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Country Report Finland 2016

**Including an In-Depth Review on the prevention
and correction of macroeconomic imbalances**

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EXECUTIVE SUMMARY

This country report assesses Finland's economy in the light of the Commission's 2016 Annual Growth Survey published on 26 November 2015. The survey recommends three priorities for the EU's economic and social policy in 2016: re-launching investment, pursuing structural reforms to modernise the economies and responsible fiscal policies. At the same time, the Commission published the Alert Mechanism Report that initiated the fifth annual round of the macroeconomic imbalance procedure. The Alert Mechanism Report identified Finland as warranting a further in-depth review.

Finland's real GDP still remains below the level achieved before the start of the crisis. After a sharp drop in 2009, the economy recovered in 2010 and 2011 but failed to make up for the losses in exports and investment. However, Finland's financial system was stable and the country was considered being a safe haven when the sovereign debt crisis started. Finland fell back into recession in 2012 which lasted until 2014. In 2015 real GDP is forecast to have bottomed out. A sluggish recovery is expected in 2016 and 2017, with unemployment staying above 9 % over the next years.

The low growth trajectory seems to be mainly driven by structural factors. Finland has been hit by a combination of adverse shocks. The electronics sector contracted significantly when Nokia's handset business failed to rise to the competitive challenge of smart phones and collapsed. In addition, the Finnish paper industry suffered from a secular decline in demand for paper products. From 2014 onwards, exports to Russia almost halved due to the Russian recession and the imposed sanction regime. Finally, a rapidly ageing workforce results in a decline of the working-age population by 0.5% every year which inevitably weighs on the growth potential in the long run.

As the electronics sector was highly productive, its decline resulted in a significant drop in overall productivity of the economy. Wages, however, did not adjust, but rather continued rising based on a long-term agreement struck between the social partners in 'good times'. Since productivity did not increase rapidly either, unit labour costs rose sharply (by 19.2 % over 2008-2013) and Finland lost competitiveness and export

market shares. Overall, productivity increases in the tradable sector are now lower than before the crisis, while productivity growth in the non-tradable sector has turned negative.

Against this backdrop, a turnaround of the economy might take time and concerted efforts.

The economy retains fundamental strengths to build on: the rule of law, low corruption, an excellent educational system and still high investments into research, development and innovation should provide the backbone for a sustainable recovery. However, some weaknesses cannot be easily changed: the domestic market is small and the country remote, making it difficult to attract foreign talent and direct investments. Competition in services where productivity is low appears insufficient. In parallel to the weak economic development, public finances have also deteriorated. The general government deficit has exceeded 3 % of GDP in 2014 and 2015, public debt increased above 60 % of GDP in 2015 and is forecast to continue growing in 2016 and 2017. The government programme foresees savings of around 2 % of GDP by 2019, mainly through spending cuts.

The need to restore cost-competitiveness is widely understood and negotiations to achieve this are ongoing. While it first seemed that improvement could be achieved by agreeing on low nominal wage growth, it is difficult to achieve this in the environment of low inflation. Additional measures are needed. 2015 was a year of change in Finnish industrial relations. The government wants to considerably improve Finland's competitiveness. It is aiming for a 15 % reduction in unit labour costs in the medium term through continued wage-moderation, measures to improve productivity and a one-off reduction of labour costs. Negotiations have taken place involving the government and the social partners to improve competitiveness on the basis of lower unit labour costs and a revised approach to collective bargaining, towards a more decentralised form aimed at boosting employment and labour market flexibility.

Overall, Finland has made some progress in addressing the 2015 country-specific recommendations. Since the publication of the recommendations, Finland has undertaken reforms aimed at improving its cost competitiveness, liberalised retail opening hours and continued

phasing out the deductibility of mortgage interest payments from personal income tax. The parliament has approved a pension reform, to be implemented from 2017, which links pension age with life expectancy. The government has announced a plan to reform the healthcare and social services in order to bring their expenditure growth under control, which is essential for the long-term sustainability of public finances. Following the centrally agreed wage deal in late 2013, the rise in wages slowed and the situation compared to peers has gradually improved, but the increase was slightly above the productivity increase. Some progress has been made in improving the labour market situation. Nevertheless, the current tax and benefits system provides only limited incentives for low-income earners to seek work as the net gain for them from taking up a job remains minimal. Elderly workers can still leave the labour market early, while the job prospects of the young, the elderly and the long-term unemployed have not improved. Apart from the liberalisation of opening hours, no steps have been taken to improve competition in the retail sector.

Regarding progress on reaching targets on the Europe 2020 Strategy, Finland is well on track to achieve and even exceed its environmental targets. While it may not reach its ambitious 4% R&D target, its R&D intensity is already the highest in Europe. Finland is also a very high performer in education, but recent trends have not consistently converged the indicators towards the targets set out in the Strategy. Reaching the employment target may require further efforts.

The main findings of the in-depth review contained in this country report and the related policy challenges are the following:

- **Overall, unit labour costs have recently grown at a slower pace, but the non-tradable sector seems to be a drag on aggregate cost-competitiveness.** Although the increase in unit labour costs has slowed, the economy has not yet overcome the cost competitiveness losses accumulated since 2007 because labour productivity has hardly increased. In particular, the non-tradable sector has not adjusted to the low growth environment. Continued wage moderation would help to restore cost competitiveness. In addition, increased

competition in the non-tradable sector could help to lower the price of domestic intermediate inputs and thereby bolster the competitiveness of the tradable sector. This would restore profit margins in the tradable sector and reduce barriers to investments. At the same time, increased competition in the non-tradable sector would strengthen households' purchasing power, compensating for continued wage moderation.

- **The tradable sector is continuing to restructure and would benefit from developing new markets and products.** Helping companies to expand, become more international and foster innovation remains a policy challenge. Maintaining and further improving the positive business environment, public research and development and high quality education could encourage investment in tangible- and non-tangible assets alike.
- **Although private sector indebtedness remains high, the capacity to service the debt seems good and there is no evidence that the debt burden has become a drag on growth.** In 2014 private sector debt increased slightly as a proportion of GDP due to a decline in real GDP, low inflation and favourable lending conditions. Banks are well capitalised and the average quality of their assets is high. House prices are close to their long term averages.

Other key economic issues analysed in this report which point to particular challenges of Finland's economy are the following:

- **The sustainability of Finland's public finances is at high risk in the medium term.** The public debt-to-GDP ratio is above 60 % and is projected to grow further, driven up by the costs of an ageing population. Due to the decline in GDP, government spending and the ratio of collected taxes to GDP have risen above their long-term averages and are now among the highest in the EU.
- **The main outline of healthcare and social services reform has been agreed but specific measures have not yet been drawn up.** The reform's main aims include improving access to

healthcare and slowing cost increases to address the need for fiscal sustainability. More details need to be worked out before the reform can be implemented from 2019 as planned.

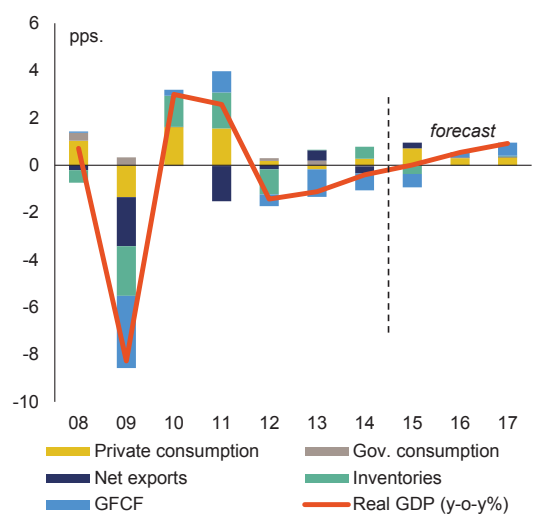
- **The labour market situation has continued to worsen, contrary to developments in other EU countries.** The increase in unemployment suggests mismatches between labour supply and demand (for example, in terms of skills or between regions). A higher activity rate is required to counter the challenges posed by the ageing of the population. The complex benefit system, with its different types of allowances, can result in significant inactivity and low-wage traps. Effective policies to help people find work could require additional resources. In addition, helping refugees and migrants get into the labour market swiftly requires attention.
- **Several social indicators have also started to worsen.** The rate of people at risk of poverty and the number of jobless households have increased, although the levels are still lower than in other Member States. The performance of the education system is high but deteriorating, and integrating foreign-born people into the education system has become more challenging.
- **Fostering competition in the service sector — i.e. retail, transport and construction — would help to address some of the cost-competitiveness issues identified in the in-depth review.** Increased competition could lead to smaller price mark-ups, which would make the economy more competitive by lowering the cost of inputs to the tradable sector and also by creating the room for sustained wage moderation in the economy thanks to the increasing consumers' purchasing power.
- **The business environment still has some weak spots.** New companies are not as internationally oriented nor as innovative as their peers in other Member States. As a small, open economy, Finland's integration into global value chains is crucial and requires its companies to look outwards. In addition, better use could be made of research results to generate new products and services.

1. SCENE SETTER: ECONOMIC SITUATION AND OUTLOOK

Recent macroeconomic developments and outlook

Following a short recovery from the financial and economic crisis, Finland fell back into recession in 2012 until 2014. In 2015, output remained unchanged. The recession occurred as large structural shocks — the loss of external demand mainly for electronic and paper products — continued to reduce output. The downturn in the electronics sector led to a deterioration in aggregate productivity. Wages increased in line with a multiannual wage settlement based on pre-crisis conditions that only came to an end in 2013. This led to a sharp increase in unit labour costs (19.2 % between 2008-2013) and an erosion of cost competitiveness. Business reacted by reducing investment, further prolonging the recession.

Graph 1.1: Real GDP growth and contributions



Source: European Commission

Although the moderate wage agreement of 2013 has allowed unit labour costs to stabilise, GDP growth has not resumed. While private consumption growth accelerated temporarily in 2015 on the back of an increase in household real disposable income, private investment continued to decline and export growth was limited. According to the Commission's winter 2016 forecast, real GDP in 2015 is expected to have been broadly unchanged from 2014 and would still be roughly 6 % below the pre-crisis peak in 2008. Inflation has fallen to below zero, due to falling oil and food

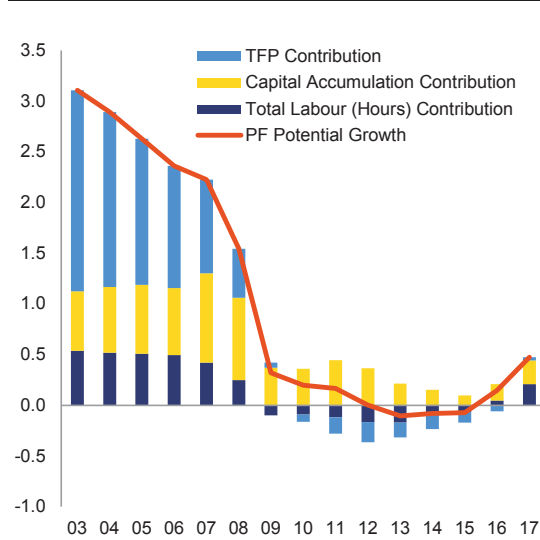
prices, while inflation in services seems stickier. Unemployment increased further to 9.4 %.

The Finnish economy is expected to grow again, albeit at a very slow pace. The Commission's winter 2016 forecast predicts that real GDP growth will increase to 0.5 % in 2016 and 0.9 % in 2017. Several factors are expected to contribute to this small uptick:

- an increase in investment after years of decline;
- stabilisation of external demand, helping the export industry;
- signs of recovery in the paper and electronics industry (albeit from a low base); and
- supportive overall credit conditions.

Unemployment is set to stay high, while inflation is expected to accelerate from its current low level. The current account balance turned positive in the course of 2015 and is expected to remain close to balance in 2016 as well. Risks to the forecast could result from weaker than expected external demand in Finland's main export markets like Russia, Sweden or the euro area. A protracted slowdown in China also poses a risk as China accounts for about 5 % of Finland's exports.

Graph 1.2: Potential GDP growth and growth contributions, %/pps, Finland



Source: European Commission

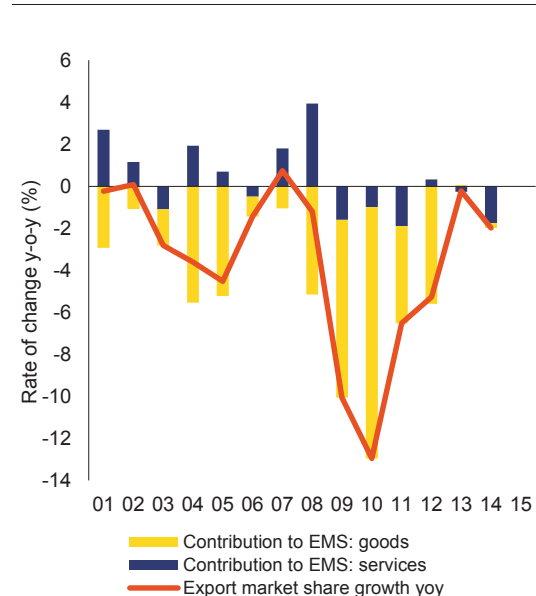
Sizeable challenges have to be overcome to restore potential growth. The structural change on the production side has led to a fall in total factor productivity (TFP) as high-productivity industries have lost importance in manufacturing and new jobs are created in lower-productivity industries. Consequently Finland's growth potential remains low despite its excellent endowment of human capital, stable institutional framework and good conditions for doing business. In addition, a prolonged decline in investment has limited the growth of potential GDP (Graph 1.2). Moreover, the working age population has started to fall as age groups entering the labour market are smaller than those retiring.

Although Finland has started to react to these challenges, further action is required to put the economy back on a higher and sustainable growth path. The social partners have agreed on moderate wage increases, while the government has started to consolidate public finances, enacted a pension reform, improved how the labour market functions and proposed measures to improve cost competitiveness. However, faster reallocation of resources between and within sectors and an increase in labour supply could strengthen the economy further.

Competitiveness and export market shares

Since 2002 Finland has continuously lost aggregate export market shares, but some key sectors saw improvements in 2013-2014. Over 2002-2007 the export market share loss was relatively slow, but it accelerated from 2008. A large part of it can be attributed to losses in goods trade, which came to a halt in 2013. Finland's export market share recovered in machinery and equipment trade and has been stable for other manufactured products since 2012. The overall decline of 2.2 % in 2014 was to a large extent caused by the service sector, which was hit by the recession in Russia. ⁽¹⁾

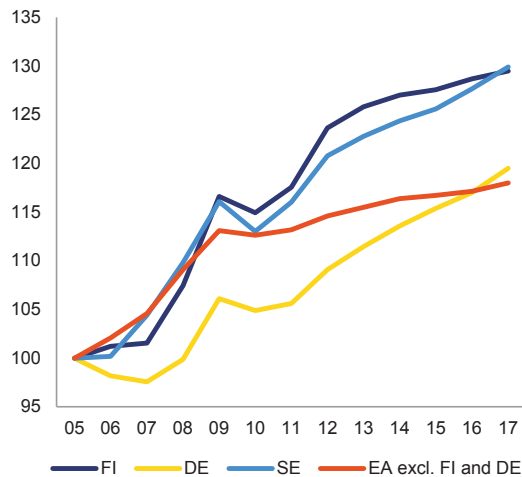
Graph 1.3: Breakdown of export market shares



Source: European Commission

⁽¹⁾ In addition, Finland is one of the Member States most affected by the EU export sanctions and Russian import sanctions imposed in 2014 (see European Commission: Short-term Industrial Outlook, January 2015).

Graph 1.4: **Nominal unit labour costs in Finland and some competing economies, 2005=100**



Nominal unit labour costs equal the ratio of compensation per employee to real GDP per person employed

Source: European Commission

Since the moderate wage deal reached in late 2013 the increase in unit labour costs has slowed. Despite this, the Finnish economy has not yet overcome the competitiveness losses accumulated since 2007 because labour productivity has hardly increased. However, its situation relative to its peers has gradually improved (see Graph 1.4).

In particular, unit labour costs in the non-tradable sector seem to be a drag on aggregate cost competitiveness. After the crisis, productivity growth slowed in the tradable sector and turned negative in the non-tradable sector. As wages continued to increase at a sustained pace, competitiveness indicators deteriorated. Since wage developments were relatively similar across sectors, unit labour costs in the tradable sector, which were on a downward trend in the pre-crisis years, are no longer declining. Meanwhile, nominal unit labour costs in the non-tradable sector have continued to increase at a similar pace to before the crisis. Given the importance of the non-tradable sector as a provider of inputs to the tradable sector — a price-taker in international markets — rising costs in the non-tradable may have damaged cost competitiveness in the tradable sectors. Accordingly, wage growth in line with productivity developments and increased competition, thereby lowering prices, in the non-

tradable sector could help to restore decreased profit margins and spur investment, while supporting indirectly households' purchasing power.

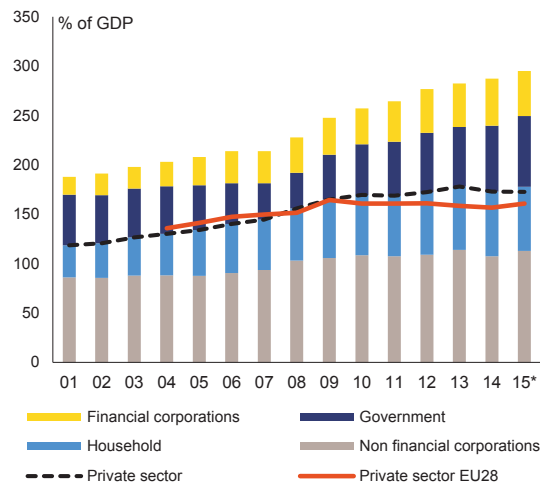
At the same time, the tradable sector has to continue restructuring and identifying new markets and products. Finland's loss of export market share and productivity is largely the result of its initial product specialisation and the choice of countries targeted by its exporting industry. Taking greater advantage of the strong business environment by helping companies to grow, internationalise and foster innovation remains a policy challenge.

Private indebtedness and financial system

Although private sector indebtedness remains high, debt servicing does not seem to pose problems and pressures to reduce debt are low.

The private sector debt-to-GDP ratio increased significantly before the financial crisis, when households used mortgage loans to buy houses and corporates invested. Since 2012, levels have stabilised. In 2015 private sector debt increased slightly to 150 % due to credit flows that were still positive, stagnating real GDP and low inflation (Graph 1.5). Despite this increase, the private sector's interest burden has decreased and is now lower than the EU average.

Graph 1.5: Breakdown of debt by sector (non-consolidated)

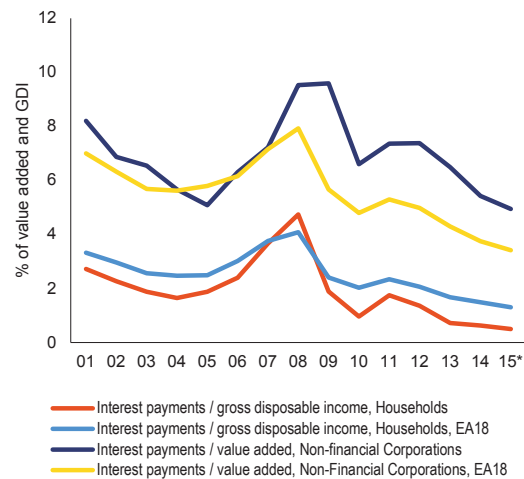


Source: European Commission

The banking system is strong and financial markets are well developed. Funding for corporations and households is thus not a constraint. Banks are well capitalised and the average quality of assets is high. The share of non-performing loans, at 1.4 %, is low while return on equity was 9.1 % in 2014. In addition to bank loans, non-financial corporations can rely on capital markets to issue stocks or bonds.

Overall, risks to the financial system seem to be limited. Households could suffer from an abrupt fall in house prices, but such a scenario is unlikely as relative house prices are close to their long term averages. The potential risk to consumption and GDP growth from lower wages is mitigated by the fact that generally mortgages are held by households with higher income and positive net-wealth. The balance sheets of non-financial corporations show a decreasing debt-to-equity ratio and a stable debt-to-financial assets ratio.

Graph 1.6: Interest burden, households and NFCs

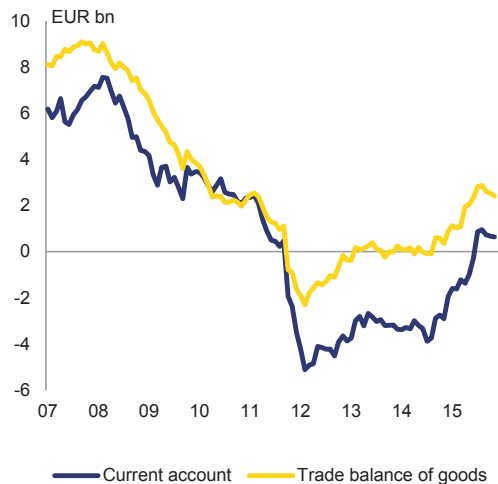


Source: European Commission

External sustainability

The 2015 country report concluded that external sustainability was not a concern for the Finnish economy. The latest information confirms this conclusion. In particular, the current account has moved back into surplus in the course of 2015. The trade balance of goods improved on the back of falling oil prices and the general decline in imports in the wake of the earlier recession. In addition, the balance of primary income has improved steadily since mid-2013 reflecting Finland's positive net international investment position.

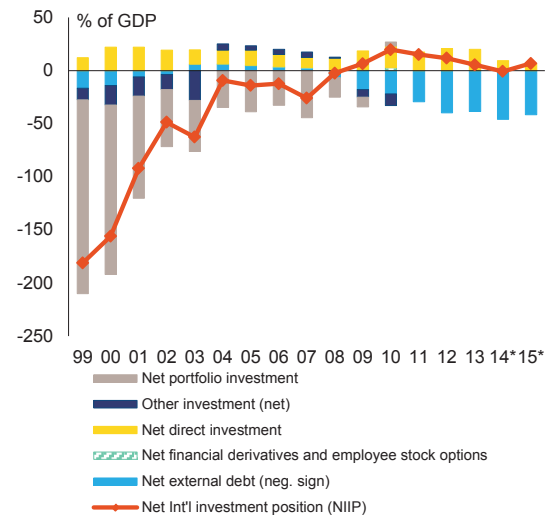
Graph 1.7: Current account balance and trade balance of goods, 12-m. moving sum, EUR bn



Source: Statistics Finland, European Commission

However, a small open economy like Finland is vulnerable to external shocks. Further diversification of export markets and product structure would reduce these vulnerabilities. Economic conditions are expected to improve in Finland and the euro area. Strengthening of the external balance would increase buffers against such external shocks.

Graph 1.8: Net international investment position



Source: European Commission

Public finances

Since 2009 the general government balance has deteriorated both in nominal and structural terms. Despite consolidation efforts, the nominal deficit exceeded the 3 % of GDP reference value in 2014 and 2015. The government has announced a programme to consolidate public finances over 2016-2019, so that the debt-to-GDP ratio currently above the 60 % reference value would stabilise in 2019 or 2020. As the tax burden is already relatively high, the government programme plans expenditure savings as the main source of consolidation. Given the sizeable sustainability gap — the fiscal sustainability risks are considered high in the medium term and medium in the long term — further efforts are required. Possible options include reforms to improve efficiency, and a more growth-friendly tax system.

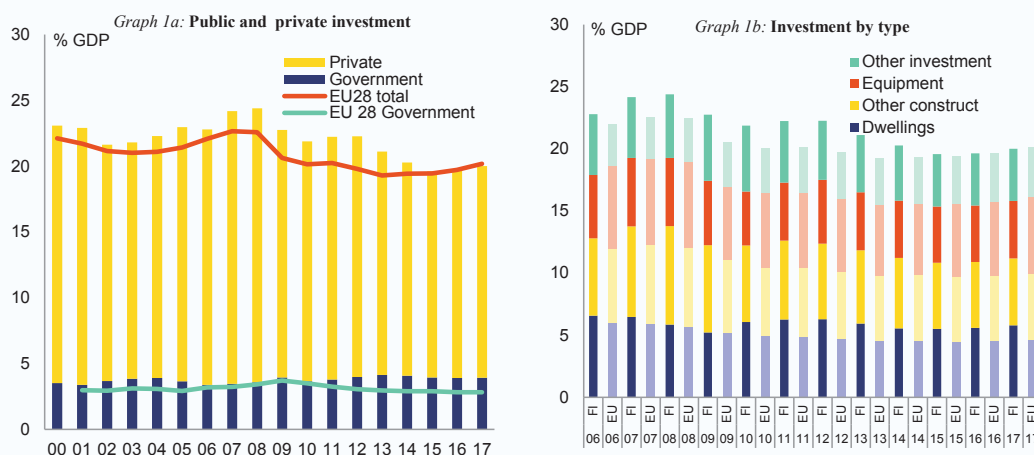
Labour market

The worsening economic situation is also apparent on the labour market. The employment rate has decreased from a pre-crisis peak of 70.6 % in 2008 by more than 2 pps. to 68.1 % in 2015, while unemployment has increased from 6.4 % to 9.4 %. In particular, youth and especially long-term unemployment remain at high levels.

Box 1.1: Investment challenges

Section 1. Macroeconomic perspective

From the start of the 2000s, investment, as share of GDP, has generally exceeded the EU average. However, in recent years, investments have – contrary to the EU – declined. As a result, the share of investments in Finland is expected to be rather similar to the EU average level. Public investment has been relatively stable, fluctuating around 4% of GDP, significantly higher than the EU average. Construction accounts for the highest investment share (Graph 1b). Construction investment in Finland has long been significantly higher than the EU average. This holds true for dwellings as well as for other construction. In contrast, the level of investment in machinery and equipment is lower than the EU average, but the changes in this category have been fairly similar in recent years. For other investment, including R&D investment, the EU and Finnish trends are diverging: this type of investment is growing in the EU but declining in Finland. However, in 2014 it was still bigger in Finland than in the rest of the EU.



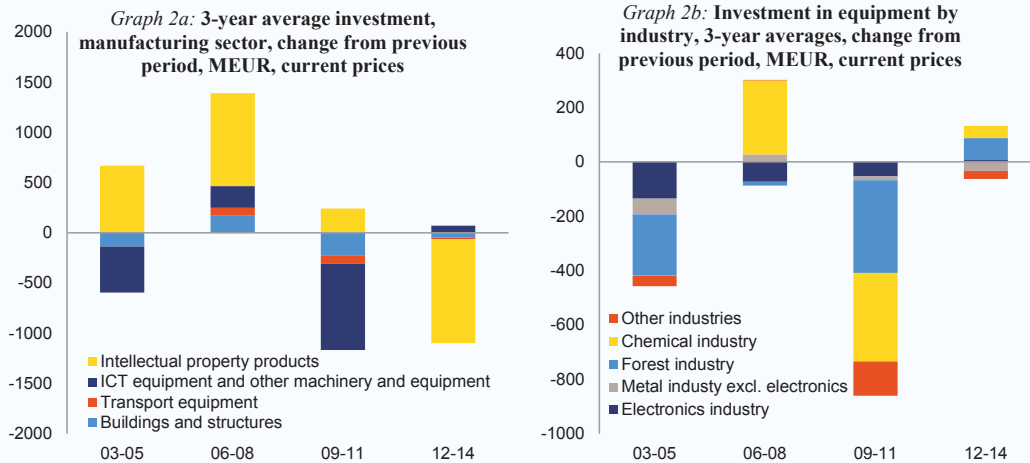
Since 2009 investment in the manufacturing sector has constantly declined. Initially the decline was cyclical due to the global financial crisis, but the demise of Nokia significantly reduced investment in R&D. Only for some industries a pick-up can be observed. Manufacturing companies usually invest in production equipment and R&D like intellectual property products. In the 2000s R&D investment had the largest impact on investment growth (Graph 2). Especially the electronics sector increased investment in R&D since the early 2000s. In 2012-2014, the electronics industry – in particular Nokia/Microsoft Phone Unit, whose share of R&D investment in Finland was significant in the 2000s ⁽¹⁾ – made sizable R&D cuts triggering the overall fall in the aggregate investment-to-GDP ratio.

Equipment investment did not contribute to the same extent as R&D to the fall in the investment-to-GDP ratio. Although metal industries (excluding electronics) increased R&D investment throughout the 2000s, this has not led to increased equipment investment. The paper industry reduced its capacity over the 2000s and consequently investment needs have become smaller. Recently equipment investment has started to increase thanks to forest and chemical industries but the investment activity remains at low level.

⁽¹⁾ European Commission (2015). Macroeconomic imbalances Country report – Finland 2015. Nokia accounted for about 30% of R&D.

(Continued on the next page)

Box (continued)



Section 2. Assessment of barriers for investment and ongoing reforms

The country profile on investment challenges published as part of the Annual Growth Survey,¹ pointed to challenges for Finland related to public administration, wages and wage setting, research, development and innovation and sector-specific regulation.

Among these challenges, wage rises above productivity growth which have led to the loss of competitiveness were considered to be one of the factors that are detrimental to additional investment. Negotiations on ways to further improve competitiveness are ongoing between the social partners. If the negotiations reach an agreement resulting in the reduction of relative unit labour costs, this could also have a positive impact on investment. Further details of the negotiations are included in the labour market section of this report.

Strengthening small municipalities' capacity to plan and carry out investment could benefit both public and private investment. Many of the municipalities are rather small but still need to provide transport, education, health and social services and invest in the related infrastructure. The government has decided that responsibility for providing of healthcare and social services will be given to larger areas so that the services could be planned and provided more efficiently. This reform is discussed in section 3.2 of this report.

Related mainly to the activities of the larger municipalities, planning and zoning processes are time-consuming and, consequently, create problems for obtaining suitable lots for housing as well as non-residential development. Making more lots available could provide additional investment opportunities, increase competition and lower prices.

Related to the planning and zoning issues, Finland has a high level of regulation and operational restrictions applying to retail establishments. In particular, there is strict regulation of large-scale outlets. These regulations constitute an entry barrier and are therefore also detrimental to investment. The government has taken action to liberalise shop opening hours but has not yet addressed restrictions arising from the planning regulation.

¹ See "Member States Investment Challenges", SWD(2015) 400 final/2 (http://ec.europa.eu/europe2020/pdf/2016/ags2016_challenges_ms_investment_environments_en.pdf)

Box 1.2: Contribution of the EU Budget to structural change

Finland is a beneficiary of the European Structural and Investment Funds (ESIF) and can receive up to EUR 3.8 billion for the period 2014-2020. This is equivalent to 5.1% of the expected national public investment in areas supported by the ESI funds.

All necessary reforms and strategies have been put in place in order to fulfil ex-ante conditionalities in those areas to benefit from the Funds in order to ensure successful investments.

The programming of the Funds includes a focus on priorities and challenges identified in recent years in the context of the European Semester, including the CSRs on improving the labour-market prospects of young people, older workers and the long-term unemployed with a focus on vocational education and targeted activation measures and boosting the capacity to deliver innovative products, services and high-growth companies. Regular monitoring of implementation includes reporting in mid-2017 on the contribution of the funds to Europe 2020 objectives (notably, in the SME, R&D&I and shift to low-carbon economy sectors and supporting active labour market policies).

Financing under the new European Fund for Strategic Investments (EFSI), Horizon 2020, the Connecting Europe Facility and other directly managed EU funds would be additional to the ESI Funds. Following the first rounds of calls for projects under the Connecting Europe Facility, Finland has signed agreements for EUR 5 million in the energy field and EUR 68 million for transport projects. For more information on the use of ESIF in Finland, see: <https://cohesiondata.ec.europa.eu/countries/FI>.

Table 1.1: Key economic, financial and social indicators

	2003-2007	2008	2009	2010	2011	2012	2013	2014	forecast		
									2015	2016	2017
Real GDP (y-o-y)	3.6	0.7	-8.3	3.0	2.6	-1.4	-1.1	-0.4	0.0	0.5	0.9
Private consumption (y-o-y)	4.6	2.1	-2.7	3.1	2.9	0.3	-0.3	0.5	1.3	0.6	0.6
Public consumption (y-o-y)	1.4	1.6	1.6	-0.1	-0.1	0.5	0.8	-0.2	0.0	0.1	-0.1
Gross fixed capital formation (y-o-y)	4.4	0.3	-12.5	1.1	4.1	-2.2	-5.2	-3.3	-2.8	1.1	2.8
Exports of goods and services (y-o-y)	6.7	6.6	-20.1	6.2	2.0	1.2	1.1	-0.7	-0.7	1.5	2.8
Imports of goods and services (y-o-y)	7.5	7.9	-16.9	6.5	6.0	1.6	0.0	0.0	-1.3	1.5	2.8
Output gap	0.9	3.7	-5.2	-2.5	-0.1	-1.5	-2.4	-2.6	-2.5	-1.8	-1.2
Potential growth (y-o-y)	2.6	1.5	0.3	0.2	0.1	-0.1	-0.2	-0.2	-0.1	-0.1	0.3
Contribution to GDP growth:											
Domestic demand (y-o-y)	3.1	1.4	-4.1	1.8	2.4	-0.2	-1.1	-0.5	0.1	0.5	0.9
Inventories (y-o-y)	0.2	-0.5	-2.1	1.3	1.5	-1.1	0.0	0.5	-0.4	0.0	0.0
Net exports (y-o-y)	0.1	-0.2	-2.1	0.0	-1.5	-0.2	0.4	-0.3	0.2	0.0	0.0
Contribution to potential GDP growth:											
Total Labour (hours) (y-o-y)	0.5	0.3	-0.1	-0.1	-0.1	-0.2	-0.2	-0.1	0.0	-0.1	0.1
Capital accumulation (y-o-y)	0.7	0.8	0.4	0.4	0.4	0.4	0.2	0.2	0.1	0.1	0.2
Total factor productivity (y-o-y)	1.5	0.5	0.0	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.1	0.0
Current account balance (% of GDP), balance of payments	4.6	2.51*	1.68*	1.2	-1.8	-1.9	-1.7	-0.9	.	.	.
Trade balance (% of GDP), balance of payments	6.8	3.85*	1.89*	1.4	-0.9	-1.1	-0.6	-0.5	.	.	.
Terms of trade of goods and services (y-o-y)	-2.0	-1.9	1.3	-2.1	-1.6	-1.0	0.4	0.8	2.0	0.7	0.5
Capital account balance (% of GDP)	0.1	0.0*	0.0*	0.0*	0.0*	0.0*	0.0*	.	.	.	.
Net international investment position (% of GDP)	-24.9	-2.5	6.4*	20.4*	15.1	11.7	5.4	-3.0	.	.	.
Net marketable external debt (% of GDP) ¹	-0.2*	-1.6*	-11.7*	-16.4*	-20.9*	-31.0*	-31.0*	.	.	.	.
Gross marketable external debt (% of GDP) ¹	91.8	100.5	133.1*	155.8*	185.0*	199.6*	180.6*	.	.	.	.
Export performance vs. advanced countries (% change over 5 years)	3.0	6.5	-5.6	-12.9	-16.7	-23.1	-24.7	-19.1	.	.	.
Export market share, goods and services (y-o-y)	-0.9	-0.3	-10.8	-12.2	-6.1	-6.0	0.1	-2.5	.	.	.
Net FDI flows (% of GDP)	-3.3	-3.3*	-2.3*	1.1	0.9	1.3	-0.8	-6.6	.	.	.
Savings rate of households (net saving as percentage of net disposable income)	1.1	-0.2	3.4	3.2	1.3	0.7	1.3	-0.3	.	.	.
Private credit flow (consolidated, % of GDP)	9.5	16.6	0.8	7.4	3.5	7.4	2.3	0.4	.	.	.
Private sector debt, consolidated (% of GDP)	113.8	132.0	142.1	148.6	145.0	148.3	148.2	150.0	.	.	.
of which household debt, consolidated (% of GDP)	45.6	52.8	59.3	61.1	61.3	63.6	64.2	65.5	.	.	.
of which non-financial corporate debt, consolidated (% of GDP)	68.2	79.2	82.8	87.5	83.7	84.7	84.0	84.5	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	3.8	1.6	4.9	5.2	1.8	2.6	2.4	3.2	4.8	4.6	4.8
Corporations, gross operating surplus (% of GDP)	27.2	27.2	23.1	23.9	23.2	21.6	21.2	21.8	22.1	22.1	22.6
Households, net lending (+) or net borrowing (-) (% of GDP)	-2.6	-2.9	-0.2	-1.0	-2.2	-2.3	-1.6	-1.9	-1.8	-1.7	-1.9
Deflated house price index (y-o-y)	5.9	-2.4	-0.4	4.8	0.0	-0.4	-1.2	-1.8	.	.	.
Residential investment (% of GDP)	6.2	5.9	5.2	6.1	6.3	6.3	6.0	5.5	.	.	.
GDP deflator (y-o-y)	1.1	3.1	1.9	0.4	2.6	3.0	2.6	1.6	1.2	0.9	1.7
Harmonised index of consumer prices (HICP, y-o-y)	1.0	3.9	1.6	1.7	3.3	3.2	2.2	1.2	-0.2	0.1	1.5
Nominal compensation per employee (y-o-y)	3.2	4.3	2.0	2.2	3.6	2.8	1.3	1.4	1.2	1.3	1.5
Labour productivity (real, person employed, y-o-y)	2.3	-1.5	-6.0	3.7	1.3	-2.3	0.0	0.2	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	0.9	5.8	8.5	-1.4	2.3	5.2	1.8	0.9	0.8	1.0	1.1
Real unit labour costs (y-o-y)	-0.2	2.7	6.5	-1.8	-0.3	2.2	-0.8	-0.7	-0.4	0.1	-0.6
Real effective exchange rate (ULC, y-o-y)	1.0	3.6	6.3	-4.8	1.1	0.1	3.5	1.1	-3.3	0.2	.
Real effective exchange rate (HICP, y-o-y)	0.0	1.5	3.2	-5.7	-0.1	-2.6	2.9	2.5	-2.8	1.3	-0.9
Tax wedge on labour for a single person earning the average wage (%)	31.1	30.4	29.1	29.1	29.8	29.5	30.2	30.7	.	.	.
Tax wedge on labour for a single person earning 50% of the average wage (%)	20.3*	19.6	18.3	18.3	18.9	17.9	18.9	19.2	.	.	.
Total Financial Sector Liabilities, non-consolidated (y-o-y)	13.0	20.1	19.1	6.1	26.2	-2.8	-8.7	8.9	.	.	.
Tier 1 ratio (%) ²	.	13.2	13.4	13.5	14.7	14.8	15.3	16.2	.	.	.
Return on equity (%) ³	.	3.8	6.2	6.3	6.1	6.5	8.0	9.5	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (4)	.	0.8	1.1	0.9	0.8	0.8	0.7	1.4	.	.	.
Unemployment rate	8.2	6.4	8.2	8.4	7.8	7.7	8.2	8.7	9.5	9.4	9.3
Long-term unemployment rate (% of active population)	2.0	1.2	1.4	2.0	1.7	1.6	1.7	1.9	.	.	.
Youth unemployment rate (% of active population in the same age group)	19.6	16.5	21.5	21.4	20.1	19.0	19.9	20.5	22.4	.	.
Activity rate (15-64 year-olds)	75.7	76.0	75.0	74.5	74.9	75.2	75.2	75.4	.	.	.
People at-risk poverty or social exclusion (% total population)	17.2	17.4	16.9	16.9	17.9	17.2	16.0	17.3	.	.	.
Persons living in households with very low work intensity (% of total population aged below 60)	9.4	7.5	8.4	9.3	10.0	9.3	9.0	10.0	.	.	.
General government balance (% of GDP)	3.3	4.2	-2.5	-2.6	-1.0	-2.1	-2.5	-3.3	-3.2	-2.8	-2.5
Tax-to-GDP ratio (%)	42.1	41.3	41.1	40.9	42.2	42.8	43.9	44.0	44.3	44.5	44.4
Structural budget balance (% of GDP)	.	.	.	-1.1	-0.9	-1.2	-1.1	-1.9	-1.8	-1.8	-1.8
General government gross debt (% of GDP)	39.5	32.7	41.7	47.1	48.5	52.9	55.6	59.3	62.7	65.0	66.2

1 Sum of portfolio debt instruments, other investment and reserve assets

2,3 domestic banking groups and stand-alone banks.

4 domestic banking groups and stand alone banks, foreign (EU and non-EU) controlled subsidiaries and foreign (EU and non-EU) controlled branches.

* Indicates BPM5 and/or ESA95

Source: European Commission, winter forecast 2016; ECB

2. IMBALANCES, RISKS, AND ADJUSTMENT ISSUES

This section provides the in-depth review foreseen under the macroeconomic imbalances procedure (MIP) ⁽²⁾. It focuses on the risks and vulnerabilities flagged in the Alert Mechanism Report 2016. The section first analyses competitiveness challenges from both cost- and non-cost-competitiveness aspects. It discusses unit labour costs, their links to investment incentives, geographical specialisation of exports and product quality. Linked to this, it reviews the current state of structural change on the production side of the economy and assesses company dynamics.

Second, the section discusses private sector debt and the Finnish banking sector. With households' debt-to-disposable income ratio continuing to increase, the section explains the drivers of the debt and assesses the risk it might pose to the rest of the economy. This is followed by a discussion of non-financial corporate sector financing and debt as well as financial sector stability. The section concludes with the MIP assessment matrix which summarises the main findings.

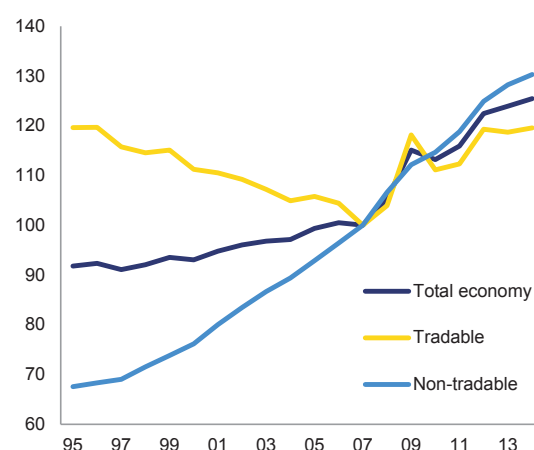
2.1 COMPETITIVENESS CHALLENGES

Finland's continued weak export performance and stagnating economic growth since the crisis seems to be the result of both cost and non-cost competitiveness developments. As Finland has started to address the underlying causes, this section provides an update ⁽³⁾ on the situation assessing if and where further action could support the ongoing adjustment process.

Cost competitiveness

Until 2008 the Finnish economy was able to keep nominal wage developments in line with productivity growth. Between 1995 and 2007, hourly average compensation of employees increased at about 3.4 % in both tradable and non-tradable sectors ⁽⁴⁾. However, rapid labour productivity growth in the tradable sector lowered its unit labour costs, whereas labour productivity in the non-tradable sector remained broadly unchanged. Overall, the improvements in the tradable sector kept the increase for the entire economy in check (Graph 2.1.1).

Graph 2.1.1: Nominal unit labour costs, 2007=100



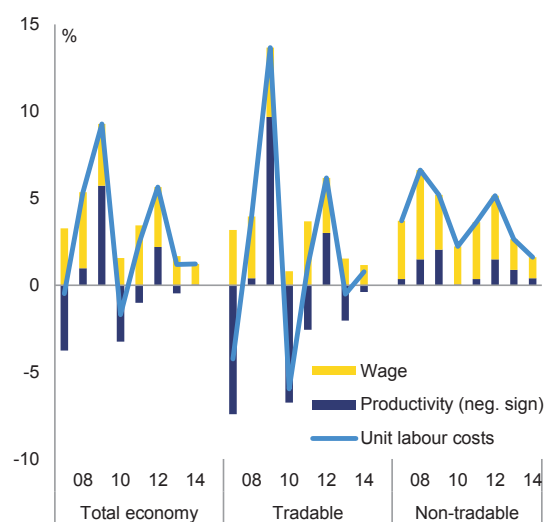
(1) Nominal unit labour costs are defined as hourly compensation of employees per real labour productivity
Source: Statistics Finland, European Commission

⁽²⁾ According to Article 5 of Regulation (EU) No. 1176/2011.

⁽³⁾ See 2015 country report for a more detailed discussion on cost-competitiveness issues.

⁽⁴⁾ In this analysis, the tradable sector includes the following industries according to NACE industrial classification: A Agriculture forestry and fishing, B Mining and quarrying, C Manufacturing, D Electricity, gas, steam and air conditioning, G Wholesale and retail trade, H Transport, I Accommodation and food service activities and J Information and communication. The remaining industries constitute the non-tradable sector.

Graph 2.1.2: **Change of nominal unit labour costs and contributions to change, 2007-2014, %/pps**



Source: Statistics Finland, European Commission

While productivity has fallen, continued wage increases led to rapidly rising nominal unit labour costs between 2008 and 2013. The 2007 wage negotiations caused rapid wage increases in 2008-2011, while the 2009 global downturn and Nokia's difficulties⁽⁵⁾ led to a deterioration of labour productivity especially in the tradable sector in 2009 and 2012 (Graph 2.1.2). Due to the fall in productivity growth, the wage agreement for 2012 and 2013 was not able to limit rising unit labour costs despite lower wage rises than previously.

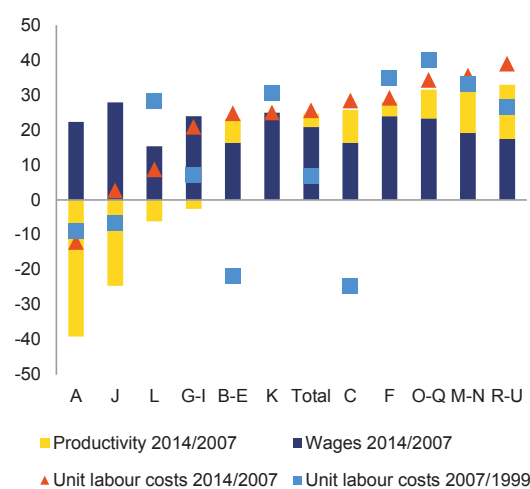
On an aggregate level, with the centrally agreed wage deal in late 2013, wage increases have started to slow down. Under the agreement the year-on-year increase in negotiated wages slowed from 1.3 % in the last quarter of 2013 to 0.4 % in Q3-2015 - the slowest pace seen in the 2000s⁽⁶⁾. In summer 2015 the social partners decided to extend the contract into 2016. However, labour productivity has not yet recovered and therefore nominal unit labour costs are forecast to increase, albeit at a slower pace. Based on the Commission's winter forecast, nominal unit labour

⁽⁵⁾ In 2009, value added decreased in electronics industry by 35%. In same year Nokia reported 19 % decline in net sales while operating profit declined by 76 %.

⁽⁶⁾ Wage inflation slowed to 1.1 % (y-o-y) in 2015-Q4. Nominal wages increased more than negotiated wages because other factors than negotiated wage increases such as changes in the industrial structure also have an impact on wages.

costs are expected to rise cumulatively in 2016 and 2017 by less than in Sweden or Germany, for example. This would put relative cost competitiveness on a path to gradual improvement (See Graph 1.1.4.)

Graph 2.1.3: **Nominal unit labour costs, wages and productivity, cumulative change 2007-2014 by industry, %/pps.**

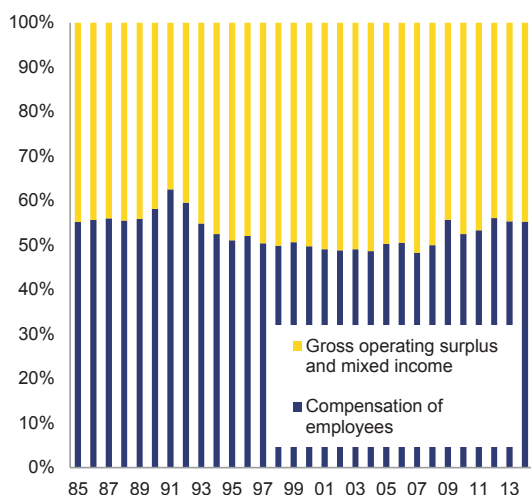


A Agriculture, forestry and fishing
B-E Industry (except construction)
C Manufacturing
F Construction
G-I Wholesale and retail trade, transport, accommodation and food service activities
J Information and communication
K Financial and insurance activities
L Real estate activities
M-N Professional, scientific and technical activities; administrative and support service activities
O-Q Public administration, defence, education, human health and social work activities
R-U Arts, entertainment and recreation; other service activities; activities of household and extra-territorial organisations and bodies

Source: European Commission

In particular in the non-tradable sector nominal unit labour costs rose constantly between 2007-2014, while in the tradable they started to stabilise. Only in 2009 and 2012 did the tradable sector contribute more to the increase in aggregate nominal unit labour costs than the non-tradable sector. Non-tradable sector industries such as construction and professional services, recorded the largest increase in unit labour costs (Graph 2.1.3). This development was almost identical to that seen one before 2007. Then, however, the manufacturing industry was able to offset this cost pressure for the total economy.

Graph 2.1.4: Breakdown of gross value added in tradable sector, %



Source: Statistics Finland, European Commission

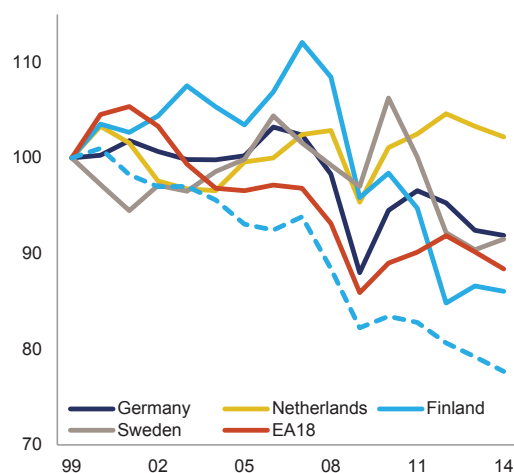
Changes in real unit labour costs also point to a deterioration in cost competitiveness. Real unit labour costs have deteriorated in the whole economy and especially in the tradable sector. In addition to productivity and wage developments, real unit labour costs take into account the price developments of value added. This is important in the case of Finland because the terms of trade, i.e. ratio of export prices to import prices, worsened in 2000-2010 – in sharp contrast to the euro area. The decline in export prices was mainly driven by the rapid fall in mobile phones prices due to fast technological developments ⁽⁷⁾. At the same time, the price of paper products, another important export product, was declining. The worsening terms of trade consequently had a negative impact on nominal value added.

Rising real unit labour costs imply a smaller share of operating surplus, mixed income and capital rents in gross value added. Although the tradable sector has lost about 100 000 jobs since 2007, this restructuring has not had a visible impact on real unit labour costs (Graph 2.1.4). In the early 1990s crisis, the share of labour costs declined significantly, allowing companies to restore profit margins, regain competitiveness and space for investments. However, a similar

⁽⁷⁾ In the export price index, an improvement in the quality of an exported good such as mobile phone is taken into account as a decline in price.

adjustment has not taken place this time. Although the structural change in the production side of the economy has reduced the capital intensive sector and therefore to some extent contributed to the increase in real unit labour costs, this composition effect cannot fully explain the higher level of real unit labour costs than in the pre-crisis years. In 2014, the share of compensation of employees was 55.1 %, or 2.4 percentage points above its average in 1985-2014.

Graph 2.1.5: Relative profit indicator in manufacturing 1999=100



Note: Solid lines depict ratio of export price deflated real effective exchange rate (REER) to manufacturing unit labour cost deflated REER. This ratio is an approximation for the changes in relative prices of end products compared with relative costs of production. Dashed line for Finland shows the ratio of export price deflated REER to total economy unit labour cost deflated REER implying cost pressures from other sectors to manufacturing industry. REER compares Finland against 37 competitor countries.

Source: European Commission

Compared to competitor countries the relative profit indicator in manufacturing did not deteriorate further in 2013-2014. Prior to 2008, Finnish manufacturers were able to increase profits as manufacturing unit labour costs decreased compared to export prices. Especially in 2009 and again in 2012 unit labour costs increased rapidly, weakening competitiveness and squeezing profits in the manufacturing sector. These two years coincide with structural breaks in the electronics sector: in 2008-2009 Nokia's smartphones started to be too far behind competitors' products and in 2012 Nokia stopped all mobile phone production in Finland. In addition, other sectors of the

economy added to cost pressures on the manufacturing sector as relative unit labour costs in the whole economy increased even more outside manufacturing ⁽⁸⁾.

Cost competitiveness, measured through both nominal and real unit labour costs, has deteriorated. The rapid downsizing of the electronics and paper industries has played a role but even when these effects are filtered out, the indicators still show a gap in cost competitiveness to the closest competitor countries.

The government is planning several measures to improve cost-competitiveness. To restore cost-competitiveness relative to peer economies, the government has a target of reducing unit labour costs by 15 % by

1. taking measures that lower wage costs rapidly by 5 % from 2017;
2. continuing wage moderation (5 pps.) and; and
3. undertaking structural reforms in labour and product markets (5 pps.).

To achieve 5 % lower wage costs, the government has been calling for a social contract between the social partners. Alternatively, in case such a contract is not reached, the government has been planning a package of measures such as reducing annual holiday bonuses and reducing rights for annual leave, especially in public sector. The sickness leave benefits for employee would also be reduced. Some of these measures would yield public sector savings, which would then allow employers' social security contributions to be cut ⁽⁹⁾.

The government is also considering reforms to increase productivity. In parallel to wage moderation these reforms aim to support the ongoing structural change in the economy. Planned reforms in the labour market include a change in earnings-related unemployment benefits and a lower tax wedge. Proposed steps towards more

decentralised negotiations in the labour market could open the possibility for agreements that could take into account sectoral and company characteristics such as economic prospects or productivity. This would facilitate further structural change (see Section 3.3). These efforts to restore cost-competitiveness and accelerate productivity growth are also well placed to contribute to advance the recommendation for a Council recommendation on the economic policy of the euro area.

Since the non-tradable sector is an important input provider to export industries, the continuous increase in unit labour costs has wider repercussions for the overall economy.

Finnish manufacturers buy intermediate inputs for production representing slightly above 70 % of production value. Somewhat over half of these inputs are sourced from domestic producers. Within domestic intermediate inputs, other manufacturing companies (i.e. sub-contractors) account for about 40 % while the domestic services sector account for close to 50 % of the total value of inputs ⁽¹⁰⁾. Manufacturing companies buy nearly all trade, transport and hotel, restaurant and catering (HORECA) services from domestic service providers ⁽¹¹⁾. Other services, in particular business services are sourced equally from domestic and foreign companies. Since major parts of the non-tradable sector are still regulated and exposed to limited competition (see Section 3.4), cost increases can usually be passed on to customers, i.e. the tradable sector.

High costs in the tradable sector contribute to its low profitability and investment. Expected profits are an important factor for entrepreneurs when deciding whether to make a risky investment or not. Lower profit margins (Graph 2.1.4) are consequently detrimental to creating new export products, new production capacity and innovation in new products. Especially at the cutting edge of technological progress, where many Finnish companies are active, a sufficiently high expected

⁽⁸⁾ See country comparison of relative export prices deflated REER to total economy unit labour costs deflated REER in Country Report 2015.

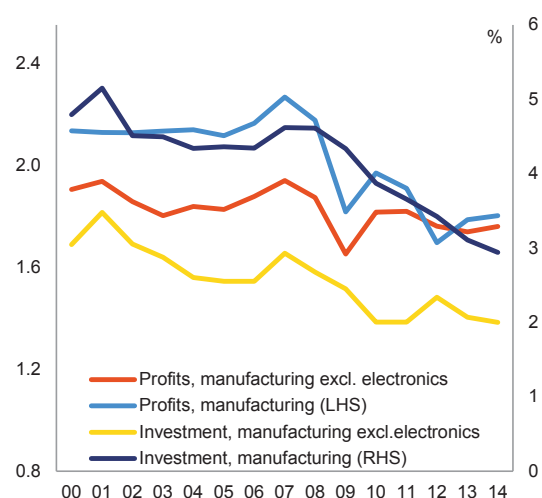
⁽⁹⁾ At the time of writing (February 2016) negotiations between social partners are ongoing and the government has not presented alternative proposals to the parliament.

⁽¹⁰⁾ Recent report on Finland's cost-competitiveness and domestic value chains: Suomen kustannuskilpailukyky ja kotimaiset arvoketjut. Tulo- ja kustannuskehityksen selvitystoimikunnan raportti, joulukuu 2015

⁽¹¹⁾ High use of domestic supply of trade as well as HORECA services is understandable given the nature of these services, but low use of foreign transport services is due to legal constraints.

return on investment in case of success is important to maintain or increase economic activity and productivity in manufacturing. A prolonged period of subdued investment weakens future production capacity.

Graph 2.1.6: Investment-to-GDP ratio and company profits (inverse of real ULC)



Source: Statistics Finland, European Commission

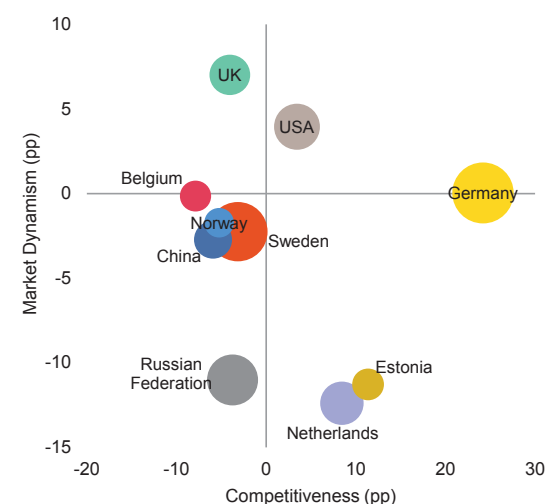
As profits have gone down, the manufacturing investment-to-GDP ratio has decreased as well (Graph 2.1.6). The manufacturing sector as a whole has witnessed a fall in both profit and investment-to-GDP ratios since 2007. Excluding the electronics industry, the investment ratio stopped falling in 2010-2011, but it is not improving yet. In fact, the falling investment-to-GDP ratio in 2012-2014 is closely linked with R&D investment in the electronics industry. However, while the situation is not worsening any longer, the manufacturing sector seems unable to grow and thereby support the overall economy as before. Reducing intermediary costs would help restore the profitability of the manufacturing sector, hence improving investment prospects. Accordingly, in parallel with the continued wage moderation, further product- and labour market reforms (see Sections 3.3 and 3.4) could result in more competition and productivity growth.

Non-cost competitiveness issues

In addition to cost other characteristic such as initial geographical or sector specialisation could partly explain export developments. Moreover,

product quality has an impact on export performance.

Graph 2.1.7: Competitiveness and market dynamism in top-10 export destinations, 2014

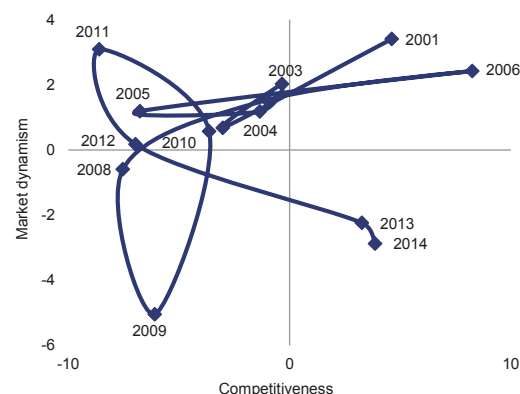


The size of the bubble indicates the share of the destination of total export in 2014.

Source: European Commission

In 2014 Finnish exports suffered from their initial geographical specialisation, while competitiveness showed signs of improvement. In 2014, only two of Finland's ten largest export destinations — UK and USA — could be labelled as a dynamic market (Graph 2.1.7). A destination market is defined as *dynamic* if imports to that country increase more than aggregate world imports. Nevertheless, in four of the ten biggest export markets Finnish exporters seem to have improved their competitiveness in 2014. Competitiveness is considered to have improved, if Finnish exports to a particular destination increased more than overall imports to that destination. In this analysis competitiveness could mean any characteristics of exported products that make them more sought after in the market. The product could be similar to other products in the market but cheaper, or it might have a feature that other products lack. The weighted average for 2014 market dynamism and competitiveness is shown in Graph 2.1.8. Although for most of the destinations Finland's competitiveness deteriorated, gains in Germany, currently its main trading partner, more than offset these losses and on average competitiveness increased.

Graph 2.1.8: Competitiveness and market dynamism in top-10 export destinations, 2001-2014

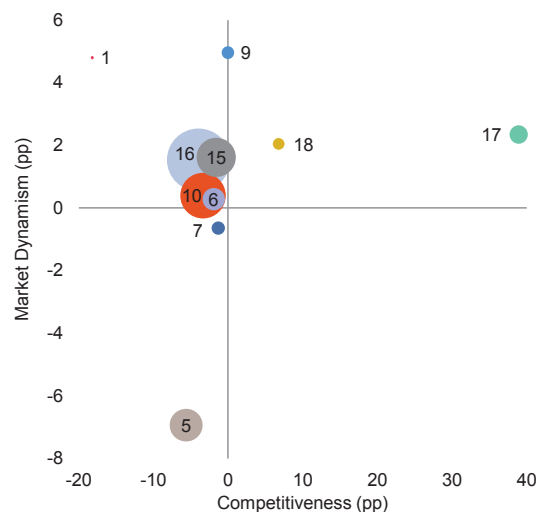


Over the last decade Finnish companies generally exported goods to dynamically growing destinations, with exceptions in 2008-2009 and in 2013-2014. Before the crisis the good geographical composition of exports was however accompanied by a loss of competitiveness. In 2013-2014, the worsening in the market dynamics seems mostly due to the economic slowdown in Russia and China, but exporters were able to compensate for this by growing competitiveness.

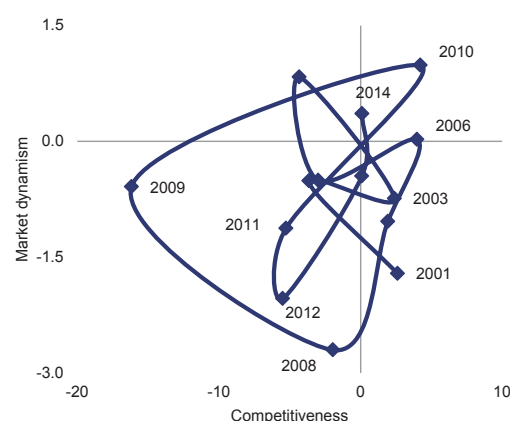
Since Finland's initial sector specialisation in exports has a focus on investment goods, exports only react with a delay to a market recovery. Finland specialises in capital goods and intermediary products for which export market growth is generally less rapid than overall export market growth. (Graph 2.1.9, 2.1.10.) After the global recovery in 2010, the market dynamism indicator fell in 2011-2012 while it recovered in 2013 and 2014.⁽¹²⁾ In 2011-2012, Finnish exporters seem to have lost competitiveness as their exports by products grew less than total imports in trading partner countries. In 2013-2014 competitiveness losses stopped.

⁽¹²⁾ Similarly as above for geographical export destinations, market dynamism stands for the difference between the annual growth rates of world imports by goods category and global world imports. Competitiveness stands for the difference between the annual growth rates of Finland's exports and world imports by goods category.

Graph 2.1.9: Competitiveness and market dynamism by top-10 exporting sectors, 2014



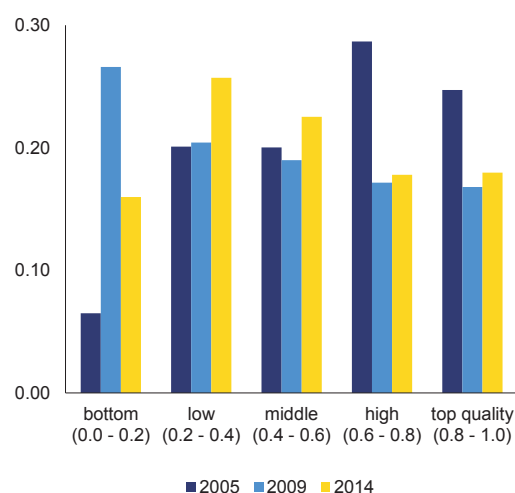
Graph 2.1.10: Competitiveness and market dynamism by top-10 exporting sectors, 2001-2014



Although Finland's export destination countries are dynamic, the main product categories exported during the 2000s are not and, for these products, it has lost market share. As the cost-competitiveness indicators were improving before

2007 (Graph 2.1.1) and deteriorated severely only during and after the crisis, the negative competitiveness measure (Graph 2.1.8) could hint at possible quality problems even before the collapse of Nokia's smartphone exports and the slump in global demand for investment goods. However, analysis of initial product specialisation and competitiveness (Graph 2.1.13) suggests rather the opposite: most of the time before crisis, competitiveness of top-10 products improved, indicating that product quality helped export performance.

Graph 2.1.11: **Share of export value by quality ranking, 2005, 2009, 2014**



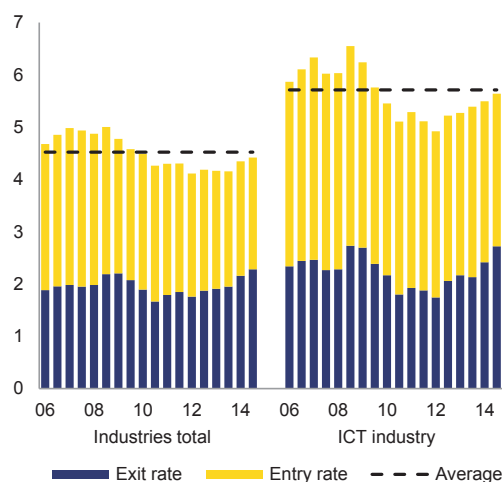
Source: COMEXT, Orbis, European Commission

Indicators of export quality suggest that Finland's performance is in general high compared to its peers. Based on estimated product quality in 2014, Finland ranks just behind peer countries such as Germany, Denmark, the Netherlands and Sweden. In 2009, Nokia's difficulties were pushing the average quality down. Since then, the share of lowest quality products has decreased while in particular the low and medium-quality share has increased. The two highest quality classes have also gained in importance compared to 2009, but are clearly below their 2005 shares (Graph 2.1.11). However, product structure remains tilted towards machinery, pulp and paper and basic metal products (Graph 2.1.9).

Restructuring of the economy

After rapid downsizing in the past, restructuring in manufacturing continues. The electronics sector recorded the lowest amount of value added in 2012 and the industry has expanded by around 60 % since then. In 2012 the electronics industry created about 9 % of gross value added in manufacturing while in 2014 the share was about 14 %. Overall, total value added in manufacturing increased only slightly in 2014 from 2013. While the metals, forestry and electronics industries expanded, others, such as chemicals and food processing, declined somewhat. The recovery in electronics resulted in labour productivity growth ⁽¹³⁾ in 2013 and 2014. Labour productivity also increased in the forest and metal industries. Nevertheless, manufacturing industries account for about 17 % of total production, which is about 1 pp higher than the euro area average, but significantly (roughly 8 pps.) lower than in 2007. A rapid recovery to the pre-crisis level cannot be expected as downsizing is happening faster than replacement industries are growing.

Graph 2.1.12: **Company churn rate, aggregate and in ICT industry, 2006-2014**



Source: Statistics Finland, European Commission

Company dynamics, measured by the company churn rate, is gradually increasing but remains below its long-term average. The recent increase in the churn rate, which is the sum of company entry and exit rates, is due to more exits of

⁽¹³⁾ Measured as production volume per hours worked

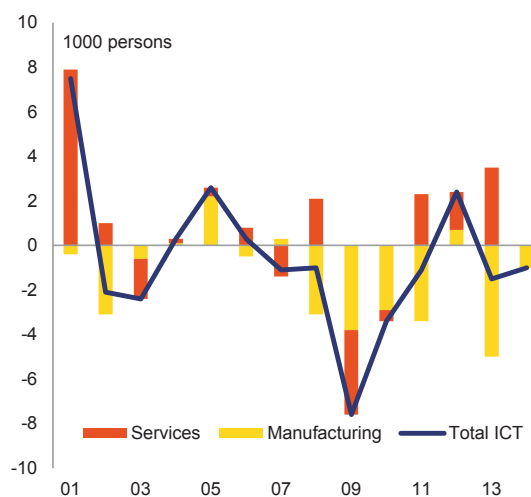
companies (Graph 2.1.12). In manufacturing company entry and exit ratios have developed in broadly the same way as in the whole economy. The entry rate is below the pre-crisis level and recently the increased exit of companies has driven the churn rate. Overall company dynamics are cyclical as the least productive firms exit in the downturn paving the way for aggregate productivity gains.⁽¹⁴⁾ In the ICT industry⁽¹⁵⁾ firm churn has been more active than in the rest of the economy over recent years, but remains below the 2006-2014 average.

The ICT industry lost jobs in manufacturing but increased them in services. In total, the ICT industry has lost about 15 000 jobs since 2005 (Graph 2.1.13). The ICT services sector, which has employed more workers throughout the 2000s, has not been able to compensate for the losses in manufacturing. Over the past four years, the ICT service sector has been increasing jobs and the number of vacancies in ICT services has been increasing on average by more than 10 % year-on-year. However, as the company exit rate remains relatively high though below the entry rate in absolute terms, net-creation of jobs in ICT sectors might be limited this year.

⁽¹⁴⁾ As mentioned in Country Report 2015, the productivity enhancing creative destruction has intensified in Finnish manufacturing sector over the recent years. On average, firm level productivity in Finland is not lagging behind Nordic peers.

⁽¹⁵⁾ The ICT industry is estimated as an aggregate of industries 26 Electronics (manufacturing) and 61-63 Telecommunications, Computer programming, consultancy and related activities and Information service activities (services) (NACE classification)

Graph 2.1.13: **Employment growth in ICT, change from previous year, 1000 persons**



Source: Statistics Finland, European Commission

In Finland, former Nokia employees have started at least 400 new companies since 2011. Nokia's restructuring resulted in large scale reductions of staff worldwide. In Finland, about 5000 employees were laid-off between 2011 and 2013. About 35 % of these people were involved in the Bridge Program to help former employees find new jobs or become entrepreneurs. A survey⁽¹⁶⁾ showed that nearly 60 % of the respondents had found a new job in the corporate sector, with about half of them continuing to work in the ICT industry. Between 2011 and 2013 about 500 former Nokia employees chose the Bridge Program's entrepreneur path. Of the companies started, 45 % were in the ICT industry, while the rest were scattered across remaining industries such as consulting, communications and business services. The companies are still young and small in most cases, but nearly 90 % of them were still active at end-2013, and overall they intended to increase employment and turnover. However, the former employees' main motivation for becoming an entrepreneur is to secure a reasonable income. This goal comes ahead of profit, sales growth or maximising corporate value. This finding is in line with the conclusion in the previous country report that Finns who prefer self-employment usually

⁽¹⁶⁾ Kiuru, Handelberg, Rannikko: Bridge It Up – the impact of startup services offered for employees – Case Nokia's Bridge Program

appreciate independence and the freedom to choose where and when to work.

The government plans to support the restructuring of the economy by lowering labour costs by 5 % from 2017, reducing regulation and making a one-off investment in selected areas of the economy. The government also continues to support companies under broad themes such as cleantech, bioeconomy and digitalisation. The cleantech industry in particular is expected to create jobs and new export products. According to a recent survey, SMEs in the cleantech industry have more positive expectations about the economic cycle, are more internationally oriented, and plan to hire more staff in the short-run than the average Finnish SME.⁽¹⁷⁾ The government's Team Finland initiative, launched in 2011, aims to help Finnish companies become more international and increase exports, as well as to diversify export destinations. Team Finland is a bundle of government services. It includes financial support for exports, promotion and visibility and support services such as market analysis and contacts in new market destinations. Team Finland also promotes Finland as a destination for foreign direct investment.

Finland's accumulated competitiveness losses are yet to be overcome. The tradable sector – with or without the electronics industry – is behind peer countries in cost competitiveness, but indicators have gradually started to improve. The non-tradable sector has not reacted to lower productivity growth, and this is hampering an improvement in indicators of the total economy's cost competitiveness. Product quality does not seem to be an issue as it is almost in line with that of the closest competitor countries. However, in technology, investment and R&D play key roles in finding new export products. Creating an environment conducive to investment and R&D thus remains a major challenge. Incentives to invest and increase production in Finland could be strengthened by restoring company profits. This also requires wage moderation in the coming years and special attention to wage-productivity developments in the non-tradable sector.

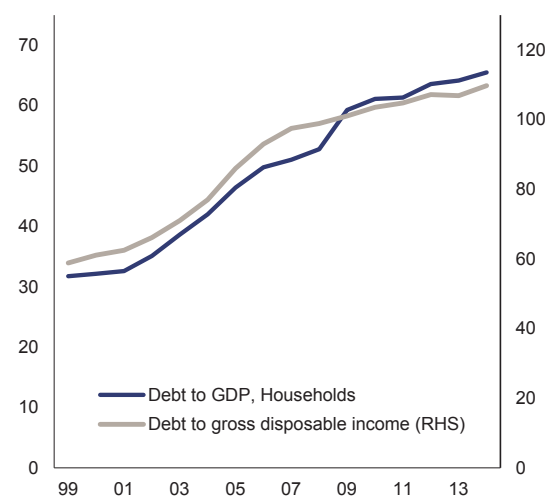
⁽¹⁷⁾ Ministry of Employment and the Economy 2015 PK-toimialabarometri 2015 syksy, Cleantech

2.2. INDEBTEDNESS AND DELEVERAGING PRESSURES

Private sector debt (excluding debt of financial corporations) rose slightly to 150 % of GDP in 2014, above the EU average of 142.1 %. Some 84.5 pps. is held by non-financial corporations (NFCs), while 65.5 pps. is accounted for by the household sector⁽¹⁸⁾. The EU aggregate private sector debt-to-GDP ratio, which peaked in 2009 at 150.4 %, has recently been on a downward path as private sector balance sheet repair has progressed in several EU Member States. In Finland, the debt-to-GDP ratio of NFCs peaked in 2010 at 87.5 % and since then some deleveraging has taken place. Over the same period, households' debt-to-GDP ratio has continued to increase gradually from 61.1 % to 65.5 %. On aggregate, households have not started to deleverage as they have benefited from a prolonged period of favourable lending conditions, including exceptionally low interest rates and mortgage repayment holidays.

Household sector indebtedness

Graph 2.2.1: Household debt-to-GDP and debt-to-gross disposable income, %



Source: European Commission

The households' debt-to-GDP ratio has been increasing throughout the 2000s. Finnish households increased borrowing in the last 15 years, especially before the Great Recession. As a consequence, debt-to-GDP and debt-to-gross disposable income ratios almost doubled over this period (Graph 2.2.1). The relative increase was slightly less dynamic for the debt-to-gross

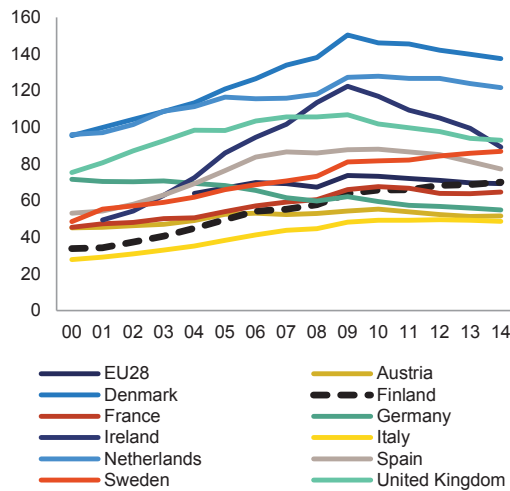
disposable income ratio, as household gross disposable income rose more than gross domestic product.

Unlike those in several EU Member States, Finnish households have not deleveraged over recent years. Their debt-to-GDP ratio was, in 2014, higher than that of households in Germany, Italy and France, but below that of Denmark, the Netherlands and Sweden (Graph 2.2.2). Finland is one of the few countries in the euro area where the household debt-to-GDP ratio has increased since 2008. Like their peers, Finnish households have a positive net-financial asset position. In 2013 the ratio of total financial liabilities to total financial assets⁽¹⁹⁾ was about 62 %, which is slightly higher than in Sweden but lower than in Denmark, for example. Compared to 2007 – the year before the onset of the global financial crisis that had a significant impact on asset valuations – the total liabilities-to-total assets ratio has increased by about 4.3pps. This is more than in Sweden but less than in Denmark. Given that most of the household debt comes in the form of mortgages, which are secured by the underlying real assets, total wealth is actually higher (albeit subject to a valuation effect in case house prices were to decline – see discussion on prices later in this section). Including real assets, Finnish households' total liabilities-to-total assets ratio fell to 29.8 % (in 2013).

⁽¹⁹⁾ Total financial assets excluding wealth item F6 insurance, pension and standardised guarantees as different pension systems might distort the picture. Due to statutory earnings related pension system, pension assets are included in public sector balance sheet in case of Finland, while in peer countries the pension system is mostly private and the assets are included in the household sector balance sheet.

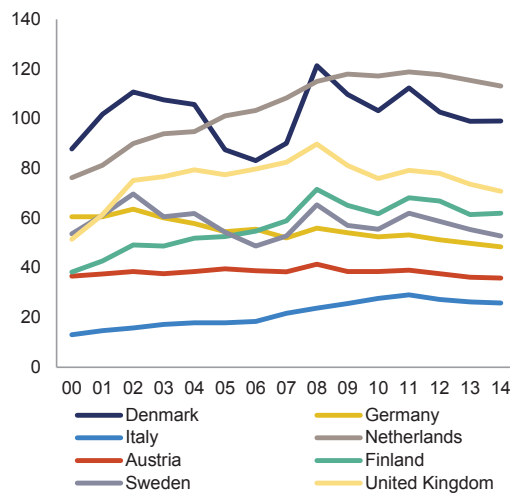
⁽¹⁸⁾ Including also non-profit organisations serving households.

Graph 2.2.2: Household and NPISH financial liabilities to GDP, 2000-2014, %



Source: European Commission

Graph 2.2.3: Household and NPISH(1) financial liabilities to financial assets, excluding pension savings (asset F6), 2000-2014, %



(1) NPISH stands for non-profit institutions serving households.

Source: European Commission

In recent years, mortgages have accounted for about two thirds of the debt stock, while consumer credit and other credit accounted for about a quarter. The share of mortgages has been gradually decreasing since 2010 while that of housing corporations' debt ⁽²⁰⁾ has increased. The

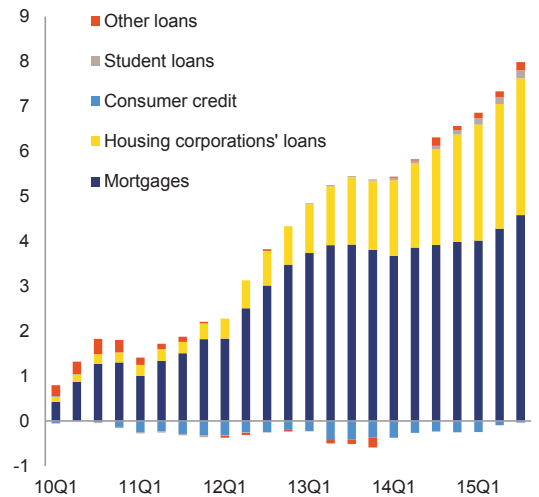
housing corporations' debt accounted for about one tenth of household debt in early 2015.

The current level of household debt was accumulated during the pre-crisis years, when the debt-to-GDP ratio increased mainly due to growth of the mortgage stock. During the crisis households reduced their drawdowns of new mortgages and mortgage stock growth slowed from 10.6 % in 2008 to 6.4 % in 2009, which is still a high growth rate compared to the euro area average of just 0.4 %. Finnish households reacted to the crisis by limiting their use of consumer credit and other loans and especially postponing housing corporations' renovation projects. The recent increase in households' debt-to-GDP ratio is a result of higher debt of housing corporations.

As the households own the housing corporations via their apartment holdings, and the households are responsible for their debt, this housing corporation debt is added into household debt stock in financial accounts. Technically, the housing corporation draws the loan and that is why it could be less risky from the bank's point of view as a housing corporation, not an individual household owning an apartment, is liable for the loan. If a household cannot pay its monthly payments of housing corporation debt to the housing corporation, other owners of the housing corporation could for example start a process which would lead to taking over the apartment.

⁽²⁰⁾ In Finland, the housing corporations draw loans for constructing and maintaining the residential building stock.

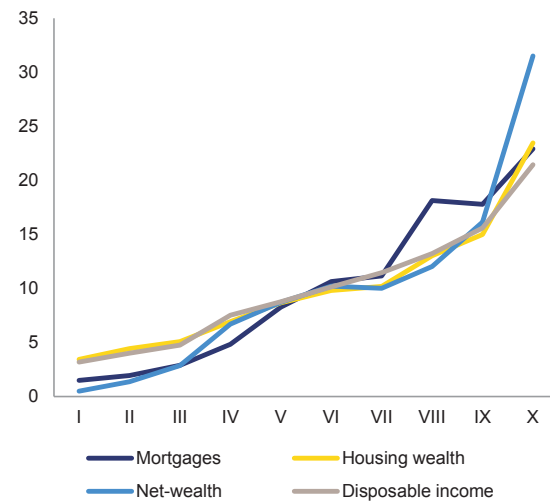
Graph 2.2.4: The cumulative change of households and NPISH debt-to-GDP ratio since 2009Q4, pps of GDP, Finland



Source: Statistics Finland, Bank of Finland, European Commission

The growth in the mortgage stock has not returned to the figures seen before the crisis. In fact, it remained relatively stable between 2009 and 2012 at about 6.5 % and since then the growth of households' borrowing for housing has slowed. In 2014, the mortgage stock grew by 1.7 % year-on-year. In addition, the mortgage stock-to-GDP ratio has been broadly unchanged over the past two years. This reflects the falling number of house and apartment purchases as well as stalling or gradually falling nominal house prices — coinciding with the economic recession since 2012. At the same time, households paid back their consumer credit and other loans in 2011-2013.

Graph 2.2.5: Distribution of mortgages, housing wealth, net-wealth and disposable income across income deciles



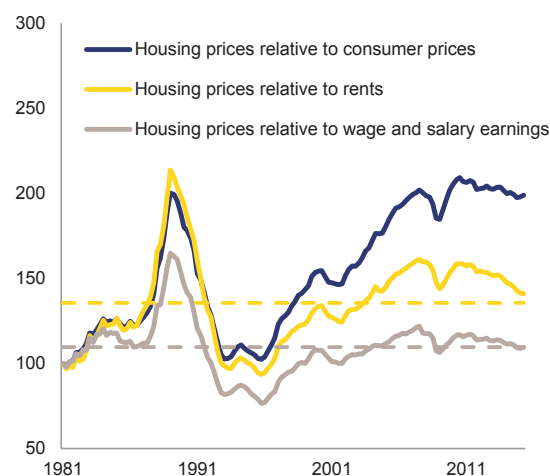
Source: Statistics Finland, European Commission

Although there are individual households who have large mortgage-to-disposable income ratios and close to zero net wealth, these account only for a small share. The vast majority of household debt (including mortgages) and housing assets are held by higher-income households. Since their share of real assets is also higher, they have a larger net-wealth position. Lower income households usually have limited access to the mortgage market, but compared to their share of mortgages they seem to have more housing wealth (Graph 2.2.5). Since their net-wealth position is only somewhat positive, this indicates a higher degree of leveraging coming, for example, from consumer loans. This exposure could be a risk factor for lower income households. Overall, this allocation of liabilities and assets is likely to mitigate the risks from a possible fall in housing prices and thus the value of the mortgages collateral.

At the same time, changes in house prices could significantly affect household balance sheets because real assets account for a sizeable share of their assets. Currently, however, there is hardly any evidence that average house prices are overvalued. Indeed, relative house prices are approaching their long term averages. The price-to-rent ratio is about 4 % above its long term average, while the price-to-wages and salaries ratio is at its long-term average. Compared to household

net-disposable income, nominal house prices are slightly below their average over 2000-2014 (Graph 2.26). The regional house price indicators show some differences in price developments. Over the past few years, households have favoured urban regions over rural areas. This has pushed house prices higher in the capital region, for example, while prices have been flat or falling in more remote regions⁽²¹⁾. However, average mortgage-to-average household disposable income ratios are somewhat lower in eastern- and northern-Finland than in the whole country. In the 2000s, both before and since the financial crisis, real house price developments have been moderate compared to Nordic peers⁽²²⁾. Given this, although housing valuation is a vulnerability to household balance sheets, the risk of abrupt adjustment is unlikely.

Graph 2.2.6: Relative housing prices, 1980Q1=100



Source: Bank of Finland

In general, households have several ways to deal with a future normalisation in reference interest rates, thus limiting risks to consumption and GDP growth. Firstly, the distribution of income, assets and liabilities (Graph 2.2.5) indicates that households with mortgages are likely to have buffers (income and savings) to cope with the increase in reference rates⁽²³⁾⁽²⁴⁾.

⁽²¹⁾ See discussion in 2015 country report on regional housing market valuation and residential investment

⁽²²⁾ Bank of Finland, Financial supervisory authority 2015. Makrovakausraportti 1/2015.

⁽²³⁾ The government is seeking an agreement with social partners that would reduce wage costs by 5 % as from

Secondly, about three fifths of households with mortgages have fixed the monthly mortgage payments⁽²⁵⁾ so that rising reference rates would lengthen the maturity of the loan, but not reduce disposable income for consumption. Thirdly, the Commission's forecast expects a gradual economic recovery in Finland in 2016-2017 with a small increase in employment and disposable income. In addition, in 2014, the average maturity of a new mortgage was 16.9 years. According to the European Central Bank, mortgage maturities typically range between 20 and 30 years in the euro area⁽²⁶⁾. Thus with their relatively short average mortgage maturity, Finnish households have, on average, more room to adjust their mortgage repayments (in case of unemployment, for example) than households in other countries.

Despite the high level of household debt, households are not facing immediate deleveraging pressures from the financial market. The supply conditions for household loans have remained favourable as banks operating in Finland have relatively strong balance sheets and good access to external financing. Interest rate margins (and interest rates themselves) remain low. A sign of good access to wholesale financing and solid banking system is the 12-month mortgage repayment holiday campaign that two of the three large bank groups⁽²⁷⁾ ran in early 2015. In the campaign, the banks encouraged households

2017. At this stage, it remains unknown how the reduction would be implemented, but the proposed measures do not foresee direct salary cuts (Section 2.1). However, given the challenges in cost competitiveness, it is likely that wage increases would be very small in the coming years limiting the growth of aggregate disposable income. According to a survey by Federation of Finnish Financial services, changes in marital status or financial situation and unemployment are household's most common reasons for renegotiating the mortgage payments.

⁽²⁴⁾ In addition, the wealth effect is found to be very weak, if not non-existing. Thus, in case of a fall in the value of assets, the impact on consumption should be very limited. Juha Kilponen (2012) "Consumption, Leisure and Borrowing Constraints," The B.E. Journal of Macroeconomics: Vol. 12: Issue. 1.

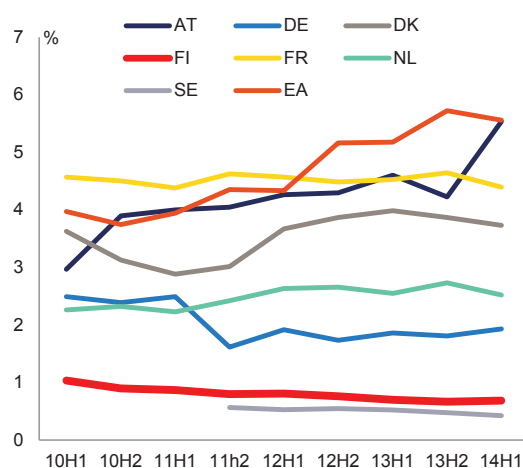
⁽²⁵⁾ Survey by Federation of Finnish Financial Services. Finanssialan keskusliitto: Säästäminen, luotonkäyttö ja maksutavat (Lokakuu 2015).

⁽²⁶⁾ ECB: Housing finance in the euro area (March 2009) <https://www.ecb.europa.eu/pub/pdf/other/housingfinanceeuroarea0309en.pdf>

⁽²⁷⁾ The campaigns were launched by Osuuspankki and Danske Bank. The third large bank, Nordea, offers the option to renegotiating mortgage repayments.

with a good debt servicing history to postpone their mortgage repayments by one year without extra costs⁽²⁸⁾. Moreover, the ratio of non-performing household loans to the total loan stock has remained low. At the end of 2014 the ratio was below 2 % and the latest estimate is at 1.4 % in Q3-2015 (Graph 2.2.7). To further improve the stability of the financial system, the binding maximum loan-to-value ratio for housing loans enters into force on 1 July 2016. The maximum ratio will be 90 % (95 % for first-home purchases) of the fair value of collateral at the time the loan is granted.

Graph 2.2.7: Household sector non-performing loans to total loan stock, 2010H1-2014H2



Note: Graph presents the ratio of non-performing loans (NPL) to total loan stock. For Finland, the ratio is calculated using net-amounts of non-performing loans, for other countries the ratio is (most likely) calculated using gross amounts. The gross amount includes asset impairment losses, whereas impairment losses have been deducted from net assets. The Financial Supervisory Authority in Finland has only recently started to publish quarterly NPL ratio using gross amounts. For households, the NPL ratio was 1.8 % in 2014-Q4 and 1.4 % in 2015-Q3.

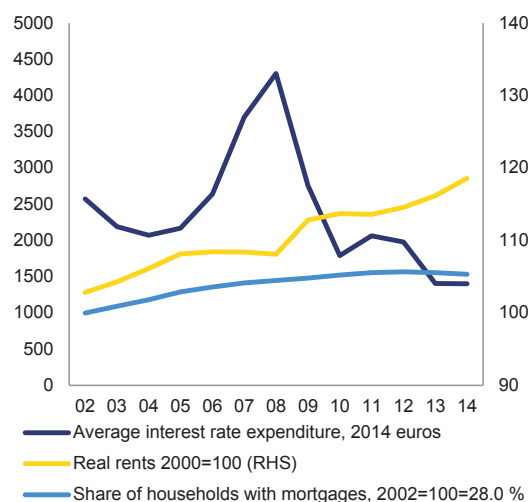
Source: European Central Bank, Finland's Financial Supervisory Authority

One possible explanation for the increased stock of household liabilities could be the increased unattractiveness of renting an

⁽²⁸⁾ In December 2015, the growth rate of housing loan stock was 2.5 % (year-on-year). Bank of Finland estimates that in the absence of the agreements to postpone mortgage repayments, the mortgage stock growth rate would have been one percentage point lower. http://www.suomenpankki.fi/en/tilastot/tase_ja_korko/Pages/index_1_2_2016.aspx

apartment. Although the loan stock has doubled since 2002, households paid less (in real terms) on interest on their mortgages in 2014 than in 2002 (Graph 2.2.8). This is mainly due to lower reference rates, but also because the share of mortgages tied to market interest rates has increased. At the same time renting an apartment has become less attractive as rents have risen faster than overall consumer prices. These factors might have led households to choose owner-occupied housing over renting; this can be seen in the increasing share of households⁽²⁹⁾ with a mortgage as well as a dwelling as real asset in their balance sheet. Until 2011, 100% of mortgage interest expenditure was deductible from personal income tax. As from 2012 the government has reduced the deductibility to reduce tax incentives for owner-occupied housing (see section 3.1).

Graph 2.2.8: Average real annual mortgage interest rate expenditure, in 2014 euros, and real rent



Source: Statistics Finland, European Commission

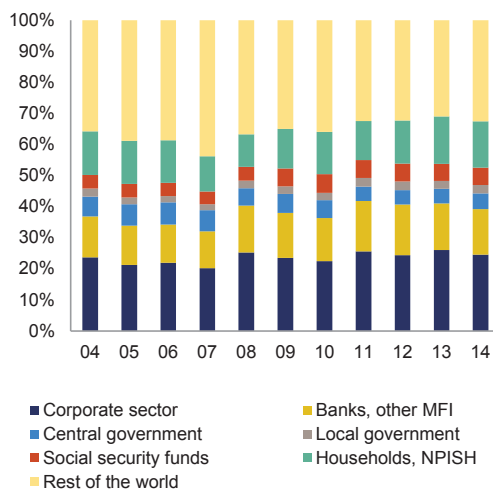
Non-financial corporations

The debt of non-financial corporations (NFCs) (consolidated, as share of GDP) has been declining since 2010 and now stands at 85 % of GDP. About 15 % of the debt is linked to bonds and 85 % to loans. Most corporate bondholders reside outside Finland, while the domestic financial and insurance sector provides the

⁽²⁹⁾ Based on Statistics Finland's indebtedness statistics, in 2002 the share of households with a mortgage was 28.0 % while in 2014 the share had increased to 33.4 %.

majority of loans. Most of the loans from the rest of the world are intra-group loans. Balance of payments data show that the largest creditor countries of foreign direct investment loans are the Netherlands, Sweden and Germany. In addition to foreign direct investment there are some loans that are classified as ‘other investment’ in the balance of payments. The largest creditors in this category are development banks. A relatively small share of NFC debt stems from lending by central and local government and from earnings-related pension funds, which have purchased bonds as well as issued loans. A special lending scheme exists for solvent companies to draw loans from the employment-related pension funds. Despite its relatively small size, this instrument was useful during periods when access to other funding sources was low.

Graph 2.2.9: Liabilities by creditor sector

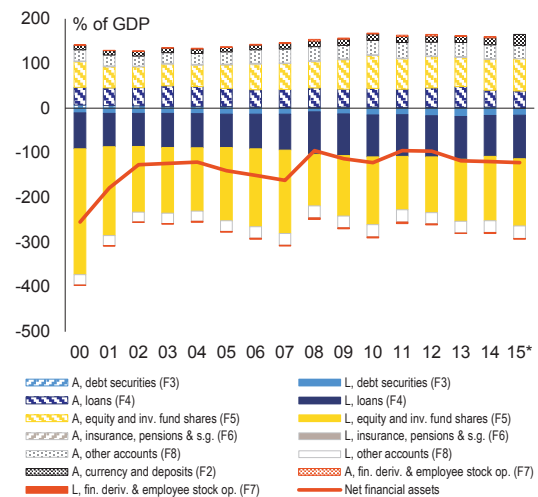


Source: Statistics Finland, European Commission

Finnish non-financial companies have reduced their debt/equity ratio over recent years, to 73.6% from 89.9% in 2011. For liabilities without equity, financial assets held by companies are larger than the sum of loans and debt securities. If the non-financial assets — dwellings, machinery, other equipment, inventories and land — of the corporations are included, their net worth is positive and amounts to around 60 % of GDP. The leverage ratios of the NFCs show that the debt-to-financial assets ratio has remained stable over the past decade, while debt to equity ratio is declining from its peak in 2010.

Large corporations are responsible for much of the build-up and dynamics of debt. For example, the seven large publicly traded corporations took out loans accounting for more than 10 % of GDP in 2014. Interestingly, the trend within large companies is to deleverage; from 2013 to 2014 the amount of interest bearing liabilities in their balance sheet has significantly decreased. Finnish businesses use external capital mainly for new machinery and equipment and to expand working capital. However, the biggest companies have also used loans to improve the structure of their liabilities. ⁽³⁰⁾

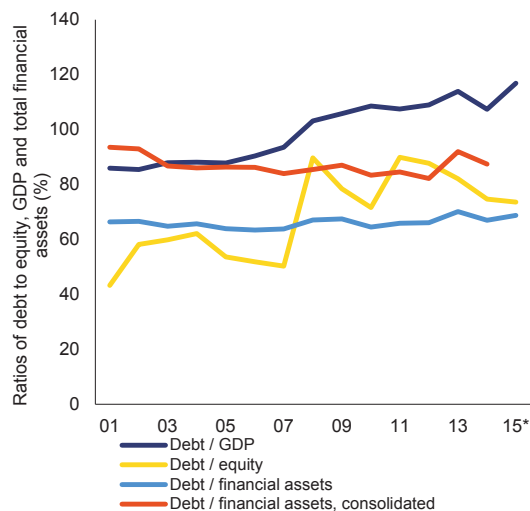
Graph 2.2.10: Balance sheet, non-financial corporations



Source: Eurostat

⁽³⁰⁾ Bank of Finland, Yritysrähoituskysely December 2015

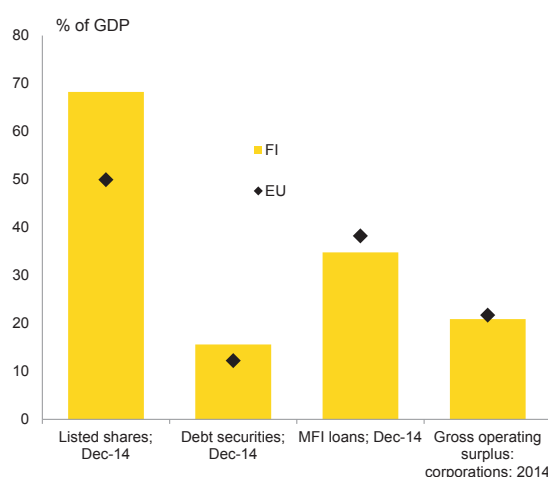
Graph 2.2.11: Leverage of the Finnish NFCs



Source: Eurostat

The stock market, with a capitalisation of over 90 % of GDP, plays a significant role in funding non-financial corporations. Finnish companies rely to a greater extent than the EU average on listed shares as a funding source, while corporations' gross operating surplus, indicating their potential to self-finance their investments, is close to the EU average.

Graph 2.2.12: Funding of non-financial corporations



Source: ECB, AMECO

Financing conditions do not appear to be hindering the growth of SMEs. According to the Confederation of Finnish Industries (EK), only 7 % of small and medium-sized enterprises

(SMEs) in Finland faced difficulties in obtaining finance in the first half of 2015. This proportion has been stable in recent years but is twice as high as in 2008. Moreover, it is estimated that around 3 % of all SMEs in need of external financing do not apply for bank loans due either to their weak financial status and credit worthiness, or to high borrowing costs or unattractive terms. The proportion of rejected loan applications from SMEs increased from 1 % in 2011 to 8 % in 2014 (though it was down from 10 % the previous year). The vast majority of applications rejected were from microenterprises with annual turnover of less than EUR 200 000⁽³¹⁾. However, lending (flow of new loans) to SMEs diminished from 2009 to 2014. This is due to lower demand, tighter credit conditions, growing solvency problems in some companies, and other factors. Consequently, the proportion of loans to SMEs in the total stock of loans dropped from 22 % in 2008 to 19 % in 2014. Less than 20 % of all new loans to SMEs have short-term maturities.

Financial sector stability

Risks to financial stability appear limited and lending is expanding at a healthy rate. The Finnish financial sector is currently strong, with capitalisation, asset quality and profitability all high. Credit to the private sector continues to grow despite the shrinking economy. This suggests that borrowers are finding ample liquidity in the market and have no significant problems with accessing finance. Nevertheless, banking sector vulnerabilities include high levels of private sector indebtedness, regional interconnections with other Nordic and Baltic countries and dependence on wholesale funding.

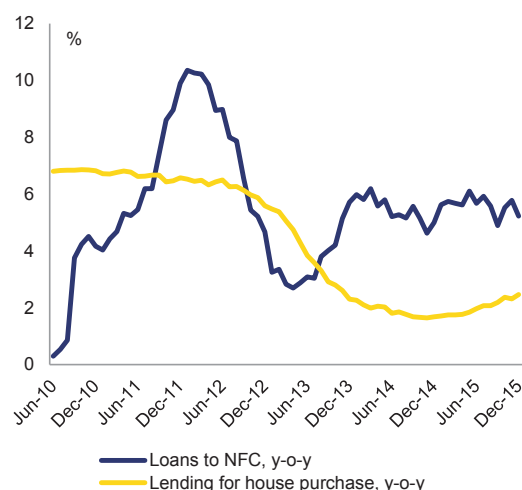
Banks are the largest financial intermediaries. Their assets, excluding foreign subsidiaries, amounted to EUR 579 billion in 2014, which represented 285 % of GDP. Investment funds rank second with EUR 86bn (42 % of GDP), closely followed by insurers with EUR 67 bn (33 % of GDP). With EUR 6.3 bn, pension funds are relatively negligible (3 % of GDP). Investment funds' assets have been growing at an average annual rate of 19 % since 2008, while insurers'

⁽³¹⁾ SAFE (2015); OECD (2015), Financing SMEs and entrepreneurs 2016: an OECD scoreboard.

assets have increased by 7.8 % annually over the same period.

Banks have continued to lend steadily to the private sector in recent years. Since 2014, monthly lending to corporations has grown on average 5.5 % year-on-year (Graph 2.2.13), higher than in most other euro area countries. Housing loans have increased about 2 % year-on-year, accelerating to 2.5% by end-2015. The credit growth remained robust despite the recessionary economic environment. On the liabilities side, deposits have grown faster than loans. The overall loan-to-deposit ratio fell from 145 % in 2010 to 135 % in 2015, although it has increased in recent months. Regarding banking sector funding, the share of deposits in Finland (35 %) is lower than in the euro area on average (55 %). This is compensated for by higher reliance on own-issued debt (market funding), external liabilities (market funding outside the euro area) and remaining liabilities (mainly the derivatives portfolio of Nordea group⁽³²⁾). The relatively high reliance on wholesale funding, especially short-term foreign instruments, increases the refinancing risk in case of market turbulence.

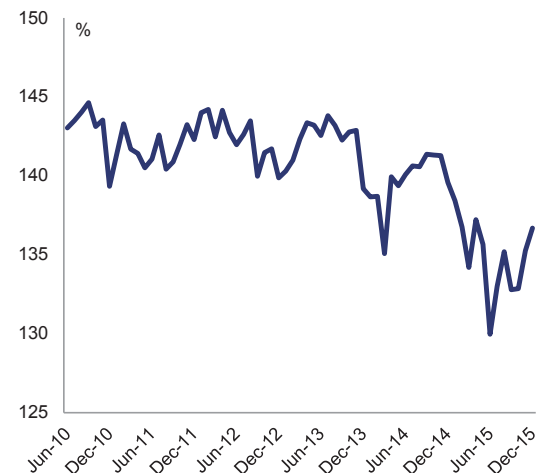
Graph 2.2.13: Main trends in the balance sheet of the banking sector: lending



Source: ECB

⁽³²⁾ The substantial derivative positions among Nordea Finland's liabilities cover the corresponding derivative positions on the bank's asset side. In other words, derivatives are practically not used for funding of other bank operations.

Graph 2.2.14: Main trends in the balance sheet of the banking sector: funding



(1) Excluding claims on MFIs, government and non-residents

Source: ECB

Financial soundness indicators suggest that the stability of the banking sector is not at risk.

Banks are well capitalised. In June 2015 the average solvency ratio was 19.3 %. Tier 1 instruments account for the majority of the capital (Table 1). The average quality of bank assets is very high in comparison to other EU countries. The average ratio of non-performing loans stood at 1.3 % and the ratio of coverage of such loans with provisions amounted to 36 %, which is below the euro area average (43 %). The sector also performs well in terms of profitability. In 2014, both return on equity (9.1 %) and return on assets (0.4 %) were well above the euro area averages (2.3 % and 0.1 %, respectively). The results for the first half of 2015 confirm the positive profitability trend.

Specific risks stem from the concentration of the Finnish banking market.

Based on the loan portfolio to non-monetary financial institutions, the three largest banks account for 72.8 % of the market. In this group, two of the banks (Nordea and Danske) are also active in other Nordic markets. Thus, financial stress in the Swedish banking system, for example due to tensions in global funding markets or a correction in the Swedish housing prices, could have an adverse impact on Nordea's operations in Finland. Consequently, it might result in tightened credit supply conditions on the local market. According to the plans, Nordea Finland would be turned into

Table 2.2.1: Financial soundness indicators

	2009	June 2010	2010	June 2011	2011	June 2012	2012	June 2013	2013	June 2014	2014	June 2015
Non-performing loans, %	1.1	1.0	0.9	0.9	0.8	0.8	0.8	0.7	0.7	0.7	1.4	1.3
Capital adequacy ratio, %	14.6	14.2	14.6	14.5	14.4	15.3	17.2	15.8	16.3	15.6	17.5	19.3
Tier 1 ratio, %	13.8	13.4	13.7	13.8	13.7	14.6	16.3	15.0	15.5	14.6	16.6	18.5
Return on equity, %	7.2	6.7	6.8	7.8	7.6	9.1	8.9	8.2	8.1	8.8	9.1	5.2
Return on assets, %	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.2
Coverage ratio	na	na	na	na	na	na	na	na	na	na	36.0	36.7

(1) All domestic and foreign banks (subsidiaries and branches)

Source: ECB

a branch of the Swedish parent bank. When implemented, the Finnish Financial Supervisory Authority's oversight of the business of the largest financial institution in its jurisdiction would be limited. For more detailed analysis of potential financial spill-overs in the Baltic-Nordic region see the *Country Report Sweden 2016*).

The capital market is well developed. The overall size of the debt securities market in Finland increased from EUR 140 billion in 2008 to EUR 235 bn in 2014 (115 % of GDP). Banks and government are the largest issuers, each with outstanding bonds equivalent in value to about 50 % of GDP. Market debt funding of non-financial corporations has been increasing and rose to EUR 36 bn, i.e. 18 % of GDP, in 2014, from 10 % in 2008. The Finnish stock market's depth exceeds the euro area average. The total capitalisation of quoted companies reached more than EUR 186 bn in 2014, i.e. above 90 % of GDP. Non-financial corporations are the dominant issuers. The market infrastructure is fully integrated into the OMX-Nasdaq group.

An array of public corporations exists to support the growth, innovation and export activities of Finnish enterprises, complementing private credit institutions. Companies can apply for a loan from Finnvera for purposes such as investing in machinery, equipment or buildings, or financing working capital needs and corporate restructuring. It shares the risk involved with other financiers and does not act as a sole investor. Finnvera can also issue (i) guarantees to help companies meet their financing needs and (ii) export guarantees (insurance provided to an exporting company to cover credit risks involved in export trade).

Tekes innovation funding enables companies to grow faster and to develop new products. Tekes is especially focused on SMEs seeking growth through internationalisation. It supports

companies' research projects and product development, among other things. Tekes can also make funding available for young innovative growth companies. Finnish Industry Investment takes financial stakes in the most promising Finnish companies in growth and internationalisation phases. These investments are provided on the same terms as private ones. Finnfund is active in long-term financing to establish or expand projects by Finnish companies or their partners in developing countries. Financial instruments include minority equity investments, investment loans, subordinated loans and other forms of mezzanine financing, and guarantees.

2.3. MIP ASSESSMENT MATRIX -FINLAND

This MIP Assessment Matrix summarises the main findings of the in-depth review in the country report. It focuses on imbalances and adjustment issues relevant for the MIP.^(*)

Table 2.3.1: MIP assessment matrix - Finland

	Gravity of the challenge	Evolution and prospects	Policy response
Competitiveness	Finland's export market share in goods decreased cumulatively by 24.3 % between 2009 and 2014. Losses were particularly high in 2009-2010, when Nokia's mobile phone unit collapsed. In parallel, the current account balance moved from a surplus to a slight deficit in 2011 as the trade balance deteriorated. In 2014 export market shares declined by 2.2 % as exports of the Finnish service sector were hit by the recession in Russia. In 2008-2013, the Finnish economy experienced a rapid increase in nominal and real unit labour costs. The rise was triggered by a significant deterioration in productivity, in particular in the tradable sector, and wage increases well-above labour productivity developments. As a consequence, Finland lost competitiveness compared with peer economies. In addition to the decline in cost-competitiveness, Finland suffered from its initial sector and more recently also geographic specialisation. The export performance relied to a large extent on the forest based industry and Nokia's handset business, which had suffered a structural decline over the last decade. Product quality indicators have started to recover since the fall caused by the electronics sector. Overall, Finland produces on average high-quality products and is in this regard close to peer economies.	Overall, the rapid fall in export market share has come to an end and some sectors improved their position in 2013-2014. This stabilisation and falling import prices allowed the trade balance and the current account to move back to a surplus in the course of 2015. According to the Commission's winter forecast, this development is expected to continue in 2016-2017, with the current account balance gradually increasing to 0.7 %. Following a centrally agreed wage deal in late 2013, wage increases in 2014-2015 were significantly lower than before. Compared with peer economies, nominal unit labour costs have started gradually to improve. However, the increase in nominal unit labour costs in the non-tradable sector remains a challenge as they continue to increase roughly at same rate as before the crisis. According to the Commission winter forecast, wage inflation remains moderate in the coming years. In 2013-2014 initial market specialisation was not favourable for Finnish exports but nevertheless, Finland's competitiveness in top-10 destinations improved.	The Finnish government has launched a coordinated initiative – Team Finland – to bundle measures supporting export companies and FDI since 2011. These measures are set to continue and include among others the promotion of Finland as an investment destination as well as its export products, as well as the outward orientation of Finnish companies. In June 2015, the social partners agreed to continue the wage moderation with negotiated wages increasing roughly 0.5 % in the course of 2016. The government has set a target to improve cost competitiveness by 15 %. As a part of this goal, the government aims at cutting wage costs by 5 % as from 2017 when the current wage agreement expires. In addition, other ways to improve cost-competitiveness through e.g. structural reforms in the labour market and continued wage moderation are discussed between the government and social partners. For example, the government aims at increasing the importance of local bargaining in the labour market. The government has announced spearhead projects in the areas of bio-economy, clean-tech and digitalization, which should support companies to develop new products and competitive advantages in these areas. Despite some cuts in public R&D spending, Finland continues to be among the top investors in R&D in the EU.

(Continued on the next page)

Table (continued)

Private-sector debt	Private sector debt (excluding debt of financial corporations) rose slightly to 150 % of GDP in 2014, above the EU28 average (142.1 %). Non-financial corporations account for the majority of it, 84.5 pps., while the household sector owns the remainder. The current level of household debt was accumulated during the pre-crisis years, when the debt-to-GDP ratio increased mainly due to growth of mortgage stock. In the housing market based both on price-to-wage and on price-to-rent ratios, house prices are approaching their long term averages. Financial assets held by companies are larger than the sum of loans and debt securities. Access to finance remains good for the companies.	The growth of households' mortgage stock has slowed down in recent years and the mortgages-to-GDP ratio has remained broadly unchanged since 2013. Household debt rises currently due to increasing debt of housing companies linked to renovation of existing building stock.. Despite high debt and the weak economic situation, households' abilities to service their debt has remained good. The latest (2015-Q3) NPL ratio, 1.4 %, was lower than a year before. House prices are assessed to be broadly in line with fundamentals. As the economic situation is expected to gradually improve in 2016-2017, no fall in house prices is expected. Corporate balance sheets exhibit a decreasing debt/equity ratio. The debt to financial assets ratio has remained stable over the last decade.	To lower the attractiveness of owner-occupied housing, the government continues to phase out deductibility of mortgage interest expenditure in personal income taxation. A large share of loans has a fixed monthly payment and variable interest rates. Thus, an increase in the interest rate would not affect the monthly payment, but prolong the duration of the loan. This feature reduces the risks to households arising from an increase in interest rates. Maximum loan-to-value (LTV) ratio for housing loans will enter into force on 1 July 2016. This is expected to lead to more prudent lending decision but not to a significant decrease in lending. There are no specific policies to lower the leverage/indebtedness ratio of NFCs.
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Conclusions from IDR analysis

- Finland experienced competitiveness losses following the structural decline of key sectors and companies as well as wage increases above productivity growth. The losses have resulted in a sharp downward adjustment of the current account balance. Private debt is large and slowly increasing, which may constitute a vulnerability. However, the financial sector is sound.
- Cost competitiveness has gradually started to improve and the fall in export market shares has slowed down, while the current account has moved to a surplus in 2015. Household and corporate sector debt ratios are rather stable and the private sector does not face pressure to deleverage.
- Social partners have agreed on moderate wage increases and measures to further reduce wage costs are being negotiated. Initiatives have been launched to revive growth in high-tech sectors. Public financing vehicles exist to facilitate exports of Finnish companies. Recent measures on household mortgages may limit the growth of household indebtedness.

(*)The first column summarises "gravity" issues which aim at providing an order of magnitude of the level of imbalances. The second column reports findings concerning the "evolution and prospects" of imbalances. The third column reports recent and planned relevant measures. Findings are reported for each source of imbalance and adjustment issue. The final three paragraphs of the matrix summarise the overall challenges, in terms of their gravity, developments and prospects, policy response.

Source: European Commission

3. ADDITIONAL STRUCTURAL ISSUES

In addition to the macroeconomic imbalances and adjustments issues addressed in section 2, this section provides an analysis of other structural macroeconomic and social challenges for Finland. Focusing on the policy areas covered in the 2015 country-specific recommendations, this section notably analyses issues related to public finances, administrative reforms, labour market, social policy and education, but also competition in non-tradable sector and business environment.

3.1 TAX SYSTEM AND SUSTAINABILITY OF PUBLIC FINANCES

Taxation

Finland's general level of taxation is high compared to the other euroarea countries. The tax burden is about 44 % of GDP and has been growing steadily since 2008. The government has introduced changes to the tax system continuing the reforms undertaken by its predecessor. Besides a positive revenue impact, some of the measures are expected to contribute to a tax shift from labour towards other tax bases that are considered to be more growth-friendly.

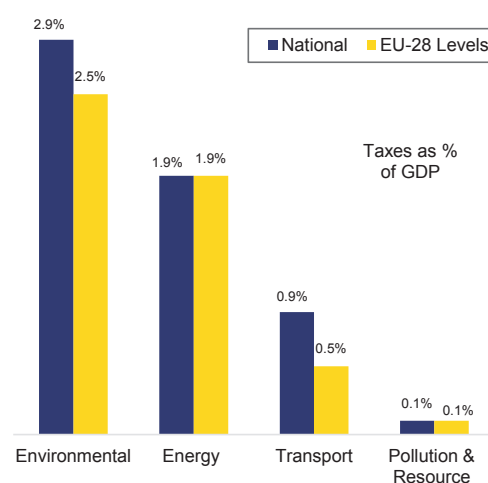
As of 2016 these changes will further increase the progressivity of the income tax system and shift taxation towards indirect taxes. Finland has a relatively high tax burden on labour. However, the recent changes to the personal income tax system have lowered the tax burden on low- and medium-level incomes. Combining the two highest income tax brackets has further increased the progressivity of the tax system. The tax on capital income above a certain threshold has also been slightly raised. The revenue loss as a result of the 2016 changes to personal income taxation has been estimated at EUR 370 million (0.2 % of GDP). The measures increasing central government tax revenues amount to EUR 310 million ⁽³³⁾ (0.2 % of GDP) (mainly due to increases in indirect taxes). In addition, the social partners have agreed to increase the unemployment insurance contributions and the local authorities are increasing their municipal tax rates.

Finland, like several other EU Member States, has room for increasing the efficiency of indirect taxation. Lowering the reduced rate applicable (notably) to food products in late 2009 has led to a widening of the VAT policy gap, i.e.

the revenue forgone due to the application of reduced rates or exemptions instead of the standard rate. Limiting the use of reduced VAT rates and non-compulsory exemptions can increase the efficiency of the VAT system and provide a potential source of additional government revenue.

The changes in property taxation and further limitations to mortgage-interest deductibility are advancing the on-going tax shift towards property taxation. Recurrent property taxation is considered to be among the most growth-friendly and least distortive taxes and in this area Finnish tax revenues are below the EU average. Hence, the measures to increase real estate taxes as of 2016 go in the right direction. In addition, the deductible part of mortgage interest in personal income tax has been gradually reduced from 85 % in 2012 to 55 % in 2016 and will be cut further to 25 % by 2019. This measure is expected to reduce the debt bias in housing taxation.

Graph 3.1.1: Environmental Taxes in Finland and EU



Source: European Commission

⁽³³⁾ Source: Government proposals HE 31/2015 and HE 30/2015, Budget for 2016. The decision to direct more revenues from the corporate income tax to the central government budget is not included, as this does not change anything for the taxpayer.

Overall, the share of environmental taxes in tax revenues has increased and its composition has changed. The government has further increased certain environmental taxes, in particular the tax on carbon dioxide emissions from heating, power plants and machinery and the waste tax. In 2014, Finland's revenue from environmental taxation was above the EU average of 2.5 % of GDP (Graph 3.1.1).

Other environmental taxes have been reduced. Finland has reintroduced (effective as of 2017) tax refunds for the mining industry which were removed in 2015. The recurring annual vehicle tax has been increased while car taxation is being reduced in four stages to 2019. The reductions apply especially to low-emission cars with a view to affecting consumer behaviour when purchasing new cars.

A further review of environmentally harmful subsidies could, however, provide avenues for Finland to better meet its environmental targets and improve its fiscal position. According to a study published by the Ministry of Environment (and prepared in co-operation with the Ministry of Finance), environmentally harmful subsidies, such as tax exemptions, and reduced rates on specific industrial activities and fuels amounted to EUR 3 billion in 2014.

Debt sustainability

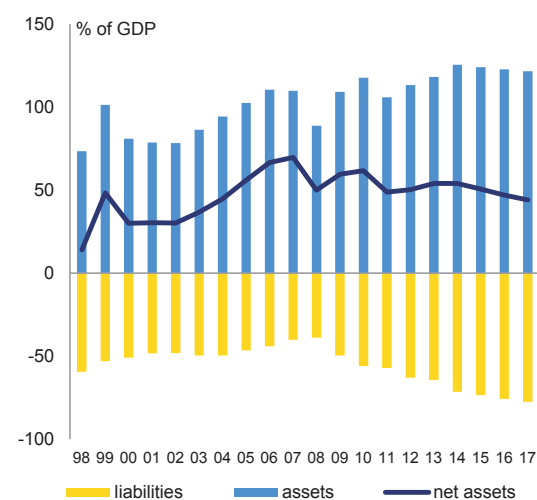
The consolidated general government gross debt-to-GDP ratio stood at 59.3 % of GDP at the end of 2014. Based on the Commission's winter 2016 forecast, gross public debt is set to have reached 62.7 % of GDP in 2015 and is expected to increase to 66.2 % of GDP in 2017.

Debt sustainability analysis points to a high risk over the medium term. Over the short term (within the year), Finland does not appear to face risks of fiscal stress. However, sustainability challenges exist in the medium term. A debt sustainability analysis shows that, assuming normal economic conditions, and a fiscal stance that remains unchanged after 2017, the last year of the Commission's forecast (as in the baseline no-fiscal policy change scenario), public debt would increase slightly to 67.9 % of GDP in 2020, before progressively raising again until to 78.5 % of GDP in 2026. Thus, an unchanged fiscal policy would

not be able to compensate for increasing ageing costs, nor for an unfavourable interest rate-growth rate differential ('snow-ball') effect towards the end of the projection period. Negative shocks to nominal growth (due to shocks to real GDP growth or inflation) and to interest rates would have a sizeable impact on the debt ratio. If the required convergence of the structural balance towards the medium-term objective was respected, Finnish public debt would decrease to less than 55 % of GDP in 2026. However, this would require a 1.3 pps. higher average structural primary balance than currently forecast for 2017. Overall, taking account of the various projection scenarios and their key results, Finland appears to face a high risk to its debt sustainability in the medium term.

In the long run, Finland faces a medium risk to its fiscal sustainability. This is indicated by the size of the long-term sustainability gap, i.e. a required fiscal adjustment of 4.2 pps of GDP. This gap is conditional on maintaining beyond 2017 the structural primary balance forecast for that year (a deficit of 0.7 % of GDP). The projections do not take into account of the impact of the pension reform legislated for in November 2015, which is expected to limit growth in pension expenditure in the coming years.

Graph 3.1.2: Net assets of general government



Source: OECD Economic Outlook 98 database

Finland's government is building up financial assets in parallel to its debt. The earnings-related pension system, included in the general

government sector, is partially pre-funded and in surplus. The surplus was at 1.9 % of GDP in 2013 and at 1.4 % of GDP in 2014. In 2015, the draft budgetary plan projects the surplus to diminish to 0.5 % of GDP and grow to 0.8 % of GDP in 2016. The surplus is included in the general government balance but is not used to pay off government debt. These funds show up as a net accumulation of assets in the stock-flow adjustment. The general government net-financial-assets position is forecast at 51.0 % of GDP in 2015, down from 54.7 % of GDP in 2014⁽³⁴⁾. The OECD projects that net assets will amount to 47.2 % of GDP by the end of 2016. Among OECD countries, this is one of the highest positive net financial asset positions.

Finland had central-government guarantees amounting to 17.4 % of GDP in 2014. Guarantees linked to the financial sector represented 0.9 % of GDP in 2014. The bulk of the guarantees (12 % of GDP) are issued to a wide group of non-financial corporations. So far pay-outs from the guarantees have been relatively low but they nevertheless constitute a vulnerability in government finances.

Fiscal frameworks

The central government fiscal framework guides fiscal policy in accordance with the agreed national, EU and euro area principles. The central government fiscal framework is tied to multiannual expenditure ceilings. The framework is linked to parliamentary terms, and experience with the framework suggests that the government abides by the rules. At the beginning of the government's term, the expenditure ceilings are set for the four year period according to government's fiscal policy. In 2015 the general government fiscal plan, a new tool for the central government to monitor general government finances was introduced. The fiscal plan attempts to take into account the possible spill over effects between government subsectors. The general government fiscal plan also includes the stability programme's standard tables. Thereafter, each spring the government updates the limits on central government spending for the remaining years of its term, establishing the multiannual financial framework. From 2015, the central government

also sets the target for the deficit of local authorities and social security funds sub-sectors.

Spending-limit decisions are taken in late March each year, setting annual limits on government expenditure for the subsequent four years. However, neither nominal-balanced-budget requirements nor limits on annual deficits are included in the legislation. This policy aims to control government expenditure while maintaining enough flexibility to respond to changes in the economic environment. The framework includes built-in automatic stabilisers, as some spending, such as unemployment expenditure or interest payments, falls outside the scope of the limits. However, there seems to be limited flexibility to react to challenges arising during the current year and in general there is no tradition of increasing revenues or cutting expenditure if the economy does worse than expected.

The National Audit Office has been entrusted with the responsibilities of the Fiscal Council while the Ministry of Finance remains responsible for forecasting. The National Audit Office monitors the implementation of the fiscal rules and in particular compliance with the medium-term budgetary objective. However, it does not assess the macroeconomic forecasts underlying the stability programme or the draft annual budget. The latter are prepared by the Department of Economics within the Ministry of Finance. In this respect, on 27 January 2015 the Parliament adopted a law that aims to ensure the independence of forecasting tasks in the Ministry of Finance. Finland is the only euro area Member State that has designated a Ministry of Finance department as the independent forecast producer referred to in the Two Pack.

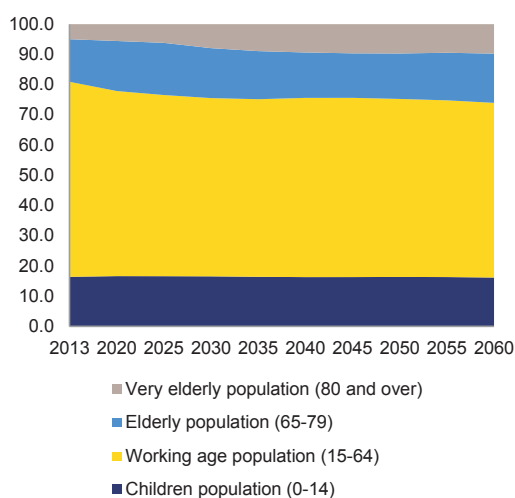
⁽³⁴⁾ OECD Economic Outlook no 98, Annex Table 33.

3.2. PENSION, HEALTH AND LONG-TERM CARE SYSTEMS

Due to negative demographic developments, spending on pensions, health and long-term care is expected to increase rapidly in the coming years. Between 2013 and 2030 the share of the working age population will decline from 64.5 % to 59.0 % (Graph 3.2.1), while expenditure on pensions, health and long-term care is set to increase to 26.9 % of GDP (Graph 3.2.2).

The government has therefore enacted a pension reform and agreed on important changes in the social- and healthcare system. A new pension system will come into force in 2017. The social- and healthcare system reform, which also amends the administrative system, has broad political support and the aim is to implement it as of 2019.

Graph 3.2.1: Change in working-age population



Source: 2015 Ageing report, baseline scenario

The pension reform will link the pension age to life expectancy and aims to encourage longer working careers. The reform – based on a tripartite agreement between the social partners and the government – aims to lengthen working careers through a combination of restricted access to early pensions, stronger financial (dis-)incentives and awareness-raising measures. The lowest pension age will be gradually increased from 63 to 65 years. Implementation of the reform will need to be monitored, in particular the effect of greater awareness of the pension rules on retirement behaviour. If the reform succeeds in changing retirement patterns, in the long run it has the

potential to ensure financial sustainability while still adequately meeting the needs of pensioners.

National authorities expect the reform to improve long-term fiscal sustainability by approximately 1 % of GDP, postpone exit from the labour market and increase employment among the elderly ⁽³⁵⁾. The effects should become gradually apparent from 2017 onwards. The reform does not tackle the extended earnings-related unemployment benefits for workers close to retirement age ('the unemployment tunnel', Section 3.3). This could limit the expected positive impact on labour supply, as the older unemployed will remain eligible for unemployment benefits until reaching pension age.

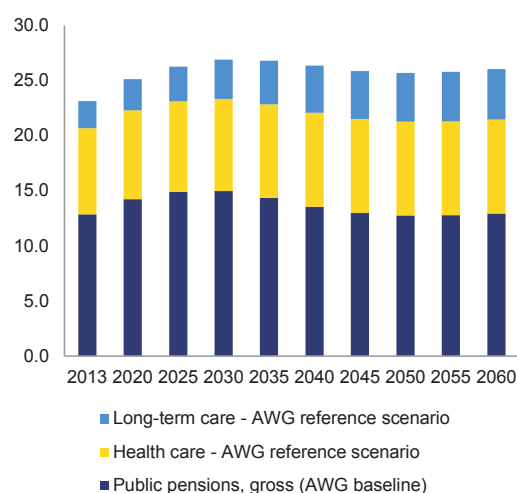
Despite significant public healthcare expenditure, access to services has been somewhat uneven. In Finland, these services are organised by the municipalities, which spend roughly 10 % of GDP on for social- and healthcare services. Access to these services could be somewhat uneven as municipalities differ in their ability to provide them. Without the planned reform real spending is expected to increase by around 2.4 % annually.

The medical care system is of good quality, but queues for services can sometimes be lengthy. Unmet need for medical care is around the EU-average, but waiting times (especially for elective surgery) are noticeably worse than the EU-average. More than 4 % of Finnish people reported unmet medical care needs due to waiting lists in 2013.⁽³⁶⁾ In contrast, Finland is among the Member States where reported unmet needs for healthcare due to costs and distance are lowest.

⁽³⁵⁾ Assessment of the consequences of the 2017 pension reform agreement, Finnish Centre for Pensions (Eläketurvakeskus), 2015

⁽³⁶⁾ OECD Health at a Glance 2015.

Graph 3.2.2: Change in ageing-related expenditure



Source: 2015 Ageing report

After years of limited reform progress, the coalition parties agreed in November 2015 on the main outline of a social- and healthcare services reform. This envisages reorganising the public administration as a three-tier system from 2019, replacing the current two-tier system. A new layer of government would be created as the country would be divided into 18 autonomous regions. These regions will be given political power, tasks and possibly the right to collect taxes in future. Decision making powers would be given to regional councils whose members would be chosen in regional elections. Besides healthcare and social services, certain other duties will also be brought together under the autonomous regions. They include rescue services, Centres for Economic Development, Transport and the Environment, and possibly environmental health. Currently about 200 municipalities and joint municipal authorities are charged with providing these services.

The government intends to make the provision of healthcare and social services more versatile and customers will receive freedom of choice. The regions can provide the services themselves or outsource them. It is planned that quality and cost data on services will be made public. Provisions guaranteeing that SMEs will also be able to compete for service contracts are envisaged. The existing multisource financing will be simplified and customers will be given more freedom of

choice between public, private or non-profit sector service providers. The creation of interoperable ICT systems is planned, which will enable cooperation between the autonomous regions. A national joint procurement unit will also be established. The reform also aims to maximise efficiency by making use of the latest technologies in the field of mobile healthcare and e-health services.

Before the reform can be put into legislation or implemented, further detailed work is needed.

The government will have to decide on the division of responsibilities between the national and regional specialised units, university hospitals and other centres of expertise. The political agreement reached is the basis for drafting the required legislation. The Finnish authorities estimate that a new legislative proposal for the reform may be submitted to Parliament near the end of 2016.

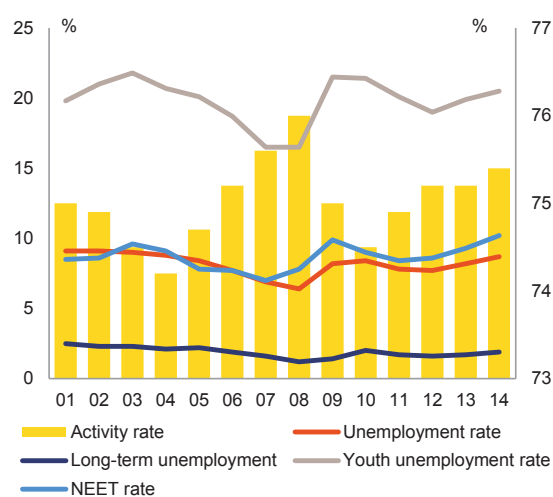
While the reform will not provide immediate savings, it has the potential to control the speed of expenditure increases. It is estimated that implementing the reform in 2019 will reduce the sustainability gap by EUR 3 billion in 2029 and ensure uniform service quality and availability all over the country. The national authorities estimate that this would cap the annual cost increase at 0.9 %, instead of 2.4 % (in real terms) under the current scenario.

The agreement on the main outline of the social and healthcare services reform is major step forward. It will play an important role in bridging the sustainability gap in public finances if the estimated savings materialise. Before it can be implemented from 2019 as planned, further details of the reform need to be worked out. They include the framework for financing the services and incentives for regions to rationalise their spending. As expenditure on social- and healthcare services amounts to 10 % of GDP, the reform can have a positive impact on public finances. However, its magnitude and tight timetable mean that timely implementation of the reform agreement will be a challenge.

3.3. LABOUR MARKET, SOCIAL POLICIES, SKILLS AND EDUCATION

The situation in the Finnish labour market has continued to worsen, in contrast to almost all other EU labour markets. The employment rate in 2015 was 68.1 % after 68.3 % in 2014. The unemployment rate was 9.4 % in 2015, 0.7pp. higher than in 2014. The number of hours worked by employed persons was approximately 0.2 % lower in 2015 than in 2014. While this is around the EU average, it is one of the biggest deteriorations in the EU. According to the Commission's winter 2016 forecast, the unemployment rate is expected to remain more or less stable in 2016 and 2017, at 9.4 % and 9.3 % respectively.

Graph 3.3.1: Main labour market trends



Source: Eurostat, LFS

The social partners are currently discussing important labour market issues, in particular measures to reduce unit labour costs and the future of collective bargaining. The government aims to considerably improve the competitiveness of the Finnish economy. It intends to do this through continued wage moderation until 2019, measures to improve productivity and a one-off reduction in unit labour costs by 5 %. Following several failed attempts to reach agreement, social partners continue discussions on how to achieve the 5 % cut in labour costs. The government has announced that if the social partners fail to reach agreement on this, it will propose a reduction in public sector holidays, a lower holiday bonus, lower sick pay and a cut in employers' social contribution rates. The negotiations have proved

difficult. The employers' side has announced its intention not to participate in national level wage-setting in the future, thus moving towards lower level agreements. The trade unions have expressed concern about the measures announced by the government, arguing that the effects will be most strongly felt by groups that are already vulnerable in the labour market, such as women and those on short-term contracts. Concerns have also been expressed about the expected effectiveness of the one-off reduction in labour costs if wage demands react to them over the medium term⁽³⁷⁾. A recent survey suggests that the measures proposed by the government may lead to instability in the labour market⁽³⁸⁾.

The government is looking into ways to widen the possibilities for local bargaining. The governmental programme contains a proposal to allow more flexibility for negotiations at company level on a number of issues, including working time arrangements and wage negotiations. This would be linked to greater involvement by workers in company decision-making. Currently, a tripartite working group is preparing proposals for legislative amendments. The working group should complete its work by 15 March 2016. The government is expecting legislative proposals, but the trade union confederations are aiming for a collective agreement on the local bargaining framework.

Most issues regarding local bargaining are still open. This includes the balance between national, sectoral and local negotiations. Indeed, multi-tier negotiations could be explored. For instance, settings in which a centrally-coordinated framework is combined with firm-level flexibility could help to secure both macroeconomic coordination and stability and some flexibility to better reflect productivity developments in different industries or firms⁽³⁹⁾. The local agreements could cover working conditions as well as wages and trade-exposed industries could settle

⁽³⁷⁾ Economic Policy Council Report 2015, http://www.talouspolitiikanarviointineuvosto.fi/images/docs/economic_policy_council_report_2015.pdf.

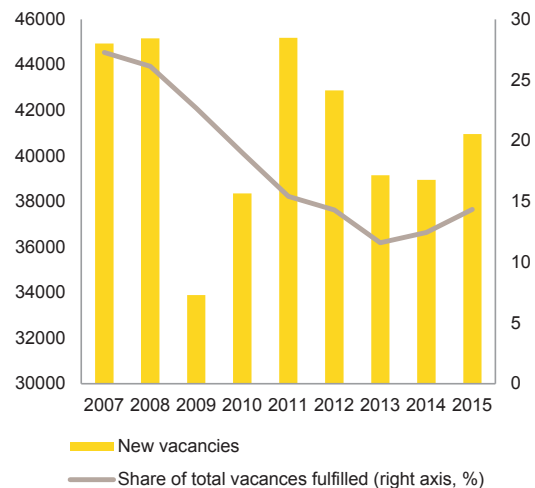
⁽³⁸⁾ Labour market study performed by Lännen Media (news organisation connecting 12 Northern and Western Finland newspapers): <http://www.aamulehti.fi/Kotimaa/1195013883568/artikkeli/Im+n+kysely+hallituksen+valmistelema+pakkolait+johtaisivat+palkkasotaan.html>.

⁽³⁹⁾ OECD 2016 Economic Review — Finland.

before other sectors. A sudden shift towards reliance on local bargaining may not come without risks, though. Wage coordination may be jeopardised as there is evidence to suggest that a centralised approach has delivered wage moderation in previous years⁽⁴⁰⁾. Moreover, the close involvement of the social partners is needed for the change to succeed⁽⁴¹⁾. It may also require local bargaining institutions to be strengthened, including those dealing with the rights and obligations of employees and employers and their representatives in the new bargaining system.

The increase in unemployment is linked to a number of inter-related factors. Decreasing labour demand, due to a decline in GDP following a loss of cost competitiveness and of export market shares over recent years (see IDR section) has resulted in higher unemployment. The ongoing economic restructuring process has led to additional job losses. As the skills of those who lost their jobs may not match the skills demanded in the growing sectors and firms, skills mismatches have emerged and hampered workers' mobility between sectors. In fact, the share of job vacancies that are filled has decreased substantially from 20 % in 2009 to around 12 % in 2013-2014. Differences in regional unemployment rates — in 2014 ranging from 7.3 % in Helsinki to 10 % in northern and eastern Finland⁽⁴²⁾ — point to limited geographical mobility. Differences in rental and house prices between Helsinki and the rest of the country are considerable, limiting the movement of workers⁽⁴³⁾. To promote geographical mobility, rules governing travel time for accepting job offers were adjusted in 2015, but further measures to create affordable housing in the rapidly-growing Helsinki region could also be effective. According to some estimates, nearly 20 000 homes need to be built in the Helsinki area to meet growing demand⁽⁴⁴⁾.

Graph 3.3.2: **New vacancies per year and share of total vacancies fulfilled**



Source: Monthly labour market statistics, Ministry of Employment and Economy, Employment service statistics

Low-skilled people are affected most by the poor performance of the labour market: their activity rate is low, their unemployment rate — at 12.7 % — is much higher than the average⁽⁴⁵⁾ and the gap with other skills groups is widening. While most economic sectors have lost employment over the past few years, the loss has been largest in manufacturing, trade and construction (Graph 3.3.3). This may have been detrimental to low-skilled workers in particular. However, the share of low-skilled people is relatively low, at 13.5 % against the EU average of 24.1 %.

The inactivity and low-wage traps can be rather considerable in Finland (Graph 3.3.4 and 3.3.5). For instance, for a single person earning 50 % of the average wage, the inactivity trap was some 79 % in 2014, well above the EU average of 59.9 %: thus, 79 % of the additional income from getting a paid job is 'taxed away' through higher income taxes, contributions and a loss of earnings-related social transfers⁽⁴⁶⁾. Inactivity traps are most notable for low-income households with children; at certain income levels the marginal effective tax rate can exceed 100 %⁽⁴⁷⁾. For a low-

⁽⁴⁰⁾ Jokinen, Esa, International Labour organisation (ILO), Social Dialogue in Finland, 'Post crisis social dialogue — best and innovative practices in the EU 28', 2016 (to be published in 2016).

⁽⁴¹⁾ 2016 Annual Growth Survey.

⁽⁴²⁾ Figures are based on the NUTS2 regions. Within the NUTS2 regions differences are more notable: regional unemployment rates between 18 ELY Centre Regions are ranging from 5,7% in Western Finland to 14,9% in North East Finland

⁽⁴³⁾ Statistics Finland.

⁽⁴⁴⁾ <http://www.hs.fi/kaupunki/a1453691062331>.

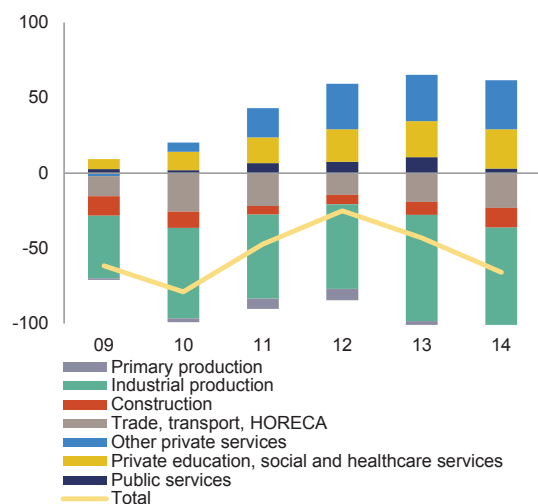
⁽⁴⁵⁾ 2014 Eurostat data.

⁽⁴⁶⁾ Figures based on the EU-OECD Tax and Benefits database.

⁽⁴⁷⁾ Analysis by State Institute for Economic Research VATT, Muistiot, Työnteon kannustimet — mitä jää käteen, Heikki Viitamäki 2015.

income household the relatively deep income trap is a combination of income-tested social assistance and housing allowance, child homecare allowance and income-related day care fees for children. Unemployment traps are also higher than the EU average due to the length of the period for which unemployment benefits are paid (500 days in 2015, which the government intends to reduce to 400 days). These traps are major factors in explaining both the high inactivity and the high unemployment rates of the low-skilled. Different ways to allow those receiving benefits and on low incomes to accept paid employment without losing their safety net could be explored.

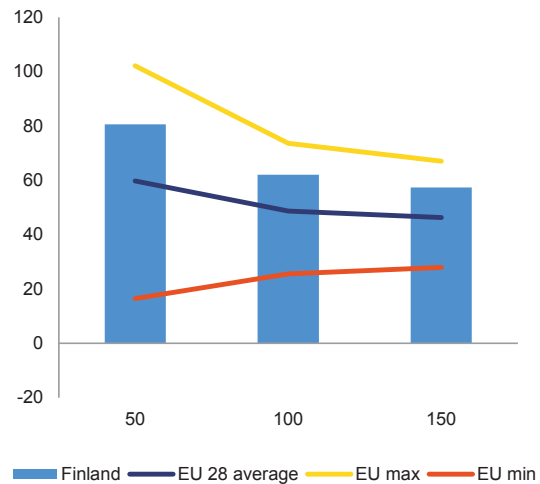
Graph 3.3.3: Cumulative change in employment since 2008, 1000 persons



Source: Statistics Finland, European Commission

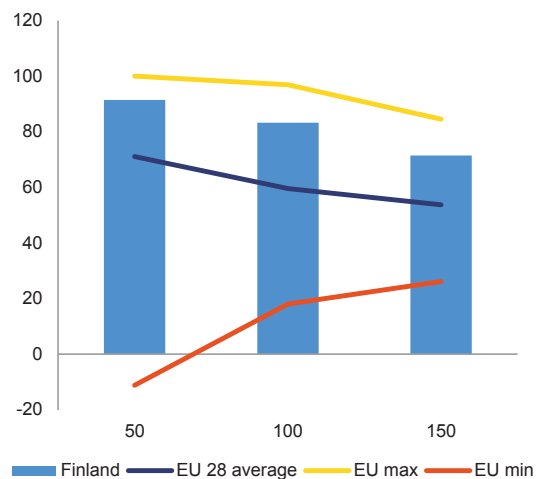
The government is currently planning a basic income trial, which could provide some useful insights into how to simplify the benefits system. The trial, currently in a survey phase, aims to establish whether a basic income could be the solution for reducing poverty and social exclusion, easing the bureaucracy relating to social benefits and taxation and improving incentives to work. On the basis of the pilot study survey, a trial act may be prepared for the Parliament by the end of 2016. The actual basic income pilot study should be carried out during 2017-2018, and the results of the study would be assessed in 2019.

Graph 3.3.4: Inactivity trap (marginal effective tax rates) if moving from inactivity to employment - single person



Source: EU-OECD Tax and Benefits database

Graph 3.3.5: Inactivity trap if moving from inactivity to employment - one earner household with two children



Source: EU-OECD Tax and Benefits database

Finland is facing the challenge of an ageing population in the medium to long term. Between 2013 and 2030, the working age population is expected to remain more or less stable at around 3.5 million⁽⁴⁸⁾. However, as the total population will increase by half a million over the same

⁽⁴⁸⁾ The 2015 Ageing Report: Economic and Budgetary Projections for the 28 EU Member States (2013-2060), European Commission, 2015.

period, old-age dependency ratios (15-64) will deteriorate, from 29.6 % in 2013 to 36.1 % in 2020 and 41.5 % in 2030. These developments may lead to future labour supply shortages, while age-related spending on pensions, healthcare and long-term care is expected to increase.

The full potential of the labour force needs to be tapped to address the detrimental effects of ageing. To maintain the supply of labour, it is important to make it easier for people to enter the labour market, to prevent the early exit of (older) workers and to increase job opportunities for those with a weaker link to the labour market. This goes particularly for low-skilled workers, those working in sectors that are contracting, migrants, the long-term unemployed and part-time workers.

The employment rate among older workers (55-64) continued its gradual improvement despite the challenging labour market context. It was at 59.1 % in 2014, slightly above the EU average but below Finland's Nordic peers. Male employment in this age group, at 56.8 %, is 2 pps below the EU average. In addition to weak labour demand, access to preretirement benefits (e.g. extended earnings related unemployment benefits for the elderly) and retirement benefits (early pensions, flexible pensionable age) shaped the pattern of movement from employment to inactivity. To limit this outflow the government has reduced the possibilities for early retirement since the 2005 pension reform⁽⁴⁹⁾ and the unemployment pension was abolished at the end of 2014. However, some disincentives for older people to work will continue to exist, most notably 'the unemployment tunnel'. Based on the pension reform to take effect in 2017, this entitles unemployed people over 61 years to extended earnings-related unemployment benefits.

The 2005 reform has so far had a positive effect on the effective retirement age, which rose from 59.5 years in 2007 to 61.2 years in 2014. In 2014, approximately two thirds of retirees retired at the age of 63, which is currently the lowest statutory retirement age. In addition to the pension reform, efforts could be made to prevent the early exit of older workers from the labour market by

improving the quality of working life for the elderly.

One option to counter the effects of population ageing could be to increase the workforce through immigration. According to a recent study, Finland needs to attract approximately 34 000 migrants each year to offset the effect of an ageing population on the labour supply⁽⁵⁰⁾. In general, work-related immigration has not been very high and Finland's attractiveness for high-skilled immigrants has been limited. While these areas could be further explored in the longer term, the current inflow of refugees and migrants provides additional opportunities to counter the ageing trend. Successfully integrating refugees and migrants into the labour market is crucial and requires more information about their skills. However, current labour market practices seem to make it very difficult to integrate them. The percentage of foreign residents in Finland is relatively low, at 3.8 % against the EU average of 6.8 % in 2014. Some of the administrative requirements for employing foreign nationals can be cumbersome, such as the need to demonstrate that a job offer to a non-EU citizen is in an area where there is a lack of local supply.

The youth unemployment rate is static and remains close to the high EU average. In November 2015 it stood at 20.0 %, against the EU average of 22.0 %. However, most Finnish students are also active in the labour market — by having a part-time job or looking for summer jobs in the spring — and this increases the variation in the youth unemployment rate compared to other Member States. The average duration of youth unemployment, at 14 weeks in 2014, is relatively low compared to the overall average duration of unemployment (50 weeks in 2014). Indeed, the majority of young people exit unemployment relatively quickly: approximately 60 % within the first three months of unemployment and another 20 % within six months⁽⁵¹⁾.

While the rate of young people neither in employment, nor in education and training (NEET) (10.2 %) has remained relatively stable,

⁽⁴⁹⁾ Effective Retirement Age in the Finnish Earnings-Related Pension Scheme (2012), 'Elekturvakestus' Statistical Reports.

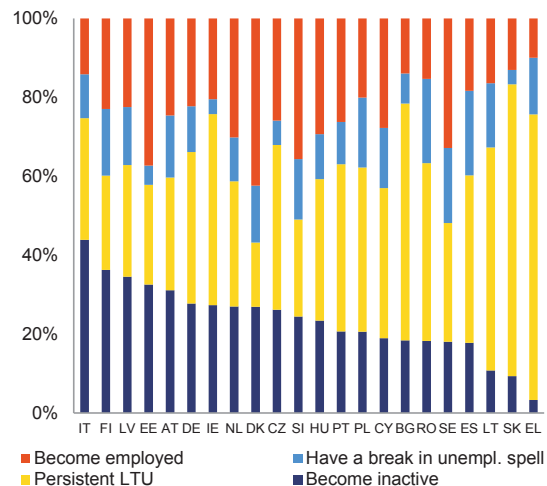
⁽⁵⁰⁾ Finnish Business and Policy Forum EVA., Tulevaisuuden tekijät, 2015 <http://www.eva.fi/wp-content/uploads/2015/01/Tulevaisuuden-tekijät.pdf>.

⁽⁵¹⁾ Ministry of Employment and the Economy, Employment Service Statistics.

it peaked in 2014. Finland has implemented the Youth Guarantee well in recent years with a large share of beneficiaries receiving offers for a job, a traineeship, apprenticeship or further education after registering with the public employment services. The impact of the guarantee on the youth unemployment and the NEET rates may have been limited due to the unfavourable economic situation. The Youth Guarantee will now be turned into a community guarantee, with an intensified effort for cooperation between the public, private and third sectors in order to support young people. However, the government funding in these areas will be cut by more than 50 % in 2016 and further cuts are planned for the 2017-2019 period. It is not clear how the current level of services to youth could be maintained with the budget cuts to public employment services and the Youth Guarantee itself. There is an increased demand for these services and especially the hardest to reach may remain beyond their influence. Finland is committed to allocate ESF (European Social Fund) funding to projects aimed at youth. One of the main on-going projects is to establish One-Stop Service Centres which gather all the relevant employment and social services under one roof. For the 2014-2020 financing period 33 centres have been created so far nationwide and more will be opened according to demand in different regions.

Finland's long-term unemployment rate has been further increasing, and there is a considerable outflow of long-term unemployed into inactivity. Between 2008 and 2014 Finland's long-term unemployment rate increased from 1.2 % to 1.9 % of the total labour force, though this was still much less than the EU average (which rose from 2.6 % to 5.1 %). Finland's rate in 2014 was the fifth lowest in the EU, but it continued to increase in the first half of 2015. The proportion of long-term unemployment (as a percentage of total unemployment) is relatively low, at around 23 % in 2014 against nearly 50 % in the EU. This is related to the current inflow of short-term unemployed. Persistency in long-term unemployment is not high (Graph 3.3.6): overall, for most people unemployment is still a short-term phenomenon, with a strong seasonal pattern, especially for low-skilled jobs. However, compared with other Member States, a substantial share of Finland's long-term unemployed becomes inactive.

Graph 3.3.6: 2014 labour market status of those who were long-term unemployed in 2013



Source: Employment and social developments in Europe 2015

Getting as many working age people as possible into the labour market is a key challenge. It will require a set of integrated, targeted active labour market measures but also more social action. Finland intends to increase the effectiveness of the public employment service by strengthening institutional cooperation. Increased labour market training with a clear focus on job market requirements as well as new tools identifying future skills and training needs are expected to result in better matching and to have a positive impact on the labour market⁽⁵²⁾. In addition, the integration of employment and social services for the long-term unemployed in municipal centres allows for an integrated and personalised approach to activation and support for a return to employment.

Finland is investing considerable resources in active labour market policy measures (ALMPs). In 2014, Finland allocated some 0.9 % of GDP on ALMPs, which was among the highest percentage within the EU but relatively low compared to other Nordic countries⁽⁵³⁾. Furthermore, people are referred to ALMPs after a longer period of unemployment than in other Nordic countries⁽⁵⁴⁾.

⁽⁵²⁾ Europe 2020 Strategy — Finland's National Programme, spring 2015, Ministry of Finance.

⁽⁵³⁾ OECD data 2013: approximately 1 % in Finland, 1.35 % in Sweden, 1.82 % in Denmark.

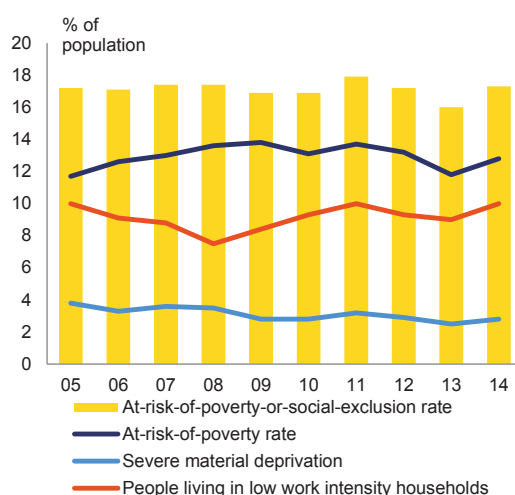
⁽⁵⁴⁾ IMF country report on Finland, 2015.

New measures have been introduced in 2015 especially for the long-term unemployed. Increasing the number of job offers to the unemployed received particular attention and resulted in a doubling of the ratio of job offers to job vacancies in 2014. However, cutting the ALMP budget in times of increasing unemployment may prove counterproductive. It may particularly affect those furthest away from the labour market.

Social policy

In Finland the risk of poverty is low compared to other Member States, but rising. The at-risk-of-poverty (AROP) rate increased in 2014 by 1 percentage point to 12.8 %, below its peak in 2009 (Graph 3.3.7). While the rate is better than the EU average, the recent annual deteriorations are noteworthy since they are also mirrored in other indicators. The difference in the AROP rate between young Finnish-born people (21.6 %) and young foreign-born people (50.0 %) was one of the widest in the EU in 2013. Micro simulations by the Finnish National Institute for Health and Welfare show that the AROP rate will increase further in 2015. Other social indicators also deteriorated between 2013 and 2014.

Graph 3.3.7: Trends in social indicators



Source: Eurostat, EU-SILC

The weak economy led to an increase in the number of people receiving social assistance. Spending increased by 1.2 % between 2013 and

2014, and has been on an upward trend since 2006. The number of households receiving social assistance went up by 3.1 % in 2014. The National Institute for Health and Welfare reports that the level of Finnish basic social security improved over the period 2011-2015, but it is still low compared to reasonable minimum costs determined in the reference budgets ⁽⁵⁵⁾.

The low-inflation and low growth environment might have a negative impact on poor elderly people, in particular women.

The government is allowing consumer-price inflation indexed transfers to decrease in 2016 in line with deflation in 2015. It has also decided to freeze the pension index in subsequent years. These measures aim at curbing the increase in public debt and improving the long-term sustainability of public finances. However, their immediate effect might be to increase an already high AROP rate for people over 65 years — 16 % in comparison to 13.8 % in the EU — after a decline in old age poverty. The changed rules on reimbursement of pharmaceutical purchases might affect poor older people as well. Since the gender pay gap is comparatively high (18.7 % in 2013, against an EU average of 16.4 %) and career breaks following childbirth are relatively long, women already have lower pensions than men. The AROP rate for women over 65 years (19.7 % in 2014) remains much higher than that for older men (11.9 %). The low income level of older women who have short work histories and live alone poses problems for the adequacy of the pension system.

The planned cuts in childcare places for children with one parent staying at home (e.g. because of study or unemployment) could also negatively affect disadvantaged people. Good quality formal childcare is an effective tool to help overcome the disadvantages facing children from more vulnerable groups (the poor, the unemployed, migrants) as they benefit more from childcare and early childhood education.

⁽⁵⁵⁾ National Institute on Health and Welfare, analysis on the adequacy of basic social security, Perusturvan riittävyys arviointiraportti 2011-2015, 2015 http://www.julkari.fi/bitstream/handle/10024/125703/TY%20c3%96_2015_001_web_06032015.pdf?sequence=3.

Education and skills

Finland has a highly equitable education system which provides very good learning outcomes. At 9.5 %, Finland is already below the Europe 2020 target of limiting early school leaving to 10 %. Dropping out by girls has decreased more sharply since 2011. Foreign-born pupils have much higher drop-out rates than native-born ones (19.4 % against 9.1 % in 2014).

The results of the 2012 OECD Programme for International Student Assessment (PISA) survey measuring the skills of 15-year-olds were less positive than previous ones for Finland. The country maintained its position as one of the EU's top performers and is still among the top five countries worldwide, e.g. in science. However, the overall performance worsened in all three areas compared to 2009, and in particular in numeracy. Maintaining the high levels of educational achievement and skills is pivotal for future economic success.

In Finland, 70 % of upper secondary students follow vocational programmes, which is one of the highest shares in Europe⁽⁵⁶⁾. Some 15.7 % of initial vocational students are in programmes that combine work- and school-based training, against the EU average of 26.5 %. There is scope for increasing work-based learning opportunities, such as apprenticeship schemes, which have proven efficient in providing the skills needed in the labour market. Skills forecasts from the European Centre for the Development of Vocational Skills show that by 2025 most job opportunities created through both expansion and replacement demand in Finland will require medium-level qualifications. However, because of replacement demand, there will be significant numbers of job opportunities requiring high-level qualifications.

Finland is an exception to the general EU trend towards the labour force becoming more highly qualified. By 2025, the share of Finland's labour force with high-level qualifications is forecast to fall to 37.1 % from 39.2 % in 2013, but it will still be higher than the 34.9 % recorded in 2005 (cf. the EU's educational attainment benchmark of 40 %).

⁽⁵⁶⁾ This number includes upper secondary (ISCED 3) and post-secondary non-tertiary VET (ISCED 4).

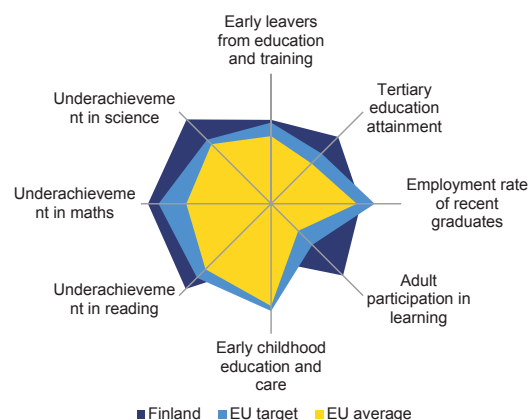
Participation by adults (25–64 year olds) in lifelong learning in 2014 was 25.1 % in Finland.

This is one of the highest rates in Europe (EU average is 10.7 %). Maintaining sufficient levels of lifelong learning is important for giving adults the new skills needed to cope with constant technological change and for keeping people in working life for longer. It may be challenging to maintain Finland's high level of lifelong learning given that cuts are planned in the study grants available to adults.

Finland's educational system provides results that are close to or above the EU average and often above the EU-wide targets (graph 3.3.8).

One exception is the participation in early childhood education and care, where Finland has traditionally had a relatively low participation rate. This is a specific feature of its particular educational model in this area (e.g. home and community based childcare arrangements). Finland renewed its legislation regarding the provision and targets of early childhood education and child care in 2015. There is a reinforced focus on the pedagogic approach and educational aspects of child care.

Graph 3.3.8: Comparison of education systems



(1) All scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the figure).

Source: European Commission calculations, based on Labour Force Survey 2014, UNESCO/OECD/EUROSTAT (UOE) education database 2013, OECD's PISA 2012 and TALIS 2013 studies

Integrating foreign nationals, in particular those from outside the EU, into the education system is an increasing challenge. Finland has a

relatively low proportion of foreign-born inhabitants, with 5.5 % of the total population (inhabitants not born in the EU accounted for 3.5 %)⁽⁵⁷⁾. However, it is one of the EU countries with the fastest increase. At the end of 2014, 301 000 people of foreign origin lived in Finland (188 000 non-EU born), of which 219 000 had foreign nationality. According to the Finnish Immigration Service the number of asylum seekers in 2015 totalled approximately 32 500, which is about 9 times more than in 2014. The education system's provision of high-quality education for free to every child extends to immigrants. Depending on the subject, PISA 2012 results showed a two-year skills gap for first-generation immigrants⁽⁵⁸⁾ and a gap of one to one and a half years for second-generation immigrants. The educational attainment of non-native born residents is also significantly lower at tertiary level. Migrants obtain significantly fewer tertiary degrees — 31 % against 46.9 % for native Finns.⁽⁵⁹⁾

A variety of measures are being put in place to address this situation. For instance, pupils from migrant backgrounds have the right to language classes and additional support for accessing all levels of education. They receive support through preparatory training for secondary school and additional language instruction for apprenticeships.

The government plans to renew the structure of upper secondary education and the system of funding it. It intends to eliminate unnecessary overlaps in education while preserving a regionally comprehensive education network. To guarantee access to training for all, it will be important to ensure that despite budget cuts the network and its high quality educational outcomes can be maintained.

Finland is significantly reducing public spending on education.. Public expenditure on education as a share of GDP, at 6.5 % in 2013, was above the EU average in recent years. But Finland

is significantly reducing education spending, proportionally by more than in other areas. Since 2011 expenditure on education as a share of all government spending saw a decline of 0.7 percentage points. Secondary and higher education were particularly affected, and only primary education spending remained almost unchanged. The current government is aiming for EUR 3 billion in savings in 2016-2019.

The planned savings may have an adverse effect on the provision of pre-school education, the upper secondary school network, the higher education institutes and vocational education and lifelong learning. These savings are matched by a EUR 300 million programme supporting structural change in the education system. The programme's cornerstones are further developing primary education, making a faster transition to work, improving vocational education, and improving use of ICT across the education system. Even if Finland starts from a comparatively high level of skills and spending, unless the negative budgetary trend is matched by sizeable efficiency gains it creates a risk that skills will erode over time. This could limit the potential for future economic growth in ever more skill-intensive industries and services.

⁽⁵⁷⁾ Cederberg M, Hartsmar N, Some Aspects of Early School Leaving in Sweden, Denmark, Norway and Finland, (2013) *European Journal of Education*, Vol. 48, No 3.

⁽⁵⁸⁾ OECD (2013), PISA 2012 results, <http://www.oecd.org/pisa/keyfindings/pisa-2012-results.htm>.

⁽⁵⁹⁾ Population by educational attainment level, sex, age and country of birth (%) [edat_lfs_9912].

3.4. COMPETITION IN RETAIL AND OTHER SERVICE SECTORS

The overall price level in Finland is high and prices have increased relatively fast even during the recession, except in 2015 when the economy experienced deflation. Households have to pay more for goods and services than elsewhere in the euro area. This results in resistance to wage adjustments in the current economic situation. Allowing more competition and boosting productivity in the non-tradable sector are possible ways to lower prices, increase consumers' purchasing power and improve the competitiveness of exporting companies.

The OECD Product Market Regulation (PMR) indicators have identified gas, post, rail and retail as sectors where excess regulation could be a challenge⁽⁶⁰⁾. Regulated professions, to which access is limited, like pharmacist and taxis, also have a tendency to push prices up. On the other hand, in professional services regulation does not appear to be a problem in comparison with other EU Member States.

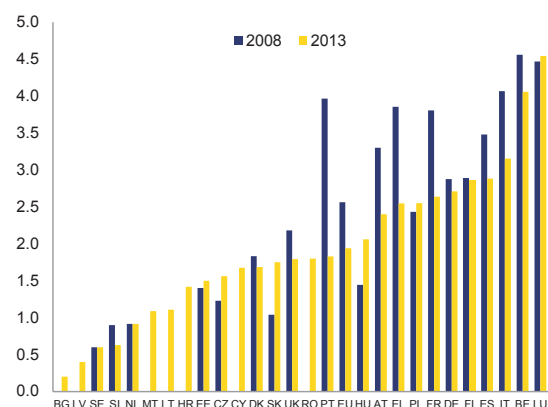
The Finnish retail sector in particular remains highly concentrated and is dominated by two local retail groups. Prices continue to be among the highest in the EU in many product categories, for example food and clothing⁽⁶¹⁾. Lower mark-ups on essential items would help give households greater purchasing power, thus alleviating the effects of low wage growth. Based on OECD statistics, the regulations in force protect the existing firms.

The competitive landscape has improved somewhat thanks to recent decisions. Alko monopoly stores have been opening next to establishments other than Kesko and S Group. The decision to abolish the law regulating opening hours is another step towards improving the operating environment for retail businesses.

Some steps have also been taken to improve establishment conditions in the retail sector. Amendments to the Land Use and Building Act have been introduced which add promoting competition to the objectives of land use planning. They have also made clearer the criteria for assessing the impact of new outlets.

The remaining challenges include in particular how municipalities make decisions in awarding plots as well as the restrictions on large-scale outlets (above 2000 m²) in municipal centres. In its strategic programme of May 2015 the government undertook to reduce such restrictions. The power to ratify regional and local plans has been transferred to local authorities to improve the decision-making process and make local government take greater responsibility. Other changes planned include simplifying permit procedures and amending planning rules. The aim is to simplify the establishment of large retail units in city centres and extend to all product categories the possibility of establishing large retail units outside city centres. At present this possibility exists only for the sale of goods requiring plenty of space, such as cars or hardware. The legislative proposal is expected to be prepared in spring 2016 and should enter into force at the beginning of 2017.

Graph 3.4.1: Regulation in retail trade



Source: Single Market integration and competitiveness in the EU and its Member States report 2015

The electricity market is competitive, ensuring rather low mark-ups compared with wholesale prices. To serve Finland's 3.3 million electricity customers, there are 72 retail suppliers of which 45 offered their products nation-wide in 2014. Finland has power transmission links to Sweden, Estonia, Russia as well as Norway; its electricity network is part of the Nordic power system and electricity market. Finland's second electricity interconnector with Estonia, Estlink2 (supported under the European Energy Programme for Recovery), started operating at the beginning of 2014. The

⁽⁶⁰⁾ OECD Economic Survey, Finland 2016

⁽⁶¹⁾ Eurostat (2014).

new cable tripled the interconnection capacity with Estonia, thus improving Finland's connection with the Baltic States. Finland's electricity transmission connections with Sweden are not sufficient for importing large volumes of electricity during peak demand periods. This makes the area price of electricity higher in Finland than in the other Nordic countries. For this reason an improvement of the Fenno-Skan 1 interconnection with Sweden and the construction of a third Finland-Sweden North interconnection are envisaged for 2016-2030.

In the gas sector there is no liberalised wholesale market and end users have no choice of supplier. The share of gas in the energy mix is less than 10 %, of which less than 20 % is used by households. Many of the natural gas retailers are relatively small, with their customers counted only in the dozens. The share of the top three retail suppliers is about 50 % of total natural gas consumption at the retail level. Switching supplier in the Finnish natural gas retail market is not possible as all suppliers have a monopoly within their network area. The market is isolated and fully dependent on gas imports from Russia. Finland could benefit from diversifying its supply through the planned Finland-Estonia gas interconnector. Several small scale off-grid liquefied natural gas terminals are also under preparation or construction.

Finland is on track to reach its Europe 2020 targets to reduce national greenhouse gas emissions (albeit with no margin) and intends to become a carbon free society by 2050. Finland is also working to further diversify its energy supply in the context of its climate strategy, which aims at increasing the share of renewable energy as well as improving energy efficiency. This will also help reducing the dependency on imported energy. Reaching these targets requires the public sector to develop mid-term and long-term plans and strategies to decrease emissions by 80 % by 2050. Investment in green growth and clean technology is also needed. Clean technology is considered to be a priority in Finland, as it provides clean solutions for the environment and is also seen as providing an economic advantage in international markets.

The rail sector is dominated by a state-owned group and is tightly regulated. Freight has been

open to competition since 2007, but entering this market remains challenging given the dominant position of the incumbent. In passenger traffic, the current plans envisage a continuation of the state monopoly until 2024. However, in October 2015 the government announced it intends to open up the market before 2019. This initiative does not include the privatisation of the passenger transport company.

The construction sector deserves also additional attention. Rents have been among the important drivers of inflation, and the increase in house prices has driven up household debt to the extent that it could be considered a potential macroeconomic imbalance (see section 2.2). In the construction sector, concentrations and regulatory constraints (including specific national standards) give market power to developers and construction firms. In addition, municipalities in growth areas have not made sufficient amount of plots available for developers.

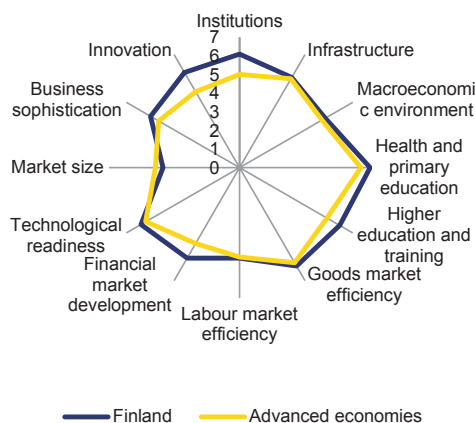
Linked to the challenges identified in the in-depth review, increasing competition in the service sector remains an issue on which further progress is necessary. Increased competition can be expected to lead to lower mark-ups, which could improve the competitiveness of the economy as well as the purchasing power of the labour force. In particular, there are challenges in the retail, transport and construction sectors.

3.5. BUSINESS ENVIRONMENT

Further improving the business environment can play an important role in renewing and restructuring the economy. While the government programme emphasises the role of entrepreneurs and start-ups in the restructuring process, there are a number of areas that could be improved. This includes reducing the regulatory burden, promoting entrepreneurship and making better use of the public research and innovation (R&I) system. If these issues are addressed, entrepreneurs and start-ups could play a more prominent role in turning the Finnish economy around.

The business environment in Finland is as good as or better than in other advanced economies, according to World Bank analysis. Nevertheless, 9.1 % of companies considered inefficient government bureaucracy among the most important factors hindering business in Finland. As in other countries, regulation is more of an issue for small firms and micro enterprises.

Graph 3.5.1: **Comparison of competitiveness elements, Global Competitiveness Report**



Source: World Bank GCR 2014-2015

Deregulation is one of the key priorities in the government programme. Businesses have identified excessive regulatory requirements as obstacles to growth and competition on some markets. Legislative amendments were passed in autumn 2015, but most of them are expected to be implemented only between 2016 and 2018. In its

search for excessive regulation that can be scrapped, the government intends to review current and new regulations, national and EU legislation, and international commitments.

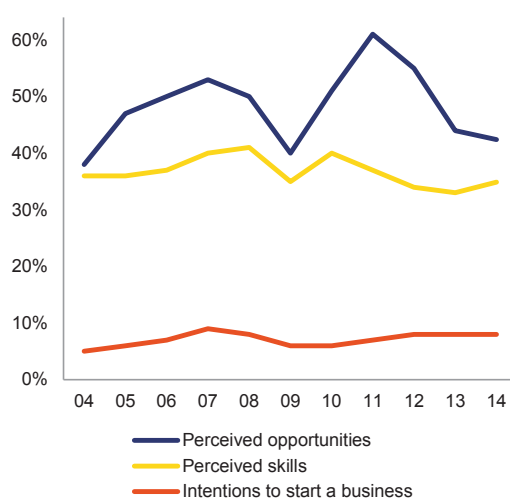
The government aims to improve the effectiveness of legislation. The pilot project on impact assessment of legislation should in particular cover financial and competitiveness aspects, as well as the duties and responsibilities of municipalities. A list of actions to be implemented includes the following measures:

- provisions will be amended, deregulated and reformed as necessary. Implementation will be carried out by ministries (operational sectors) under the leadership and responsibility of the minister in charge;
- permit and complaint processes will be streamlined and will include a public service promise;
- the number of complaints between authorities will be minimised, for example through prior negotiations;
- a body charged with ensuring the high-quality impact assessment of legislation will be established within the government.

Becoming an entrepreneur has so far not been widely perceived as a viable alternative to employment. Based on the Global Entrepreneurship Monitor, very few Finns intend to start their own business. In recent years, fewer than half of those surveyed have been able to identify business opportunities. A shrinking proportion considers they have the right skills to set up a business. The proportion of respondents who saw business opportunities rose sharply for two years following the economic and financial crisis but has since fallen back to almost the same level as in 2009. As in many other countries, the proportion of respondents actually intending to set up a business – between 5 % and 10 % in the case of Finland – is much smaller than the proportion who see it as an opportunity and consider they have the skills necessary. However, the discrepancy is even bigger in Finland, where fewer people intend to set up their own business than the EU average of 12 %. The most plausible

explanation is the prolonged downturn in the Finnish economy combined with the relatively small size of the open, industry-based export economy. In this, large corporations and a large public sector have been able to offer high employment, good career prospects and high welfare within a stable and balanced economy ⁽⁶²⁾.

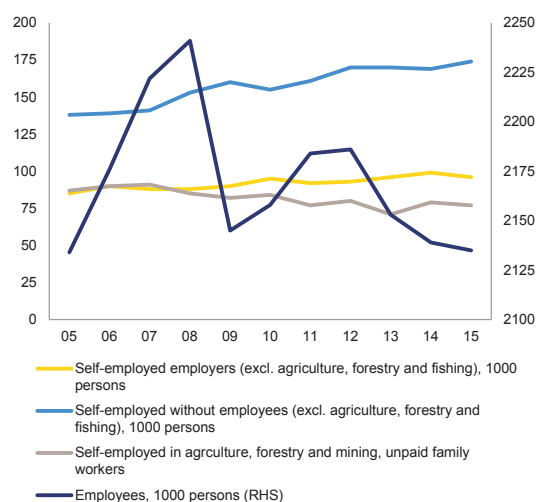
Graph 3.5.2: Entrepreneurial trends



Source: Global Entrepreneurship Monitor, Finnish 2014 report

Nevertheless, the role of self-employment has grown significantly over the past decade. While the number of employees has declined since its peak in 2008, the number of self-employed has increased. This is true both for self-employed without employees and those who employ others. It appears that numerous employees who have lost their job have found opportunities in entrepreneurship.

Graph 3.5.3: Employment and self-employment, 2005-2015



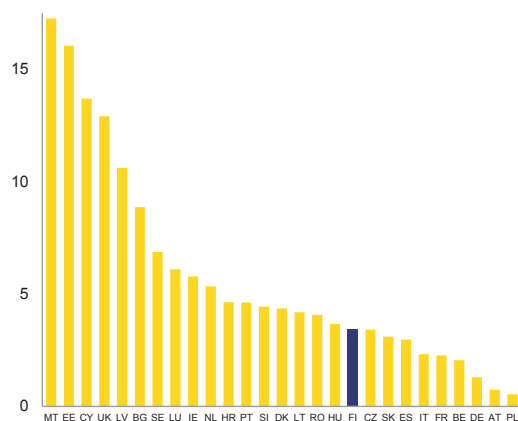
Number of employees and self-employed in the third quarter of the year according to Labour Force Survey

Source: Statistics Finland, European Commission

Almost 12 000 start-ups in the form of limited liability companies were created in Finland in 2014. This is equivalent to 3.4 new companies per 1000 persons of the working-age population. This proportion is lower than the EU median (represented by Denmark in Graph 3.5.4) but higher than in major EU economies such as Spain, Italy, France, Germany and Poland. Business demography data suggest that their survival rate is higher: of all Finnish small and medium-sized enterprises born in 2008, more than 70 % still existed four years later. For that particular cohort of SMEs, no Member State had a higher survival rate than Finland. However, the total number of companies created in 2014 amounts to 28 000, so the majority of new companies do not take the form of a limited liability company.

⁽⁶²⁾ Global Entrepreneurship Monitor country fiche Finland

Graph 3.5.4: Number of new firms per 1000 persons of working age



Source: Kaufman Foundation on behalf of Doing Business 2016 (data on Greece not available)

Early-stage entrepreneurs in Finland are less internationally oriented and see their businesses as less innovative than early-stage entrepreneurs in most other Member States.

These characteristics do not help the restructuring of the economy. As a small, open economy Finland has to integrate into global value chains and requires companies that are outward oriented. In addition, innovation is an important ingredient in staying competitive. Finland thus faces the challenge of opening up its economy by making the most of its strengths. Its endowment of human capital, its strong institutions and the ease of doing business are comparative advantages that could attract international companies to Finland or to using Finnish companies as part of their supply chain. However, Finland's lack of rules or procedures allowing national companies⁽⁶³⁾ to directly transfer their registered office abroad (or enabling foreign companies to transfer to Finland)⁽⁶⁴⁾ weakens the business environment. Without such rules or procedures it is difficult for companies to relocate to or from Finland; for example, they need to go through a costly process

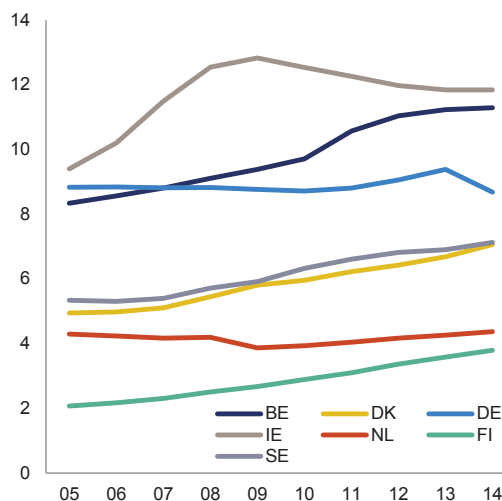
⁽⁶³⁾ Apart from European Companies (SEs).

⁽⁶⁴⁾ See the 2013 study on the application of the Cross-Border Mergers Directive (http://ec.europa.eu/internal_market/company/docs/mergers/131007_study-cross-border-merger-directive_en.pdf); the 2013 European Added Value Assessment on the Directive on the cross-border transfer of a company's registered office ([http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/494460/IPOL-JOIN_ET\(2013\)494460_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/etudes/join/2013/494460/IPOL-JOIN_ET(2013)494460_EN.pdf)).

of winding up in one country and reincorporating in the other.

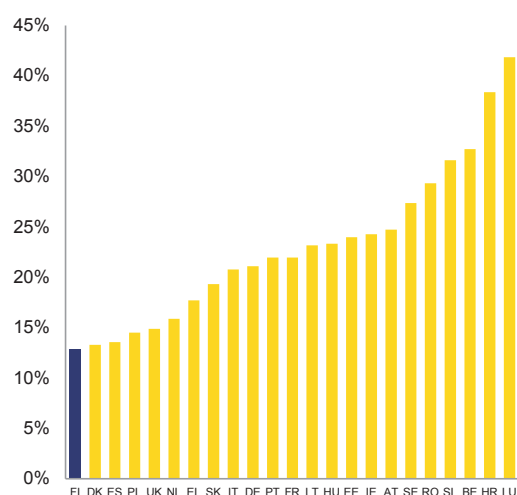
The economy appears to have been attractive to foreign workers and students over the past decade. Qualified professionals from non-EU countries can receive work permits relatively rapidly and easily. In 2014 close to 25 % of work-related residence permits were issued to qualified professionals and researchers. In 2014, 60 % of the EU citizens who moved to Finland went there to work, the second largest category were students. From 2005 to 2015 the number of foreign nationals in Finland increased by 91 %, from 108 000 to 206 000. While the share of foreign citizens in Finland remains low compared to similar countries, the growth rate has been very fast in the past decade. Among other nationalities, the number of Chinese citizens has increased by 4500, of Japanese by 460, of Americans by 670 and of UK citizens by 1 400. In 2012, Finland had 16 000 foreign students, the majority of them studying science, engineering and medicine.

Graph 3.5.5: Share of foreign citizens in population



Source: European Commission

Graph 3.5.6: International orientation of companies



Source: Global Entrepreneurship Monitor

Providing further support to the already very dynamic and international side of the Finnish start-up scene could benefit the economy. The annual Helsinki start-up event Slush brought together 15 000 attendees, including 1 700 start-ups, 800 venture capital investors and 630 journalists from exactly 100 countries in 2015. The participants' ambition was to take their businesses to the next level.

There is significant potential for growth in some economic activities, including the environmental industry, mining, timber, construction and the creative industries. The proportion of businesses in the environmental industry has grown steadily since 2008, with 10.6 % growth in 2011. Finland's objective is to create at least 40 000 new jobs in clean technology in the coming years and double the total turnover of Finnish cleantech businesses. The potential for development in Finnish industry lies in a combination of old and new technologies (biotech, ICT and nanotechnologies) and in developing service industries to generate new added value for industrial products.

The EU Structural Funds have supported the improvement of the business environment. Setting up new businesses, developing and expanding existing businesses and offering diverse training opportunities have been common themes in projects under the European Regional

Development Fund and European Social Fund. Significant new research and development activities are being created around the chemicals industry, the environmental sector, the mining and metals industry, printed electronics, information and communication technology and the tourism sector, among others. Even if the share of Structural Funds in public investments in Finland is relatively low, at around 4 % according to the sixth Cohesion Report their role in the regions is quite significant.

Finland's R&D intensity remains the highest in the EU, despite a continuous decline from 3.7 % of GDP in 2009 to 3.2 % in 2014. This is mainly due to the fall in business R&D intensity from 2.7 % of GDP in 2009 to 2.1 % in 2014, which reflects the decline of electronics (see section 2.1).

The share of public R&D expenditures remained fairly stable, at around 1 % of GDP. Although Finland has the third highest public R&D intensity in the EU, the indicators of scientific excellence (such as widely cited scientific publications⁽⁶⁵⁾) are close to the EU average. Moreover, a recent study by the Academy of Finland on scientific citation indicators shows that, compared to the situation in the early 2000s, Belgium, Germany, Ireland and Austria have overtaken Finland⁽⁶⁶⁾. This suggests that the efficiency of Finnish public research could be improved.

The results of research activity are not adequately transformed into new products and services. R&D expenditures in the higher education sector funded by businesses (reflecting cooperation between universities and businesses) decreased by 30 % in nominal terms between 2008 and 2014 and are now below the EU average. Improving the efficiency of the R&I system, and especially the capacity of universities to turn R&D into innovations, is therefore crucial for Finland.

The reform of research institutes and research funding launched by the government in 2013 is a first response. Research institutes were merged, by fields of research, into larger entities. VTT, an

⁽⁶⁵⁾ Scientific publications within the 10% most cited publications worldwide as percentage of all scientific publications of the country.

⁽⁶⁶⁾ The State of Scientific Research in Finland, Academy of Finland, 2014.

important actor in the Finnish R&D landscape receiving 65 % of its turnover from external revenues, changed its legal status from government entity to state-owned limited liability company on 1 January 2015. A Strategic Research Council has been established and currently funds challenge-oriented research. The funding model for universities has been recently revised to take better account of the quality of scientific production, among other things.

companies and further support their growth and internationalisation. Turning the results of public R&D into products and services also still appears to be a challenge.

The Finnish Research and Innovation Council, chaired by the Prime Minister, advocated going further and faster in the reform of the R&I system. It made recommendations to improve the contribution of R&D activities to growth which included reforming the higher education system. In its Strategic Programme, adopted in May 2015, the government aims to strengthen cooperation between higher education institutions and companies, in order to bring more innovations to market. The focus is on the following reform axes:

- strengthening commercialisation of public research results;
- clarifying the responsibilities of higher education institutions and research institutes and increasing their cooperation; and
- pooling knowledge and expertise in competitive centres of excellence.

The government has allocated funding to new actions to promote the commercialisation of public R&D. However, the government budget for 2016 significantly reduces the budget of Tekes, Finland's innovation agency. In particular, Tekes funding for the Strategic Centres for Science, Technology and Innovation (SHOK) programme, put in place in 2008 to support science-business cooperation in R&D ⁽⁶⁷⁾, will be discontinued.

Overall, the strengths of Finland's business environment could be further developed and put to greater use in restoring growth and competitiveness. Additional policy measures could strengthen interest in creating new

⁽⁶⁷⁾ SHOKs implement long-term research programmes (5-10 years) based on collectively formulated research strategies. In 2014, Tekes funding for SHOKs was EUR 88m. In addition, the Academy of Finland funded basic research in SHOKs.

ANNEX A

Overview Table

Commitments

Summary assessment ⁽⁶⁸⁾

2015 Country-specific recommendations (CSRs)	
CSR 1: Achieve a fiscal adjustment of at least 0,1 % of GDP towards the medium-term budgetary objective in 2015 and of 0,5 % of GDP in 2016. Continue efforts to reduce the fiscal sustainability gap and strengthen conditions for growth.	CSRs related to compliance with the Stability and Growth Pact will be assessed in spring once the final data will be available.
CSR 2: Adopt the agreed pension reform and gradually eliminate early exit pathways. Ensure effective design and implementation of the administrative reforms concerning municipal structure and social and healthcare services, with a view to increasing productivity and cost-effectiveness in the provision of public services, while ensuring their quality.	Finland has made some progress in addressing CSR 2: Substantial progress in adopting the agreed pension reform and gradually eliminating early exit pathways. The parliament has legislated the pension reform on 20 November 2015. As of 2027, the earliest eligibility for old-age pension will be linked to life expectancy. However, the extended unemployment benefits for the elderly unemployed have not been linked with the pension age. Limited progress in ensuring effective design and implementation of the administrative reforms concerning municipal structure and social and healthcare services, with a view to increasing productivity and cost-effectiveness in the provision of public services, while ensuring their quality. The government has announced its intentions regarding the health care and social services reform. Outline of the social and health care reform has been agreed, a legislative proposal may be available later in 2016. Until the details are agreed, the implementation is considered to be at risk.
CSR 3: Pursue efforts to improve the employability of young people, older workers and the long-term unemployed, focusing particularly on developing job-relevant skills. Promote wage developments in line with productivity fully respecting the role of the social partners and in accordance with national	Finland has made some progress in addressing CSR 3: Some progress in pursuing efforts to improve the employability of young people, older workers and the long-term unemployed,

⁽⁶⁸⁾ The following categories are used to assess progress in implementing the 2015 CSRs:

No progress: The Member State (MS) has neither announced nor adopted measures to address the CSR. This category also applies if the MS has commissioned a study group to evaluate possible measures.

Limited progress: The MS has announced some measures to address the CSR, but these appear insufficient and/or their adoption/implementation is at risk.

Some progress: The MS has announced or adopted measures to address the CSR. These are promising, but not all of them have been implemented and it is not certain that all will be.

Substantial progress: The MS has adopted measures, most of which have been implemented. They go a long way towards addressing the CSR.

Fully implemented: The MS has adopted and implemented measures that address the CSR appropriately.

practices.	focusing particularly on developing job-relevant skills. The young, the elderly and the long-term unemployed are the focus of public employment services; wage subsidies were introduced recently for elderly workers. Some progress in promoting wage developments in line with productivity fully respecting the role of the social partners and in accordance with national practices. The collective bargaining agreement concluded in 2015 will raise salaries with a modest 0.5% in 2016.
CSR 4: Take measures to open the retail sector to effective competition.	Finland has made some progress in addressing CSR 4: The competitive landscape has improved. The law restricting opening hours has been abolished. The Land Use and Building Act has been amended to improve the conditions for retail establishments. Establishment of Alko alcohol monopoly stores is no longer confined to the vicinity of Kesko and S Group stores.
Europe 2020 (national targets and progress)	
Employment: 78 %	The employment rate was 74.0% in 2012, and decreased to 73.3% in 2013 and further to 73.1% in 2014. The ambitious target on the employment rate will be difficult to meet, especially considering the continuous negative trend.
R&D: 4 % of GDP	In 2014, R&D intensity in Finland was 3.2%, the highest in Europe. Finland is not on track though to reach its R&D intensity target for 2020, due to a decrease in business R&D intensity (from 2.7% of GDP in 2009 to 2.1% in 2014). In current terms, business R&D expenditure has been on a declining trend since 2011 (14% decrease between 2011 and 2014) and public R&D expenditure, which was continuously rising since 2000, has stabilised since 2010.
Greenhouse gas emissions:	2020 target: -16%
-16 % in 2020 compared to 2005. -7 % in the sectors not subject to emission trading scheme(ETS)	According to its national projections with existing measures, Finland will reduce its emissions by 16% between 2005 and 2020,

	therefore reaching its target with no margin. Non-ETS 2014 target: -7%. Greenhouse gas emissions from sectors not covered by the Emissions Trading Scheme fell by -8% between 2005 and 2014.
Renewable energy target: 38 %	The share of renewable energy in gross final energy consumption reached 38.7% in 2014⁽⁶⁹⁾, already exceeding 2020 target. The contribution of heating and cooling, with almost 52% RES-shares, is significant. In transport, the share of renewables in transport reached 21.6% in 2014, also exceeding the 10% target for 2020. On renewable energy in general, Finland is therefore well on track, and even above in attaining its renewable energy target for 2020.
Energy efficiency: Finland has set an indicative national energy efficiency target of 310 TWh, which implies reaching a 2020 level of 35.9 Mtoe primary consumption and 26.7 Mtoe final energy consumption.	Even if Finland's current primary energy consumption (32.8 Mtoe in 2013) is below the 2020 target, the margin is small and additional efforts are needed to keep the primary energy consumption at this level or to minimise its increase when the GDP increases again during the next five years.
Early school leaving: 8 %	The ESL rate increased from 8.9% in 2012 to 9.3% in 2013 and 9.5% in 2014, which is still below a value of 11.2 for the EU in 2014 although the early school leaving rate tends to be significantly higher among migrants (14.9 % in 2012) and boys
Tertiary education: 42 %	Finland's tertiary educational attainment rate was 45.3 % in 2014 compared with a figure of 45.1 in 2013 and 45.8 in 2012, when measured according to the EU definition of the indicator. The rate of tertiary educational attainment among people born outside Finland remains lower than among those born in the country, at 33 % compared with 47 % in 2012 (measured according to the EU definition). The drop-out rate from higher education was 24.2 % in 2011 in Finland, compared with an

⁽⁶⁹⁾ Eurostat Shares tool 2014, preliminary results

	OECD average of 31.6 %
Poverty/social exclusion: Target on the reduction of population at risk of poverty or social exclusion in number of persons: 770 000	927 000 in 2014. As the number of persons at risk of poverty is on the increase and has remained close to 900 000 over the last decade, it will be challenging to meet the target by 2020.

ANNEX B

MIP scoreboard

Table B.1: **MIP scoreboard**

		Thresholds	2009	2010	2011	2012	2013	2014
External imbalances and competitiveness	Current account balance, 3 year average (% of GDP)	-4%/6%	2.7	1.8	0.5	-0.8	-1.8	-1.5
	Net international investment position (% of GDP)	-35%	6.4	19.7	15.1	11.8	5.4	-0.7
	Real effective exchange rate - 42 trading partners, HICP deflator 3 years % change	±5% & ±11%	4.9	-1.2	-2.8	-8.2	0.1	2.7
	Export market share - % of world exports 5 years % change	-6%	-13.0	-19.6	-23.3	-31.0	-30.7	-24.0
	Nominal unit labour cost index (2010=100) 3 years % change	9% & 12%	15.2	13.2	9.4	6.0	9.5	8.0
	Deflated house prices (% y-o-y change)	6%	-0.4p	4.8	0.0	-0.4	-1.2	-1.9
Internal imbalances	Private sector credit flow as % of GDP, consolidated	14%	0.8	7.4	3.5	7.3	2.4	0.4
	Private sector debt as % of GDP, consolidated	133%	142.0	148.6	145.0	148.3	148.2	150.0
	General government sector debt as % of GDP	60%	41.7	47.1	48.5	52.9	55.6	59.3
	Unemployment rate 3 year average	10%	7.2	7.7	8.1	8.0	7.9	8.2
	Total financial sector liabilities (% y-o-y change)	16.5%	16.9	9.5	28.5	-0.7	-12.0	8.7
New employment indicators	Activity rate - % of total population aged 15-64 (3 years change in p.p)	-0.2%	-0.2	-1.1	-1.1	0.2	0.7	0.5
	Long-term unemployment rate - % of active population aged 15-74 (3 years change in p.p)	0.5%	-0.5	0.4	0.5	0.2	-0.3	0.2
	Youth unemployment rate - % of active population aged 15-24 (3 years change in p.p)	2%	2.8	4.9	3.6	-2.5	-1.5	0.4

Flags: p: provisional.

Note: Figures highlighted are those falling outside the threshold established in the European Commission's Alert Mechanism Report. For REER and ULC, the first threshold applies to euro area Member States.

Source: European Commission

ANNEX C

Standard Tables

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

	2010	2011	2012	2013	2014	2015
Total assets of the banking sector (% of GDP)	256.8	327.3	300.5	259.1	282.3	266.2
Share of assets of the five largest banks (% of total assets)	83.8	80.9	79.0	84.1	79.8	-
Foreign ownership of banking system (% of total assets)	69.1	70.3	66.6	64.4	66.8	-
Financial soundness indicators:						
- non-performing loans (% of total loans) ¹⁾	0.6	0.5	0.5	-	-	-
- capital adequacy ratio (%) ²⁾	14.4	14.2	17.0	16.0	15.3	-
- return on equity (%) ²⁾	9.2	10.1	10.8	9.8	11.9	-
Bank loans to the private sector (year-on-year % change)	5.6	8.5	7.1	6.3	3.8	0.3
Lending for house purchase (year-on-year % change)	6.8	6.6	5.6	2.3	1.7	2.5
Loan to deposit ratio	139.3	142.3	139.9	139.2	139.6	136.7
Central Bank liquidity as % of liabilities	0.6	1.0	1.3	1.1	0.4	0.3
Private debt (% of GDP)	148.6	145.0	148.3	148.2	150.0	-
Gross external debt (% of GDP) ³⁾ - public	39.6	41.8	47.8	46.1	54.0	51.9
- private	46.9	43.4	43.7	43.8	43.9	47.1
Long-term interest rate spread versus Bund (basis points)*	26.7	39.8	39.1	29.2	28.6	22.4
Credit default swap spreads for sovereign securities (5-year)*	29.4	49.2	56.4	25.1	24.0	20.6

1) Latest data Q2 2012.

2) Latest data Q3 2014.

3) Latest data September 2015. Monetary authorities, monetary and financial institutions are not included.

* Measured in basis points

Source: IMF (financial soundness indicators); European Commission (long-term interest rates; private debt); World Bank (gross external debt); ECB (all other indicators)

Table C.2: **Labour market and social indicators**

	2010	2011	2012	2013	2014	2015 ⁴
Employment rate	73.0	73.8	74.0	73.3	73.1	73.0
(% of population aged 20-64)						
Employment growth	-0.7	1.3	0.9	-0.7	-0.8	-0.2
(% change from previous year)						
Employment rate of women	71.5	71.9	72.5	71.9	72.1	71.9
(% of female population aged 20-64)						
Employment rate of men	74.5	75.6	75.5	74.7	74.0	74.1
(% of male population aged 20-64)						
Employment rate of older workers	56.2	57.0	58.2	58.5	59.1	59.8
(% of population aged 55-64)						
Part-time employment (% of total employment, aged 15 years and over)	14.6	14.9	15.1	15.1	15.4	15.3
Fixed term employment (% of employees with a fixed term contract, aged 15 years and over)	15.5	15.6	15.6	15.5	15.5	15.8
Transitions from temporary to permanent employment	48.7	28.7	30.9	34.5	28.0	-
Unemployment rate ⁽¹⁾ (% active population, age group 15-74)	8.4	7.8	7.7	8.2	8.7	9.4
Long-term unemployment rate ⁽²⁾ (% of labour force)	2.0	1.7	1.6	1.7	1.9	2.3
Youth unemployment rate	21.4	20.1	19.0	19.9	20.5	22.4
(% active population aged 15-24)						
Youth NEET ⁽³⁾ rate (% of population aged 15-24)	9.0	8.4	8.6	9.3	10.2	-
Early leavers from education and training (% of pop. aged 18-24 with at most lower sec. educ. and not in further education or training)	10.3	9.8	8.9	9.3	9.5	-
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	45.7	46.0	45.8	45.1	45.3	-
Formal childcare (30 hours or over; % of population aged less than 3 years)	20.0	20.0	22.0	21.0	-	-

(1) 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.

(2) Long-term unemployed are peoples who have been unemployed for at least 12 months.

(3) Not in Education Employment or Training.

(4) Average of first three quarters of 2015. Data for total unemployment and youth unemployment rates are seasonally adjusted.

Source: European Commission (EU Labour Force Survey).

Table C.3: Labour market and social indicators (continued)

Expenditure on social protection benefits (% of GDP)	2009	2010	2011	2012	2013	2014
Sickness/healthcare	7.2	7.2	7.2	7.4	7.5	-
Invalidity	3.4	3.4	3.3	3.4	3.4	-
Old age and survivors	10.9	11.1	11.2	11.9	12.6	-
Family/children	3.2	3.2	3.1	3.2	3.3	-
Unemployment	2.3	2.3	2.0	2.0	2.3	-
Housing and social exclusion n.e.c.	0.5	0.5	0.5	0.5	0.6	-
Total	28.1	28.4	28.0	29.3	30.4	-
of which: means-tested benefits	1.2	1.2	1.3	1.5	1.6	-
Social inclusion indicators	2009	2010	2011	2012	2013	2014
People at risk of poverty or social exclusion ⁽¹⁾ (% of total population)	16.9	16.9	17.9	17.2	16.0	17.3
Children at risk of poverty or social exclusion (% of people aged 0-17)	14.0	14.2	16.1	14.9	13.0	15.6
At-risk-of-poverty rate ⁽²⁾ (% of total population)	13.8	13.1	13.7	13.2	11.8	12.8
Severe material deprivation rate ⁽³⁾ (% of total population)	2.8	2.8	3.2	2.9	2.5	2.8
Proportion of people living in low work intensity households ⁽⁴⁾ (% of people aged 0-59)	8.4	9.3	10.0	9.3	9.0	10.0
In-work at-risk-of-poverty rate (% of persons employed)	3.7	3.7	3.9	3.8	3.7	3.7
Impact of social transfers (excluding pensions) on reducing poverty	47.3	51.5	50.0	50.9	55.3	53.6
Poverty thresholds, expressed in national currency at constant prices ⁽⁵⁾	11915	11939	12004	12082	12008	11965
Gross disposable income (households; growth %)	2.7	4.0	4.3	2.9	2.7	0.6
Inequality of income distribution (S80/S20 income quintile share ratio)	3.7	3.6	3.7	3.7	3.6	3.6

(1) People at risk of poverty or social exclusion (ARPE): 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) At-risk-of-poverty rate (AROP): proportion of people with an equivalised disposable income below 60 % of the national equivalised median income.

(3) 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.

(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.

Source: For expenditure for social protection benefits ESSPROS; for social inclusion EU-SILC.

Table C.4: Structural policy and business environment indicators

Performance indicators	2009	2010	2011	2012	2013	2014
Labour productivity (real, per person employed, y-o-y)						
Labour productivity in industry	-10.32	9.61	-2.11	-8.02	4.08	2.71
Labour productivity in construction	1.00	5.73	-1.22	-4.34	-0.20	-1.02
Labour productivity in market services	-5.73	3.18	3.99	1.20	-2.11	0.24
Unit labour costs (ULC) (whole economy, y-o-y)						
ULC in industry	13.74	-9.53	4.65	11.11	-2.24	-1.07
ULC in construction	1.25	-5.32	4.75	8.12	3.56	1.84
ULC in market services	8.78	-1.02	1.31	2.12	4.76	0.21
Business environment	2009	2010	2011	2012	2013	2014
Time needed to enforce contracts ⁽¹⁾ (days)	235	375	375	375	375	375
Time needed to start a business ⁽¹⁾ (days)	14.0	14.0	14.0	14.0	14.0	14.0
Outcome of applications by SMEs for bank loans ⁽²⁾	0.43	0.31	0.06	0.23	0.41	0.57
Research and innovation	2009	2010	2011	2012	2013	2014
R&D intensity	3.75	3.73	3.64	3.42	3.30	3.17
Total public expenditure on education as % of GDP, for all levels of education combined	6.81	6.85	6.76	7.12	na	na
Number of science & technology people employed as % of total employment	48	48	49	50	51	52
Population having completed tertiary education ⁽³⁾	31	32	33	33	34	35
Young people with upper secondary level education ⁽⁴⁾	85	84	85	86	86	86
Trade balance of high technology products as % of GDP	0.08	-0.33	-0.74	-0.87	-1.03	-0.99
Product and service markets and competition				2003	2008	2013
OECD product market regulation (PMR) ⁽⁵⁾ , overall				1.49	1.34	1.29
OECD PMR ⁽⁵⁾ , retail				2.86	2.89	2.86
OECD PMR ⁽⁵⁾ , professional services				0.61	0.71	0.62
OECD PMR ⁽⁵⁾ , network industries ⁽⁶⁾				2.72	2.61	2.47

(1) The methodologies, including the assumptions, for this indicator are shown in detail here:

<http://www.doingbusiness.org/methodology>.

(2) 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 most of it, two if only received a limited part of it, three if refused or rejected and treated as missing values if the application is still pending or don't know.

(3) Percentage population aged 15-64 having completed tertiary education.

(4) Percentage population aged 20-24 having attained at least upper secondary education.

(5) 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>

(6) Aggregate OECD indicators of regulation in energy, transport and communications (ETCR).

Source: European Commission; World Bank — Doing Business (for enforcing contracts and time to start a business); OECD (for the product market regulation indicators); SAFE (for outcome of SMEs' applications for bank loans).

Table C.5: **Green growth**

Green growth performance		2009	2010	2011	2012	2013	2014
Macroeconomic							
Energy intensity	kgoe / €	0.21	0.23	0.21	0.21	0.21	-
Carbon intensity	kg / €	0.41	0.44	0.39	0.36	0.37	-
Resource intensity (reciprocal of resource productivity)	kg / €	1.03	1.08	1.07	1.04	1.10	1.09
Waste intensity	kg / €	-	0.61	-	0.53	-	-
Energy balance of trade	% GDP	-2.4	-2.8	-3.8	-2.6	-2.5	-2.4
Weighting of energy in HICP	%	7.08	7.57	7.52	8.37	8.12	7.84
Difference between energy price change and inflation	%	-4.6	8.6	17.2	-3.1	-1.6	-2.6
Real unit of energy cost	% of value added	12.6	14.4	16.2	-	-	-
Ratio of labour taxes to environmental taxes	ratio	8.8	7.9	7.1	7.5	7.7	8.0
Environmental taxes	% GDP	2.5	2.7	3.0	3.0	2.9	2.9
Sectoral							
Industry energy intensity	kgoe / €	0.32	0.33	0.32	0.33	0.34	-
Real unit energy cost for manufacturing industry	% of value added	29.9	34.8	42.9	-	-	-
Share of energy-intensive industries in the economy	% GDP	10.42	11.40	11.63	11.52	11.73	11.59
Electricity prices for medium-sized industrial users	€ / kWh	0.07	0.07	0.08	0.07	0.07	0.07
Gas prices for medium-sized industrial users	€ / kWh	0.03	0.03	0.04	0.05	0.05	0.05
Public R&D for energy	% GDP	0.11	0.11	0.10	0.08	0.08	0.09
Public R&D for environment	% GDP	0.02	0.02	0.02	0.02	0.01	0.01
Municipal waste recycling rate	%	49.5	50.3	59.8	67.1	74.9	-
Share of GHG emissions covered by ETS*	%	52.0	55.5	52.5	48.4	49.9	47.9
Transport energy intensity	kgoe / €	0.65	0.64	0.61	0.59	0.59	-
Transport carbon intensity	kg / €	1.70	1.67	1.55	1.49	1.47	-
Security of energy supply							
Energy import dependency	%	53.8	47.9	52.9	46.3	48.7	-
Aggregated supplier concentration index	HHI	88.7	76.1	103.4	77.0	74.4	-
Diversification of energy mix	HHI	0.21	0.21	0.21	0.21	0.21	-

General explanation of the table items:

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2005 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 a percentage of total value added for the economy

Environmental taxes and labour taxes : from European Commission, 'Taxation trends in the European Union'

Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in 2005 EUR)

Real unit energy costs for manufacturing industry: real costs as a percentage 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 000MWh and 10 000–100 000 GJ; figures excl. VAT.

Municipal waste recycling rate: ratio of recycled municipal waste to total municipal waste

Public R&D for energy or for the environment: government spending on R&D (GBAORD) for these categories as % of GDP

Proportion of greenhouse gas (GHG) emissions covered by EU Emission Trading System (ETS): based on greenhouse gas emissions (excl land use, land use change and forestry) as reported by Member States to the European Environment Agency

Transport energy intensity: final energy consumption of transport activity (kgoe) divided by transport industry gross value added (in 2005 EUR)

Transport carbon intensity: greenhouse gas emissions in transport activity divided by gross value added of the transport sector

Energy import dependency: net energy imports divided by gross inland energy consumption incl. consumption of international bunker fuels

Aggregated supplier concentration index: covers oil, gas and coal. Smaller values indicate larger diversification and hence lower risk.

Diversification of the energy mix: Herfindahl index over natural gas, total petrol products, nuclear heat, renewable energies and solid fuels

* European Commission and European Environment Agency

Source: European Commission (Eurostat) unless indicated otherwise