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Country Report Denmark 2016

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EXECUTIVE SUMMARY

This report assesses Denmark's economy in the light of the European Commission's 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 Member States' economies, and responsible fiscal policies.

The recovery of the Danish economy has been moderate, but is expected to pick up in 2016 and 2017. The economic recovery is currently being boosted by factors such as very low interest rates and low inflation. Labour market conditions have improved, real disposable income is growing and there is a high savings surplus in the private sector. These are all factors helping to underpin the continuing recovery. In eight of the nine latest quarters, GDP growth has been positive, and it is estimated to have reached 1.2% on an annual basis in 2015. According to the Commission 2016 winter forecast, GDP is projected to grow by 1.7% in 2016 and 1.9% in 2017. The economic recovery is expected to be driven by both domestic demand and exports.

Private consumption became an important driver of GDP growth in 2015. The growth in private consumption has been supported by rising real disposable incomes, due to the increase in employment, wage growth and low inflation. Growth in private consumption is expected to continue over the next two years, with estimated annual growth rates of close to 2.0% in 2016-2017. After reaching a historic high level last spring, consumer confidence has declined somewhat in the second half of 2015. However, the current level is still high by historical standards and consistent with continued growth in private consumption.

The investment level in Denmark remains low, but is expected to increase going forward. The overall investment level has been low after a sharp drop in private investments in Denmark during the economic crisis. This partly reflects low residential investment following the burst of the housing bubble and idle capacity in the corporate sector. Private investment stood at 14.8% of GDP in 2014, compared with a 2007 peak of 20.6% of GDP. Public investment, on the other hand, reached a historically high level in 2014 (3.9% of GDP). Over the forecast horizon, private investment is expected to pick up as the overall recovery becomes more firmly established and capacity utilisation improves. However, the public investment is expected to normalise.

Labour market conditions have improved over the last two years. Employment has been growing since mid-2013 and unemployment has remained relatively low during the crisis. Over the next years, the unemployment rate is expected to decline further as the economic recovery strengthens. Danish authorities have adopted a series of substantial labour market reforms over the last years that particularly aim at increasing work incentives and improving the efficiency of the active labour market policies. These would contribute to achieving the Europe 2020 employment target, and to the sustainability of the Danish welfare model.

Over the last three years the recovery of the housing market has gathered steam in certain segments of the market, but has slowed down somewhat in the second half of 2015. The strongest price increase was registered in the large cities, and especially in the capital region. However, on average, Danish house prices are still significantly lower than their peak in 2006. Property sales have picked up significantly since early 2013, and in the capital region sales of owner-occupied flats are currently close to the peak seen in 2005. This trend can be explained by low interest rates for mortgages and improved labour market conditions, with an increase in both employment and real wages. Residential investments have, however, not yet picked up.

Overall, Denmark has made limited progress in addressing the 2015 country-specific recommendations. Limited progress was made with regard to easing restrictions on retail establishment and on removing remaining barriers posed by authorisation and certification schemes in the construction sector.

Regarding the progress in reaching the national targets under the Europe 2020 Strategy, Denmark has either reached or is making good progress towards its targets on employment, R&D, greenhouse gas emissions, renewable energy, early school leaving, tertiary education and energy efficiency. It, however, may face challenges in achieving its target on the reduction of its population at risk of poverty or social exclusion.

The main findings of the analysis in this report, and the related policy challenges, are as follows:

- **The domestic services sector faces barriers to entry and a regulatory burden which in turn affect productivity growth.** Strict rules and legislation that restrict competition prevail, including in areas such as authorisations and certifications in the construction sector and in retail. Initiatives launched in the 2014 strategy 'Towards a stronger construction sector in Denmark' could improve the situation in the construction sector. As for the retail sector, in its new Growth and Development Strategy proposed in November 2015, currently under negotiation, the government proposed to liberalise the planning framework. If adopted, the announced measures would go some way to addressing the problems.

- **The labour market in Denmark is flexible, employment rates are high and unemployment is low; however, certain groups remain on the margins.** This particularly applies to migrants from outside the EU, workers over 60 years, young people and people with disabilities. The 2014 reform of active labour market policies provided better and more individualised support for the unemployed. From 2016 the levels of reimbursement for active labour market measures (paid to municipalities) have been conditioned more on their efficacy. The 2015 reform of the unemployment benefit system is expected to improve the work incentives, in particular regarding short-term jobs. Other changes in 2015 included capping the social assistance, and reducing it for those who recently resided outside Denmark.

- **Labour market inclusion of people with migrant background is a challenge.** Despite their comparatively high employment, the activity and unemployment rates of people born outside the EU are much worse than of the rest of the population. Many of the non-EU born immigrants with a tertiary education are over-qualified for their job. The school performance of migrant children, including basic skills, is visibly lower than of the children of Danish parents. Moreover, with almost half a million people living in very low work intensity households, the Danish 2020 target for social inclusion is far from being reached.

- **Improving the quality and attractiveness of vocational education and training remains a key challenge.** The vocational education and training reform implemented from mid-2015 sets ambitious targets. Early reports are positive and indicate that drop-out rates have decreased. However, strengthening the supply of apprenticeships remains a crucial issue.

- **The risks stemming from high household indebtedness seem contained and the financial sector is solid.** High household debt is a structural feature of the Danish economy and is related to the specific mortgage system. Households in Denmark appear to be resilient to market shocks, i.e. their debt is backed up by a strong financial position, with assets exceeding gross debt. Furthermore, they were able to withstand the house price adjustment since 2007. The Danish authorities and mortgage banks have taken adequate measures to ensure the stability of the financial sector. In particular for the mortgage sector**,** recent measures address the risks stemming from a prolonged period of low interest rates and falling house prices. Finally, over the last two years, households seem to have turned to less risky loans.

- **The transfer of results from universities' research to businesses' innovation could be strengthened.** The high public investment in universities' R&D could be better translated into productivity, employment and economic growth. There are significant barriers to the utilisation of university research in Denmark due to suboptimal cooperation between universities and the business sector, which weigh on the return on private investments in research and innovation. To address this challenge, a report published by the government in 2014 made recommendations on how to enhance university-business collaboration and utilisation of university research. Furthermore, in its Growth and Development Strategy, the new government mentions as a strategic objective the strengthening of the interactions between higher education institutions and businesses.

However, no further steps have been taken with regard to these proposals.

- **Barriers to investment have been identified in the services sector and research.** The retail and construction sectors are facing barriers to entry. The planning law, in particular provisions regarding the establishment of significantly larger stores, may constitute a market entry barrier for certain, particularly foreign, retail business models. Building regulations and certification schemes in the construction sector dampen also investment and reduce competition on this market. Furthermore, better cooperation between universities and the business sector may increase productivity and lead to higher return on private investments in research and innovation.

1. SCENE SETTER: ECONOMIC SITUATION AND OUTLOOK

Growth drivers and outlook

The recovery of the Danish economy has been moderate, but is expected to pick up over this year and the next. The foundations are in place for the recovery to continue and strengthen, labour market conditions have improved and real disposable income is growing. There is a high saving surplus in the private sector and low interest rates and low inflation are benefitting the economy.

GDP growth has been positive in eight of the nine latest quarters, and is estimated to have reached 1.2% on an annual basis in 2015. According to the Commission's winter 2016 forecast, GDP is projected to grow by 1.7% in 2016 and 1.9% in 2017 (Graph 1.1). The economic recovery is expected to be driven by both domestic demand and exports.

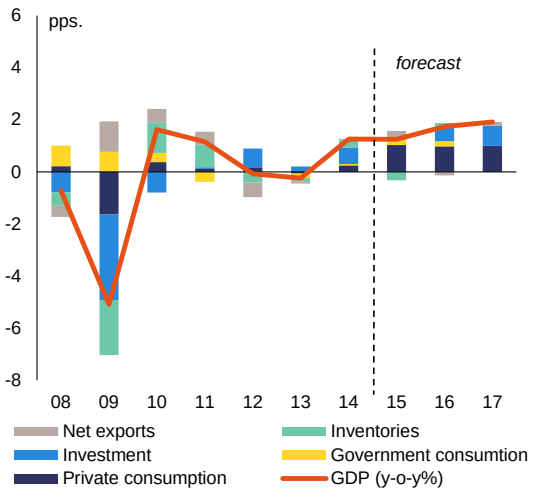
Private consumption has become an important driver of GDP growth. It has been supported by rising real disposable income, due to the increase in employment, wage growth and low inflation. A sharp increase in the household savings rate in 2015 partly reflects the fact that the savings rate has been artificially low, especially in 2014. This is due to high tax payments linked to the restructuring of capital pension funds together with an increase in 2015 in the change in net equity in pension funds. The asset position of households has improved partly due to a rise in house prices since mid-2012. The level of consumer confidence is consistent with continued growth in private consumption, reaching a historically high level last spring, but decreasing somewhat over the last six months.

The investment rate in the business sector is currently low, partly because of idle capacity after the recession. Investment growth is estimated to have been weak in 2015. Over the forecast horizon, business investment is expected to pick up as the overall recovery becomes more established and capacity utilisation improves. Public investment, meanwhile, is expected to gradually fall after reaching a historically high level in 2014. The current savings rate in the corporate sector is high, boosting prospects for a pick-up in business investment. The investment rate was on average 18% of GDP in the years 2010-2015, compared with 22% of GDP in 1995-2005.

Exports declined in 2015, due to a drop in service exports. Exports are projected to pick up gradually over the next two years, supported by increased growth in Danish export markets and improved competitiveness — as measured by relative unit labour costs.

Macroeconomic risks appear broadly balanced. Risks to the macroeconomic outlook are related on one hand to external factors such as the slowdown in emerging markets and geopolitical tensions. On the other hand they are linked to a possible release of pent-up private consumption and investments as private savings have remained high despite the very low interest rates.

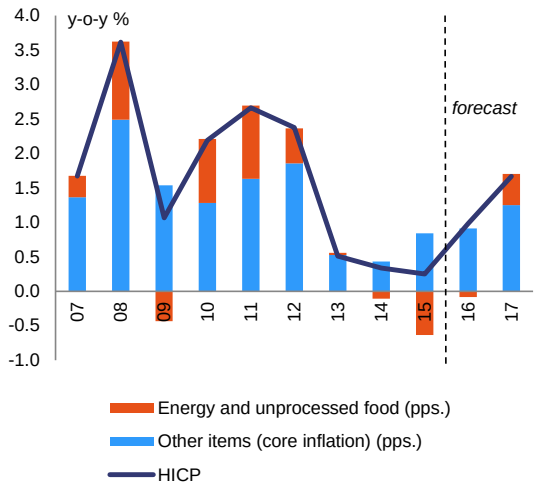
Graph 1.1: **Components of GDP growth in Denmark**



Source: European Commission

Consumer price inflation has remained low in 2015, but is expected to pick up over the next two years (Graph 1.2). Inflation, which stood at 0.3% on an annual basis in December 2015, has been dragged down by a drop in energy prices. Core inflation, by contrast, has remained stable at around 1% for most of the year. The harmonised index of consumer prices (HICP) inflation is expected to pick up as the effect from the decline in energy prices tapers off and the economic recovery strengthens. HICP inflation is forecasted at 0.2% in 2015, but should increase to 0.9% in 2016 and 1.7% in 2017.

Graph 1.2: **Consumer price inflation**



Source: European Commission

Labour market conditions have improved over the last two years. The employment rate, which stood at 76.7% (for 20-64 year olds) in the third quarter of 2015, has picked up somewhat over the last two years, but remains below the long-term average of 77.3% in 2000-2015. Employment has been growing by 1% on an annual basis in the first three quarters of 2015. The unemployment rate (for 20-64 year olds) has generally been declining since early 2012 and reached 5.7% in the third quarter of 2015. Over the next couple of years, the ongoing recovery of the economy is expected to lead to a continuous decline in the unemployment rate. In the third quarter of 2015, 25.2% of the unemployed had been out of work for more than 12 months. Long-term unemployment as a proportion of total unemployment is the third lowest in the EU (after Finland and Sweden), and has remained broadly stable over the last four years. Keeping long-term unemployment low is important in order to reduce the negative effects on human capital during spells of unemployment. The labour force participation rate is expected to improve amid reforms and welfare programmes adopted over the recent years.

The current account surplus remains high. It is expected to have decreased from 7.7% of GDP in 2014 to an estimated 7.1% of GDP in 2015. The high surplus should be seen in the light of weak domestic demand, including weak investments, high savings in the corporate sector and higher yields on investments abroad than those in Denmark. The net international investment position has been positive for the past five years, and reached 46.4% of GDP in 2014. The high current account surplus reflects a combination of high savings and low investment in Denmark. Boosting investment would help Denmark strengthen economic growth, increase productivity and improve competitiveness.

Productivity growth has been sluggish over the last two decades. Lack of competition in the domestic services sector has been identified as an important contributing factor in this regard. Competition is an important driver of productivity, economic growth and prosperity. In Denmark, the construction and retail sectors have been identified as having strong barriers to competition.

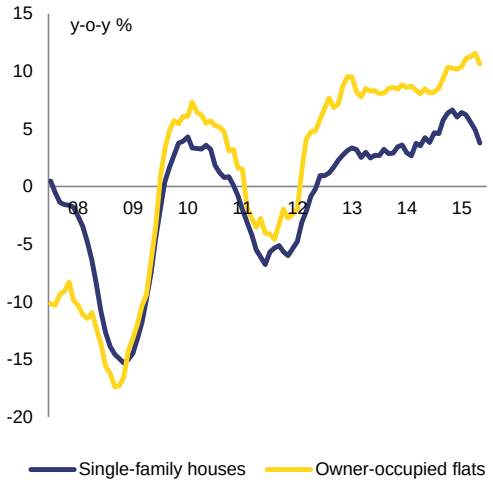
Denmark pursues a fixed currency exchange policy, maintaining a close peg to the euro. The fixed exchange rate regime has been the monetary anchor of Danish economic policy for more than 30 years and enjoys broad political backing. This policy has proven successful, even during periods of severe turbulences, such as the 1992-1993 exchange rate crises, the 2008 global financial crisis and the euro area sovereign debt crisis in 2012.

The Danish krone came under short-lived appreciation pressure at the beginning of 2015. The pressure followed the decision of the Swiss National Bank from 15 January to give up the pegging of the franc to the euro and the announcement by the European Central Bank to start measures of quantitative easing. The Danish National Bank reacted first with purchases of foreign currency in the market, and then with a reduction in the current deposit rate to -0.75%. The speculation also led to a temporary pause in issuing Danish government bonds (from 30 January to 7 October 2015). The speculation targeting the krone was fairly short-lived and the appreciation pressure declined already in the course of February 2015. In January 2016, the National Bank increased the deposit rate to -0.65%.

House prices have increased over the last three years but have slowed down in the second half of 2015. Between September and November 2015, prices of single-family houses grew by 3.8%

compared with the same period the year before, while the corresponding figure for owner-occupied apartments was 10.6% (Graph 1.3). There were regional differences, with the strongest price growth in the large cities, and especially in the capital region. Property sales have picked up significantly since early 2013, and in the capital region sales of owner-occupied flats are currently close to the peak seen in 2005. This trend can be explained by very low mortgage interest rates and by improved labour market conditions, with a growth in employment and real wages.

Graph 1.3: **House price developments**



Source: Statistics Denmark

Household debt has been declining gradually over the last five years, but remains very high (at around 134% of GDP in 2014). The households' high gross debt is matched by even higher assets. However, the assets of Danish households — most of which are in the form of housing and pension savings — are largely illiquid. The high gross debt level can therefore increase the vulnerability of the economy to, for example, interest rate shocks. The high household gross debt level is, however, related to the well-functioning Danish mortgage system (which was perceived as a safe haven by investors during the financial crisis). In addition, the debt is concentrated within the group of high-income households, which reduces the risks to financial stability. Danish authorities have taken a number of measures to make the mortgage system more robust and to strengthen the stability, supervision and regulation of the financial system.

Public finances

The fiscal balance has deteriorated. In 2014, the general government balance showed a surplus of 1.5% of GDP. The general government budget balance was boosted by extraordinarily high pension yield tax revenues and a capital pension taxation measure that generated significant windfalls in 2013-15. According to the Commission winter 2016 forecast, the fiscal balance is expected to deteriorate in 2015, to a deficit of 2.0% of GDP. The deterioration is primarily linked to volatile items on the revenue side, with a drop in revenues from: the above-mentioned one-off measure (by an estimated 1.8 %. of GDP), the pension yield tax and oil and gas activities in the North Sea. These are expected to be the main contributors to the worsening of the budget balance.

Tax arrears drag down fiscal balance. In 2015, the fiscal balance was also dragged down by an extraordinary appreciation of tax arrears, linked to errors in an electronic tax collection system and a change from nominal to market-based valuation of arrears. The losses in tax revenues have been estimated at 0.25% of GDP in each of the years 2013 to 2015. These numbers may, however, be revised at a later stage.

Public finances are expected to deteriorate further, before picking up. In 2016, the general government budget balance is expected to deteriorate further, reaching a deficit of 2.7% of GDP. The main drivers of the deterioration are again to be found on the revenue side, as one-off revenues from the restructuring of capital pension taxation come to an end (decreasing revenues by an estimated 1.4% of GDP). Moreover, revenues from the pension yield tax are expected to continue declining. In 2017, the general government budget balance is expected to improve to a deficit of 1.9% of GDP, as the economic situation improves. The estimate is based on a no-policy-change assumption.

The structural balance has also deteriorated. The sharp decline in volatile revenue items, such as revenues from the pension yield tax, also leads to deterioration in the structural balance. The

structural balance, which had an estimated surplus of 0.3% of GDP in 2014, is expected to turn into a deficit of 1.7% of GDP in 2015, and thereafter to improve to a deficit of 1.4% and 1.0% of GDP in 2016 and 2017 respectively.

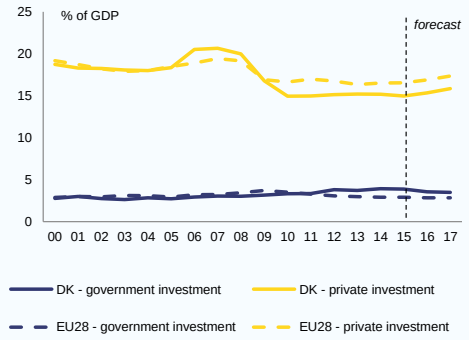
Public debt remains low and is decreasing. The general government gross debt level, which stood at 44.6% of GDP in 2014, is expected to decrease to 39.9% in 2015 and 38.3% in 2016, before increasing slightly to 38.8% of GDP in 2017. The significant reduction in debt in 2015 reflects the temporary suspension of government bond issuance that was put in place from January to October 2015.

Box 1.1: **Investment challenges**

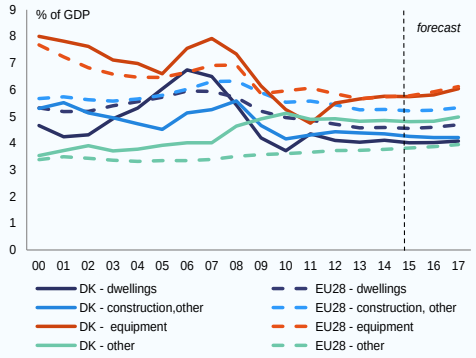
Section 1. Macroeconomic perspective

The investment level in Denmark remains low. The sharp drop in investment during the crisis was the result of falling private sector investment, as public investment reached a historically high level in 2014. While the drop in household investment was related to the burst of the housing bubble, the current low investment level in the business sector is partly due to idle capacity after the recession. Private investment is expected to pick up over the forecast horizon.

Graph 1: **Public and private investment as a % of GDP, 2000-2017, Denmark and EU average**



Graph 2: **Investment by components as a % of GDP, 2000-2017, Denmark and EU average**



Note: Forecast for 2015-2017 based on a no-policy-change assumption
Source: European Commission

During the crisis, public investment was used actively by the Danish authorities to support the economy. Public investment rose from an average level of 2.8% of GDP in 2000-2007 to 3.7% in 2011-2014. Public investment is expected to normalise somewhat, but to remain at a high level in the forecast years (Graph 1). Investment in housing soared in the run-up to the crisis and has suffered the most in the immediate aftermath of the crisis (Graph 2). The situation on the housing market has improved significantly over the last two years, and a continuation of this trend is expected eventually pull up construction activity.

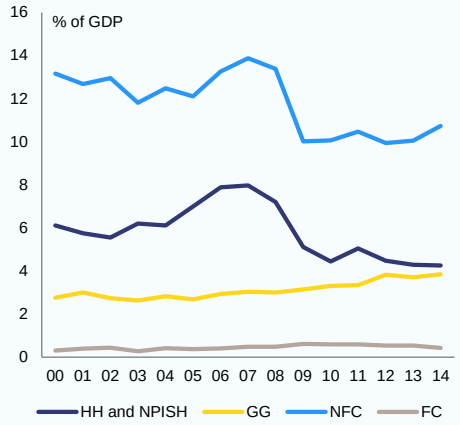
Both the corporate and household sectors have reduced investments after the crisis (Graph 3). Both the corporate and household sectors have gone through a balance sheet consolidation process in the period after the crisis. In this period both sectors have increased their savings. As regards business investment, the consolidation process seems to have come to an end and, based on the current high savings level, investment is expected to start picking up[1]. Households invested heavily in housing before the crisis. Their high financial leverage developed on the background of low interest rates, tax incentives in the form of tax deductibility of mortgage interest payments, and attractive loans. After the crisis, loans to households dropped and have increased only moderately since. While interest rates remain low, tax deductibility has been decreased and mortgage banks have taken measures to reduce incentives for taking up riskier types of loans. Against this background, investment in housing might pick up more gradually.

[1] Danish National Bank (2015), 'Monetary Review 2nd Quarter'.

(Continued on the next page)

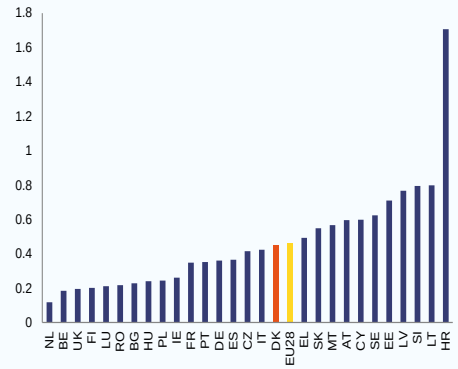
Box (continued)

Graph 3: **Investment by institutional sector, as a % of GDP, 2000-2014, Denmark**



Note: ESA 2010. HH and NPISH — Households; non-profit institutions serving households. GG — General government. NFC — Non-financial corporations. FC — Financial corporations. Source: European Commission/Eurostat

Graph 4: **Barriers to trade and investment indicator**



Source: OECD, Product Market Regulation indicator

Section 2. Assessment of barriers to investment and ongoing reforms

Denmark faces barriers to investment, in particular in the services sectors [1]. At the EU level, according to the OECD's Product Market Regulation indicator of Barriers to trade and investment, Denmark ranks only slightly better than the EU average (Graph 4).

The retail and construction sectors are facing barriers to entry which in return affect competition and productivity growth. The construction sector deals with building regulations and requirements, and burdensome certification schemes which dampen investment and reduce competition on this market. The initiatives launched under the 2014 strategy 'Towards a stronger construction sector in Denmark' represent positive steps forward and could improve the situation in the construction sector (See section 2.4). The restrictive retail establishment regulations for large retail outlets also inhibit investment. In view of this, the government has proposed to liberalise the planning framework in its new Growth and Development Strategy published in November 2015 (See section 2.4). The announced measures, if adopted, would go some way to addressing the problem.

Collaboration between public research and businesses could be further improved. Even though Denmark invests heavily in R&D, the public spending could be better translated into economic growth, employment and productivity. According to the Productivity Commission's 2014 report on Education and Innovation, cooperation between universities and the business sector seems to increase productivity and lead to a higher return on private investments in research and innovation. Furthermore, the report pointed out that significant barriers to the utilisation of university research exist in Denmark, such as excessive complexity in the regulatory system that regulates cooperation between the universities and the business sector, and opposing interests concerning pricing of intellectual property rights. The government published a report in October 2014[2] which contains several measures to better translate the significant public investment in research into productivity growth. Furthermore, the new government's Growth and Development Strategy sets as a strategic objective the strengthening of interactions between higher education and institutions and businesses (See section 2.5). No further steps have yet been taken with regards to implementing measures.

[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).

[2] Vidensamarbejde under lup – Evaluering af universiternes erhvervssamarbejde og teknologioverførsel, Ministry of Education and Research, 19/2014 (p. 26).

Box 1.2: **Contribution of the EU Budget to structural change**

Denmark is a beneficiary of European Structural and Investment Funds (ESIF) support and will receive up to EUR 1.4 billion for the period 2014-2020. This is equivalent to 1.5% of the expected national public investment in areas supported by the ESI funds.

All necessary reforms and strategies have been put in place as 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, for instance to social inclusion targets the employability of people at the margins of the labour market and improvements in on vocational training and higher education. Regular monitoring of implementation includes reporting in mid-2017 on the contribution of the funds to Europe 2020 objectives, for instance on innovation and sustainable SME development through cluster and resource efficiency measures as well as those other areas mentioned above.

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, Denmark has signed agreements for EUR 638 million for transport projects. For more information on the use of ESIF in Denmark, see: https://cohesiondata.ec.europa.eu/countries/DK.

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)	2.0	-0.7	-5.1	1.6	1.2	-0.1	-0.2	1.3	1.2	1.7	1.9
Private consumption (y-o-y)	3.2	0.5	-3.4	0.8	0.2	0.4	-0.1	0.5	2.2	2.0	2.1
Public consumption (y-o-y)	1.3	3.2	3.0	1.3	-1.4	0.0	-0.7	0.2	1.1	0.8	0.0
Gross fixed capital formation (y-o-y)	4.9	-3.3	-14.3	-4.0	0.3	3.9	1.1	3.4	0.0	2.7	4.1
Exports of goods and services (y-o-y)	4.7	3.2	-9.5	1.9	7.3	0.6	0.9	3.1	-0.4	3.7	4.2
Imports of goods and services (y-o-y)	7.4	4.3	-12.4	0.9	7.1	1.8	1.1	3.3	-1.0	4.5	4.4
Output gap	2.4	1.5	-4.4	-3.3	-2.7	-3.2	-3.8	-3.3	-2.9	-2.2	-1.5
Potential growth (y-o-y)	1.5	1.4	0.7	0.5	0.4	0.5	0.5	0.6	0.8	1.0	1.2
Contribution to GDP growth:											
Domestic demand (y-o-y)	2.7	0.2	-4.2	-0.1	-0.2	0.9	0.0	0.9	1.3	1.7	1.8
Inventories (y-o-y)	0.1	-0.5	-2.1	1.2	0.9	-0.4	-0.1	0.3	-0.3	0.2	0.0
Net exports (y-o-y)	-0.8	-0.4	1.2	0.5	0.5	-0.6	-0.1	0.1	0.3	-0.1	0.1
Contribution to potential GDP growth:											
Total labour (hours) (y-o-y)	0.1	0.1	-0.1	-0.2	-0.2	-0.3	-0.2	0.0	0.2	0.3	0.3
Capital accumulation (y-o-y)	0.7	0.7	0.2	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.4
Total factor productivity (y-o-y)	0.6	0.6	0.6	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.5
Current account balance (% of GDP), balance of payments	2.9	2.7	3.3	5.7	5.7	5.7	7.1	7.7	.	.	.
Trade balance (% of GDP), balance of payments	4.1	3.3	4.4	6.1	5.5	5.4	6.0	6.1	.	.	.
Terms of trade of goods and services (y-o-y)	0.5	1.6	0.2	2.4	-2.1	0.8	1.5	0.4	0.2	0.4	0.1
Capital account balance (% of GDP)	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	.	.	.
Net international investment position (% of GDP)	-0.8	-5.1	0.9	12.9	28.0	36.3	37.8	46.4	.	.	.
Net marketable external debt (% of GDP)1	-28.4	-33.7	-32.6	-28.0	-23.6	-16.8	-14.7	-6.2	.	.	.
Gross marketable external debt (% of GDP)1	138.0	155.8	166.1	171.0	163.4	160.1	158.1	152.5	.	.	.
Export performance vs. advanced countries (% change over 5 years)	.	3.8*	3.6*	-5.4	-7.7	-10.0	-11.9	-11.69	.	.	.
Export market share, goods and services (y-o-y)	-0.7	1.5	-2.1	-10.8	-3.9	-5.2	1.9	-0.2	.	.	.
Net FDI flows (% of GDP)	1.8	4.5	0.9	3.5	-0.1	1.6	1.9	1.6	.	.	.
Savings rate of households (net saving as percentage of net disposable income)	-2.0	-4.2	0.8	2.1	0.9	0.7	1.2	-2.8	.	.	.
Private credit flow (consolidated, % of GDP)	15.9	18.9	-1.9	-3.0	4.5	7.9	-2.9	4.3	.	.	.
Private sector debt, consolidated (% of GDP)	188.4	222.8	233.4	222.1	222.8	225.6	218.7	220.2	.	.	.
of which household debt, consolidated (% of GDP)	113.4	130.0	142.3	138.5	138.8	136.6	134.6	132.3	.	.	.
of which non-financial corporate debt, consolidated (% of	74.0	91.8	90.2	82.8	83.3	88.4	83.6	87.5	.	.	.
Corporations, net lending (+) or net borrowing (-) (% of GDP)	4.1	4.0	6.6	7.9	8.7	8.4	8.4	8.4	8.2	7.7	7.7
Corporations, gross operating surplus (% of GDP)	22.6	22.1	20.0	22.2	22.2	22.9	22.7	22.4	22.2	22.2	22.4
Households, net lending (+) or net borrowing (-) (% of GDP)	-4.2	-4.5	-0.5	0.6	-0.6	0.9	-0.2	-2.1	1.0	2.2	1.4
Deflated house price index (y-o-y)	9.5	-7.9	-13.1	0.3	-4.0	-5.1	2.9	3.0	.	.	.
Residential investment (% of GDP)	5.9	5.4	4.2	3.7	4.3	4.1	4.0	4.1	.	.	.
GDP deflator (y-o-y)	2.2	4.1	0.5	3.2	0.8	2.8	1.4	0.8	0.9	1.3	1.8
Harmonised index of consumer prices (HICP, y-o-y)	1.6	3.6	1.1	2.2	2.7	2.4	0.5	0.3	0.2	0.9	1.7
Nominal compensation per employee (y-o-y)	3.5	3.9	2.8	3.2	1.4	1.7	1.2	1.8	1.5	2.1	2.3
Labour productivity (real, person employed, y-o-y)	1.1	-1.8	-2.2	4.0	1.2	0.5	-0.4	0.5	.	.	.
Unit labour costs (ULC, whole economy, y-o-y)	2.3	5.9	5.1	-0.8	0.2	1.2	1.5	1.3	1.3	1.2	1.3
Real unit labour costs (y-o-y)	0.1	1.7	4.6	-3.9	-0.6	-1.5	0.2	0.6	0.4	0.0	-0.5
Real effective exchange rate (ULC, y-o-y)	2.3	4.0	3.3	-4.4	-1.4	-3.6	2.8	1.5	-2.6	0.7	.
Real effective exchange rate (HICP, y-o-y)	0.8	2.0	2.7	-4.4	-0.7	-2.9	1.0	0.8	-3.2	1.4	-0.3
Tax wedge on labour for a single person earning the average wage (%)	41.3	40.9	39.5	38.3	38.4	38.6	38.2	38.1	.	.	.
Tax wedge on labour for a single person earning 50% of the average wage (%)	37.7*	37.2	36.6	35.3	35.4	35.7	35.2	35.1	.	.	.
Total financial sector liabilities, non-consolidated (y-o-y)	11.9	-2.5	6.7	10.4	-0.3	0.9	2.1	6.6	.	.	.
Tier 1 ratio (%)2	.	10.4	14.4	15.1	15.5	17.3	17.7	16.4	.	.	.
Return on equity (%)3	.	-5.0	-3.7	1.8	-0.1	1.8	3.8	3.6	.	.	.
Gross non-performing debt (% of total debt instruments and total loans and advances) (4)	.	1.6	2.8	3.1	3.0	3.9	3.9	5.1	.	.	.
Unemployment rate	4.7	3.4	6.0	7.5	7.6	7.5	7.0	6.6	6.0	5.8	5.6
Long-term unemployment rate (% of active population)	1.0	0.5	0.6	1.5	1.8	2.1	1.8	1.7	.	.	.
Youth unemployment rate (% of active population in the same age group)	8.2	8.0	11.8	13.9	14.2	14.1	13.0	12.6	10.6	.	.
Activity rate (15-64 year-olds)	80.0	80.7	80.2	79.4	79.3	78.6	78.1	78.1	.	.	.
People at-risk poverty or social exclusion (% total population)	16.8	16.3	17.6	18.3	18.9	19.0	18.3	17.9	.	.	.
Persons living in households with very low work intensity (% of total population aged below 60)	9.8	8.5	8.8	10.6	11.7	11.3	11.9	12.1	.	.	.
General government balance (% of GDP)	3.4	3.2	-2.8	-2.7	-2.1	-3.5	-1.1	1.5	-2.0	-2.7	-1.9
Tax-to-GDP ratio (%)	48.0	46.1	46.5	46.6	46.6	47.2	48.1	50.8	47.5	45.7	45.6
Structural budget balance (% of GDP)	.	.	.	-0.7	-0.4	0.0	-0.2	0.3	-1.7	-1.4	-1.0
General government gross debt (% of GDP)	37.3	33.4	40.4	42.9	46.4	45.2	44.6	44.6	39.9	38.3	38.8

(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 the fifth edition of the Balance of Payments Manual (BPM5) and/or ESA95

Source: European Commission, winter forecast 2016; ECB

2. STRUCTURAL ISSUES

This section provides an analysis of main structural economic and social challenges for Denmark. Focusing on the policy areas covered in the 2015 country-specific recommendations, this section analyses issues related to taxation, fiscal matters, labour market and education, housing market and stability of the financial sector, productivity and competition, as well as external competitiveness and domestic investment needs and obstacles.

2.1. TAXATION, FISCAL FRAMEWORK AND FISCAL SUSTAINABILITY

Taxation

The tax burden declined in 2015, compared with previous years and the trend is expected to continue in 2016. In 2014, the Productivity Commission recommended to focus on land and property taxes so as to reduce the burden of taxes on companies and personal income. However, there has been no significant shift in the tax burden from labour towards other types of taxes. One particular recommendation, yet to be followed through, is to maintain the municipal land tax and give it more weight in overall taxation ([1]).

Housing tax structure affects house price trends. Certain parts of the housing market, i.e. owner-occupied flats in larger towns and cities, and in particular the Copenhagen area, have recently witnessed strong and possibly unsustainable price increases. One of the factors influencing this rise could be the structure of the housing taxes, namely property taxes that do not necessarily reflect the actual value of the property, as well as relatively generous mortgage interest deductibility.

The property valuation system is currently under review. The valuation system for determining the value of real estate in market terms serves as a basis for calculating the main property taxes, namely property value tax and municipal land tax. Currently the valuations are suspended at 2011 values for owner-occupied dwellings and at 2012 values for non-residential real estate. The system is now under review and a new system will be put in place in the coming years.

The property value tax freeze raises concerns regarding market distortions and the distribution of the tax burden. The property value tax, which is collected by the central government, has been frozen in nominal terms since 2002. It is estimated that for 95% of all property owners, property value tax is calculated based on 2001 and 2002 values. This means that only about 5% of property owners pay property value tax based on the current market value. This is the case where, due to certain market developments, the property value determined under the valuation system is lower than the value the property would have been in 2002. The 2002 property value tax freeze has distorted the market by decoupling taxation from the real value of the property and led to a skewed geographical distribution of the tax burden. This has, for example, led to a situation where the effective property tax rate for property owners in the Copenhagen area is less than the national average and significantly lower than in parts of the country where house price rises have been more modest. This divergence is likely to become larger, in the absence of an automatic mechanism to link housing taxation to the real value of the property and land. The 2002 freeze of the property value tax together with the 2011/2012 suspension of valuations can cause confusion and make this tax particularly difficult to understand by the ordinary citizen. This jeopardises the important contribution the tax has towards ensuring a stable, predictable and reliable tax system.

([1]) Sources used in this section include:
The Danish Ministry of Taxation, http://www.skm.dk/english/facts-and-figures/the-tax-burden.
European Commission, 2015, Country Factsheet Denmark accompanying the State of the Energy Union, http://ec.europa.eu/priorities/energy-union/state-energy-union/docs/denmark-national-factsheet_en.pdf.
Eurostat, statistics database, http://ec.europa.eu/eurostat
Productivity Commission, 2014, Final report: http://produktivitetskommissionen.dk. The tax recommendations can be found in chapter 6.

Furthermore, the municipal land tax remains capped, while a possible continued freeze risks aggravating the distortion of the housing market. The municipal land tax is calculated based on the value determined in the most recent valuation. But since 2002 the annual increase in the value has been capped. This decision has had a less distortive effect on the housing market and has allowed the municipal land tax to keep up with market developments to some degree. The decision to freeze the municipal land tax in 2016, however, carries the risk of decoupling the market value of land from the value that is used for calculating housing taxes. This is likely to distort the housing market even further. The freeze of the municipal land tax might contribute to undermining equal treatment in the property taxation system even further, by amplifying the skewed distribution of the tax burden, following from the geographical divergence in effective tax rates described in the previous paragraph.

It is unlikely that there will be much progress before the new valuation system is put in place, as this system is a prerequisite for calculating how any change in the property taxation system will impact taxpayers.

Environmental tax revenues relative to GDP are the highest in the EU but there is room to better align their design with their environmental objectives. Revenues from environmental taxes amounted to 4.1% of GDP in 2014, as compared with the EU average of 2.5%. Per capita road transport emissions in Denmark are among the highest in the EU. This suggests that the structure of car taxation in Denmark, currently based on low annual recurrent taxes and high registration taxes at the time of the purchase, does not meet its environmental objectives. In an effort to counter the resulting disincentives to purchase newer and more efficient cars, car registration taxes have been lowered. Steps have been taken to extend car registration taxes to hydrogen and electric cars to be phased in over a five-year period. Some progress has also been observed in relation to the indexation of excise duties on oil. To incentivise the use of hydrogen or electric cars, a 52% increase in the diesel 'countervailing charge' has been set, but trucks, buses and tractors are exempt. Previous increases in the duty on the emission of nitrogen oxides have also been rolled back.

Fiscal framework

The fiscal framework in Denmark is designed as a medium-term budgetary strategy that applies to all levels of government. The basic budgetary principle of the framework is to achieve a structural general government balance or surplus in the medium to long term.

Some of the sources of Danish public revenues are very volatile. This is the case for pension yield tax revenues for example, which over the last 15 years have varied from constituting 0.1% of GDP (in 2001 and 2002) to 2.8% of GDP in 2014. As this volatility is not directly linked to the economic cycle, it poses challenges for fiscal policy planning. The Danish authorities have attempted to solve this challenge, by estimating a structural level for a number of revenue items ([2]), and using these structural levels when estimating the structural general government balance.

An independent fiscal institution monitors compliance with national fiscal rules in Denmark and produces macroeconomic forecasts. The Danish Economic Councils (DORS) has been designated 'fiscal watchdog', and is monitoring the long-term sustainability of public finances and the general balance of public finances in the medium term. More specifically, DORS evaluates and monitors whether fiscal policy complies with the Danish Budget Law, assesses the general government expenditure ceiling and its compatibility with fiscal targets, and checks that the budgets and actual accounts for the general government comply with the expenditure ceilings. In addition, DORS publishes biannual forecasts on the state of the Danish economy and public finances.

Fiscal sustainability

Risks are low with regard to Denmark's fiscal sustainability. Based on the European Commission's Fiscal Sustainability Report, published in January 2016, risks related to Denmark's fiscal sustainability appear to be low in the short, medium and long term. According to the report, there are no short-term risks of fiscal stress, though some variables (such as the primary deficit

([2]) This is for example the case for pension yield taxes, North Sea oil and gas revenues, and car registration tax revenues.

and private sector debt), point to possible short-term challenges. In the medium term, there are no apparent risks from a debt sustainability analysis perspective due to the low stock of debt at the end of projections (2026) and resilience to potential shocks to nominal growth, interest rates and primary balance. No medium-term risks emerge from the analysis of the sustainability gap indicator S1([3]) either. This is due to the debt ratio being far below the 60% Treaty reference value, decreasing age-related public spending and the favourable initial budgetary position. Finally, there are no sustainability risks for Denmark in the long run, assuming fiscal policy remains constant at the structural primary surplus, forecast by the Commission for 2017 and beyond. This risk-free outlook is primarily due to the relatively limited unfavourable contribution of the initial budgetary position and from the different contributions to age-related public spending balancing each other out in the long term.

([3]) The S1 indicator measures the required fiscal adjustment needed over the next 5 years (from the last forecast year) to drive debt ratio down to 60% of GDP in 2030.

2.2. LABOUR MARKET, EDUCATION AND SOCIAL ISSUES

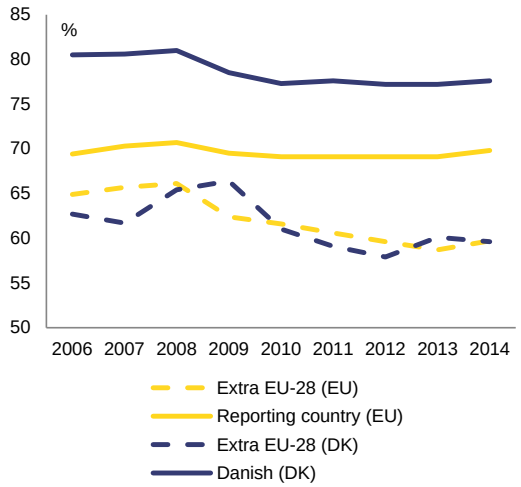
Labour market and social challenges

The key labour market challenge in Denmark is to ensure labour supply in the context of demographic ageing and the long-term fiscal sustainability of the advanced welfare system. Denmark has a highly performing labour market with a high employment rate and low unemployment. Over the last years, subsequent governments have adopted a series of substantial labour market reforms, particularly aimed at increasing work incentives. These are expected to take Denmark a long way towards closing the 3.4 pps gap to its 80% Europe 2020 employment rate target. This would also contribute significantly to the long-term fiscal sustainability of the Danish welfare model ([4]).

In view of the demographic challenges, people on the margins of the labour market represent an increasingly important potential labour source. Better labour market inclusion of people with a migrant background — but also of workers over 60 years, young people and people with disabilities — is the main challenge. People who have been granted refugee status in Denmark benefit from a three-year integration programme. Other immigrants fall under the normal active labour market policy measures. The activity rates gap between people born outside the EU (68.8%) and those born in Denmark (82%) is 13.3 percentage points. This is well above the EU average of 3.7 percentage points. Moreover, people not born in the EU are also affected by higher levels of unemployment than those born in Denmark (13.4% and 5.4% respectively). Denmark is among the EU countries where this unemployment gap has widened the fastest in recent years.

Higher inactivity and unemployment rates for immigrants result in a large gap in employment rates, especially for women. In 2014, only 59.6% of people born outside the EU were employed, compared with 77.6% for those born in Denmark. This gap of 18 percentage points is among the highest in the EU (Graph 2.2.1). Moreover, there is evidence that this gap is more pronounced for women than for men (employment rates of 53.3% and 74.5% respectively).

Graph 2.2.1: **Employment rate DK and EU28 by country of birth (Labour Force Survey)**



Source: Eurostat, Labour Force Survey

The skills potential of immigrants seems under-utilised. Around 29% of employed non-EU immigrants with a tertiary education are over-qualified for their job compared with only 12% of Danish nationals.

([4]) Sources used in this section include:
Akademikerne (2010), *'Det frie valg eller det frie fald? – overgangen fra studium til job'*, www.ac.dk.
Arbejderbevægelses Erhvervsråd (2013), *'Stort frafald er hæmskoen i dansk uddannelsespolitik'*, www.ae.dk.
Arbejderbevægelsens Erhvervsråd (2015): *'Hver 10. ung er hverken i job eller under uddannelse'*, www.ae.dk.
The Danish Government (2015), The National Reform Programme, Denmark 2015.
The Danish Ministry of Education, www.uvm.dk
The Danish Ministry of Higher Education and Science (2015). Expert Committee on Quality and Relevance in Higher Education, *'New Ways and High Standards'*, *www.ufm.dk*.
De Økonomiske Råd, *Vismandsrapport 2014 - Dansk Økonomi, efterår 2014*, Chapter II: Dagpengesystemet, www.dors.dk.
OECD (2015), Ageing and Employment Policies: Denmark 2015 – *Working better with age*, Paris.
OECD (2015), International Migration Outlook, Table 2.A1.7, p.120.
OECD-EU (2015), Indicators of Immigrant Integration, Settling In, Paris.
OECD, TALIS (2013), An International Perspective on Teaching and Learning, Paris
Styrelsen for Forskning og Innovation (2013), *'De skjulte helte – produktivitetssucceser i dansk industri'*, *www.ufm.dk*
Thomsen, Mads Krogsgaard (2014), *Vi har brug for flere skarpe talenter*, opinion piece in Politiken 10 June 2014, http://politiken.dk/debat/ECE2311921/vi-har-brug-for-flere-skarpe-talenter/

Evidence shows that the employment rate of recently arrived people is falling rather than improving ([5]). Developing better labour market inclusion policies for recently arrived people is now even more important, given the recent influx of refugees. A sub-set of the Carsten Koch II policy recommendations focused on making the three-year integration programme more flexible and job-related. However, there has been no coherent national political follow-up on these recommendations. Nor have any other comparable active labour market policy related measures directed towards newly arrived refugees yet been initiated.

The weaker labour market outcomes for those born outside the EU represent both a loss of human capital and a social inclusion challenge. The disadvantage of non-EU immigrants can partly be explained by lower skills: gaps in the validation of work qualifications and lower educational performance (see section on education). Even when adjusting for age, literacy, gender and education, foreign born people are still less likely to be employed. This gap of more than 6 percentage points is likely to be higher for certain groups of non-EU migrants than for others. However, the gap possibly also reflects an element of perceived discrimination ([6]). Disadvantages of first generation migrants, if not corrected, are likely to affect younger generations too. For example, the 'second generation', young people born in Denmark with immigrant parents, are much more likely to be unemployed than children of parents born in Denmark (16.3% and 7.1% respectively in 2013 for people aged 15-34).

Another potential source of labour supply could be workers over 60 years, as this group is relatively under-employed. While the employment rate of older workers remains significantly higher than the EU average, there is a stronger decline (by 2 percentage points) from the age group 55-59 to 60-64. Reforms of public pensions in 2006 and 2011 increased the pensionable age, which in the next decade will be adjusted in line with increases in remaining average life expectancy at age 60. The aim is to limit the average duration of a public pension to 14.5 years. Although effective exit ages have risen in recent years, it remains a major challenge to ensure that the labour market is inclusive and flexible enough for workers over 60. The main impediments to longer working lives include insufficient access to flexible work arrangements, job mobility and work-related continuous learning. Further challenges are preventing and tackling life-style and stress-related diseases. This is partly due to the lack of coordination between healthcare and employment services. Older workers are also less likely to return to regular work after becoming unemployed. The frequent use of state subsidised flex- and senior-jobs instead of 'standard' jobs could also be an impediment.

The employment rate of women is generally high, but strongly influenced by educational attainment. It varies from below 50% to close to 90% among the highly educated. The rate of part-time work for parents with young children is much higher for women than for men (29% and 5% respectively).

For a long time Denmark has been developing legislation along the lines of the EU youth guarantee to combat youth unemployment. The measures targeted at young unemployed people are regulated by the reforms on social assistance and active labour market policy measures. Despite this, young people with low educational attainment and very limited work experience are still falling through the system. Nearly 40% of social assistance recipients are aged 16-29 years. A recent study shows that the majority of young people not in employment, education or training have been in this situation for more than six months. This group corresponds to 10% of the population below 30 years of age.

Recently there has been a significant increase in the number of homeless people aged 25-29. This increase of 29% (2013-2015) is a further indication

([5]) Only 4% of those who obtained right of residence in 2010 were in employment after six months; in 2014 it was even lower (1%). Data for 12 and 18 months shows the same declining trend. Source: Agenda (2015). A chapter of the Carsten Koch II report focusing on newly arrived refugees/immigrants was published in February 2015, three months before the main report.

([6]) The proportion of non-EU nationals aged 15-64 who considered themselves discriminated against on the grounds of ethnicity, race or citizenship was 13.6% in Denmark, and 22.6% in the EU. OECD-EU, Indicators of Immigrant Integration, Settling In (2015).

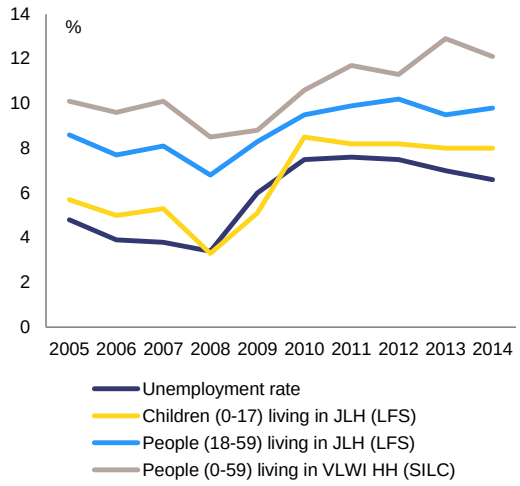
that some vulnerable young people are still not being reached by current social, healthcare, educational or active labour market policy measures ([7]).

The weak labour attachment of some groups is a social challenge. Even though the number of people living in very low work intensity households (has fallen slightly (Graph 2.2.2), the Danish level remains above the EU average. At 495 000 people in 2014, the level is significantly above the Danish 2020 target for reduction of poverty and social inclusion. This trend contrasts with the good overall labour market outcomes. Therefore, better inclusion of people on the margins of the labour market is needed in order to prevent long-term consequences for social inclusion and cohesion ([8]).

([7]) Homelessness among those aged 18-24 increased by 80% in 2009-2013 (633 to 1 138 people). This figure has now stabilised, but not decreased. However, between 2009 and 2015 there was a 63% increase in the number of homeless people aged 25-29 (from 490 to 799 people). This rising trend was not broken between 2013 and 2015, where the increase was 29%. SFI Homelessness Census (2015).

([8]) Due to revision of the very low-work-intensity rate of households data for 2013 and 2014, these are not fully comparable to earlier data, even if the overall tendency is still valid. The overall at-risk-of poverty or exclusion rate shows slight improvements, from 19% to 17.8% (2013-2014), but remaining well below the EU average (24.4% in 2014). This reflects moderate improvements in both the rate of people at risk of poverty after social transfers [down from 13.3% (2010) to 11.9% (2014)] and severe material deprivation down from 3.8% to 3.2% in 2013-2014). Both rates are significantly below the EU average (17.2% and 9% respectively in 2014).

Graph 2.2.2: **Different measures of joblessness**



JLH –Jobless households rate;
VLWI HH – very low-work-intensity rate of households.
Source: EU LFS and EU SILC

Active labour market inclusion

The active labour market policy reform of 2014 aimed at improving the employability of those on the margins of the labour market. It was based on expert recommendations focusing mainly on recently unemployed people (who are insured). In 2015, changes to the content of the active labour market policy and to the organisation of the Public Employment Services were implemented. The reform aims to provide better and more individualised support for the unemployed. The second part of the implementation took effect in January 2016. The state-to-municipality reimbursement for active labour market policy services provided to the unemployed is gradually reduced the longer the individual is unemployed. This 'stair-case model' reinforces the economic incentives for municipalities to favour effective active labour market policy measures and avoid citizens becoming long-term unemployed.

In contrast to the general active labour market policy reform, insufficient measures have been taken to target the groups that are furthest away from the labour market. A second set of expert recommendations from the Carsten Koch committee focused on people outside or on the very margin of the labour market (uninsured people on social assistance etc.). The recommendations include increased use of

company-oriented programmes, stronger cross-disciplinary measures, better use of targeted training and education, and better supportive initiatives. The target groups for these measures have several characteristics in common, such as low educational attainment, health problems and social issues. About 25% of those on social assistance have been in this situation for more than three years and 70% have not completed any education or training after lower secondary school. The average work experience is less than four years despite an average age close to 40. People with a migrant background are significantly overrepresented in the group of people receiving social assistance ([9]). There has been no coherent political follow-up of these recommendations. Nor has other comparable active labour market policy measures directed particularly towards those furthest away from the labour market been initiated.

Work incentives

A number of the labour market reforms have focused on increasing work incentives. Approximately 10% of the working-age population receive unemployment benefits or social assistance, out of which two thirds are nonetheless regarded as 'employable'. In 2014 both the unemployment trap (89.2%) and the low wage trap (73.8%) were very high ([10]).

The number of people exhausting the two-year unemployment benefits eligibility period was considerably higher than anticipated with the 2011 unemployment benefit reform. The reduction in the unemployment insurance benefit eligibility period from four to two years resulted in an unwanted shift of its recipients to lower social assistance. Temporary unemployment benefits were, therefore, introduced for an interim period to mitigate these effects of the transition. The increased barriers for re-entering the unemployment benefit scheme also had negative consequences especially for people in short-term employment. The reform may also have added to structural unemployment by reducing the insurance component of the flexicurity model.

Modernisation of the unemployment benefit system was agreed in October 2015, following recommendations from an expert group which involved social partners ([11]). The reform makes the system more flexible and increases incentives for the unemployed to take up work, even if only for short periods. As a starting point the two-year eligibility period is maintained, but with better recognition and reward for short periods of work and part-time work. The reform is thus likely to keep more unemployed people on unemployment benefits a little longer (rather than on social assistance) while simultaneously increasing work incentives. The aim is to contribute to a more balanced and fair unemployment benefit system and thereby to improve the equilibrium between flexibility and security on the labour market. Although the reform is expected to address most of the shortcomings of the current system, it does not include those in 'non-standard jobs' such as self-employment and freelance jobs. The government appointed in early February 2016 a working group, in which social partners are included, tasked with making recommendations on these issues.

The 2012 disability pension (early retirement) and the 'flex-job' reforms are also showing results. The increase in the number of newly-created flex-jobs, and particularly the mini-flex-jobs (under 10 hours per week), is an improvement. Moreover, the reform sets up

([9]) People with a migrant background from certain non-EU countries (Andorra, Australia, Canada, Iceland, Liechtenstein, Monaco, New Zealand, Norway, San Marino, Switzerland, USA and the Vatican State) constitute 7% of the working-age population, but 21% and 33% of those on social assistance (respectively classified as job ready or 'activity ready', as in not ready for a job, but capable of attending other active labour market policy measure).

([10]) The unemployment trap refers to the percentage of earned income that is 'lost' as a consequence of paying taxes, social insurance contributions and of losing entitlement to benefits, when an unemployed person returns to employment. It is calculated at 67% of the average wage for a single person without children who gets a job. The low wage trap refers also to the situation of a single person with no children. It measures the percentage of gross earnings which is 'lost' in tax through the combined effect of paying taxes, social insurance contributions and withdrawals of social benefits, when an employee's gross earnings increase from 33% to 67% of the average wage (Joint Assessment Framework indicators).

([11]) Dagpengekommissionen, an expert group chaired by Professor Nina Smith, October 2015. The main political agreement was reached on 22 October but followed up by a 17 December 2015 agreement on supplementary benefits for those in part-time work.

cross-sectoral teams in municipalities providing individualised advice for reintegrating unemployed into the labour market. The success of those measures is still uncertain.

The social assistance (cash benefits) reform was implemented in January 2014. It focuses on encouraging young unemployed people to take up education. Some 58% of the young unemployed under 30 were categorised as 'ready for education' in 2014. This classification determines whether a person receives normal social assistance or whether this social assistance is replaced by an education allowance, equal to student support, in order to provide incentives for taking up education. The wide margin in evaluations (depending on municipality, between 32% and 72% of young unemployed people were subject to this measure) indicates a considerable degree of arbitrariness. This could imply that in some municipalities taking up studies is not encouraged enough, as too few young unemployed are categorised as 'ready for education'. On the other hand, other municipalities might classify some people as 'ready for education' and thus recipients of the lower educational allowance, even if they are in reality not capable of taking an education.

In November 2015 a political agreement was reached on lowering the benefits ceiling for social assistance recipients. The combined benefits received, including family benefits, are capped at 80% of a minimum income. It is expected to affect some 24 000 out of the 150 000 people on social assistance. Only 22% of them are assessed as capable of taking up a normal job.

A further make-work-pay related 'integration benefit' that halves social assistance levels for those who had recently resided outside Denmark was introduced in September 2015 ([12]). While this clearly incentivises job-seeking or improving language skills, it is questionable whether these measures can achieve the desired results without stronger supportive active labour market policies. Moreover, the reduced household budgets for an already vulnerable group could result in further social exclusion. It also poses an even larger challenge for the municipalities responsible for providing this group with social services, adequate housing etc. The possible social consequences of this reform therefore need to be carefully evaluated.

Education and skills

The Danish educational system is generally performing well. Levels of early school leaving are low and the tertiary attainment rate is high. Denmark has already met its Europe 2020 targets in the education area. However, low basic skills of migrants are challenging. There is a need to equip teachers with skills to address pupils from diverse cultural backgrounds or with special needs. Participation in early childhood education and care of foreign and native-born children is almost identical at the age of four. Nevertheless, differences in enrolment can be seen for three year-olds and below – with first- and second-generation immigrants participating to a lesser degree ([13]). Recent research points to refugees with young children as a target group to be made aware of the benefits of participation in early childhood education ([14]). Furthermore, the high early school leaving rate from upper secondary school and long completion times combined with the relevance of higher education for labour market needs, remain challenging.

The school performance of migrant children, including basic skills remains a challenge. There is a significant gap (of 12-22 percentag points) between the rate of low achievement of students

([12]) The 'integration benefit' is targeted at those who have not had residence in Denmark for a minimum of seven out of the last eight years (exception for those classified as mobile workers under the EU-legislation). Some Danish nationals who have worked/studied abroad will also be affected by this, but recently arrived immigrants/refugees are the main target group. The amount is roughly 50% of the usual social assistance and similar to the student allowance (SU) (although without the top-up loans available under the SU scheme). Refugees/immigrants who take a Danish language exam will receive a top-up of EUR 200/month.

([13]) In Denmark, participation in ECEC for children from immigrant families is 19 percentage points lower than participation of non-immigrant children; the difference in PISA reading results between those who attended ECEC for more than three years and those who did not attend or attended for more than one year is 36 points and in mathematics 43.5 points (Key Data on Early Childhood. Education and Care, 2014 Edition Eurydice and Eurostat Report.).

([14]) Danish Institute for Local and Regional Government Research (KORA).

born in Denmark and those born abroad ([15]). This places Denmark among the EU countries with the highest performance differences and suggests the need for further action. The implementation of the 'Local Government Denmark 2015' strategy on supporting 'children at risk' may be jeopardised after municipalities announced their intention to cut their education expenditure. The new government is reviewing the policy promoting the inclusion of pupils with special needs and the budget available for support measures, which may also have a negative impact on children at risk.

Although Denmark has ambitious goals on education attainment, too many students drop out from the general upper secondary education. The goal is to reach 95% of young people completing at least upper secondary education by 2015 and 60% tertiary education. However, many drop out from upper secondary education. Around 82% of 25 year olds without an upper secondary qualification have dropped out from one or more programmes, the majority of these being vocational education and training (VET). Moreover, 10 years after completion of the compulsory education, 16% of young people have still not completed any upper secondary education. These factors could prevent Denmark reaching its national education targets.

The reform of general upper secondary education, proposed in 2014, is at a standstill. The main elements of this reform are reducing the number of study combinations and strengthening maths, the sciences and student's abilities to cooperate and innovate. One of the aims is to incentivise more young people to choose VET rather than a general upper secondary education. The focus is on making the transition from compulsory education to upper secondary education more labour-market relevant.

The 2014 reform, 'Better and more attractive vocational education and training programmes', is ambitious. Its objectives include increasing the proportion of young people who begin a VET programme from the current level of 19% to 25% in 2020 and 30% in 2025. The target is to increase the completion rate from 52% in 2012 to at least 60% in 2020 and 67% in 2025. The reform took effect from the school year starting in August/September 2015. Early reports are positive and indicate that drop-out rates for the first few months are reduced. The additional funding in 2016 targets activities that improve the quality of the education and should facilitate better implementation of the reform ([16]).

Strengthening the supply of apprenticeships remains a crucial issue. Denmark has the highest proportion of VET students in work-based programmes of all the EU countries. However more apprenticeship places in companies are still needed. In October 2015 some 5% of VET students were actively searching for an apprenticeship place, while about 8% were only in in-education internships. Over the last few years, 50 placement centres have been established. These are responsible for cooperating with local businesses on creating apprenticeships and offering school-based internships. In January 2015, a joint report from the government and social partners estimated that the supply of apprenticeships could still be increased by 59% compared with the 2012 level.

Challenges also remain in the area of tertiary education. The tertiary attainment rate is high — 44.1% in 2014, well above the EU 28 average of 37.9%. But high early leaving rates and unemployment rates after graduation remain a challenge. Compared with other developed countries, young people in Denmark stay longer in tertiary education ([17]). However, this may partly be explained by many Danish students having jobs during their studies. Social partners point out that small jobs, especially if related to students' studies, increase their chances of finding a job after graduation. Some multinational companies say that it is necessary for them to hire people with

([15]) The difference between the proportion of low achievers among native-born (13.2%) and among first- and second-generation immigrants is 35.2 and 25.6 pps respectively. **Link to the 'Ethnic PISA results'.* https://www.folkeskolen.dk/543083/pisa-etnisk-elever-med-indvandrerbaggrund-halter-stadig-efter

([16]) The agreement on the 2016 financial bill includes DKK 150 m in 2016 for quality-improving activities at VET. VET is only excluded for the 2% per year reductions in funding for youth education in 2016. Source: Ministry of Education.

([17]) The Eurostudent survey suggests that the study intensity of Danish full-time students is one of the lowest in the EU. Only 72.8% of the full-time students devote more than 21 hours per week to studies.

PhD degrees as the subject knowledge of graduates is considered insufficient. The Quality Committee recommended improving the quality and labour market relevance of higher education. The government wants to encourage more students to choose short-cycle or bachelor-level tertiary education. These are practice based, and some evidence shows that these types of studies might be more suited to the needs of small and medium sized enterprises. The government also wants to ensure better regional coverage of higher education. It announced plans to review the taximeter system, which determines the level of state funding for universities. Higher education institutions should also be granted more freedom in ensuring that students complete their education on time. It has yet to be seen whether these measures will improve the employment rate of graduates and make higher education more labour-market relevant.

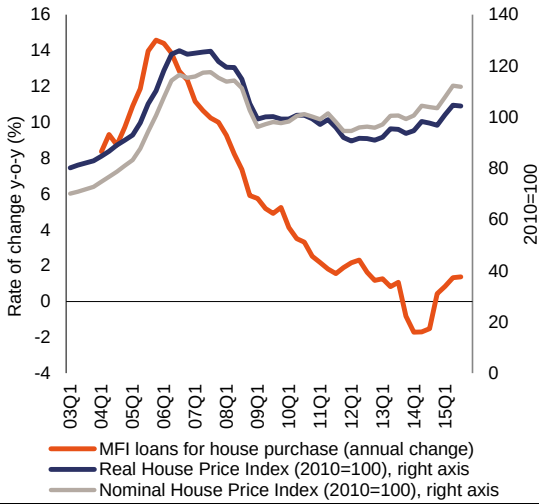
In conclusion, the recent educational reforms, namely VET and primary school, should improve educational outcomes. If the reform of upper secondary general education is agreed, it could impact further on completion rates and increase the quality of graduates. Making studies more practical and supporting short cycles are steps in the right direction.

2.3. HOUSING MARKET AND STABILITY OF THE FINANCIAL SECTOR

Housing market

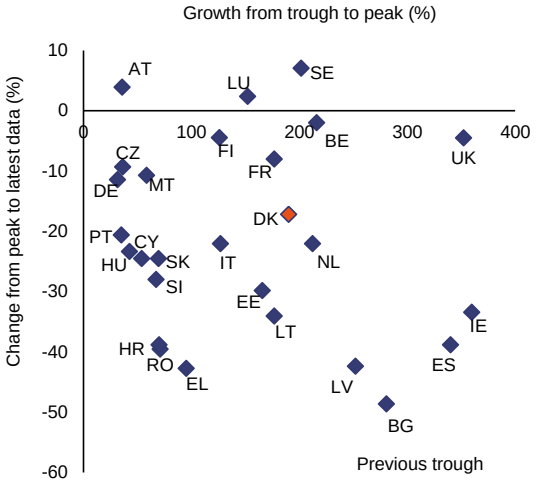
House prices have increased strongly over the last three years, in particular in the large cities, but have slowed down in the second half of 2015. In the third quarter of 2015, prices of owner-occupied apartments increased by 11.3 % on an annual basis. Over the same period, prices of single-family houses increased at a slower rate of 5.6 %. However, on average, house prices are still 17.2 % lower than their peak in 2006 (Graph 2.3.1 and 2.3.2). The increase in house prices in Denmark has been strongest in the large cities, especially in the Copenhagen area where three quarters of all Danish apartments are sold. As mentioned in Section 2.1, mortgage interest deductibility combined with property taxes that do not necessarily reflect the actual value of the property might contribute to the increase in house prices. Against this background, close monitoring of the housing market is warranted ([18]).

Graph 2.3.1: **Evolution of the house price index and monetary financial institution (MFI loans) for house purchases**



Last values, Q3 2015
Source: Eurostat, ECB, European Commission

Graph 2.3.2: **House price cycle**

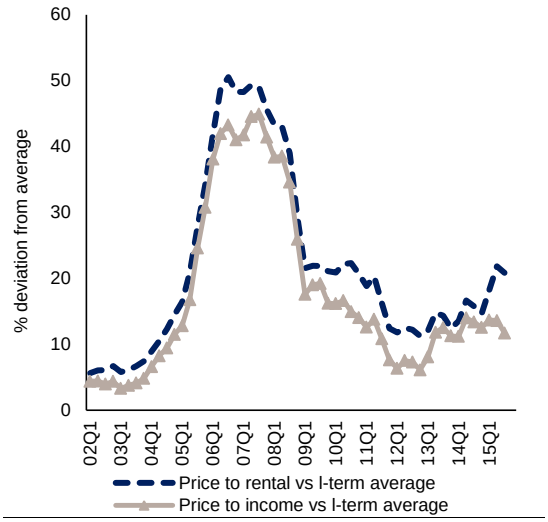


Source: European Commission, OECD, ECB, BIS

The deviation of house prices vis-à-vis their long-term average has increased. When comparing house prices with their longer-term trends, the adjustment in house prices stabilised in the mid-2013. Both the price to rental ratio and price to income ratio suggest that Danish house prices are slightly overvalued (Graph 2.3.3).

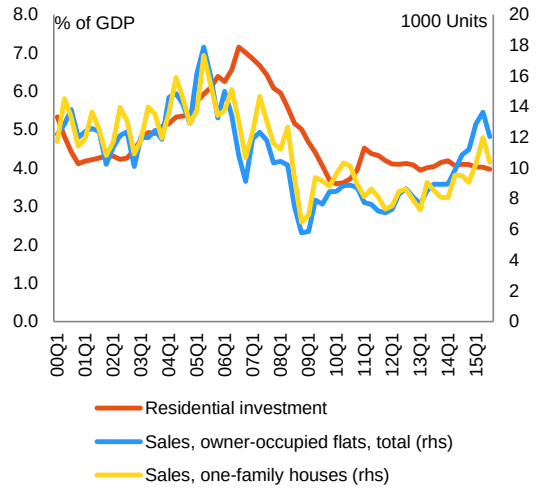
([18]) Sources used in this section include:
Carlos Cuerpo, Sona Kalantaryan, Peter Pontuch (2014), 'Rental Market Regulation in the European Union', European Commission, Economic Papers 515 | April 2014.
The Danish Ministry of Business and Growth (2013), 'Gældsudgifter i husholdninger med realkreditlån'.
Danish National Bank, StatBank, https://www.nationalbanken.dk/en/Pages/default.aspx.
Danish National Bank (2012), 'Quarterly Monetary Review 4th quarter', Part 1.
De Økonomiske Råd (2001), Dansk Økonomi forår 2001, kapitel III Boligmarkedet — skævt og ineffektivt.
DREAM (2012), Konsekvenser af huslejeregulering på det private udlejningsboligmarked.
European Central Bank, statistics, www.ecb.europa.eu.
Finanstilsynet (2016), 'Vejledning om forsigtighed i kreditvurderingen ved belåning af boliger i vækstområder mv.', www.finanstilsynet.dk.
Kristensen, Joachim Borg (2011), Det danske boligmarked i 2000'erne — Kortlægning af boligbestand og flyttebevegelser, DREAM arbejdspapir 2011:3, December 2011.
LSE London (2007), London School of Economics and Political Science, Social Housing in Europe, edited by Christine Whitehead and Kathleen Scanlon, July 2007.

Graph 2.3.3: **Price to rent and price to income**



Last values, Q3 2015
Source: Eurostat, OECD, ECB, BIS and European Commission calculations

Graph 2.3.4: **Residential sales and investment**



Source: European Commission and Statistics Denmark

House sales have increased but residential investment has stagnated in the recent years. The number of houses sold was 26 % higher in Q2 2015 compared with the same period in 2014. This trend can be explained by low interest rates for mortgages and improved labour market conditions, with an increase in both employment and real wages. However, this trend slowed down in the third quarter of 2015. Residential investment stood at 4.0 % of GDP in Q2 2015, 3.2 percentage points lower than the 2006 peak (Graph 2.3.4).

The composition of the Danish housing market is very diverse. In 2011 there were 2.6 m dwellings in Denmark, of which around half were owner-occupied, close to 20 % social housing, 18 % private rental homes, 8 % cooperative housing, while 4 % fell into other categories or were unspecified. Social housing, which plays a pivotal role in Danish social policies, has a relatively high share of the total housing stock in Denmark compared with other EU counties.

Rent control on the private rental market is very high. In the private rental market, the Danish rent control is one of the strictest in the EU, and implies controls both for the initial rents and subsequent increases (Graph 2.3.5). The regulation is complicated by the fact that it is differentiated, as different regulations apply for different kind of housing, i.e. they vary depending on the age of the property.

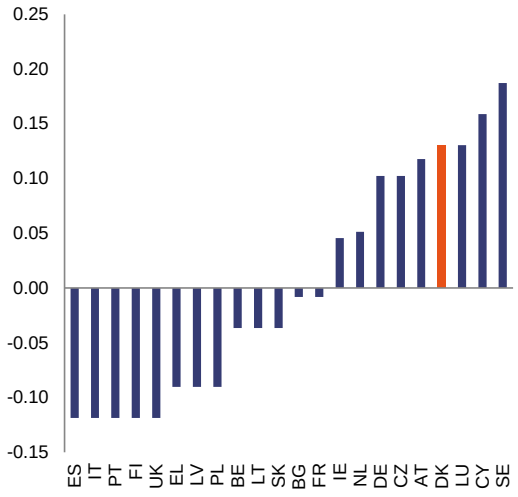
The objective of rent control is redistribution, but strict rent regulation seems to be a poorly targeted instrument. An argument used in favour of strict rent control is the redistributional aspect, i.e. that it comes to the benefit of people with the lowest incomes. A 2001 study from Danish Economic Councils sheds light on this argument. It indicates that people with the highest and the lowest incomes benefit the most from strict rental regulations, while people with middle incomes benefit the least. Housing benefit (*boligstøtte*) appears to be a more targeted policy instrument. While three quarters of housing benefit goes to people with the lowest incomes, this applies to less than half of the benefits from strict rent regulation. Another study from the Danish Rational Economic Agents Model (DREAM) concludes that the rent regulation is fairly targeted at the least prosperous tenants. However, according to the study, there are also relatively high gains for tenants with the highest incomes. These gains appear to come from the fact that many of the most prosperous tenants live in large dwellings, and according to the study an estimated 21 % of gains from rent regulation accrue to dwellings with the 5 % highest estimated market values.

Rent control leads to higher demand than supply in this part of the market. Strict rent

control implies a distortion of the market mechanism, since a regulated price below the market value implies that demand will be higher than supply in this segment of the market. This will push potential tenants over to other segments of the housing market, due to the mismatch between supply and demand. Rent regulation implies that tenants cannot be chosen based on their willingness to pay, which means that other methods for selection are applied, based on criteria such as waiting lists, personal connections or family background. These selection methods have been described as a 'housing lottery', where the prize is savings on future housing expenditures. The selection methods applied to the private rental market may make it more difficult for people from other parts of the country, or from abroad, to enter the Danish housing market.

High rent regulation may create lock-in effects and a suboptimal utilisation of the housing stock. Artificially low rents may lead to a suboptimal utilisation of the housing stock, since tenants who have the advantage of a regulated rent tend to have too high housing consumption (measured by comparing the consumption of square metres in dwellings subject to strict rent regulation with other dwellings). Studies also show that people who have 'won the housing lottery' tend to stay longer in their dwellings, since moving out would imply a loss of savings. This might reduce mobility on the housing market, and on the labour market, since it may affect the willingness to look for work in areas that would involve moving from the dwelling with the artificially low rent.

Graph 2.3.5: **Composite indicator of regulatory frictions of rent control, 2013**



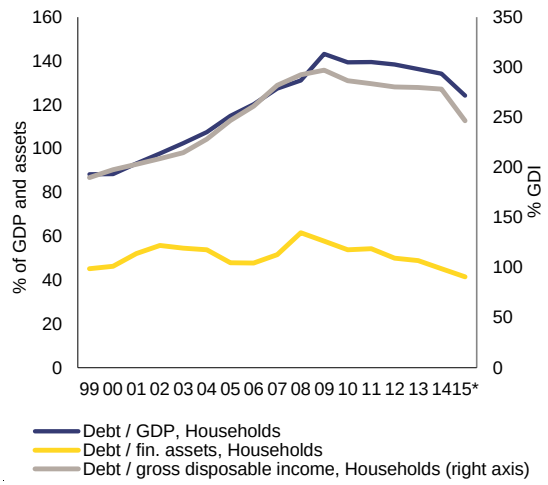
Data for CY represent the housing segment of pre-2000 dwellings
Source: The indicators refer to the private segment of the rental market. Calculations based on Cuerpo et al. (2014).

Private indebtedness

Household debt remains high but is declining. In Q2 2015 the debt to GDP ratio reached 124 %, down by almost 20 percentage points from the 2009 peak. Lending to households from monetary financial institutions has increased only moderately (Graph 2.3.6). The increase in 2015 is partly due to the current very low interest rates ([19]).

([19]) The Danish Central Bank reduced the benchmark deposit rate four times in the beginning of 2015 to a historically low level of -0.75%. This was a result of the Swiss Central Bank's decision to discontinue the minimum exchange rate and the ECB's decision to launch an expanded asset purchase programme. Both these measures led to a considerable inflow of foreign currency to Denmark, increasing its foreign currency reserves.

Graph 2.3.6: **Leverage, Households**



*Latest value is Q2 2015
Source: Eurostat

Danish authorities have taken measures to counter the risks stemming from a prolonged period of low interest rates. The Danish Financial Stability Authority (*Finanstilsynet*) introduced in February 2016 guideline to ensure sufficient caution is taken when granting loans on the basis of property in areas with significant price increases (i.e. Copenhagen and Aarhus). It is designed to protect institutions and private customers against the risk of rising interest rates and falling house prices. One of the seven measures stipulates that banks and mortgage credit institutions should assess, through a stress test, the repayment capacity of the customer under the scenario of a 1 % increase in the current fixed interest rate, but minimum 4 %, when granting adjustable interest rate mortgage loans.

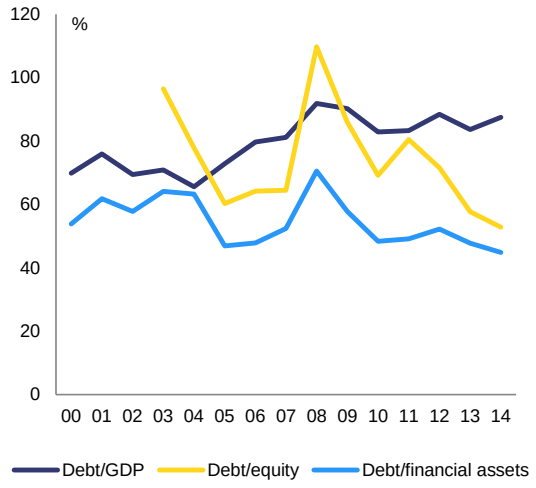
The gap between riskier and more stable loans as a proportion of outstanding loan volume is narrowing. Over the last two years, the share of loans with a variable interest rate and deferred amortisation period has declined. In 2015, the share of adjustable-rate loans amounted to 67 % of total mortgage lending, down by 6 percentage points from the peak in 2012. The share of deferred-amortisation loans, i.e. loans with interest-only payments in the initial phase of the contract, has declined as well. These comprise 49 % of total mortgage lending, down from 54 % in 2013 ([20]). The fact that people are turning to less risky loans is in part due to the Danish authorities and mortgage credit institutions taking measures to limit the credit risks associated with mortgage lending.

Households in Denmark appear to be resilient to market shocks. Household debt is backed up by a strong financial position, with assets exceeding gross debt. Moreover, they have been capable of handling the house price adjustment since 2007, and the mortgage arrears increased only marginally during the financial crisis. On the other hand, the assets of Danish households mostly comprise pension savings and real estate, which are largely illiquid. However, the mortgage debt is primarily concentrated amongst higher-income households, with one third of the total mortgage debt in the hands of the 10 % of households with the highest incomes. Only around 1 % of total mortgage debt is owed by the 10% of households with the lowest income. Furthermore, studies by the Danish National Bank and the Ministry of Business and Growth have shown that households would be able to withstand interest rate shocks or prolonged period of unemployment.

Corporate sector indebtedness remains high. However, as a percentage of equity, debt has been declining since 2011 (Graph 2.3.7). In Q2 2015 it reached 40.7 %, less than half of the 2007 peak. This was on the back of overall increasing equity of non-financial corporations in recent years.

([20]) It should be noted that only around 57% of total mortgage lending is granted to homeowners. The rest of 43% is granted for other purposes, i.e. corporate lending or social housing.

Graph 2.3.7: **Leverage, non-financial corporations**



Consolidated data
Source: Eurostat

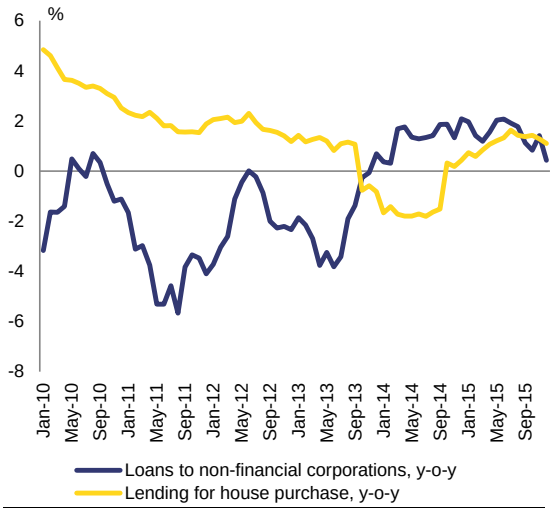
Financial and banking sector stability, credit growth and access to finance

The Danish financial system is unique by international comparison. It is based on two pillars: commercial banks and mortgage credit institutions, which do not take deposits and are funded by the issuing of mortgage bonds. This feature has an impact on the other segments of the financial system as the bank issuance boosts development of the capital market. After recovery from the housing crisis and effective measures taken by the Danish authorities, the banking sector is now sound and growing at a moderate pace.

Banks are the largest financial intermediaries. Their assets, excluding foreign subsidiaries, amounted to EUR 1 trillion in 2014, which represented 420 % of GDP. Insurers ranked second with assets amounting to EUR 248 billion (98.1 % of GDP) in 2013 followed by pension funds with EUR 169 billion (66.7 % of GDP). Insurers' assets have increased continuously since 1997 at an annual rate of 8.3 %, while pension funds' assets have been relatively stable since 2010, following a long period of sustained increase.

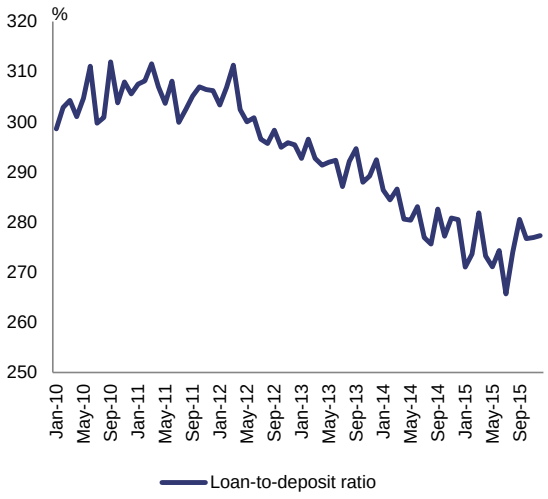
The pace of lending is slow. Since 2013, corporate lending has expanded faster than lending for house purchases (Graph 2.3.8). However, by the end of 2015, the growth rate of corporate exposures (0.5 %) fell below the growth of mortgages (1.1 %). On the liabilities side, deposit growth slowed down in 2015 (to 2.2 %), putting a halt to the reduction in the loan-to-deposit ratio, ongoing since 2012 (Graph 2.3.9). The Danish loan-to-deposit ratio of around 280 % is the highest in the EU. This is explained by the dominant role of market-based financing, in particular of mortgage bonds. On average, funding by own-issued debt securities accounts for 43 % of the Danish banking sector's liabilities compared with 23 % share of deposits (including interbank and government deposits).

Graph 2.3.8: **Lending developments**



Source: European Central Bank

Graph 2.3.9: **Funding developments**



Excluding claims on MFI, government and non-residents
Source: European Central Bank

Financial soundness indicators suggest that the banking sector is stable. Banks are well capitalised: the average solvency ratio was above 18 % in June 2015. Core Tier 1 instruments account for the majority of bank capital. The quality of Denmark's bank assets is relatively low compared with its Nordic peers, still suffering from the legacy of the housing market crisis in 2009. The average ratio of non-performing loans decreased from 5.1 % in 2014 to 3.9 % in mid-2015, but it was higher than in Sweden (1 %) and Finland (1.1 %). Loan-loss provisions covered 43 % of outstanding non-performing loans, which was below the EU average (48 %). The profitability improved recently and both the return on equity (4.8 %) and the return on assets (0.3 %) were above the EU mean (2.7 % and 0.2 % respectively). The average sector profitability ratio is brought down by the mortgage credit institutions, whose business model implies low margins charged on mortgage loans.

Some potential risks warrant monitoring. The large household debt could create challenges in the medium term, in particular regarding the high share of deferred amortisation loans with the interest-only period expiring in 2019-2020. Another issue is related to the low risk weights ([21]) used by banks in the internal models for calculating capital adequacy, as this could potentially imply capital shortfalls in the future. The substantial market share of Swedish financial groups([22]) poses a specific challenge. Financial stress in the Swedish banking system, i.e. caused by tensions in global funding markets or a correction in housing prices, could have an adverse impact on Swedish banks' operations in Denmark ([23]).

In the wake of the crisis, the Danish authorities have taken adequate measures. Between 2008 and 2013, the Danish authorities launched six Bank Rescue Packages focused on recapitalisation, resolution and systemic risks. Several macroprudential measures were aimed at controlling credit demand, increasing the resilience of banks and ensuring stable funding (Box 2.3.1). Consolidated microprudential supervision is exercised by the Danish Financial Supervisory Authority, while the Systemic Risk Council is responsible for the macroprudential monitoring.

The capital market is well developed. The overall size of the debt securities market in Denmark increased from EUR 492 billion in 2008 to EUR 638 billion in 2014 (247 % of GDP), the larger part of which (198 % of GDP) were issued by banks. This is due to the specific mortgage bank funding model which relies on mortgage bonds. The government is the next largest issuer with outstanding sovereign bonds amounting to EUR 103 billion (equivalent to 40 % of GDP). The market debt funding of non-financial corporations remains at relatively low levels, but it has been increasing and in 2014 reached EUR 25 billion, i.e. 10 % of GDP up from less than 6% in 2008. The Danish stock market is very deep and dominated by non-financial corporations. The total capitalisation of quoted companies reached EUR 256 billion in 2014, i.e. 99 % of GDP (compared with 124 % in Sweden and 79 % in Finland). The market structure is fully integrated into the OMX-Nasdaq group.

([21]) Banks using internal risk-based models for calculating capital adequacy ratios set their own risk weights for specific types of exposure (e.g. corporate, mortgage) based on internal historical data and analysis.

([22]) E.g. Nordea is the second largest bank in Denmark.

([23]) For more detailed analysis of potential financial spillovers in the Baltic-Nordic region see the *Country Report Sweden 2016.*

Box 2.3.1: **Macroprudential measures in Denmark**

<table>
<tr><th>Credit demand</th><th>Bank resilience</th><th>Stable funding</th></tr>
<tr><td>Traffic light system to improve borrowers' understanding of risks</td><td rowspan="2">Supervisory Diamond for commercial banks (binding since 2013; revision pending) — a supervisory tool monitoring banks' performance against five benchmarks: large exposures, lending growth, exposure towards commercial property, funding ratio and liquidity</td><td rowspan="2">Spreading of bonds auction over the year</td></tr>
<tr><td>Affordability requirements, comparative credit assessment for different loan types (i.e. fixed vs variable interest rate; interest-only and amortised)</td></tr>
<tr><td>Increased administrative margin in mortgage credit institutions for more risky loans</td><td rowspan="2">Supervisory Diamond for mortgage credit institutions (entry into force 2018-2020) — a supervisory tool monitoring the performance of mortgage credit institutions against five benchmarks: large exposures, lending growth, interest rate risk of the borrower, interest-only lending and short-term funding</td><td rowspan="3">Compulsory maturity extension of mortgage bonds with maturity less than one year</td></tr>
<tr><td>Reduction in mortgage interest tax deductibility from 33% to 25% in 2019</td></tr>
<tr><td>Requirement in lending to property rental for positive liquidity in the property</td><td>Counter Cyclical Buffer (cap at 0.5%)</td></tr>
<tr><td>5% down payment compulsory for new loan applications</td><td>Systemic Risk Buffer (phase in 2015-2019)</td><td></td></tr>
</table>

Against the background of house price increases and housing taxation system in Denmark, close monitoring of the housing market is warranted. Furthermore, the private rental market would benefit from a relaxation of rent control. The national authorities and mortgage banks have taken various measures to counter risks on mortgage lending. However, the high household indebtedness deserves close monitoring, in particular regarding the riskier loans such as deferred amortisation loans.

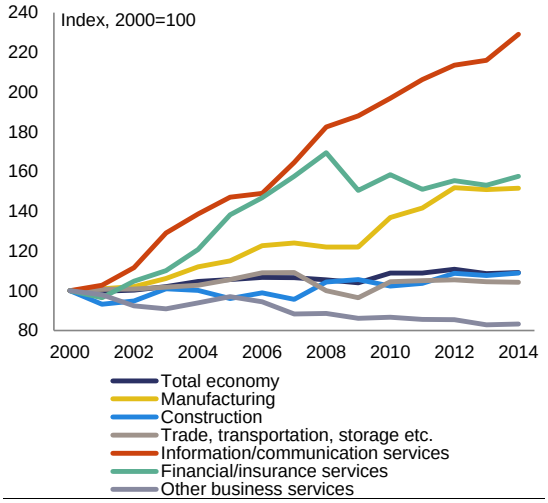
2.4. PRODUCTIVITY AND COMPETITION

Competition

Insufficient competition in Denmark, especially in the services sector, is considered a challenge. There are significant barriers to entry into the domestically-oriented services market. Regulatory burdens are a particular barrier, especially in retail and construction. Construction suffers from burdensome authorisation and certification requirements. The retail sector is subject to restrictive planning laws. The government proposed in November 2015 several measures to liberalise the current regulation, in particular rules regarding shop size and location ([24]).

Labour productivity growth has been sluggish on average, but not in all sectors. Labour productivity has been slow across the Danish economy since 2000, amounting to 0.6 % per year on average from 2000 to 2014 (OECD figures, based on hours worked). However, there are wide variations between sectors. The three top sectors in terms of labour productivity growth have been: information and communication services (6.1 % per year), financial and insurance services (3.3 % per year) and manufacturing (3.0 % per year). Labour productivity growth was about average in construction, the wholesale and retail trade, accommodation and food services, transportation and storage. However, in other business services (professional, scientific, technical, administrative and support services), labour productivity has dropped by more than 1 % per year on average since the start of the century (Graph 2.4.1).

Graph 2.4.1: **Labour productivity growth by sector, 2000-2014**



Source: OECD

Insufficient competition in the Danish services sector inhibits productivity growth. Competition is an important driver of productivity, economic growth and prosperity. The small size of the Danish domestic market means that some sectors of the economy, notably those not exposed to international competition, are characterised by insufficient competition between the small number of incumbent producers, while potential new entrants find the barriers to entry prohibitive. On the other hand, in the goods markets and markets for services that can be traded across borders, goods and services produced abroad serve to compensate for the lack of domestic production. At the same time, they force domestic suppliers to improve their productivity in order to remain competitive. Therefore, on these markets the external goods and services compensate for the lack of domestic competition.

Lack of competition blocks renewal, economic restructuring and keeps companies in poor financial condition artificially alive. The Danish Productivity Commission has pointed out that weak competition, in particular in services oriented to the domestic market, tends to lead to insufficient business dynamics. Businesses characterised by low productivity remain in markets where they would otherwise have been forced out by new and

([24]) Sources used in this section include:
Danish Competition and Consumer Authority (2014): *Fremtidens detailhandel*.
Danish Ministry of Business and Growth (2015): *Vækst og udvikling i hele Danmark*, http://www.evm.dk/.
Danish Productivity Commission (2013): Konkurrence, internationalisering og regulering.
Eurostat data: price level indices in the construction sector; foreign affiliates in the construction sector.
Eurostat data: foreign affiliates in the construction sector.
Eurostat data: comparative price levels of consumer goods and services (2014).
Euromonitor (2015).
European Commission (2015), A Single Market Strategy for Europe – analysis and evidence. SWD(2015) 202 final.
European Commission (2015), Simplification and mutual recognition in the construction sector under the Services Directive, final report.
FSR Danske Revisorer and Experian (2015): Hvert tiende danske selskab er et zombieselskab.
IMF, Denmark: Selected Issues, IMF Country Report No. 14/332, page 42.

better competitors. The latter find it difficult or impossible to gain market share because of stiff barriers to entry and the dominant position of incumbents. A recent study has found that as many as one in 10 Danish companies are currently kept artificially alive by low interest rates. In fact, they are in such poor financial condition that they would already have been forced out of the market by competitors, had competition been stronger. Sectors in which such companies are particularly overrepresented include: distributive trade and transportation, construction and business services. These sectors are all characterised by a low level of foreign competition due to limited scope for cross-border exchanges.

Construction

Economic indicators point to low levels of competition in the Danish construction sector confirming the negative effects of high regulatory barriers. Danish consumers face the second highest price level for construction services in the EU. The number of foreign EU construction service providers established in Denmark is the third lowest of all Member States. Levels of integration are significantly lower in Denmark compared with many Member States of comparable size.

Few measures aim to strengthen competition in the construction sector. The effects of the initiatives in 2014 under the Danish strategy 'Towards a stronger construction sector in Denmark' have yet to be seen. However, the strategy initiatives represent a positive step forward. In particular, the review of construction legislation mapping the existence of national standards and whether these could be abolished or replaced by international standards could reduce entry barriers to the Danish construction market. Furthermore, the initiative aimed at simplifying the building permit process could benefit all companies engaged in construction activities in Denmark. In addition, the Danish government has reported that it will scrutinise Danish building regulations with the aim of removing all unnecessary national requirements, standards and authorisations.

Burdensome authorisation schemes and mandatory certification schemes create entry barriers for construction companies established in other Member States. Usually, certification schemes based on standards are voluntary and used by companies to demonstrate and promote the quality of the service to the customer. The use of voluntary certification schemes based on European standards could raise the quality of services across Europe. They could give businesses and consumers confidence in cross-border services and consequently improve cross-border trade. However, when national certification schemes are required by legislation or regulation, this can create entry barriers for companies established in other Member States.

Certification schemes required by law have been identified in Danish construction legislation. Companies engaged in, for example, electricity, plumbing, heating and sanitation, or drainage installation are required by law to acquire an authorisation from the Danish competent authority in order to provide the service. One of the conditions of an authorisation scheme is the approval of a quality management system by a recognised certification body. The service provider is obliged to go through two different procedures in order to access the service activity: (1) approval of the quality management system by the certification body and (2) authorisation by the competent authority ([25]). The legislation is burdensome for all companies, but is particularly burdensome for companies established in other Member States operating on a temporary basis in Denmark. It is also not clear whether the Danish legislation recognises quality management systems which have been subject to equivalent controls by an authority in another Member State when assessing if a foreign company fulfils the conditions to obtain an authorisation. Finally, it is particularly burdensome for SMEs.

The legislation on fitters of heat cost allocators represents another burden in the construction sector. Service providers are required by law to have a certified quality management system based on a combination of an ISO standard and parts of two European standards. The certification body issuing the certification must be accredited by the Danish accreditation body (DANAK) or by an

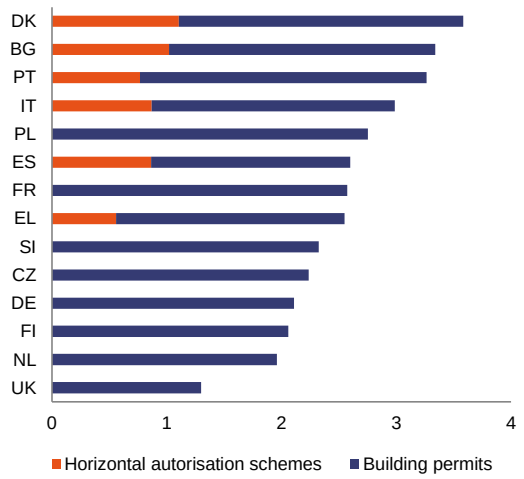
([25]) Law no 401 of 28 April 2014 on authorisation of companies in the electricity, plumbing, heating and sanitation, and drainage installation sector.

equivalent accreditation body ([26]). Companies established in other Member States would either have to comply already with a quality management system based on this specific combination of standards certified by an accredited certification body, or acquire a new certification based on the Danish legislation. The first option is fairly unlikely whereas the latter option could entail the duplication of certificates or parts of them. Certifications are generally only based on one standard, and not a combination of several standards.

Recent studies conclude that Danish requirements imposed on service providers in the construction sector are the most restrictive of the Member States included in the research. A Commission study undertaken in 2015([27]) concludes that the conditions imposed on construction service providers for accessing the market vary significantly in terms of restrictiveness among the Member States([28]), with Denmark being among the most restrictive in the EU (Graph 2.4.2). The study covers authorisation schemes imposed on contractors and developers (excluding schemes that apply equally to all sectors). It also covers both horizontal authorisations, which construction service providers must obtain in order to get authorised access to the construction services market, and building permit procedures. The restrictive nature, both regulatory and administrative, of these authorisation schemes — which cross-border service providers face when establishing themselves or providing temporary services in a Member States other than their own — is assessed against the Services Directive.

([26]) Order no 1167 of 3 November 2014 on requirements for fitters of heat cost allocators to install, calibrate and service heat cost allocators.
([27]) Simplification and mutual recognition in the construction sector under the Services Directive. Final report, Ecorys.
([28]) Bulgaria, Czech Republic, Denmark, Germany (North Rhine-Westphalia), Greece, Finland, France, Italy (Milan), Netherlands, Poland, Portugal, Slovenia, Spain (Madrid) and the UK (England).

Graph 2.4.2: **Overall restrictiveness of authorisation schemes**



Source: Ecorys, Simplification and mutual recognition in the construction sector under the Services Directive Final report

There are large differences with regards to the restrictiveness of authorisation schemes in Denmark and peer countries covered by the study. For example, Finland and the Netherlands, countries with similarities in the regulatory environment, appear to offer a higher level of compliance with the provisions of the Services Directive on, for example, administrative and regulatory simplifications. First of all, these two countries do not require service providers to go through horizontal authorisation procedures. Instead, building control procedures are deemed to offer a sufficient level of control in these countries. Denmark performed less well on a number of indicators due to the overlapping horizontal authorisation scheme and the mandatory certification scheme mentioned above. As regards the restrictiveness of the building permit schemes, Finland and the Netherlands performed satisfactorily on the indicators (good scores on regulatory restrictiveness and e-procedures), whereas Denmark was among the countries that performed less well, in particularly on administrative simplification (procedures involved, availability of electronic means, decision periods).

Retail

The Danish retail sector continues to be characterised by insufficient competition. Market concentration is one of the highest in Europe. Prices are the highest in the EU for categories such as food, footwear and consumer electronics, and the second highest for clothing and household appliances. Low productivity in the sector can partly be explained by the low proportion of foreign companies, which account for 12% of the groceries market and are only represented in the discount segment.

Retail establishment regulations are among the most restrictive in Europe. They include bans on outlets above a certain surface threshold (ranging from 1 000 to 3 500 m^2 depending on location). Also, there are strict rules concerning outlet locations in city centres and local centres, which allow for larger shops outside central areas only if they sell goods with special floor space requirements. This has been confirmed by a recent Commission analysis of the restrictiveness of establishment regulations across the EU, where Denmark is one of the most restrictive Member States. Such strict regulations not only affect market entry but also limit the ability of existing stores to achieve economies of scale. Furthermore, they could discourage foreign retailers from investing in Denmark, especially as regards bigger store formats, as pointed out by the International Monetary Fund in 2014.

Easing the planning law may strengthen productivity and competition in the services sector. In its 2014 report on the future of the retail sector, the Danish Competition and Consumer Authority repeated its earlier recommendation to liberalise planning laws and include competition considerations in planning. It also recommended that information about the relevant laws and regulations in relation to foreign retail companies wishing to establish themselves in Denmark must be accessible and comprehensive.

In the new Growth and Development Strategy published in November 2015, the government proposed liberalising the planning framework. The proposal is currently under negotiation. The strategy provides for greater involvement by municipalities in planning within a more flexible administrative framework. The government plans to remove the floor cap of 2 000 m^2 for specialty goods stores (i.e. those selling books, electronic goods, clothes and furniture) in cities, regardless of the city size. The measure should allow this type of shops to better respond to the competitive pressure from e-commerce companies, in particular foreign companies. It is planned to increase the floor caps of grocery stores from 1 000 to 2 000 m^2 in community centres. The cap is to increase from 3 500 to 5 000 m^2 for single stores in city centres, town centres and special areas designated by municipalities. The increases are explained by the need to facilitate the establishment of larger, more productive stores, offering a bigger product range and lower prices. However, the authorities stress the need to preserve the character of the Danish grocery retail sector, where proximity plays an important role, thus arguing against complete liberalisation. Municipalities will be able to decide to what extent bigger grocery shops can be opened. Furthermore, the strategy does not aim at providing a framework for the establishment of hypermarkets (defined as stores above 10 000 m^2). The government also plans to produce a guide to clarify the rules on the establishment of e-commerce companies, in particular showrooms.

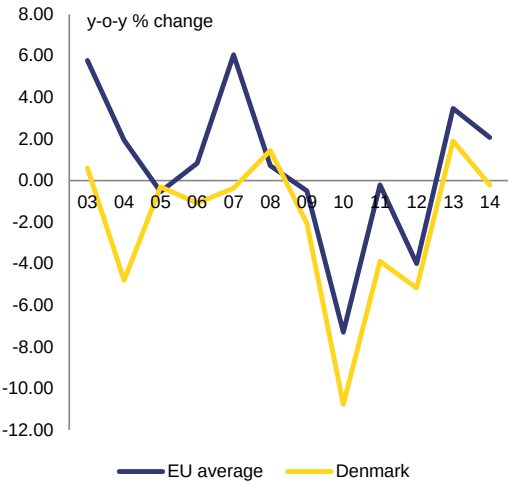
The announced measures, if adopted, would significantly improve conditions for establishment. However, the planned reforms would still not provide the possibility to establish significantly larger grocery stores. This may constitute a market entry barrier for some retail business models, particularly foreign ones. Relaxing the planning rules in this respect would also allow for further productivity gains and could contribute to lower prices and a broader choice of products for consumers.

2.5. EXTERNAL COMPETITIVENESS AND DOMESTIC INVESTMENT NEEDS AND OBSTACLES

Competitiveness

Like many developed countries, Denmark faces challenges in the area of external competitiveness. Since the turn of the century, Denmark's loss of export market shares has broadly followed the average trends in other EU countries (Graph 2.5.1). The losses were partly caused by the excessive wage growth that took place in the decade leading up to the crisis. In 2013 Denmark gained 1.9 % export market shares, while the losses in 2014 amounted to only 0.2 %. Wage growth is also more moderate now, with increases of around 1% annually for the last three years. In order to maintain the high relative welfare level in Denmark, improved competitiveness and productivity growth are essential ([29]).

Graph 2.5.1: **Export market shares**

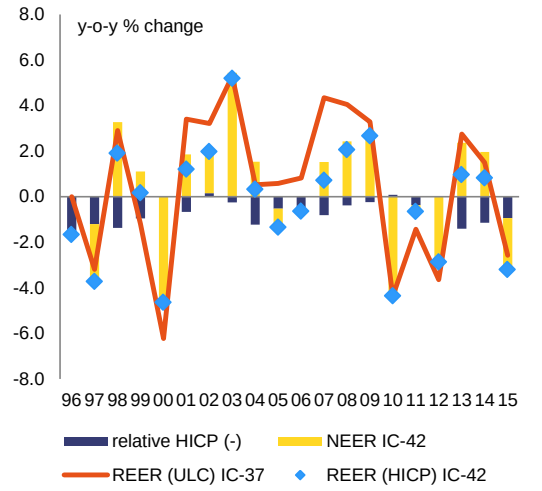


2003-2005 Data for Denmark are European Commission backcast data, based on data from differing standards (e.g. BPM5, ESA95)
Source: European Commission

Denmark's performance in goods export has been affected by price competitiveness developments. The decline in competitiveness in Denmark prior to the crisis may be partly attributed to the development of the real effective exchange rate. The real effective exchange rate based on unit labour costs (ULC) appreciated substantially in the years before the crisis (Graph 2.5.2). In the 2004-2007 period, it registered the largest average yearly growth of around 2% within the group of surplus countries, even though the Danish current account surplus continued to grow in these years. Appreciation in the real effective exchange rate based on unit labour costs was to some extent driven by an increase in wages, which is not offset by productivity growth, mark-up reductions, or by similar developments in partner countries. In the aftermath of the crisis, Denmark was able to recover some of its cost competitiveness loss due to a recovery in productivity growth and moderate wage growth. The real effective exchange rate based on unit labour costs dropped by 2.6% in 2015 on an annual basis, lending further support to the recovery of price competitiveness.

([29]) Sources used in this section include:
Danish Agency for Science Technology and Innovation (2014), *Research and Innovation Indicators 2014*.
Danish Ministry of Business and Growth (2013), Fact Sheets. www.evm.dk.
Danish Ministry of Higher Education and Science (2014), *Videnskamarbejde Under Lup*.
Danish National Bank (2013), 'Monetary Review 1st Quarter'.
Danish National Bank (2015), 'Monetary Review 2nd Quarter'.
Danmarks Vækstråd (2010): Flere vækstvirksomheder. 4 anbefalinger fra Danmarks Vækstråd til, hvordan erhvervslivet kan bidrage til udvikling af nye vækstvirksomheder.
European Central Bank, statistics, www.ecb.europa.eu.
European Commission (2014), Research and Innovation Performance in the EU – Innovation Union Progress at Country Level.
Eurostat, Community Innovation Survey (share of SMEs with product or process innovations).
Eurostat, Eurostat database, http://ec.europa.eu/eurostat.
Finansrådet (2014): 'Rapport om risikovillig capital' ('Report on Risk Capital').
InCites TM, Thomson Reuters (2012). Cited in Research and Innovation Indicators 2014, Danish Agency for Science Technology and Innovation (2014).
Mandag Morgen (2015), 'Vækstdanmark' ('Growth Denmark'); Report commissioned by Danish Regions, www.mm.dk.

Graph 2.5.2: **Real effective exchange rate breakdown**



Source: European Commission

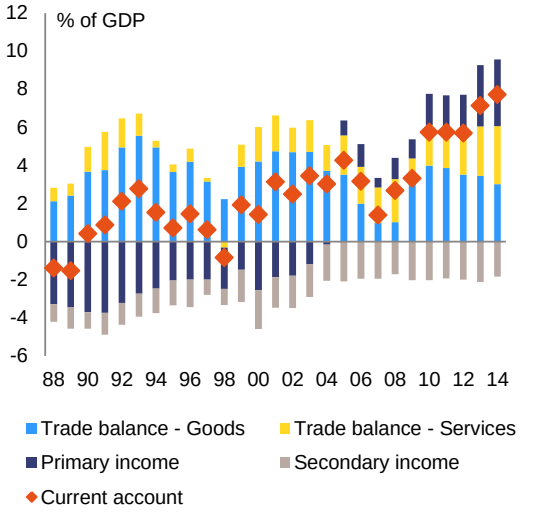
The geographical orientation of exports has contributed to losses in market shares. A shift-share analysis([30]) shows that the product composition of exports is an element that has contributed positively to export share in the aftermath of the crisis. On the other hand, an unfavourable geographical orientation of exports appears to have had a negative impact on Denmark's export market share. This may reflect Denmark's strong export market orientation towards the EU. According to this analysis, Denmark could benefit from a larger presence in high-growth emerging economies.

Current account surplus

The current account surplus in Denmark does not seem to be an imbalance that needs urgent correction. To some degree, the surplus in Denmark reflects the weakness of domestic demand growth compared with the country's main trading partners.

The current account surplus in Denmark is persistent, but is rather an expression than a cause of a problem. Denmark has had a current account surplus since 1990. After 30 years of running a current account deficit, the balance turned positive in 1990 as a result of economic policies introduced in the mid-1980. These included the removal of wage indexation and tax reforms, such as lowering of the net interest payment deductibility. The reforms encouraged private savings and restricted private consumption. In the beginning, the surplus was mostly fuelled by the positive trade balance, both in goods and services. Since 2005, income from investment abroad has started to gain in importance and brought the balance to historically high levels after 2010 (Graph 2.5.3). There is no evidence that Denmark's high current account surplus is a consequence of mispricing of risk and inflated expected returns from investment abroad. Furthermore, the Danish current account surplus does not make the country vulnerable to adverse developments in deficit countries, as exposure to these countries is limited.

Graph 2.5.3: **Breakdown of the current account by components**



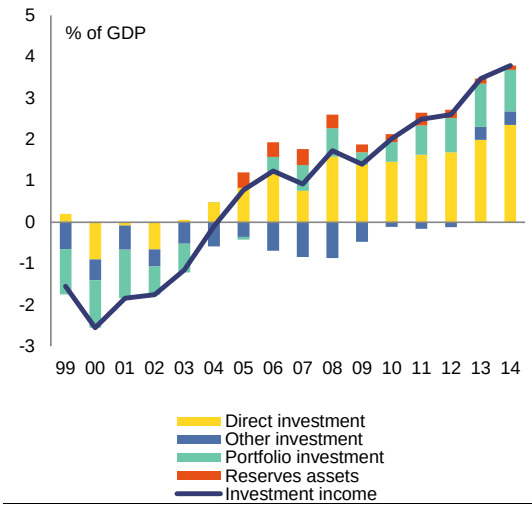
Until 2004 BPM5/ESA95. From 2005 BPM6/ESA2010
Source: European Commission

Investment income plays an important part in the growth of the current account surplus in Denmark. The primary income balance, which mostly comprises investment income, turned positive at the beginning of 2000s. Currently, approximately 60% of investment income can be attributed to returns from foreign direct investment (Graph 2.5.4), reflecting growth in stocks and higher yields on investments abroad than

([30]) The shift-share analysis enables a split to be made between competitiveness factors that reflect the country's export strategies with regards to geographical and product markets and structural factors which measure the dynamics in the destination country's demand and product mix.

domestically. In addition, Denmark has profited from positive valuation effects after the crisis, i.e. a change in the market value of the external portfolio investments, which has also added to the current account surplus growth. The US dollar appreciation of 8% in 2010 brought with it valuation gains on US assets held by Danish investors.

Graph 2.5.4: **Breakdown of the balance of investment income**



Until 2004 BPM5/ESA95. From 2005 BPM6/ESA2010
Source: European Commission

Close monitoring is warranted for a country with persistent large current account surpluses. In this way, Denmark could spot, also in the future, any inefficiencies arising, such as valuation losses, misallocation of resources and a concentration of risks in vulnerable countries, which may all have negative consequences for the welfare of the society.

Investment

The high level of investment abroad does not seem to constitute an imminent problem for Denmark. The country's exposure to vulnerable markets and economies is limited ([31]), as is the impact of credit constraints. However, domestic investment growth, crucial for economic recovery, remains weak. Savings in Denmark have increased in the aftermath of the crisis, especially in the households sector. At the same time, private investment, in particular corporate, has stagnated at low levels in comparison with the pre-crisis period. Thus, the widening gap between savings and investment in the total economy has contributed to a sharp increase of the current account surplus. In 2013, the government introduced tax breaks using an 'investment window' programme, in order to encourage companies to invest. Nonetheless, domestic investment remains low, which constitutes a significant challenge for the Danish economy.

The high net stock of foreign assets is expected to continue generating significant financial revenues in the coming years. This effect may, however, be counteracted by increased domestic investment, and future demographic development. The consolidation process that companies went through after the crisis may have reached its final stages. However, it remains to be seen whether this could lead to a substantial change in investment behaviour in the near future. This domestic challenge is reflected in the high current account surpluses.

Domestic investment needs and obstacles

Denmark's high investment in R&D could be better translated into productivity, economic growth and employment growth. Denmark's total investment in R&D reached 3.08% of GDP in 2014, above the national target of 3% of GDP. Business expenditure on R&D has increased from 1.76% of GDP in 2007 to 1.98% of GDP in 2014. Public expenditure on R&D as a percentage of GDP has increased to 1.10% of GDP in 2014, which is the highest in the EU. However, Denmark's ranking for the latter indicator could deteriorate in the future, due to public R&D budget reductions initiated in 2016.

The Danish public research base produces high quality scientific outputs; however this does not translate into equivalent innovations. Denmark ranks first in the EU in terms of scientific publications in relation to the size of the population and citations per publication. It ranks

([31]) Together with the Netherlands and Belgium, Denmark is among the few countries that have actually benefited from valuation effects (including price and stock valuations), while Germany and Sweden have suffered from valuation losses.

second in terms of the percentage of highly cited publications ([32]). However, Denmark ranks only sixth in the European innovation output indicator. According to a government's analysis published in 2014, commercialisation of research results from public research institutions lags behind countries such as the UK and Ireland. Public expenditure on R&D financed by business as a percentage of GDP is below the EU average. The share of innovative firms in Denmark is only just above to the EU average.

The Productivity Commission highlighted the challenge of better translating the significant public investment in research into productivity. Following on from this, a government report published in October 2014 made several recommendations. These include adjusting the criteria for allocating basic research funding, setting goals for knowledge exchange in the triennial university-government contracts, improving recognition and promotion of researchers engaging in knowledge exchange, more student involvement in knowledge transfer activities, and an increasing 'proof of concept' funding ([33]). The new government's Growth and Development Strategy mentions the strengthening interactions between higher education institutions and businesses as a strategic objective. However, there is as yet no indication as to the implementation of the above-mentioned recommendations.

Denmark's Innovation Fund established in 2014 aims to provide efficient and effective funding for R&D. The focus is on strategic and challenge-driven research, technological development and innovation to boost growth and employment in Denmark.

Denmark has made progress with regard to investment in climate-friendly technologies to support growth and employment. In 2015, the Danish Ministry of Environment and Food launched the Green Innovation Fund, a new funding scheme to support green technologies and energy-intensive enterprises. The Fund aims to promote innovation and the development of environment- and climate-friendly technologies in SMEs, while supporting growth and employment. The scheme has been allocated DKK 15 m (approximately EUR 2 m). The budget will be granted primarily for projects on climate change adaptation and water, reducing the impact on the environment and improved resource efficiency.

Improved resource efficiency may stimulate investments. Denmark's resource productivity (defined as the ratio between gross domestic product and domestic material consumption) in terms of value produced per kg of resources used was 2.1037 €/kg in 2014, above an EU average of 1.9492 €/kg([34]). Nevertheless, a more circular economy and improved resource efficiency will stimulate investment; this will have both short-term and long-term benefits for the economy, environment and employment.

Denmark generally supports the generation of electricity from renewable sources. The Commission approved in February 2015 State aid for a 400 MW offshore plant. In July 2015, a scheme for offshore wind power plants with an experimental aspect was launched, as approved by the Commission in October 2014. The aim of the scheme is to develop innovative wind energy projects and reduce the production cost of electricity generated from offshore wind technologies. The maximum capacity of the scheme is 50 MW. The Parliament passed a bill in December 2015 including a reduction of support for small wind turbines. The bill envisages a gradual reduction in the settlement price for small wind turbines as well as the feed in tariff for 2016 for wind turbines with a maximum capacity of 10 kW and installations with a capacity between 10 and 25 kW.

Denmark reached the interconnection capacity target for electricity in 2014; however there are signs of possible underinvestment in energy infrastructure. Denmark's interconnection capacity was 44% in 2014, well above the 2030 target of 15%. On the other hand, analysis point to a possible underinvestment in energy infrastructure

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

([33]) Funding intended to support work needed to demonstrate the commercial potential of research finding.

([34]) Eurostat

since early 2000s ([35]). The overall investment in energy in Denmark has increased since 2012, facilitating improvements in connectivity and infrastructure, as well as capacity expansion. Further investment in electricity and gas networks could strengthen the interconnection capacity with neighbouring countries.

Waste management could be further improved. Denmark has taken appropriate steps to improve waste management and implement the current European minimum targets. However, it remains among the worst performers in the EU in terms of the quantity of municipal waste produced and the percentage incinerated. To step up this process in a cost-effective way it could be useful to make reuse and recycling more financially attractive.

Danish Regions *(Danske Regioner)* identified several challenges that impede growth ([36]). Challenges include: too few growth businesses; lack of risk capital; under-exploitation of regional growth potential; lack of employees with the right qualifications; lack of focus in public growth efforts (rules too rigid and efforts often uncoordinated).

Growth businesses are major contributors to increased employment. Analysis from before the crises shows that new growth businesses create about one third of all new jobs (figures are from 2003-2006). However, only 314 of more than 23 000 businesses created in 2006 had more than ten employees in 2008 and only 52 could be defined as 'growth entrepreneurs'. Analysis from the Danish Chamber of Commerce shows that loans to small and new businesses are approximately 25% more expensive than loans in i.e. Sweden and Germany, which both have a higher share of growth businesses than Denmark. This could indicate a lack of risk-taking by the financing sector, limiting businesses' access to capital and thus preventing them from growth potential. A number of measures have been introduced to address this issue, i.e. addressing entrepreneurship (Growth Package of 2014 and 'Growth Plan Denmark' of 2013).

Regional growth potential could be further exploited. The needs of businesses in specific regions may not be completely understood. Rigid rules or lack of coordination across regions and administrative levels or sectors may result in under-exploitation of their growth potential. Through the Danish focus on smart specialization at regional level, which is supported by the European Structural and Investment Funds throughout the 2014-2020 programming period, a more coordinated approach is being attempted in order to identify and exploit the specific potential of each region.

Shares are the primary funding source for Danish companies — mostly for the larger ones. Proper funding is crucial for boosting investment. Funding for the non-financial corporations in Denmark is predominantly provided by the stock market (72 % of GDP) and bank loans (56 % of GDP). In both cases, this is above the EU average (Graph 2.5.5). The debt securities market plays a relatively minor role. The gross operating surplus of corporations, which indicates the potential for self-financing of investments, is close to the EU average.

On the other hand, equity financing does not play a major role for SMEs. One of the future challenges for Danish SMEs is their overall low level of equity financing, making them dependent on external financing. Of the Danish SMEs surveyed, almost half did not consider equity financing relevant to their company. The majority of the other half had not used equity financing in the six months preceding the Survey on the access to finance of enterprises (SAFE).

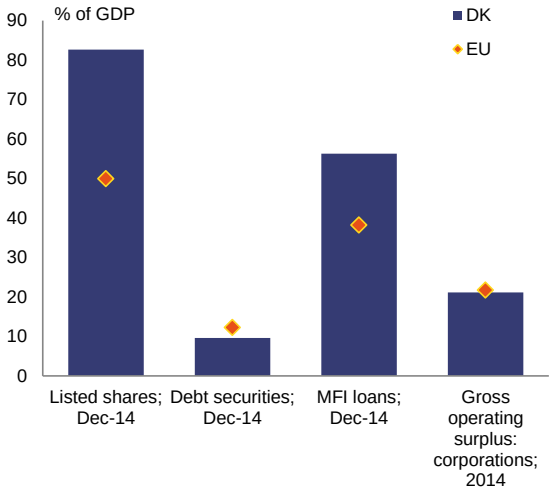
Several instruments support risk capital. The European Investment Fund and Danish Growth Capital (*Dansk Vækstkapital*) support the Danish market for venture capital by investing in Danish venture funds. Danish Growth Capital was started in 2011 by the government and social partners as a funds-of-funds with capital of DKK 4.8 billion

([35]) Empirical analysis comparing estimated investment based on an econometric model with actual investment. European Commission (2014), 'Infrastructure in the EU: Developments and Impact on Growth, European Economy', Occasional Paper 2013, Dec 2014.

([36]) Danish Regions (*Danske Regioner)* is the interest organisation for the five regions in Denmark. Danish Regions' overall mission is to safeguard the interests of the regions nationally as well as internationally.

from Danish private pension companies ([37]). Furthermore, the Danish Growth Fund (*Vækstfonden*) supports the venture capital market by investing either directly in companies with particular growth potential or in funds-of-funds.

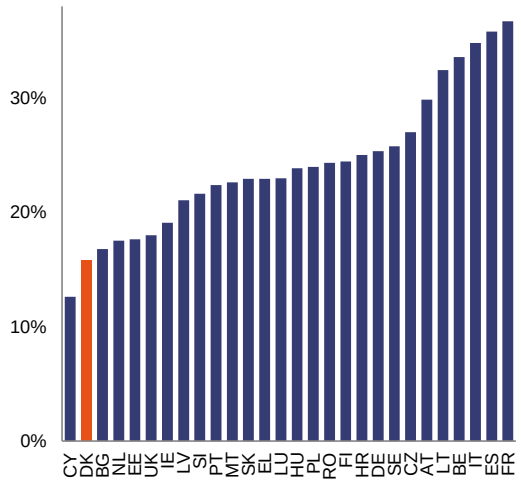
Graph 2.5.5: **Funding developments**



Source: ECB, European Commission

SMEs report little need for external financing. However, the rejection rate was high for those SMEs that applied for bank loans in 2015. The proportion of Danish SMEs surveyed that applied for a bank loan in the previous six months was 16 %, the second lowest in the EU (Graph 2.5.6). Out of these, one in five SMEs had their application rejected. Furthermore, one in 20 turned down the loan offered by the bank because they considered it too expensive. Both percentages are higher than the EU averages of 8 % and 2 % respectively. The proportion of SMEs surveyed that applied for trade credit was 13%, again the second lowest in the EU (Graph 2.5.6). The proportion of surveyed SMEs having applied for a credit line, bank overdraft or credit card overdraft was 22 %, the ninth lowest in the EU and below the EU average of 30 %. Denmark is in line with the EU average when it comes to rejections of SME applications for trade credit, overdrafts([38]) or a credit line, as well as the proportion of prohibitively expensive offers. As in most other Member States, the reason given for not applying for a bank loan, trade credit, overdraft or credit line was that SMEs had sufficient internal funds available: 55 % of Danish firms surveyed indicated that they did not apply for a credit line, bank overdraft or credit card overdraft for this reason ([39]).

Graph 2.5.6: **Proportion of SMEs that applied for a bank loan**



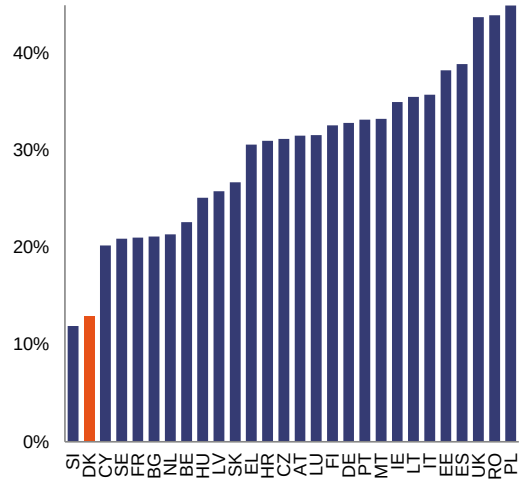
Source: Survey on the access to finance of enterprises (SAFE)

([37]) Instead of investing directly in bonds, shares or other securities, funds-of-funds invest in other investment funds.

([38]) An overdraft occurs when money is withdrawn from a bank account and the available balance goes below zero.

([39]) Survey on the access to finance of enterprises (SAFE): results for September–October 2015 published on 2 December 2015.

Graph 2.5.7: **Proportion of SMEs that applied for trade credit**



Source: Survey on the access to finance of enterprises (SAFE)

Large bank loans are less expensive in Denmark than in the euro area, but costs are higher for smaller loans. Nearly two thirds of the bank loans obtained or negotiated by SMEs in the six months before the SAFE survey, were small loans (up to EUR 1 million). They were predominantly loans up to EUR 100 000, while a third of the loans exceeding EUR 1 million. The cost of borrowing is about 70 % higher for small loans than for loans of more than EUR 1 million. However, this is mainly due to the relatively low cost of large loans in Denmark (less than half the euro area average). For loans of less than EUR 1 million, the average cost for credit in Denmark is the same as the euro area average (excluding repurchasing agreements).

The instruments designed to support financing of smaller or riskier companies could help improving domestic investment growth. Furthermore, the implementation of policy measures aimed at the government's strategic objective of strengthening interactions between higher education institutions and businesses would meet the challenge, highlighted by the Productivity Commission, of better translating the public R&D investment into economic growth.

ANNEX A

Overview Table

Commitments	Summary assessment([40])
2015 Country-specific recommendations (CSRs)	
CSR1: Avoid deviating from the medium-term budgetary objective in 2016.	CSRs related to compliance with the Stability and Growth Pact will be assessed in spring once the final data will be available.
CSR 2: Enhance productivity, in particular in the services sectors oriented towards the domestic market, including retail and construction. Ease the restrictions on retail establishments and take further measures to remove remaining barriers posed by authorisation and certification schemes in the construction sector.	Denmark made **limited progress** in addressing CSR 2: • **Limited progress** was made on easing restrictions on retail establishment. The government published a new Growth and Development Strategy in November 2015, in which it proposed to liberalise the planning framework. The proposal is currently being negotiated. If adopted as proposed, the measures would significantly improve establishment conditions. However, they would not provide the possibility to establish significantly larger grocery stores than at present. This may constitute a barrier to entry, in particular for certain retailers from other Member States. • **Limited progress** was made on removing the remaining barriers posed by authorisation and certification schemes in the construction sector. The initiatives presented in the 2014 strategy document 'Towards a stronger construction sector in Denmark' represent a step in the right direction, in particular the undertaking to review construction legislation and map existing national standards to see if they can be replaced by international standards. However, the impact of the strategy remains to be seen and no other reforms have been reported subsequently.

([40]) The following categories are used to assess progress in implementing the 2015 CSRs of the Council Recommendation: No progress: The Member State has neither announced nor adopted any measures to address the CSR. This category also applies if a Member State has commissioned a study group to evaluate possible measures. Limited progress: The Member State has announced some measures to address the CSR, but these measures appear insufficient and/or their adoption/implementation is at risk. Some progress: The Member State has announced or adopted measures to address the CSR. These measures are promising, but not all of them have been implemented yet and implementation is not certain in all cases. Substantial progress: The Member State has adopted measures, most of which have been implemented. These measures go a long way in addressing the CSR. Fully addressed: The Member State has adopted and implemented measures that address the CSR appropriately.

Europe 2020 (national targets and progress)	
Employment rate target set in the 2013 NRP: 80 %	The employment rate decreased during the crisis from its 2006-2008 high (80.6 % in 2008Q3). 2012 to 2013 saw the first slight positive developments with an increase in employment from 75.4 % to 75.6 %. In 2015Q3 it was 76.7 %.
R&D target: 3 % of GDP	The 3 % target has been reached. Since 2005, Denmark's performance has been improving, from 2.39 % in 2005 to 3.08 % in 2013 and 2014. Public R&D intensity has continuously increased between 2007 and 2013, stabilising in 2014 at 1.10 %. Denmark now ranks first in the EU for this indicator. Business R&D intensity has stabilised close to the 2.0 % value since 2010.
National Greenhouse gas emissions target: -20 % in 2020 compared to 2005 (in non-ETS sectors)	2020 target: -20 % According to the latest national projections and taking into account existing measures, the target is expected to be achieved: -20 % in 2020 compared with 2005. Non-ETS 2014 target: -6 % Greenhouse gas emissions from sectors not covered by the Emissions Trading Scheme fell by -15 % between 2005 and 2014; therefore the target is has been achieved.
2020 Renewable energy target: 30 %	With a 29.2 % renewable energy share in 2014, Denmark is well advanced in meeting its target of 30% by 2020. With a 5.8 % share of renewable energy in transport in 2014, Denmark is also well advanced towards the 10 % renewable energy share target in transport.
Energy efficiency target. Denmark's 2020 energy efficiency target is 17.8 Mtoe expressed in primary energy consumption (14.8 Mtoe expressed in final energy consumption.)	Denmark has to continue its current, ambitious efforts regarding energy efficiency to keep its current primary energy consumption at this level in coming years to meet its 2020 target.
Early school leaving target: <10 %	The rate of early school leaving from education and training (percentage of the

(Less than 10 per cent school drop-out rates of the population aged 18-24)	population aged 18-24 with at most lower secondary education and not in further education or training) was 8% in 2013 and 7.7 % in 2014 (compared with 11.1 % EU average). Denmark has already reached the EU target of 10 % and the rate has dropped significantly in recent years (from 11.0 % in 2010). With the reform of the public school and VET the drop-out rate is on track to be reduced even further. Denmark does not have a specific early school leaving strategy but it has a set of preventive and compensatory measures, e.g. the provision of early childhood education and care, an attendance detection system, and assistance for students with learning problems.
Tertiary education target: >40 % (At least 40 per cent of the population aged 30-34 having completed tertiary)	The tertiary educational attainment rate was 43.4 % in 2013 and 44.1 % in 2014. Denmark's tertiary education attainment rate is well above the EU average (37.9 % in 2014) Denmark has already reached the EU target of 40 %. The rate has increased significantly in recent years (it was 36.3 % in 2009). The government set a national target for 60 % of young people (30-34 years old) to complete at least one tertiary education programme by 2015 (25 % of these should be long-term degrees). With the reforms of higher education (quality and a loan system), Denmark is on the right track to increasing the rate in coming years.
Target on the reduction of population at risk of poverty or social exclusion in number of persons: reduce the number of people in households with low work intensity by 22 000 towards 2020.	The number of people at risk of poverty or social exclusion decreased between 2012 and 2014 (from 1057 to 1001 thousands). The Danish 2020-target on social inclusion was to reduce the number of people living in low-work-intensity households by 22 000 persons. The 2008 starting point was 347 000 persons, but it has since increased to 495 000 persons in 2014 (*Data for 2013 and 2014 are not fully comparable to earlier data, even if the overall tendency is still valid).*

ANNEX B
MIP scoreboard

Table B.1: **The macroeconomic imbalance procedure (MIP) scoreboard for Denmark**

			Thresholds	2009	2010	2011	2012	2013	2014
External imbalances and competitiveness	Current account balance, (% of GDP)	3 year average	-4%/6%	2.5	3.9	4.9	5.7	6.2	6.9
	Net international investment position (% of GDP)		-35%	0.9	12.9	28.0	36.7	38.0	47.0
	Real effective exchange rate - 42 trading partners, HICP deflator	3 years % change	±5% & ±11%	5.5	0.2	-2.5	-7.7	-2.6	-1.2
	Export market share - % of world exports	5 years % change	-6%	-5.1*	-12.6	-15.1	-19.2	-18.9	-17.3
	Nominal unit labour cost index (2010=100)	3 years % change	9% & 12%	17.1	10.3	4.4	1.2	4.0	5.1
Internal imbalances	Deflated house prices (% y-o-y change)		6%	-13.1	0.3	-4.0	-5.2	2.8	3.1
	Private sector credit flow as % of GDP, consolidated		14%	-1.9	-2.9	4.5	7.4	-2.3	1.7
	Private sector debt as % of GDP, consolidated		133%	233.3	222.1	222.6	227.2	220.4	222.8
	General government sector debt as % of GDP		60%	40.4	42.9	46.4	45.6	45.0	45.1
	Unemployment rate	3 year average	10%	4.4	5.6	7.0	7.5	7.4	7.0
	Total financial sector liabilities (% y-o-y change)		16.5%	5.6	9.7	1.6	2.9	1.3	6.6
New employment indicators	Activity rate - % of total population aged 15-64 (3 years change in p.p)		-0.2%	-0.4	-0.7	-1.4	-1.6	-1.3	-1.2
	Long-term unemployment rate - % of active population aged 15-74 (3 years change in p.p)		0.5%	-0.2	0.9	1.3	1.5	0.3	-0.1
	Youth unemployment rate - % of active population aged 15-24 (3 years change in p.p)		2%	4.1	6.4	6.2	2.3	-0.9	-1.6

*: BPM/ESA95 figure. p: provisional.
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)	471.3	465.3	461.6	413.9	419.9	386.4
Share of assets of the five largest banks (% of total assets)	64.4	66.3	65.6	68.4	68.1	-
Foreign ownership of banking system (% of total assets)	19.1	15.0	16.6	19.2	-	-
Financial soundness indicators:						
- non-performing loans (% of total loans)[1)]	4.1	3.7	6.0	4.6	4.4	4.3
- capital adequacy ratio (%)[1)]	16.0	17.2	18.9	19.2	18.2	19.1
- return on equity (%)[1)]	0.0	-0.6	1.5	1.1	-1.6	1.6
Bank loans to the private sector (year-on-year % change)	1.2	-1.3	-0.4	0.6	0.2	1.0
Lending for house purchase (year-on-year % change)	2.5	1.9	1.2	-0.8	0.4	1.1
Loan to deposit ratio	305.6	306.2	295.4	292.4	280.5	277.3
Central Bank liquidity as % of liabilities[2)]	0.6	0.9	1.4	0.9	1.0	0.6
Private debt (% of GDP)	222.1	222.6	225.5	218.7	220.2	-
Gross external debt (% of GDP)[3)] - public	16.0	20.6	20.2	17.6	18.3	18.5
- private	46.0	42.9	42.0	37.5	39.3	39.1
Long-term interest rate spread versus Bund (basis points)*	18.4	12.2	-9.2	17.6	16.3	19.5
Credit default swap spreads for sovereign securities (5-year)*	29.1	63.7	80.0	17.6	16.0	12.7

1) Latest data Q3 2015.
2) Latest data October 2015.
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); World Bank (gross external debt); Eurostat (private debt); ECB (all other indicators).

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

	2010	2011	2012	2013	2014	2015 (4)
Employment rate (% of population aged 20-64)	75.8	75.7	75.4	75.6	75.9	76.3
Employment growth (% change from previous year)	-2.3	-0.1	-0.6	0.1	0.8	1.0
Employment rate of women (% of female population aged 20-64)	73.0	72.4	72.2	72.4	72.2	72.5
Employment rate of men (% of male population aged 20-64)	78.6	79.0	78.6	78.7	79.5	80.0
Employment rate of older workers (% of population aged 55-64)	58.4	59.5	60.8	61.7	63.2	64.7
Part-time employment (% of total employment, aged 15 years and over)	26.3	25.9	25.7	25.4	25.5	25.6
Fixed term employment (% of employees with a fixed term contract, aged 15 years and over)	8.4	8.8	8.5	8.8	8.5	8.8
Transitions from temporary to permanent employment	:	:	24.0	28.0	-	-
Unemployment rate(1) (% active population, age group 15-74)	7.5	7.6	7.5	7.0	6.6	6.2
Long-term unemployment rate(2) (% of labour force)	1.5	1.8	2.1	1.8	1.7	1.7
Youth unemployment rate (% active population aged 15-24)	13.9	14.2	14.1	13.0	12.6	10.9
Youth NEET(3) rate (% of population aged 15-24)	6.0	6.3	6.6	6.0	5.8	-
Early leavers from education and training (% of pop. aged 18-24 with at most lower sec. educ. and not in further education or training)	11.0	9.6	9.1	8.0	7.8	-
Tertiary educational attainment (% of population aged 30-34 having successfully completed tertiary education)	41.2	41.2	43.0	43.4	44.9	-
Formal childcare (30 hours or over; % of population aged less than 3 years)	68.0	69.0	59.0	60.0	-	-

(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	6.9	6.7	6.6	6.6	6.5	-
Invalidity	4.2	4.3	4.1	4.2	4.2	-
Old age and survivors	13.2	12.7	12.8	12.7	13.8	-
Family/children	4.2	4.1	3.9	3.7	3.7	-
Unemployment	1.6	2.0	1.9	1.9	1.9	-
Housing and social exclusion n.e.c.	0.7	0.7	0.7	0.7	0.7	-
Total	31.7	31.7	31.2	31.1	32.0	-
of which: means-tested benefits	1.7	2.1	2.1	2.1	2.3	-
Social inclusion indicators	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
People at risk of poverty or social exclusion[(1)] (% of total population)	17.6	18.3	18.9	19.0	18.3	17.8
Children at risk of poverty or social exclusion (% of people aged 0-17)	14.0	15.1	16.0	15.3	15.4	14.5
At-risk-of-poverty rate[(2)] (% of total population)	13.1	13.3	13.0	13.1	11.9	11.9
Severe material deprivation rate[(3)] (% of total population)	2.3	2.7	2.6	2.8	3.6	3.2
Proportion of people living in low work intensity households[(4)] (% of people aged 0-59)	8.8	10.6	11.7	11.3	11.9	12.1
In-work at-risk-of-poverty rate (% of persons employed)	5.9	6.5	6.4	5.6	5.5	4.9
Impact of social transfers (excluding pensions) on reducing poverty	58.0	54.3	54.2	53.7	57.2	55.6
Poverty thresholds, expressed in national currency at constant prices[(5)]	106229	107694	108360	106292	107107	108160
Gross disposable income (households; growth %)	2.6	5.9	3.1	2.2	-0.3	0.8
Inequality of income distribution (S80/S20 income quintile share ratio)	4.6	4.4	4.4	4.5	4.0	4.1

(1) People at risk of poverty or social exclusion (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in households with zero or very low work intensity (LWI).
(2) 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.
(5) For EE, CY, MT, SI and SK, thresholds in nominal values in euros; harmonised index of consumer prices (HICP) = 100 in 2006 (2007 survey refers to 2006 incomes)
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	-0.10	11.55	0.33	3.88	-0.49	-1.54
Labour productivity in construction	1.13	-3.15	1.33	4.78	-1.08	1.16
Labour productivity in market services	-2.43	5.08	-0.38	0.86	-1.59	0.86
Unit labour costs (ULC) (whole economy, y-o-y)						
ULC in industry	2.76	-6.24	0.10	-0.99	1.13	3.48
ULC in construction	-1.48	6.23	-0.66	-1.51	-0.48	0.39
ULC in market services	4.86	-1.32	0.46	2.07	1.23	0.94
Business environment	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
Time needed to enforce contracts(1) (days)	380	380	410	410	410	410
Time needed to start a business(1) (days)	6.0	6.0	5.5	5.5	5.5	5.5
Outcome of applications by SMEs for bank loans(2)	0.97	na	0.78	na	0.70	0.44
Research and innovation	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
R&D intensity	3.07	2.94	2.97	3.03	3.08	3.08
Total public expenditure on education as % of GDP, for all levels of education combined	8.74	8.81	8.75	na	na	na
Number of science & technology people employed as % of total employment	45	46	46	48	48	48
Population having completed tertiary education(3)	27	28	28	29	29	30
Young people with upper secondary level education(4)	70	69	70	72	72	73
Trade balance of high technology products as % of GDP	0.51	-0.18	-0.04	-0.31	-0.13	-0.06
Product and service markets and competition				**2003**	**2008**	**2013**
OECD product market regulation (PMR)(5), overall				1.48	1.35	1.22
OECD PMR(5), retail				3.00	1.83	1.69
OECD PMR(5), professional services				0.87	0.78	0.82
OECD PMR(5), network industries(6)				2.05	1.70	1.61

(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 / €	0.09	0.10	0.09	0.09	0.09	-
Carbon intensity	kg / €	0.30	0.29	0.27	0.25	0.26	-
Resource intensity (reciprocal of resource productivity)	kg / €	0.54	0.51	0.58	0.56	0.55	0.54
Waste intensity	kg / €	-	0.08	-	0.08	-	-
Energy balance of trade	% GDP	0.8	0.9	0.7	0.5	0.1	0.0
Weighting of energy in HICP	%	10.37	10.68	11.46	11.41	10.31	10.56
Difference between energy price change and inflation	%	-3.8	5.1	4.5	-0.7	0.8	0.8
Real unit of energy cost	% of value added	8.7	9.4	10.8	-	-	-
Ratio of labour taxes to environmental taxes	ratio	6.2	5.7	5.7	5.8	5.9	6.4
Environmental taxes	% GDP	4.0	4.0	4.0	4.0	4.2	4.1
Sectoral							
Industry energy intensity	kgoe / €	0.08	0.08	0.08	0.07	0.07	-
Real unit energy cost for manufacturing industry	% of value added	17.8	20.5	24.6	-	-	-
Share of energy-intensive industries in the economy	% GDP	10.54	10.31	10.20	10.37	10.18	-
Electricity prices for medium-sized industrial users	€ / kWh	0.09	0.10	0.10	0.10	0.10	0.10
Gas prices for medium-sized industrial users	€ / kWh	0.03	0.04	0.04	0.04	0.04	0.04
Public R&D for energy	% GDP	0.03	0.05	0.05	0.04	0.04	0.03
Public R&D for environment	% GDP	0.03	0.02	0.02	0.02	0.02	0.02
Municipal waste recycling rate	%	96.6	96.5	97.1	97.9	98.4	-
Share of GHG emissions covered by ETS*	%	41.7	41.1	38.0	35.2	39.2	36.1
Transport energy intensity	kgoe / €	0.51	0.50	0.47	0.47	0.46	-
Transport carbon intensity	kg / €	1.31	1.27	1.15	1.19	1.16	-
Security of energy supply							
Energy import dependency	%	-19.7	-15.7	-5.6	-3.0	12.3	-
Aggregated supplier concentration index	HHI	7.3	2.5	9.1	5.1	5.9	-
Diversification of energy mix	HHI	0.26	0.27	0.26	0.26	0.26	-

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 00MWh 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.