-term interest rates); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

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

	2014	2015	2016	2017	2018	2019 [5]
Equal opportunities and access to the labour market						
Early leavers from education and training (% of population aged 18-24)	9.5	9.2	7.9	8.2	8.3	:
Gender employment gap (pps)	1.9	2.1	3.3	3.5	3.7	2.8
Income inequality, measured as quintile share ratio (S80/S20)	3.6	3.6	3.6	3.5	3.6	:
At-risk-of-poverty or social exclusion rate[(1)] (AROPE)	17.3	16.8	16.6	15.7	16.5	:
Young people neither in employment nor in education and training (% of population aged 15-24)	10.2	10.6	9.9	9.4	8.5	:
Dynamic labour markets and fair working conditions						
Employment rate (20-64 years)	73.1	72.9	73.4	74.2	76.3	77.2
Unemployment rate[(2)] (15-74 years)	8.7	9.4	8.8	8.6	7.4	6.7
Long-term unemployment rate (as % of active population)	1.9	2.3	2.3	2.1	1.6	1.2
Gross disposable income of households in real terms per capita[(3)] (Index 2008=100)	101.3	102.1	103.3	104.6	106.5	:
Annual net earnings of a full-time single worker without children earning an average wage (levels in PPS, three-year average)	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)	-0.76	-0.25	0.27	:	:	:
Public support / Social protection and inclusion						
Impact of social transfers (excluding pensions) on poverty reduction[(4)]	53.6	53.7	57.0	56.9	53.7	:
Children aged less than 3 years in formal childcare	33.2	32.5	32.7	33.3	37.2	:
Self-reported unmet need for medical care	3.3	4.3	4.1	3.6	4.7	:
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 (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in households with zero or very low work intensity (LWI).
(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) Gross disposable household income is defined in unadjusted terms, according to the draft Joint Employment Report 2019.
(4) 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).
(5) Average of first three quarters of 2019 for the employment rate, unemployment rate and gender employment gap.
Source: Eurostat

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

Labour market indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019** [5]
Activity rate (15-64)	75.4	75.8	75.9	76.7	77.9	78.6
Employment in current job by duration						
From 0 to 11 months	16.1	16.0	17.6	18.5	19.6	:
From 12 to 23 months	9.1	8.4	8.6	9.3	10.1	:
From 24 to 59 months	16.7	16.4	14.9	14.4	14.3	:
60 months or over	57.9	58.9	58.7	57.7	55.9	:
Employment growth* (% change from previous year)	-0.4	-0.1	0.5	1.0	2.6	1.0
Employment rate of women (% of female population aged 20-64)	72.1	71.8	71.7	72.4	74.5	75.8
Employment rate of men (% of male population aged 20-64)	74.0	73.9	75.0	75.9	78.2	78.6
Employment rate of older workers* (% of population aged 55-64)	59.1	60.0	61.4	62.5	65.4	66.6
Part-time employment* (% of total employment, aged 15-64)	14.1	14.1	14.9	15.0	15.1	15.6
Fixed-term employment* (% of employees with a fixed term contract, aged 15-64)	15.4	15.1	15.6	15.8	16.2	15.9
Transition rate from temporary to permanent employment (3-year average)	31.1	28.8	25.9	26.5	27.5	:
Youth unemployment rate (% active population aged 15-24)	20.5	22.4	20.1	20.1	17.0	16.9
Gender gap in part-time employment	9.4	8.4	9.5	9.9	10.0	10.1
Gender pay gap[2] (in undadjusted form)	18.4	17.6	17.4	16.7	:	:
Education and training indicators	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Adult participation in learning (% of people aged 25-64 participating in education and training)	25.1	25.4	26.4	27.4	28.5	:
Underachievement in education[3]	:	13.6	:	:	:	:
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	45.3	45.5	46.1	44.6	44.2	:
Variation in performance explained by students' socio-economic status[4]	:	10.0	:	:	:	:

* Non-scoreboard indicator
(1) Long-term unemployed are people who have been unemployed for at least 12 months.
(2) 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.
(3) PISA (OECD) results for low achievement in mathematics for 15 year-olds.
(4) Impact of socio-economic and cultural status on PISA (OECD) scores.
(5) Average of first three quarters of 2019. Data for youth unemployment rate is seasonally adjusted.
Source: Eurostat, OECD

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

	2013	2014	2015	2016	2017	2018
Expenditure on social protection benefits* (% of GDP)						
Sickness/healthcare	7.4	7.4	7.4	7.1	6.8	:
Disability	3.4	3.4	3.2	3.1	2.9	:
Old age and survivors	12.4	12.9	13.3	13.5	13.6	:
Family/children	3.2	3.2	3.2	3.1	2.9	:
Unemployment	2.3	2.5	2.6	2.6	2.2	:
Housing	0.6	0.6	0.7	0.8	0.8	:
Social exclusion n.e.c.	0.9	0.9	0.9	1.1	0.9	:
Total	30.2	30.9	31.2	31.1	30.1	:
of which: means-tested benefits	1.6	1.7	1.9	2.0	2.0	:
General government expenditure by function (% of GDP)						
Social protection	24.8	25.4	25.5	25.6	24.9	:
Health	8.3	8.3	7.3	7.2	7.1	:
Education	6.4	6.4	6.2	6.1	5.7	:
Out-of-pocket expenditure on healthcare	18.9	18.9	19.8	20.5	20.2	:
Children at risk of poverty or social exclusion (% of people aged 0-17)*	13.0	15.6	14.9	14.7	15.1	16.0
At-risk-of-poverty rate[1] (% of total population)	11.8	12.8	12.4	11.6	11.5	12.0
In-work at-risk-of-poverty rate (% of persons employed)	3.7	3.7	3.5	3.1	2.7	3.1
Severe material deprivation rate[2] (% of total population)	2.5	2.8	2.2	2.2	2.1	2.8
Severe housing deprivation rate[3], by tenure status						
Owner, with mortgage or loan	0.1	0.2	0.2	0.1	0.2	0.3
Tenant, rent at market price	2.0	2.4	1.8	2.4	1.9	2.0
Proportion of people living in low work intensity households[4] (% of people aged 0-59)	9.0	10.0	10.8	11.4	10.7	10.8
Poverty thresholds, expressed in national currency at constant prices*	12009	11965	11852	11815	11936	12113
Healthy life years						
Females	:	9.3	9.0	8.9	9.4	:
Males	:	8.8	9.3	9.4	8.9	:
Aggregate replacement ratio for pensions[5]	0.5	0.5	0.5	0.5	0.5	0.5
Connectivity dimension of the Digital Economy and Society Index (DESI)[6]	:	56.1	61.0	61.7	64.5	:
GINI coefficient before taxes and transfers*	48.5	49.1	49.2	50.3	50.2	:
GINI coefficient after taxes and transfers*	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: Eurostat, OECD

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

Performance indicators	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Labour productivity per person[1] growth (t/t-1) in %						
Labour productivity growth in industry	3.41	2.49	1.66	4.85	8.28	-1.45
Labour productivity growth in construction	-0.61	-2.02	1.34	0.84	-2.53	-1.88
Labour productivity growth in market services	-1.14	-0.16	0.46	0.80	2.41	-1.10
Unit Labour Cost (ULC) index[2] growth (t/t-1) in %						
ULC growth in industry	-2.86	-0.91	0.89	-3.32	-8.35	2.81
ULC growth in construction	2.92	1.91	-0.06	0.50	4.25	3.80
ULC growth in market services	3.67	0.66	0.64	0.95	-1.02	1.50
Business environment	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Time needed to enforce contracts[3] (days)	485	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]	0.41	0.57	0.23	0.26	0.39	0.30
Research and innovation	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
R&D intensity	3.27	3.15	2.87	2.72	2.73	2.75
General government expenditure on education as % of GDP	6.40	6.40	6.20	6.10	5.70	:
Employed people with tertiary education and/or people employed in S&T as % of total employment	51	51	52	52	53	54
Population having completed tertiary education[5]	34	35	36	36	36	37
Young people with upper secondary education[6]	86	86	87	88	87	87
Trade balance of high technology products as % of GDP	-1.02	-0.97	-1.22	-1.39	-1.44	-1.47
Product and service markets and competition	**2003**	**2008**	**2013**			**2018***
OECD product market regulation (PMR)[7], overall	1.49	1.34	1.29			1.37
OECD PMR[7], retail	2.86	2.89	2.86			1.65
OECD PMR[7], professional services[8]	0.61	0.71	0.62			0.63
OECD PMR[7], network industries[9]	2.72	2.61	2.47			1.52

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 OECD product market regulation indicators are shown in detail here: http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm
8 Simple average of the indicators of regulation for lawyers, accountants, architects and engineers.
9 Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).
* Please be aware that the indicator values from 2003 to 2013 are comparable, however the methodology has considerably changed in 2018 and therefore past vintages cannot be compared with the 2018 PMR indicators.
Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); European Central Bank, 2019 (for outcome of SMEs' applications for bank loans).

Table C.6: **Green growth**

Green growth performance		2013	2014	2015	2016	2017	2018
Macroeconomic							
Energy intensity	kgoe / €	0.18	0.18	0.17	0.17	0.17	-
Carbon intensity	kg / €	0.33	0.31	0.29	0.30	0.28	-
Resource intensity (reciprocal of resource productivity)	kg / €	1.08	0.90	0.89	0.89	0.91	0.95
Waste intensity	kg / €	-	0.51	-	0.63	-	-
Energy balance of trade	% GDP	-2.6	-2.4	-1.8	-1.4	-1.6	-2.0
Weighting of energy in HICP	%	8.12	7.84	7.63	7.09	7.08	7.19
Difference between energy price change and inflation	p.p.	-1.6	-2.6	-2.3	-1.3	4.5	3.4
Real unit of energy cost	% of value added	17.0	15.1	15.5	15.8	-	-
Ratio of environmental taxes to labour taxes	ratio	0.11	0.11	0.11	0.11	0.11	-
Environmental taxes	% GDP	2.9	2.9	2.9	3.1	3.0	2.9
Sectoral							
Industry energy intensity	kgoe / €	0.23	0.23	0.23	0.22	0.21	-
Real unit energy cost for manufacturing industry excl. refining	% of value added	19.8	18.4	19.3	20.1	-	-
Share of energy-intensive industries in the economy	% GDP	10.86	10.65	10.64	10.68	11.66	11.19
Electricity prices for medium-sized industrial users	€ / kWh	0.07	0.07	0.07	0.07	0.07	0.07
Gas prices for medium-sized industrial users	€ / kWh	0.05	0.05	0.04	0.04	0.05	0.06
Public R&D for energy	% GDP	0.08	0.08	0.08	0.03	0.02	0.02
Public R&D for environmental protection	% GDP	0.01	0.01	0.01	0.02	0.02	0.02
Municipal waste recycling rate	%	32.5	32.5	40.6	42.0	40.5	-
Share of GHG emissions covered by ETS*	%	49.9	48.8	46.0	46.5	45.5	46.6
Transport energy intensity	kgoe / €	0.54	0.54	0.57	0.57	0.56	-
Transport carbon intensity	kg / €	1.14	1.06	1.13	1.25	1.17	1.17
Security of energy supply							
Energy import dependency	%	50.0	50.2	48.2	46.0	44.0	-
Aggregated supplier concentration index	HHI	70.8	66.8	70.6	70.5	67.1	-
Diversification of energy mix	HHI	20.0	21.0	21.5	21.3	22.3	-

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 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 HICP: the proportion of 'energy' items in the consumption basket used for the construction of the HICP.
Difference between energy price change and inflation: energy component of HICP, and total HICP 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. VAT.
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 GHG emissions covered by EU emissions trading system (ETS) (excluding aviation): based on GHG 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 including international aviation (kgoe) divided by gross value added in transportation and storage sector (in 2010 EUR).
Transport carbon intensity: GHG emissions in transportation and storage sector divided by gross value added in transportation and storage sector (in 2010 EUR).
Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels.
Aggregated supplier concentration index: Herfindahl index covering 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. Smaller values indicate larger diversification.
* European Commission and European Environment Agency - 2018 provisional data.
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 JUST TRANSITION FUND 2021-2017 FOR FINLAND

Building on the Commission proposal, this Annex D presents the preliminary Commission services' views on priority investment areas and framework conditions for effective delivery for the 2021-2027 Just Transition Fund investments in Finland. These priority investment areas are derived from the broader analysis of territories facing serious socio-economic challenges deriving from the transition process towards a climate-neutral economy of the Union by 2050 in Finland, assessed in the report. This Annex provides the basis for a dialogue between Finland and the Commission services as well as the relevant guidance for the Member States in preparing their territorial just transition plans, which will form the basis for programming the Just Transition Fund. The Just Transition Fund investments complement those under Cohesion Policy funding for which guidance in the form of Annex D was given in the 2019 Country Report for Finland[41].

Finland is one of the main producers and the main consumer of peat in Europe. Peat production, used mainly as an energy source, employs the equivalent to 2300 persons/year. Peat use in energy production is equivalent to coal in terms of CO_2 intensity. Phasing out peat could contribute notably to Finland´s goal to achieve carbon neutrality by 2035. The sparsely populated East and North Finland (Etelä-Savo, Pohjois-Savo, Pohjois-Karjala, Kainuu, Keski-Pohjanmaa, Pohjois-Pohjanmaa, Lappi) appears to be the most affected region by transition from peat to carbon neutral energy production. Based on this preliminary assessment, it appears warranted that the Just Transition Fund concentrates its intervention on this region.

Finland´s government is committed to decrease the use of peat for energy by at least half by 2030. As a result, many workers would be at risk of unemployment in this sparsely populated region where labour demand is otherwise limited. The smart specialisation strategy[42] provides an important framework to set priorities for innovation in support of economic transformation and it could offer a framework for making the transition towards a more diversified, competitive and green economy.

In order to tackle these transition challenges, high priority investment needs have been identified for the development and deployment of innovative solutions for efficient and clean production and energy use. Key actions of the Just Transition Fund could target in particular:

- investments in research and innovation activities and fostering transfer of advanced technologies;
- investments in the deployment of technology and infrastructures for affordable clean energy, greenhouse gas emission reduction, energy efficiency and renewable energy.

In order to seize the opportunities stemming from ambitious decarbonisation policies, priority investment needs have been identified for the diversification of the local economy and ensuring the necessary skills for those affected by the transition. Key actions of the Just Transition Fund could target in particular:

- productive investments in SMEs, including start-ups, leading to economic diversification and reconversion;
- investments in the creation of new firms, including through business incubators and consulting services;
- upskilling and reskilling of workers.

In order to minimise the greenhouse effect of the areas released from peat production, related investment needs have been identified. Key actions of the Just Transition Fund could target in particular:

- investments in regeneration of sites, land restoration and repurposing projects.

[41] SWD(2019) 1025 final
[42] As defined in Article 2(3) of Regulation EU 1303/2013 (CPR)

ANNEX E: PROGRESS TOWARDS THE SUSTAINABLE DEVELOPMENT GOALS (SDGS)

Assessment of Finland's short-term progress towards the SDGs ([43])

Table E.1 shows the data for Finland and the EU-28 for the indicators included in the EU SDG indicator set used by Eurostat for monitoring progress towards the SDGs in an EU context ([44]). As the short-term trend at EU-level is assessed over a 5-year period, both the value at the beginning of the period and the latest available value is presented. The indicators are regularly updated on the SDI dedicated section of the Eurostat website.

Table E.1: **Indicators measuring Finland's progress towards the SDGs**

SDG / Sub-theme	Indicator	Unit	Finland				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 1 – No poverty										
Multidimensional poverty	People at risk of poverty or social exclusion	% of population	2013	16.0	2018	16.5	2013	24.6	2018	21.9
	People at risk of income poverty after social transfers	% of population	2013	11.8	2018	12.0	2013	16.7	2018	17.1
	Severely materially deprived people	% of population	2013	2.5	2018	2.8	2013	9.6	2018	5.8
	People living in households with very low work intensity	% of population aged 0 to 59	2013	9.0	2018	10.8	2013	11.0	2018	8.8
	In-work at-risk-of-poverty rate	% of population aged 18 or over	2013	3.7	2018	3.1	2013	9.0	2018	9.5
Basic needs	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	5.2	2018	4.6	2013	15.6	2018	13.9
	Self-reported unmet need for medical care	% of population aged 16 or over	2013	4.3	2018	4.7	2013	3.7	2018	2.0
	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	0.4	2018	0.2	2013	2.2	2018	1.7
	Population unable to keep home adequately warm	% of population	2013	1.2	2018	1.7	2013	10.7	2018	7.3
	Overcrowding rate	% of population	2013	6.9	2018	7.3	2013	17.0	2018	15.5
SDG 2 – Zero hunger										
Malnutrition	Obesity rate	% of population aged 18 or over	2014	18.3	2017	20.6	2014	15.9	2017	15.2
Sustainable agricultural production	Agricultural factor income per annual work unit (AWU)	EUR, chain linked volumes (2010)	2012	23 115	2017	19 736	2012	14 865	2017	17 304
	Government support to agricultural research and development	million EUR	2013	96.6	2018	56.8	2013	3 048.6	2018	3 137.9
	Area under organic farming	% of utilised agricultural area	2013	9.1	2018	13.1	2013	5.7	2018	7.5
	Gross nitrogen balance on agricultural land	kg per hectare	2012	48	2017	51	2010	49	2015	51
Environmental impacts of agricultural production	Ammonia emissions from agriculture	kg per ha of utilised agricultural area	2012	13.2	2017	12.2	2011	19.7	2016	20.3
	Nitrate in groundwater	mg NO_3 per litre	2010	1.0	2015	1.0	2010	18.8	2015	18.3
	Estimated soil erosion by water	km^2	2010	34.3	2016	34.2	2010	207 232.2	2016	205 294.5
	Common farmland bird index	index 2000 = 100	N/A	:	N/A	:	2011	86.4	2016	83.7
SDG 3 – Good health and well-being										
Healthy lives	Life expectancy at birth	years	2012	80.7	2017	81.7	2012	80.3	2017	80.9
	Share of people with good or very good perceived health	% of population aged 16 or over	2013	64.7	2018	69.0	2013	67.3	2018	69.2
Health determinants	Smoking prevalence	% of population aged 15 or over	2012	25	2017	20	2014	26	2017	26
	Obesity rate	% of population aged 18 or over	2014	18.3	2017	20.6	2014	15.9	2017	15.2
	Population living in households considering that they suffer from noise	% of population	2013	13.4	2018	13.4	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter	$\mu g/m^3$	2012	7.0	2017	4.9	2012	16.8	2017	14.1
Causes of death	Death rate due to chronic diseases	number per 100 000 persons aged less than 65	2011	117.9	2016	101.0	2011	132.5	2016	119.0
	Death rate due to tuberculosis, HIV and hepatitis	number per 100 000 persons	2011	1.5	2016	0.7	2011	3.4	2016	2.6
	People killed in accidents at work	number per 100 000 employed persons	2012	1.45	2017	0.93	2012	1.91	2017	1.65
	People killed in road accidents	number of killed people	2012	255	2017	238	2012	28 231	2017	25 257
Access to health care	Self-reported unmet need for medical care	% of population aged 16 or over	2013	4.3	2018	4.7	2013	3.7	2018	2.0

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([43]) Data extracted on 15 January 2020 from the Eurostat database (official EU SDG indicator set; see https://ec.europa.eu/eurostat/web/sdi/main-tables).

([44]) The EU SDG indicator set is aligned as far as appropriate with the UN list of global indicators, noting that the UN indicators are selected for global level reporting and are therefore not always relevant in an EU context. The EU SDG indicators have strong links with EU policy initiatives.

Table (continued)

SDG / Sub-theme	Indicator	Unit	Finland				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 4 – Quality education										
Basic education	Early leavers from education and training	% of the population aged 18 to 24	2013	9.3	2018	8.3	2013	11.9	2018	10.6
	Participation in early childhood education	% of the age group between 4-years-old and the starting age of compulsory education	2012	75.1	2017	87.8	2012	94.0	2017	95.4
	Underachievement in reading	% of 15-year-old students	2015	11.1	2018	13.5	2015	19.7	2018	21.7
	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	10.9	2018	10.1	2013	15.9	2018	12.9
Tertiary education	Tertiary educational attainment	% of the population aged 30 to 34	2013	45.1	2018	44.2	2013	37.1	2018	40.7
	Employment rate of recent graduates	% of population aged 20 to 34	2013	79.8	2018	81.7	2013	75.4	2018	81.7
Adult education	Adult participation in learning	% of population aged 25 to 64	2013	24.9	2018	28.5	2013	10.7	2018	11.1
SDG 5 – Gender equality										
Gender-based violence	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	10	N/A	:	2012	8
Education	Gender gap for early leavers from education and training	percentage points, persons aged 18–24	2013	2.1	2018	1.8	2013	3.4	2018	3.3
	Gender gap for tertiary educational attainment	percentage points, persons aged 30–34	2013	15.3	2018	16.3	2013	8.5	2018	10.1
	Gender gap for employment rate of recent graduates	percentage points, persons aged 20–34	2013	0.5	2018	8.5	2013	4.4	2018	3.4
Employment	Gender pay gap in unadjusted form	% of average gross hourly earnings of men	2012	19.2	2017	16.7	2012	17.4	2017	16.0
	Gender employment gap	percentage points, persons aged 20–64	2013	2.8	2018	3.7	2013	11.7	2018	11.6
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	19.3	2018	16.9	2013	25.5	2018	27.1
Leadership positions	Seats held by women in national parliaments and governments	% of seats	2014	42.0	2019	46.5	2014	27.2	2019	31.5
	Positions held by women in senior management	% of board members	2014	29.2	2019	34.4	2014	20.2	2019	27.8
SDG 6 – Clean water and sanitation										
Sanitation	Population having neither a bath, nor a shower, nor indoor flushing toilet in their household	% of population	2013	0.4	2018	0.2	2013	2.2	2018	1.7
	Population connected to at least secondary wastewater treatment	% of population	2010	83.0	2014	85.0	N/A	:	N/A	:
Water quality	Biochemical oxygen demand in rivers	mg O_2 per litre	2010	1.87	2015	1.66	2010	2.11	2015	2.02
	Nitrate in groundwater	mg NO_3 per litre	2010	1.0	2015	1.0	2010	18.8	2015	18.3
	Phosphate in rivers	mg PO_4 per litre	2010	0.013	2015	0.014	2010	0.073	2015	0.060
	Inland water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	79.8	2018	91.1	2013	76.5	2018	80.8
Water use efficiency	Water exploitation index	% of long term average available water (LTAA)	N/A	:	N/A	:	N/A	:	N/A	:
SDG 7 – Affordable and clean energy										
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2012	33.0	2017	31.9	2012	1 589.4	2017	1 561.6
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2012	25.2	2017	25.3	2012	1 110.6	2017	1 122.8
	Final energy consumption in households per capita	kgoe	2012	1014	2017	1046	2012	593	2017	563
	Energy productivity	EUR per kgoe	2012	5.6	2017	5.8	2012	7.5	2017	8.3
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	84.8	2017	73.5	2012	91.8	2017	86.6
Energy supply	Share of renewable energy in gross final energy consumption	%	2012	34.4	2017	41.0	2012	14.7	2017	17.5
	Energy import dependency	% of imports in gross available energy	2012	47.2	2017	44.0	2012	53.7	2017	55.1
Access to affordable energy	Population unable to keep home adequately warm	% of population	2013	1.2	2018	1.7	2013	10.7	2018	7.3

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Finland				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 8 – Decent work and economic growth										
Sustainable economic growth	Real GDP per capita	EUR per capita, chain-linked volumes (2010)	2013	34 660	2018	36 820	2013	25 750	2018	28 280
	Investment share of GDP	% of GDP	2013	22.0	2018	23.7	2013	19.5	2018	20.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	0.92	2018	1.04	2013	1.98	2018	2.04
Employment	Young people neither in employment nor in education and training	% of population aged 15 to 29	2013	10.9	2018	10.1	2013	15.9	2018	12.9
	Employment rate	% of population aged 20 to 64	2013	73.3	2018	76.3	2013	68.4	2018	73.2
	Long-term unemployment rate	% of active population	2013	1.7	2018	1.6	2013	5.1	2018	2.9
	Gender gap in inactive population due to caring responsibilities	percentage points, persons aged 20–64	2013	19.3	2018	16.9	2013	25.5	2018	27.1
Decent work	People killed in accidents at work	number per 100 000 employed persons	2012	1.45	2017	0.93	2012	1.91	2017	1.65
	In-work at-risk-of-poverty rate	% of population	2013	3.7	2018	3.1	2013	9	2018	9.5
SDG 9 – Industry, innovation and infrastructure										
R&D and innovation	Gross domestic expenditure on R&D	% of GDP	2013	3.27	2018	2.75	2013	2.01	2018	2.12
	Employment in high- and medium-high technology manufacturing and knowledge-intensive services	% of total employment	2013	49.5	2018	50.6	2013	45.0	2018	46.1
	R&D personnel	% of active population	2013	2.02	2018	1.88	2013	1.15	2018	1.36
	Patent applications to the European Patent Office (EPO)	number	2012	1 638	2017	1 297	2012	56 772	2017	54 649
Sustainable transport	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	15.1	2017	15.8	2012	17.2	2017	16.7
	Share of rail and inland waterways in total freight transport	% of total inland freight tonne-km	2012	29.0	2017	27.6	2012	25.4	2017	23.3
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	131.8	2018	116.6	2014	123.4	2018	120.4
SDG 10 – Reduced inequalities										
Inequalities within countries	Relative median at-risk-of-poverty gap	% distance to poverty threshold	2013	15.0	2018	14.2	2013	23.8	2018	24.6
	Income distribution	income quintile share ratio	2013	3.6	2018	3.7	2013	5.0	2018	5.2
	Income share of the bottom 40 % of the population	% of income	2013	24.2	2018	24.0	2013	21.1	2018	21.0
	People at risk of income poverty after social transfers	% of population	2013	11.8	2018	12.0	2013	16.7	2018	17.1
Inequalities between countries	Purchasing power adjusted GDP per capita	Real expenditure per capita (in PPS)	2013	30 500	2018	34 400	2013	26 800	2018	31 000
	Adjusted gross disposable income of households per capita	Purchasing power standard (PPS) per inhabitant	2013	22 725	2018	24 709	2013	20 387	2018	22 850
	Financing to developing countries	billion EUR, current prices	2012	1 189	2017	3 279	2012	147 962	2017	155 224
	Imports from developing countries	billion EUR, current prices	2013	5 248	2018	5 158	2013	817 475	2018	1 013 981
Migration and social inclusion	Asylum applications	Positive first instance decisions, per million inhabitants	2013	303	2018	436	2013	213	2018	424
SDG 11 – Sustainable cities and communities										
Quality of life in cities and communities	Overcrowding rate	% of population	2013	6.9	2018	7.3	2013	17.0	2018	15.5
	Population living in households considering that they suffer from noise	% of population	2013	13.4	2018	13.4	2013	18.8	2018	18.3
	Exposure to air pollution by particulate matter ($PM_{2.5}$)	µg/m³	2012	7.0	2017	4.9	2012	16.8	2017	14.1
	Population living in a dwelling with a leaking roof, damp walls, floors or foundation or rot in window frames or floor	% of population	2013	5.2	2018	4.6	2013	15.6	2018	13.9
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	9.0	2018	7.0	2013	14.5	2018	12.7
Sustainable mobility	People killed in road accidents	number of killed people	2012	255	2017	238	2012	28 231	2017	25 257
	Share of buses and trains in total passenger transport	% of total inland passenger-km	2012	15.1	2017	15.8	2012	17.2	2017	16.7
Adverse environmental impacts	Settlement area per capita	m^2	2009	2 136.6	2015	2 458.7	2012	625.0	2015	653.7
	Recycling rate of municipal waste	% of total waste generated	2012	33.3	2017	40.5	2013	41.7	2018	47.0
	Population connected to at least secondary wastewater treatment	% of population	2010	83.0	2014	85.0	N/A	:	N/A	:

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Finland				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 12 – Responsible consumption and production										
Decoupling environmental impacts from economic growth	Consumption of toxic chemicals	million tonnes	N/A	:	N/A	:	2013	300.3	2018	313.9
	Resource productivity	EUR per kg, chain-linked volumes (2010)	2013	0.92	2018	1.04	2013	1.98	2018	2.04
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	131.8	2018	116.6	2014	123.4	2018	120.4
	Energy productivity	EUR per kgoe	2012	5.6	2017	5.8	2012	7.5	2017	8.3
Energy consumption	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2012	33.0	2017	31.9	2012	1 589.4	2017	1 561.6
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2012	25.2	2017	25.3	2012	1 110.6	2017	1 122.8
	Share of renewable energy in gross final energy consumption	%	2012	34.4	2017	41.0	2012	14.7	2017	17.5
Waste generation and management	Circular material use rate	% of material input for domestic use	2011	14.0	2016	5.3	2011	10.6	2016	11.7
	Generation of waste excluding major mineral wastes	kg per capita	2012	3 912	2016	2 595	2012	1 716	2016	1 772
	Recycling rate of waste excluding major mineral wastes	% of total waste treated	2012	41	2016	37	2012	55	2016	57
SDG 13 – Climate action										
Climate mitigation	Greenhouse gas emissions	index 1990 = 100	2012	89.0	2017	79.5	2012	82.1	2017	78.3
	Greenhouse gas emissions intensity of energy consumption	index 2000 = 100	2012	84.8	2017	73.5	2012	91.8	2017	86.6
	Primary energy consumption	million tonnes of oil equivalent (Mtoe)	2012	33.0	2017	31.9	2012	1 589.4	2017	1 561.6
	Final energy consumption	million tonnes of oil equivalent (Mtoe)	2012	25.2	2017	25.3	2012	1 110.6	2017	1 122.8
	Share of renewable energy in gross final energy consumption	%	2012	34.4	2017	41.0	2012	14.7	2017	17.5
	Average CO2 emissions per km from new passenger cars	g CO_2 per km	2013	131.8	2018	116.6	2014	123.4	2018	120.4
Climate impacts	European mean near surface temperature deviation	temperature deviation in °C, compared with the 1850–1899 average	N/A	:	N/A	:	2013	1.4	2018	2.1
	Climate-related economic losses	EUR billion, in 2017 values	N/A	:	N/A	:	2012	2 719	2017	2 649
	Mean ocean acidity	pH value	N/A	:	N/A	:	2011	8.07	2016	8.06
Support to climate action	Contribution to the international 100bn USD commitment on climate related expending	EUR million, current prices	N/A	:	2017	119.4	N/A	:	2017	20 388.7
SDG 14 – Life below water										
Ocean health	Coastal water bathing sites with excellent water quality	% of bathing sites with excellent water quality	2013	65.9	2018	65.8	2013	85.5	2018	87.1
	Mean ocean acidity	pH value	N/A	:	N/A	:	2011	8.07	2016	8.06
Marine conservation	Surface of marine sites designated under NATURA 2000	km^2	2013	7 135	2018	8 141	2013	251 566	2018	551 899
Sustainable fisheries	Estimated trends in fish stock biomass	index 2003 = 100	N/A	:	N/A	:	2012	110.0	2017	136.0
	Assessed fish stocks exceeding fishing mortality at maximum sustainable yield (Fmsy)	% of stocks exceeding fishing mortality at maximum sustainable yield ($F>F_{MSY}$)	N/A	:	N/A	:	2012	52.9	2017	42.7
SDG 15 – Life on land										
Ecosystems status	Share of forest area	% of total land area	2009	68.7	2015	71.3	2012	40.3	2015	41.6
	Biochemical oxygen demand in rivers	mg O_2 per litre	2010	1.87	2015	1.66	2010	2.11	2015	2.02
	Nitrate in groundwater	mg NO_3 per litre	2010	1.0	2015	1.0	2010	18.8	2015	18.3
	Phosphate in rivers	mg PO_4 per litre	2010	0.013	2015	0.014	2010	0.073	2015	0.060
Land degradation	Soil sealing index	index 2006 = 100	2009	100.9	2015	103.7	2009	101.7	2015	104.2
	Estimated soil erosion by water	km^2	2010	34.3	2016	34.2	2010	207 232.2	2016	205 294.5
	Settlement area per capita	m^2	2009	2 136.6	2015	2 458.7	2012	625.0	2015	653.7
Biodiversity	Surface of terrestrial sites designated under NATURA 2000	km^2	2013	48 851	2018	42 495	2013	787 766	2018	784 252
	Common bird index	index 2000 = 100	N/A	:	N/A	:	2011	95.1	2016	93.3
	Grassland butterfly index	index 2000 = 100	N/A	:	N/A	:	2012	72.2	2017	74.1

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Table (continued)

SDG / Sub-theme	Indicator	Unit	Finland				EU-28			
			Starting		Latest		Starting		Latest	
			year	value	year	value	year	value	year	value
SDG 16 – Peace, justice and strong institutions										
Peace and personal security	Death rate due to homicide	number per 100 000 persons	2011	1.8	2016	1.2	2011	0.9	2016	0.6
	Population reporting occurrence of crime, violence or vandalism in their area	% of population	2013	9.0	2018	7.0	2013	14.5	2018	12.7
	Physical and sexual violence to women experienced within 12 months prior to the interview	% of women	N/A	:	2012	10	N/A	:	2012	8
Access to justice	General government total expenditure on law courts	million EUR	2012	450	2017	526	2012	48 381	2017	51 027
	Perceived independence of the justice system	% of population	2016	80	2019	83	2016	52	2019	56
Trust in institutions	Corruption Perceptions Index	score scale of 0 (highly corrupt) to 100 (very clean)	2013	89	2018	85	N/A	:	N/A	:
	Population with confidence in EU institutions	% of population	2013	54	2018	63	2013	39	2018	48
SDG 17 – Partnerships for the goals										
Global partnership	Official development assistance as share of gross national income	% of GNI	2013	0.54	2018	0.36	2013	0.43	2018	0.48
	EU financing to developing countries	billion EUR, current prices	2012	1 189	2017	3 279	2012	147 962	2017	155 224
	EU imports from developing countries	billion EUR, current prices	2013	5 248	2018	5 158	2013	817 475	2018	1 013 981
Financial governance within the EU	General government gross debt	% of GDP	2013	56.2	2018	59.0	2013	86.3	2018	80.4
	Shares of environmental and labour taxes in total tax revenues	% of total tax revenues	2013	6.7	2018	6.9	2013	6.4	2018	6.1

More detailed information regarding the data used for the assessment available on the Eurostat SDI dedicated section
Source: Eurostat

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