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This Survey is published on the responsibility of the Economic and Development Review Committee (EDRC) of the OECD, which is charged with the examination of the economic situation of member countries.

The economic situation and policies of Denmark were reviewed by the Committee on 27 November 2013. The draft report was then revised in the light of the discussions and given final approval as the agreed report of the whole Committee on 19 December 2013.

The Secretariat's draft report was prepared for the Committee by Stéphanie Jamet and Muge Adalet McGowan under the supervision of Vincent Koen. Research assistance was provided by Lutécia Daniel.

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BASIC STATISTICS OF DENMARK, 2012

(Numbers in parentheses refer to the OECD average)^a

LAND, PEOPLE AND ELECTORAL CYCLE					
Population (million)	5.6		Population density per km ²	129.2	(34.3)
Under 15 (%)	17.7	(18.1)	Life expectancy (years, 2011)	79.9	(80.0)
Over 65 (%)	17.4	(15.3)	Men	77.8	(77.3)
Foreign-born (% , 2011)	7.9		Women	81.9	(82.8)
Latest 5-year average growth (%)	0.4	(0.5)	Latest general election	September 2011	
ECONOMY					
Gross domestic product (GDP)			Value added shares (%)		
In current prices (billion USD)	315.4		Primary	1.4	(2.5)
In current prices (billion DKK)	1 826		Industry including construction	21.8	(27.4)
Latest 5-year average real growth (%)	-0.9	(0.6)	Services	76.8	(70.0)
Per capita, PPP (thousand USD)	42.4	(37.2)			
GENERAL GOVERNMENT					
			Per cent of GDP		
Expenditure	59.4	(42.6)	Gross financial debt	59.3	(102.4)
Revenue	55.5	(36.2)	Net financial debt	7.3	(64.1)
EXTERNAL ACCOUNTS					
Exchange rate (DKK per USD)	5.8		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	7.7		Machinery and transport equipment	23.9	
In per cent of GDP			Food and live animals	16.4	
Exports of goods and services	54.8	(53.8)	Miscellaneous manufactured articles	14.8	
Imports of goods and services	49.7	(50.4)	Main imports (% of total merchandise imports)		
Current account balance	5.9	(-0.5)	Machinery and transport equipment	29.8	
Net international investment position (2011)	23.7		Miscellaneous manufactured articles	15.8	
			Manufactured goods	13.9	
LABOUR MARKET, SKILLS AND INNOVATION					
Employment rate (%) for 15-64 year-olds	72.6	(65.0)	Unemployment rates (Labour Force Survey, %)		
Men	75.2	(73.1)	Total (age 15 and over)	7.5	(7.9)
Women	70.0	(57.0)	Youth (age 15-24)	14.2	(16.2)
Average hours worked per year	1 546	(1 766)	Long-term unemployed (1 year and over)	2.1	(2.7)
Gross domestic expenditure on R&D (% of GDP, 2011)	3.1	(2.4)	Tertiary educational attainment 25-64 year-olds (% , 2011)	33.7	(31.5)
ENVIRONMENT					
Total primary energy supply per capita (toe)	3.1	(4.2)	CO ₂ emissions from fuel combustion per capita (tonnes, 2011)	7.5	(10.0)
Renewables (%)	24.3	(8.5)	Water abstractions per capita (1 000 m ³ , 2009)	0.1	
Fine particulate matter concentration (urban, PM ₁₀ , µg/m ³ , 2010)	15.0	(20.1)	Municipal waste per capita (tonnes, 2011)	0.7	(0.5)
SOCIETY					
Income inequality (Gini coefficient, 2010)	0.252	(0.304)	Education outcomes (PISA score)		
Relative poverty rate (% , 2010)	6.0	(10.9)	Reading	496	(496)
Public and private spending (% of GDP)			Mathematics	500	(494)
Health care (2011)	10.9	(9.5)	Science	498	(501)
Pensions (2009)	8.2	(8.7)	Share of women in parliament (% , September 2013)	39.1	(25.8)
Education (excluding tertiary, 2010)	4.8	(4.0)	Net official development assistance (% of GNI)	0.8	(0.4)

Better life index: www.oecdbetterlifeindex.org

a) Where the OECD aggregate is not provided in the source database, a simple OECD average of latest available data is calculated where data exists for at least 29 member countries.

Source: Calculations based on data extracted from the databases of the following organisations: OECD, International Energy Agency, World Bank, International Monetary Fund and Inter-Parliamentary Union.

Executive summary

Main findings

Denmark scores highly on many dimensions of well-being. Nevertheless, weak productivity growth over the past two decades has contributed to a widening of the income gap vis-à-vis leading OECD economies. Renewing with stronger productivity growth over the longer run is an overarching challenge for Denmark and calls for keeping up structural reform efforts.

Rebalancing the economy

The economy is set to recover gradually as world trade regains momentum and confidence improves. However, household debt is high and there remain fragilities in the financial sector, which entail risks for private consumption and public finance. The financial sector is large, with seven systemically important financial institutions, and the share of deferred-amortisation mortgage loans has become too high for comfort. On the fiscal side, the framework has been strengthened in recent years, public finances are in a relatively good shape and automatic stabilisers are large, which helps buffer adverse shocks. Past and recent structural reforms will help to raise labour market participation and to better control public expenditure. However, the tax burden on upper labour incomes remains elevated and is likely detrimental to economic growth.

Fostering competition and innovation

Weak competition in some sectors and shortcomings in the innovation policy framework hold back productivity growth, notwithstanding high R&D spending, and can hinder participation in global value chains, which is one channel to achieve productivity gains. Regulatory hurdles impede competition in the services sector. Ownership, zoning and size regulations, as well as national standards that differ from international ones restrict entry in several sectors. With public spending in relation to GDP among the highest in the OECD, intensifying competition in the public sector can also raise productivity. In addition, there is room to enhance the efficiency of innovation policies. In particular, it is important to make sure that some schemes provide efficient support to young and dynamic innovative firms.

Making the most of skills

With free and broad access to education, a long tradition of active labour market policies, and a well-developed adult learning system, skills are relatively good, although some groups lack basic skills. Ongoing reforms of compulsory education and of the vocational education and training system will raise the skills of youth and improve transitions to the labour market. While the flexibility of the Danish labour market helps achieve an efficient allocation of skills within the economy, the share of high-skilled workers in the private sector is relatively low, which can partly be explained by weak incentives to undertake tertiary education and to choose demanding jobs. Employment rates are high, but people who are outside the labour market face low financial incentives to take a job. The recent reform of the *flexjob* and disability programmes should help to better activate skills if adequately implemented.

Key recommendations

Rebalancing the economy

- Create a new supervisory tool for mortgage banks, similar to the framework for banks, which includes thresholds on the share of deferred-amortisation loans and refinancing needs.
- Make sure that all banks, especially the largest ones, maintain a prudent leverage ratio, as a backstop to risk-weighted capital ratios.
- In case of a weaker or postponed recovery, the automatic stabilisers should be allowed to work. In the event of a faster recovery than the euro area one and a renewal of capital inflows, the fiscal stance should be tightened more than projected.
- Further lower marginal taxes on higher incomes. Raise taxes on property once the recovery of the housing market is well under way. Improve the structure of environmental taxes to raise their efficiency.

Fostering competition and innovation

- Assess the impact of the regulations of professions and remove those that hamper competition and are not fully justified by other objectives. Harmonise national standards that hinder foreign firm entry with international ones. Relax ownership regulations and zoning and size regulations for stores.
- Simplify the legislation on public procurement and increase the use of e-procurement to lower transaction costs and make the process more uniform.
- To support young and dynamic firms, further extend carry-over provisions and cash refunds in R&D tax credit programmes or increase direct support.

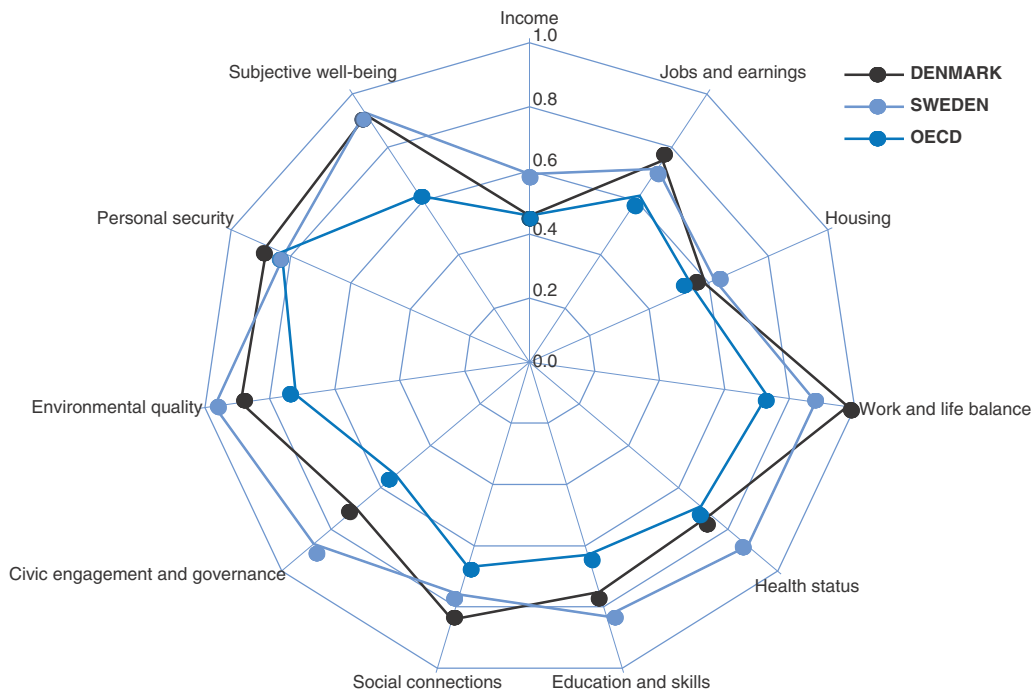
Making the most of skills

- When implementing the reform of vocational education and training (VET), make sure that VET becomes more attractive to students and more selective without increasing school failures among those who cannot enter VET. Develop VET programmes that offer pathways to tertiary education.
- Raise the performance of the adult learning system by continuing efforts to give educational institutions greater incentives to recognise prior learning and by increasing the quality control of courses.
- Improve the efficiency of ALMPs, including by ensuring that municipalities face the right financial incentives to help the unemployed find a job.
- When implementing the reform of *flexjob* and disability programmes, make sure that the special disability scheme for older workers does not become a new pathway to early retirement. Move to regular entitlement assessment of disability pensions and limit the granting of permanent pensions for those above 40.

Assessment and recommendations


On many counts, Denmark scores well in international comparisons. It is repeatedly ranked as the happiest nation in the world according to the Gallup World Poll (Helliwell et al., 2013) and enjoys a high level of well-being along many dimensions (Figure 1). Labour market outcomes are better than average, and are accompanied by an outstanding work-life balance, low inequality and a good level of education and skills. Environmental quality is high, as are civic engagement and trust in institutions (OECD, 2013a). Public finances are also in relatively good shape, with a small debt-to-GDP ratio and budget deficit despite the shocks endured in recent years. Inflation has been low and stable. These outcomes are the result of sound policies and institutions.

Figure 1. **Denmark compares favourably on many well-being dimensions**¹



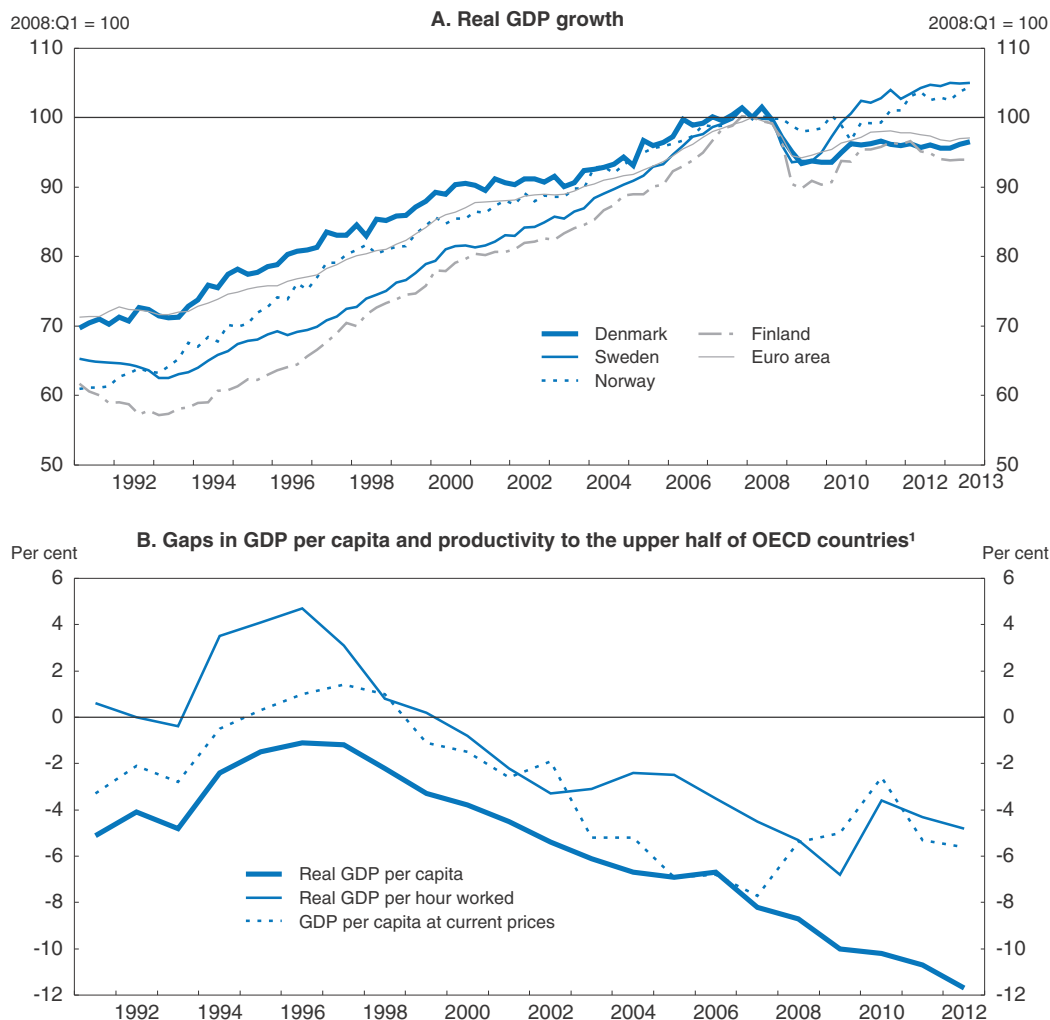
1. Each well-being dimension is measured by one to three indicators from the OECD Better Life Indicator set. Normalized indicators are averaged with equal weights. Indicators are normalized to range between 1 (best) and 0 according to the following formula: $(\text{indicator value} - \text{minimum value}) / (\text{maximum value} - \text{minimum value})$.

Source: OECD (2013), *How's Life? 2013, Measuring Well-Being*.

StatLink  <http://dx.doi.org/10.1787/888932980811>


Economic growth in recent years has nevertheless been anaemic. In the wake of the global economic crisis and of the burst of the housing market bubble, the Danish economy has grown hardly at all since 2010 (Figure 2, Panel A) although weakness has been concentrated in a small number of sectors including the financial one. Over a longer period, the country has lost ground in terms of GDP per capita compared to leading OECD economies, mainly due to lacklustre productivity gains (Figure 2, Panel B). The housing bubble contributed to the slowdown in productivity by causing a misallocation of resources and the accompanying surge in household debt resulted in financial sector fragility. Reinvigorating productivity growth and enhancing financial stability remain two key challenges for Denmark. Against this backdrop, continued reform efforts are called for to improve growth prospects, to ensure that public finances and the welfare system remain sustainable, and to maintain enviable well-being outcomes.

Figure 2. **Growth has been weak**



1. Percentage gap with respect to the simple average of the highest 17 OECD countries in terms of real GDP per capita (in constant 2005 PPPs), real GDP per hour worked (in constant 2005 PPPs) and GDP per capita at current prices (in current PPPs). The income gap is smaller at current prices than at constant prices partly because of gains in the terms of trade.

Source: OECD, *Analytical Database*; OECD, *Going for Growth Database*.

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Growth is expected to pick up gradually

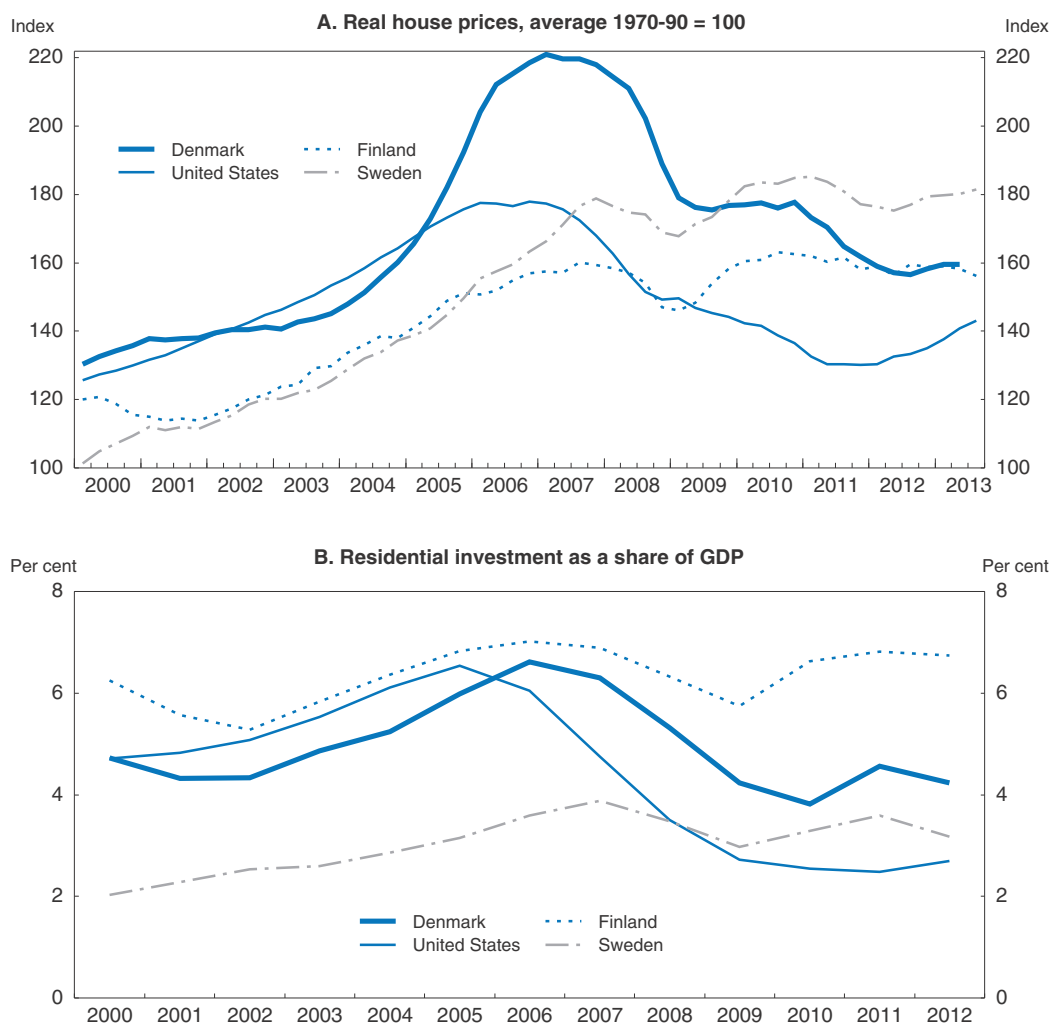
After a sharp fall in 2009, GDP was still 5% below its pre-crisis peak by mid-2013. Growth has been held back by very weak domestic demand, against the backdrop of the large housing sector adjustment, persistent uncertainties and – until recently – low consumer confidence (Figure 3). Export performance has also been poor, owing in part to weak growth in Denmark's export markets. Deteriorating wage competitiveness in the past decade has also contributed to some extent to export market losses (Productivity Commission, 2013a). Successive governments have taken measures to boost domestic demand, including most recently the 2013 *Growth Plan*. These initiatives have improved the situation of households and firms and should help the economy to continue to recover gradually as world trade gathers momentum (Table 1).

Table 1. Macroeconomic indicators and projections
Annual percentage change unless specified otherwise, volumes at 2010 prices


	2010 Current prices DKK billions	2011	2012	2013	2014	2015
GDP	1 760.1	1.1	-0.4	0.3	1.6	1.9
Private consumption	855.4	-0.7	-0.1	0.2	1.4	1.9
Government consumption	509.6	-1.4	0.4	0.5	0.5	0.6
Gross fixed capital formation	297.8	3.3	0.8	-0.9	4.5	4.0
<i>Of which: Housing</i>	67.2	17.8	-8.0	-2.8	2.2	1.8
<i>Business</i>	193.0	-1.9	2.6	1.8	4.8	5.3
<i>Government</i>	37.6	4.2	10.7	-10.3	6.5	1.2
Final domestic demand	1 662.8	-0.2	0.2	0.0	1.7	1.9
Stockbuilding ¹		0.4	-0.3	0.2	-0.3	0.0
Total domestic demand	1 662.4	0.2	-0.1	0.6	1.5	1.9
Exports of goods and services	887.8	7.0	0.4	0.8	3.2	4.3
Imports of goods and services	790.2	5.9	0.9	1.4	3.2	4.5
Net exports ¹		0.9	-0.2	-0.3	0.2	0.1
<i>Other indicators (growth rates, unless specified):</i>						
Potential GDP		0.6	0.6	0.7	0.9	1.0
Output gap ²		-2.4	-3.3	-3.8	-3.1	-2.2
Employment		-0.1	-0.5	0.1	0.3	0.5
Unemployment rate ³		7.6	7.5	7.0	6.7	6.5
GDP deflator		0.7	2.3	1.6	1.1	1.5
Consumer price index		2.8	2.4	0.7	1.2	1.6
Core consumer price index (excluding food and energy)		1.8	1.8	1.2	1.4	1.5
Household saving ratio, gross ⁴		7.7	6.6	6.5	6.1	6.1
Current account balance ⁵		5.6	5.9	6.1	6.1	6.0
General government financial balance ⁵		-2.0	-3.9	-1.5	-1.5	-1.9
General government underlying balance ^{5, 6}		-0.2	-0.4	-0.1	-0.3	-0.3
General government underlying primary balance ^{5, 6}		0.4	0.1	0.4	0.2	0.1
General government gross debt ⁵ (Maastricht)		46.4	45.4	44.8	46.0	47.5
General government net debt ⁵		3.1	7.3	8.6	9.9	11.4
Three-month money market rate, average		1.4	0.6	0.2	0.1	0.3
Ten-year government bond yield, average		2.7	1.4	1.8	2.3	2.8

- Contributions to changes in real GDP.
 - As a percentage of potential GDP.
 - In per cent of the labour force.
 - As a percentage of household disposable income.
 - As a percentage of GDP.
 - Adjusted for the cycle and for one-offs.
- Source: OECD Economic Outlook 94 Database.

Figure 3. House prices seem to have bottomed out



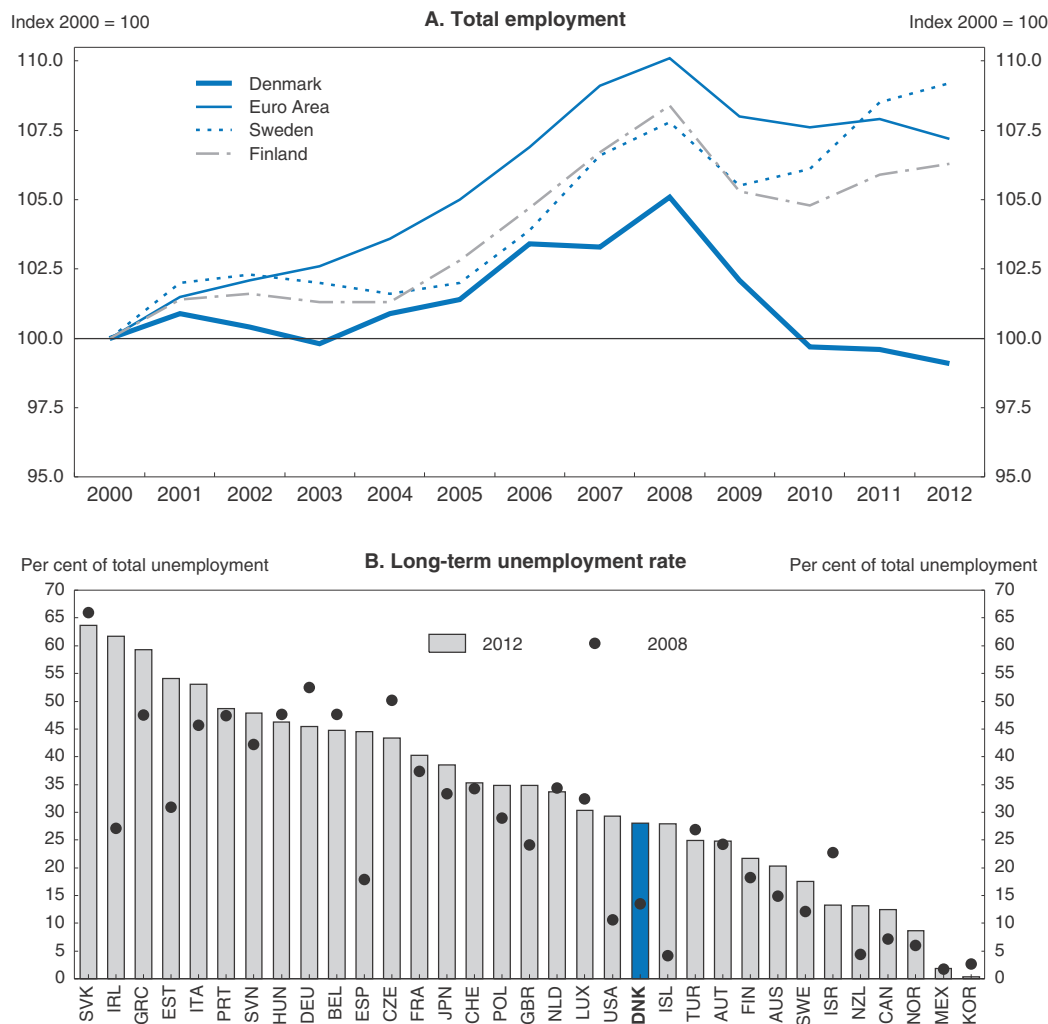
Source: OECD, House Price Database and Analytical Database.

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Labour market conditions deteriorated in the wake of the global economic and financial crisis, but are expected to improve gradually as demand picks up. Employment has remained flat in the private sector over the past two years and has fallen in the public sector, leading to a fall in total employment (Figure 4). The labour force has fallen mainly because more youth continued education rather than trying to join the labour market. The share of long-term unemployment has increased but remains below the OECD average. The gradual shortening of the effective maximum unemployment insurance period from four to two years between 2013 and 2017 is raising incentives to take a job. Other structural reforms, discussed below, should raise labour market participation and employment in the longer term though in the near term they may limit the drop in unemployment somewhat.

There are signs that wage competitiveness is beginning to improve, reflecting a slight pick-up in productivity growth and some wage moderation (Figure 5). Export performance has also stabilised. All this should help Denmark benefit from the projected recovery in

Figure 4. The labour market has deteriorated



Source: OECD, Analytical Database and ELS Database.

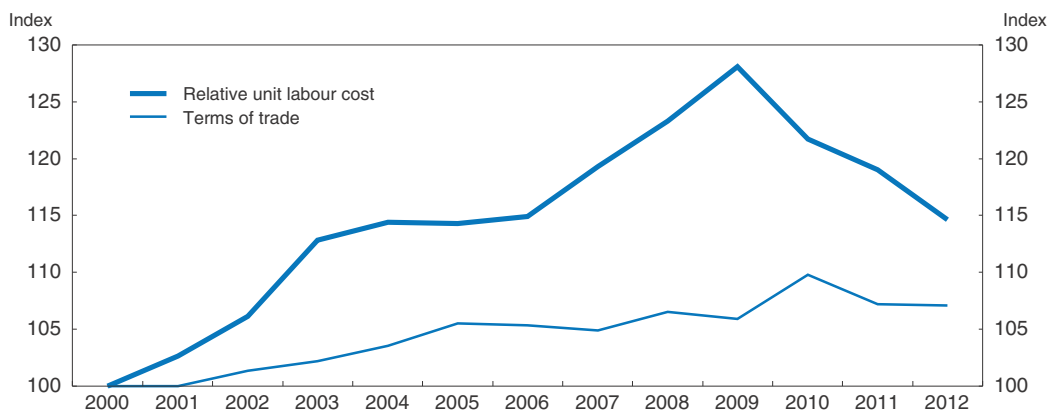
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world trade. However, the terms of trade have stopped rising, suggesting that non-price competitiveness may be stagnating. With stronger external demand and high corporate savings, business fixed investment is projected to begin to expand after two years of decline.

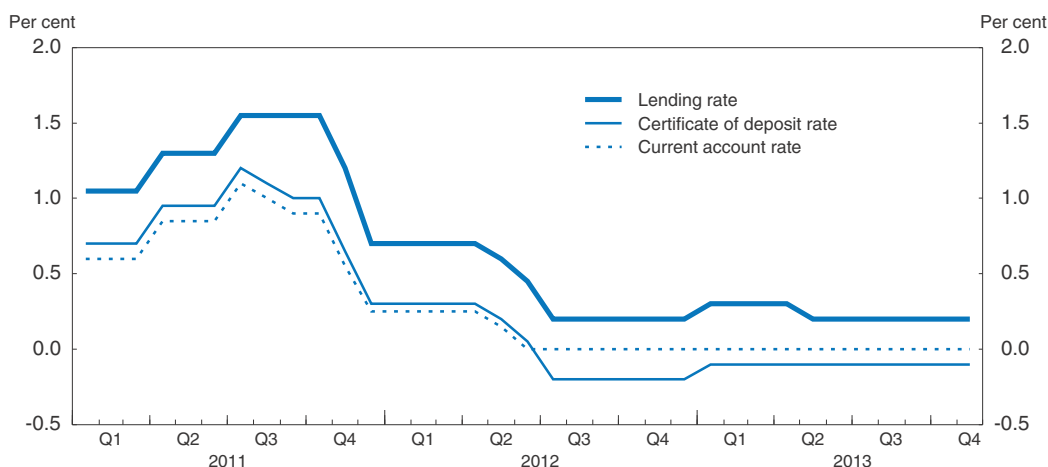
Monetary policy rates have been historically low for a long time, which has provided stimulus to the weak economy. Inflation has also been very low. Policy interest rates are mainly determined by the decisions of the European Central Bank (ECB) since the Danish krone is pegged to the euro, but lately they have diverged somewhat. Between late 2011 and mid-2012, demand for the Danish krone surged, as it was seen as a safe haven, and the 10-year government bond yield fell below the German one. The central bank (DNB) purchased large volumes of foreign exchange and cut its policy rates more than the ECB did (Figure 6). Indeed, one of its main policy rates, the rate on certificates of deposit (CDs) against which counterparties can deposit liquidity, was cut to -0.2% in July 2012. Pressure on the krone has since weakened a bit, and the central bank raised the CD rate to -0.1%. As

Figure 5. **Price competitiveness has recovered somewhat**

Annual, base 2000 = 100



Source: OECD, Analytical Database.

StatLink <http://dx.doi.org/10.1787/888932980887>Figure 6. **Monetary policy has been very accommodative**

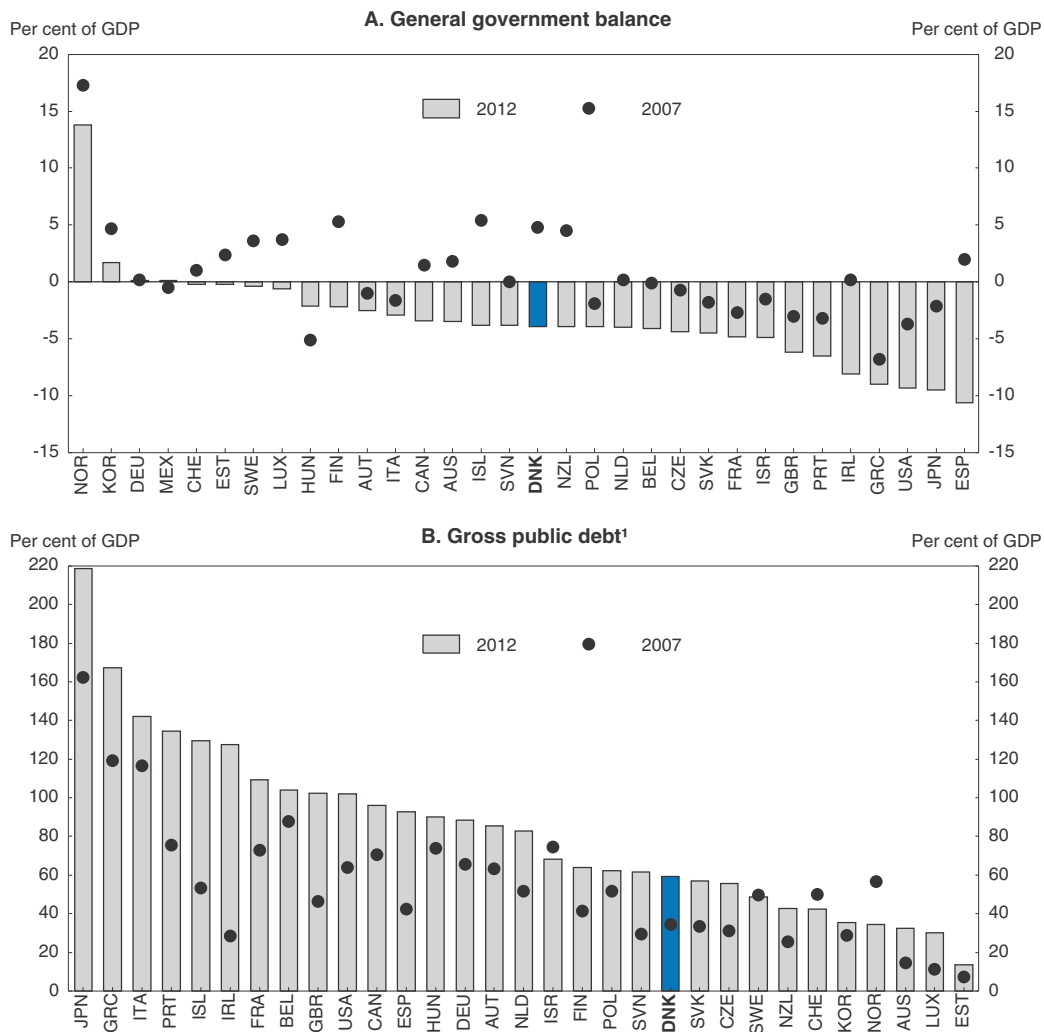
Source: Danish National Bank.

StatLink <http://dx.doi.org/10.1787/888932980906>


the prolonged period of low interest rates has worsened their profitability, banks have raised fees. It is important to continue to monitor the impact of low interest rates on bank profitability and households. In addition, the monetary authorities should be prepared for a potential reversal in capital flows, possibly on a larger scale than the one that occurred in early 2013 and which pushed the Danish 10-year government bond yield back up above the German one.

Compared to most other OECD countries, the public debt and deficit are low, and fiscal sustainability is not in doubt (Figure 7 and Annex A1). In addition, the government has financial asset reserves of 11% of GDP at the DNB. In the context of the European Union Excessive Deficit Procedure launched in 2010, the government programmed an improvement of its underlying balance over 2010-13 of 1.5% of GDP. Consolidation was achieved mainly through a fall in public employment and lower public wage growth, but also through increased taxes. Following the reform of the early retirement system in 2012, the government had to reimburse some contributions to households, which provided some

Figure 7. Denmark's fiscal position is relatively good



1. Gross public debt according to ESA95 definition.
Source: OECD Economic Outlook 94 Database.

StatLink  <http://dx.doi.org/10.1787/888932980925>

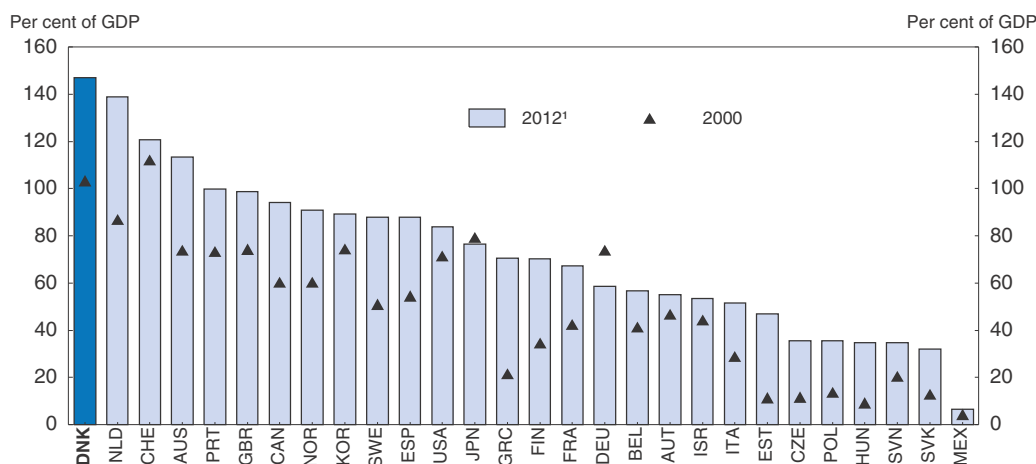
stimulus and led to a temporary widening of the headline deficit (Table 1). In 2013-14, changes in pension fund taxation should contribute to fiscal consolidation. There are large uncertainties surrounding the effects of these changes on near-term public finance indicators but recent data suggest that they can be larger than projected in the November 2013 OECD Economic Outlook, which would lead to smaller budget deficits in 2013-14 and a larger one in 2015 (Ministry for Economic Affairs and the Interior, 2013; Ministry of Finance, 2013).

For 2014, the fiscal stance is broadly neutral. The government's 2013 Growth Plan includes reforms to raise productivity growth and labour supply in the medium term. The large size of automatic stabilisers, including the fact that both unemployment benefits and active labour market expenditure increase automatically when the unemployment rate rises (ILO, 2009), would help in facing a weaker or postponed recovery.

Risks to the Danish outlook are both external and domestic. On the upside, if euro area concerns recede further or Danish wage competitiveness improves more than projected, the country would benefit from stronger foreign demand. However, if the krone continues to be seen as a safe haven and Denmark recovers faster than the euro area, fiscal policy will have to be tightened more than projected, since monetary policy will continue to defend the fixed exchange rate. On the downside, renewed euro area tensions or more generally a slowdown in growth in Denmark's export markets worldwide, would weigh on exports and dampen firm and household confidence.

Another potential risk to the outlook is gross household debt, which soared during the house price boom (Figure 8) and has not come down since. Household assets are also high, but a major portion there of notably pension rights, is illiquid, while household debt largely consists of mortgage loans. A rising number of households are due to reimburse the principal of deferred amortisation loans introduced 10 years ago, which could lead some of them to hold back consumption. Stress tests suggest that most of these households could cope with adverse shocks in the form of higher interest rates or unemployment although some of them would face financial difficulties (Ministry of Business and Growth, 2013a; DNB, 2013; Andersen et al., 2012).

Figure 8. **Gross household debt is the highest in the OECD**



1. Or latest year available.

Source: OECD, Analytical Database.

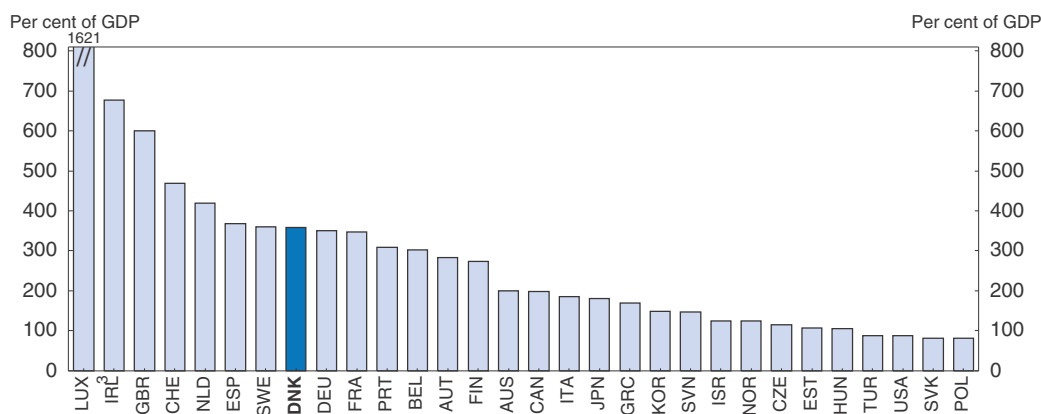
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Enhancing financial stability

In the face of the global financial crisis and the bursting of the housing market bubble, the authorities responded with six bank packages from October 2008 to October 2013, involving capital injections, liquidity support and government guarantees. Other measures taken to improve financial stability included the introduction of a special resolution regime and of a credit register to which all banks must report information on their major customers, the reform of the deposit insurance scheme, and the strengthening of regulation and supervision in line with evolving reform at the global and EU levels (see the section on financial stability in the 2012 *OECD Economic Survey*). Even so, some vulnerabilities remain in the financial system, and will have to be addressed, as recommended in a recent report of the Committee on the Danish Financial Crisis (Ministry of Business and Growth, 2013b).

The size and structure of Denmark's banking system, with both seven systemically important financial institutions (SIFIs) and a large number of small banks, create some challenges. The total assets of the Danish banking system are close to four times GDP (Figure 9) and the three largest banks make up 78% of total bank assets. Despite much stricter bail-in requirements than in other countries, the implicit guarantees on bank debt can reduce the funding costs for banks and might result in large contingent liabilities for the government (Schich and Lindh, 2012; IMF, 2013a). The Danish banking system is intimately interconnected with the other Nordic countries, underlining the importance of continued close co-ordination of Nordic bank policies, especially with respect to resolution procedures and burden sharing (IMF, 2013b). Denmark's mortgage credit institutions, some of which are classified as SIFIs, do not take deposits and cannot access money markets. They only grant mortgage loans, which are funded through the issuance of covered bonds.

Figure 9. **The banking sector is relatively large**¹
Total assets as a share of GDP, 2012²



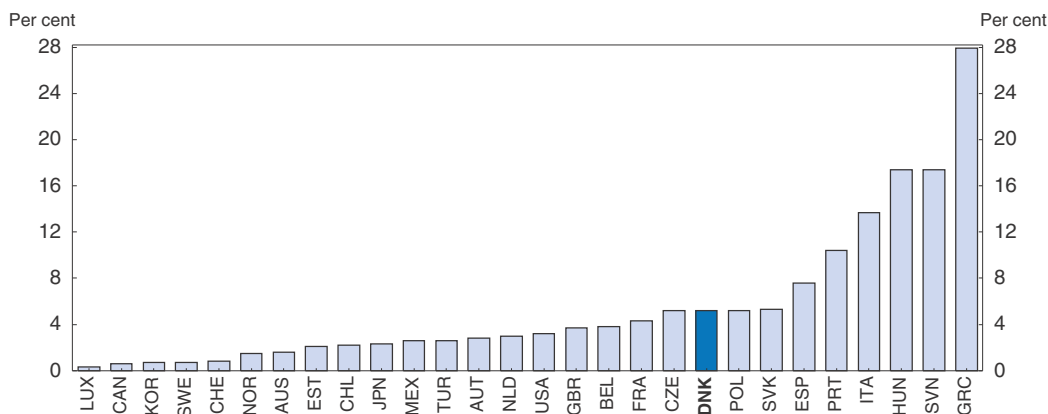
1. Financial and non-financial assets of banks and other deposit takers (units engaging in financial intermediation as a principal activity).
 2. Average of quarterly data available.
 3. Includes both domestic and international banks.
- Source: IMF, *Financial Soundness Indicators*.

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Progress has been achieved with respect to bank capital and liquidity, but bank profitability and asset quality are lower than in the other Nordic countries (IMF, 2013a), reflecting the bursting of the housing bubble, lower lending volumes and higher funding costs. In response to the relatively high share of non-performing loans (Figure 10), the FSA increased the requirements to provision for distressed property loans in April 2012. However, non-performing loans are mainly concentrated in agricultural and small business loans rather than loans to households and in small banks. The number of small and medium-sized banks has decreased due to failures, mergers and takeovers, from 137 in January 2007 to 78 in mid-2013, but some of them remain vulnerable.

The core Tier 1 capital ratio of Danish banks is 16.7%, well above that of their international peers, but some smaller banks still face capital adequacy challenges. Furthermore, the strength of bank capital could be overstated given capital quality and low weights on risky assets compared to other countries (Xiao, 2013). Relying solely on capital ratios, which weight assets by risk, can be misleading (Blundell-Wignall and Roulet, 2012) and a leverage ratio, which does not weight assets, is a desirable backstop to the risk-

Figure 10. **Non-performing loans are substantial**
As a percentage of total gross loans¹



1. The definition for impaired loan classification is not entirely standardised across countries. 2013:Q2 or latest quarter available.

Source: IMF, *Financial Soundness Indicators*.

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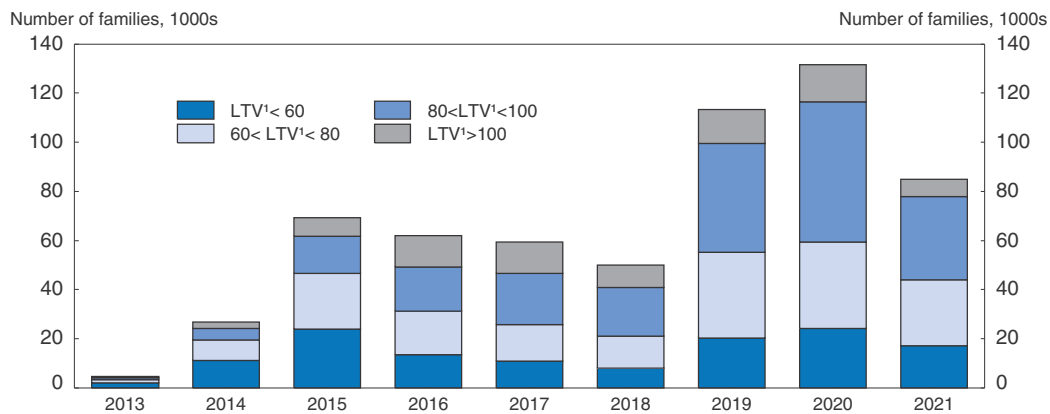
weighted capital ratios. At the start of 2013, the aggregate leverage ratio for the Danish banking sector stood at 5.6%, which is around the median of OECD countries and well above the Basel III ratio of 3%. However, the aggregate 5.6% ratio may mask lower ratios in specific banks. In October 2013, an agreement was reached to set up an expert committee to analyse the appropriateness of a leverage ratio above 3%, which is possible as a Pillar II measure under Basel III. Financial supervisors should ensure that each bank is sound and regularly publish both risk-weighted capital and leverage ratios in their financial stability reports.

Mortgage credit institutions in particular continue to rely on wholesale funding, which should be monitored closely. Since the beginning of the crisis, funding gaps have been reduced and loan-to-deposit ratios have improved, thanks to actions taken by banks and to the liquidity provided by the DNB. Liquidity ratios are monitored closely by the Financial Supervisory Authority (FSA) using the “Supervisory Diamond”, a new tool that came into effect in 2013, which compares banks’ performance against a number of benchmarks in terms of large exposures, lending growth, a funding ratio, concentration on commercial property and liquidity ratios. Smaller banks should continue to prepare for the EU liquidity regulations which will come into effect in 2015.

Changes over the past decade have created vulnerabilities in the Danish mortgage market. Although mortgage debt in Denmark is primarily concentrated among higher-income households, the share of deferred-amortisation loans increased from 19% of total private mortgage debt in 2004 to 56% in 2012. The government has improved the framework conditions to address the risks from deferred-amortisation loans, as recommended in the section on financial stability in the 2012 *OECD Economic Survey*. In May 2013, new rules came into effect restricting mortgages with variable rates or deferred-amortisation to people who can afford an equivalent mortgage with a fixed-rate, amortised loan. In July 2013, a risk-labelling scheme for housing mortgages was introduced so that borrowers have all the information on the risks associated with different types of loans.

The number of households required to repay capital begins to rise in 2014 (Figure 11). Existing legislation offers three options to households with a deferred amortisation loan entering its amortisation period, and with a loan-to-value (LTV) ratio of over 80%:

Figure 11. **Deferred-amortisation loans add to financial sector vulnerability**
Number of families with expiring deferred-amortisation loans who start to repay principal



1. LTV: loan-to-value, in per cent. The LTV ratio covers the remaining part of the loan as a ratio to the property value of the property pledged as collateral for the loan. The property value is the mortgage bank's valuation at the end of 2011. If a household has several deferred-amortisation loans expiring in the same year, but with different properties as collateral, the loan with the highest LTV ratio is included.

Source: Danish National Bank, *Financial Stability Report*, 2013.

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i) converting to a 30-year loan with amortisation; ii) raising a new deferred-amortisation mortgage loan up to the 80% LTV and supplement it with a bank loan with amortisation; or iii) taking a new deferred-amortisation loan offered by the bank if they face particular financial constraints and provided that the bank provisions for the potential losses. In most cases, the first option should be encouraged so as to lower the share of deferred-amortisation loans.

Mortgage credit institutions face risks arising from deferred-amortisation loans in their portfolios and their financing model which uses shorter maturity funding for their loans. The share of bonds maturing in less than one year, used to finance 30-year mortgages, rose from 19% in 2008 to 37% in 2012. To address these risks, one major mortgage credit institution has introduced lower LTVs for variable-rate and deferred-amortisation loans and more generally fees have been raised for this type of loans. Since 2008, when all their refinancing was concentrated in December, some of the mortgage banks have spread their refinancing over the year, though much of it is still concentrated in December, and have tended to issue longer maturity bonds. In November 2013, the government proposed the introduction of a forced extension under certain circumstances of the term for mortgage bonds, shifting the risk of a term extension to investors. In addition, a broader approach to address the remaining risks associated with mortgage lending should be put in place. For example, a new Supervisory Diamond, which would include the share of deferred-amortisation loans in total loans and the share of mortgages with frequent refinancing as facets, could be created for mortgage banks, as recommended by the Committee on the Danish Financial Crisis (Ministry of Business and Growth, 2013b).

An interagency committee on SIFIs presented its report in March 2013. For crisis prevention, the committee recommended stricter capital and liquidity requirements, and improvements in corporate governance. For crisis management and resolution, it proposed a crisis management authority, a stability fund financed by SIFIs, the drawing up of crisis management plans by SIFIs, and the development of recovery and resolution plans. It also

proposed a bail-in framework for the SIFIs to reduce potential liabilities for the government and encourage capital markets to monitor risks taken by banks. In October 2013, an agreement was reached to classify seven banks as SIFIs and implement the main recommendations of the committee starting in January 2015, which is welcome.

In February 2013, a Systemic Risk Council was set up composed of independent experts and representatives from various ministries, the FSA and the DNB. It is responsible for the identification of systemic risks in the financial system and the issuance of recommendations to the FSA and the government on macroprudential policies. The Council has an advisory role only. In October 2013, a draft law was introduced empowering the Minister of Business and Growth to implement macroprudential tools. This allocation of responsibilities could lead to a conflict of interest if macroprudential policies lead to a tightening of credit to firms. Furthermore, a dominant role of the ministry can compromise the independence of participating agencies (IMF, 2013c). The “comply or explain” rules should help address this risk, but if they fail to ensure the transparency and accountability of macroprudential policies, allocating the power to implement macroprudential tools to the FSA or the Systemic Risk Council should be considered.

Box 1. Recommendations on financial stability

Key recommendations

- Create a new supervisory tool for mortgage banks, similar to the framework for banks, which includes thresholds on the share of deferred-amortisation loans and refinancing needs.
- Make sure that all banks, especially the largest ones, maintain a prudent leverage ratio, as a backstop to risk-weighted capital ratios.

Further recommendations

- Encourage households with loan-to-value ratios above 80% and facing the beginning of amortisation payments for loans granted 10 years ago to start now to amortise their loans.
- Monitor the effectiveness of allocating the power to implement macroprudential policies to the government and if this set-up turns out to be ineffective, consider allocating it to the Financial Supervisory Authority or the Systemic Risk Council.

The fiscal framework has been strengthened but the structure of taxation can be improved

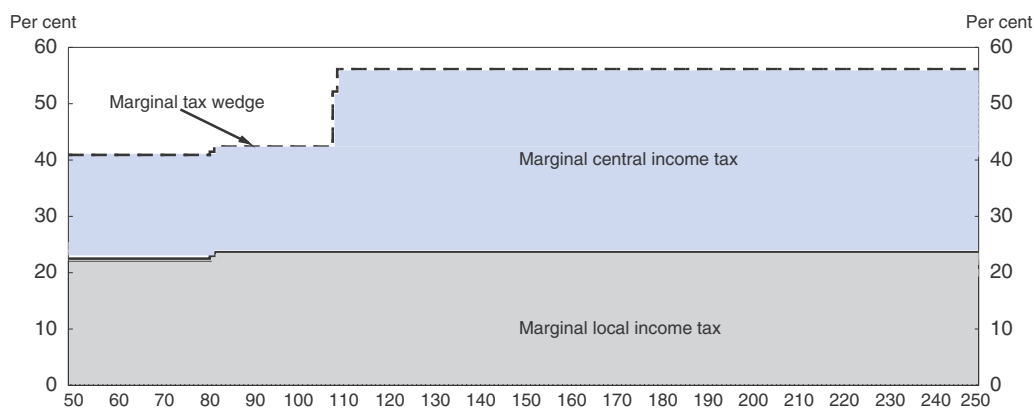
The Danish welfare system acts as a buffer in times of crisis but may have costs. Even when the effect of the tax system (such as taxes on social benefits or tax breaks for social purposes) on social expenditures is accounted for, the so-called net social expenditures appear to be higher than the OECD average (Adema and Ladaique, 2009). In part, this reflects strong redistribution, which has helped keep inequality relatively low. The relationship between government size and productivity growth is ambiguous. It depends on the relative importance of positive effects such as those associated with infrastructure spending and the correction of market failures, and negative effects, including the burden of taxation and the distortions stemming from market intervention (Adalet McGowan and Jamet, 2012). In any event, efficient public expenditure and a sound tax structure will foster economy-wide productivity.

Governments long failed to keep public expenditure in check, especially public consumption at municipal level (see the chapter on consolidating public finances in the 2012 *OECD Economic Survey*). In 2010, the previous government introduced a sanction mechanism to cut the main grant to municipalities if expenditure exceeds the agreed level, or if tax revenues do. In 2012, the new government introduced an obligation for Parliament to adopt expenditure ceilings for each level of government consistent with the overall medium-term fiscal objective, which it did for the first time in June 2013. These ceilings cover most spending, but exclude public investment and unemployment outlays. They are set for four years and will start in 2014. In parallel, the government has implemented the Fiscal Compact into Danish law. It is committed to keeping the underlying budget deficit below ½ per cent of GDP in the absence of exceptional circumstances and aims for budget balance or a surplus towards 2020.

The strengthening of the fiscal framework has delivered results. Public consumption remained below target in 2011 and 2012, which is attributed by stakeholders to the introduction of the sanctions for municipal overspending. For 2014, as part of the *Growth Plan*, municipalities have agreed with the government to continue to contain their consumption expenditures, but to increase investment. The government should fully implement the new fiscal framework and monitor the impact of the reforms on municipal outlays.


Better control of public expenditure allows to relax the tax pressure, in particular on labour. The high tax pressure on higher incomes coupled with a very narrow wage distribution give little incentives to take a more demanding job, which may have contributed to weak productivity growth. Despite the increase in the threshold of the higher personal income tax rate as part of the 2012 tax reform, the highest marginal tax rate will continue to apply at low levels of income although only 12% of taxpayers have income above this level (Figure 12). Besides, as part of the *Growth Plan*, the corporate tax rate will be gradually lowered from 25% to 22% between 2014 and 2016.

Figure 12. Marginal taxes on higher incomes are elevated
Marginal tax wedge on labour income for a single person with no children, 2012¹



1. Part of a marginal increase in total labour costs that is paid in income taxes plus employee and employer social contributions, for a single person with no children, for persons with income at 50-250% of average full-time earnings.

Source: OECD, *Taxing Wages Database*.

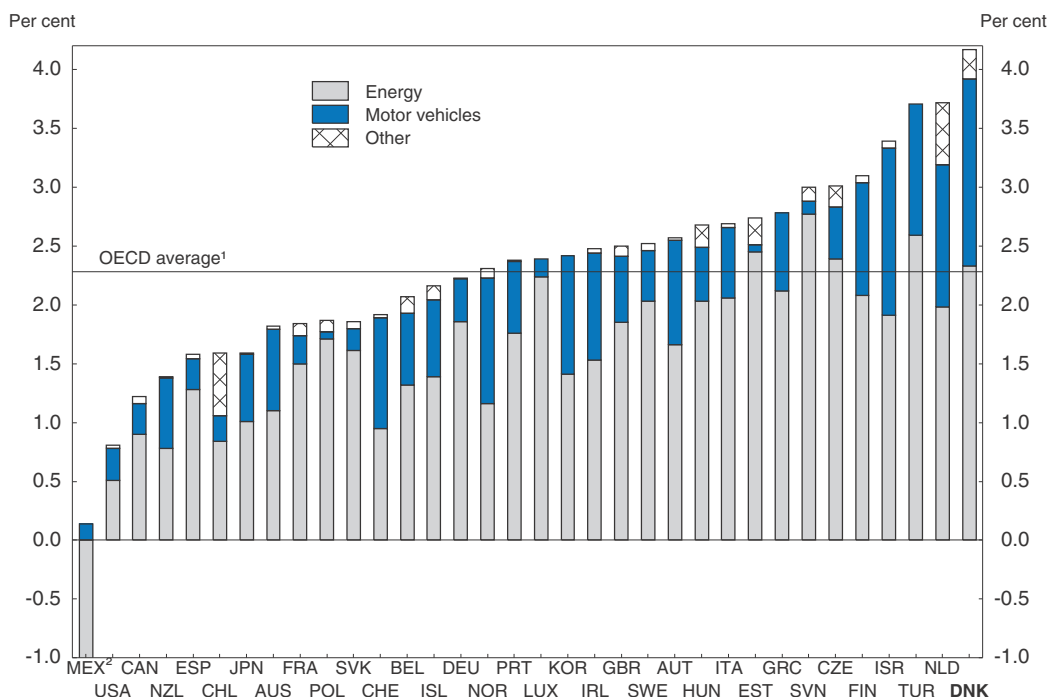
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There is still room to improve the structure of taxes by further lowering taxes on income and raising property taxes. The property value tax has been frozen in nominal terms since 2002 except for properties with a current value below the 2002 one. The deductibility of mortgage interest has been limited and taxes on land have been raised. Once the housing market has stabilised, raising taxation on property further by restoring the tax base would limit the risk of future housing booms. This should be based on an improved valuation of property and land. The government has established a committee to that effect.

Environmental taxes are high in Denmark in relation to GDP and the country has adopted ambitious energy and climate targets (Figure 13). However, the efficiency of these taxes could be increased. Denmark differs from other countries because of its large taxes on transport, but this is mainly due to an extremely high tax on motor vehicle registration, which does not directly tax externalities from the use of cars, such as greenhouse gas (GHG) emissions. Recurrent taxes would do so, but they are lower, especially those on diesel (see the chapter on green growth in the 2012 *OECD Economic Survey*) and the room to increase them may be limited due to border trade. A plan to introduce a congestion tax in Copenhagen has been abandoned. The efficiency of environmental taxes can be further increased by taxing traffic and the use of roads more and car purchases less. This could also reduce air pollution in large cities, which is still an important issue (European Environmental Agency, 2010). The country could also push at the EU level for the adoption of policies that tax GHG emissions from agriculture.


Figure 13. **Revenues from environmental taxes are high**

Per cent of GDP, 2011



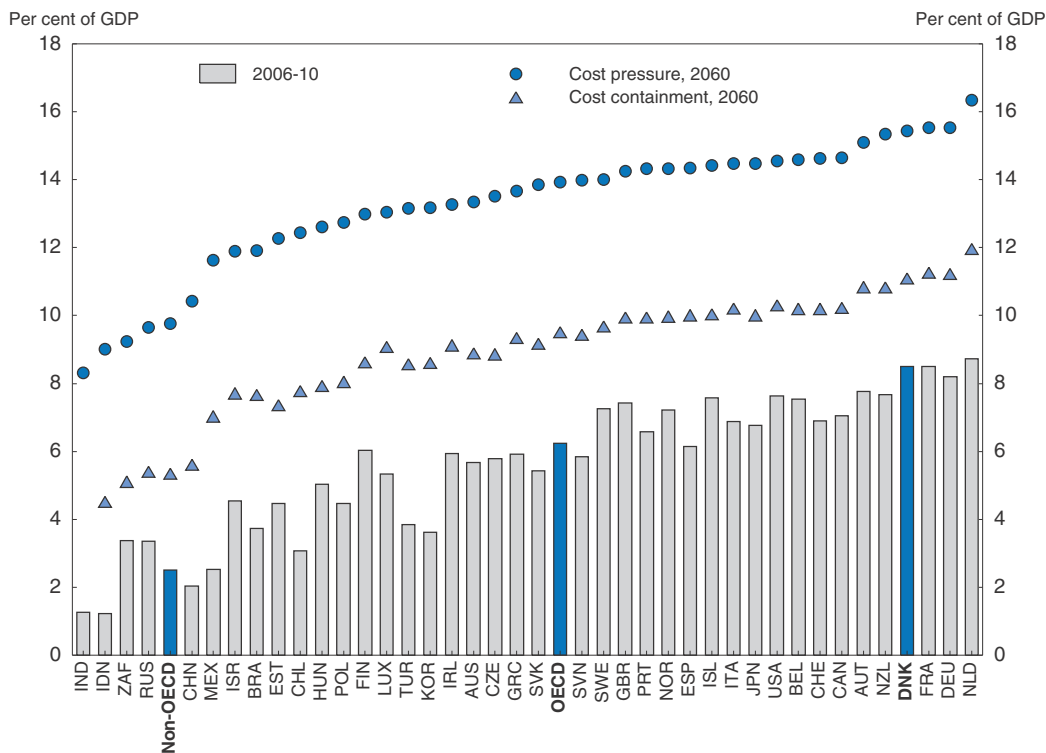
1. The solid line shows the arithmetic average. The weighted average was 1.6%.
2. In Mexico, consumer prices on motor vehicle fuels are held more or less constant, in spite of large variations in world market prices. In years when world market prices are high, the excise tax on fuels turns into a subsidy – equalling 1% of GDP in 2011.

Source: OECD/EEA Database on Instruments used for Environmental Policy.

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Looking further ahead, the Danish Economic Council deems public finances to be sustainable thanks to recent pension system reforms (Danish Economic Council, 2013). In 2011, the government reformed the early retirement scheme and brought forward the increase in the statutory retirement rate from 65 to 67, which will now be implemented over 2019-22. In addition, from 2025, the retirement age will be indexed to life expectancy. However, public health and long-term care spending which is already among the highest in the OECD, is projected to reach very high levels in the future, with considerable uncertainty on the size of the increase, which will create new challenges for public finances in the future (Figure 14).

Figure 14. **Public health and long-term care expenditures are on course to rise sharply¹**



1. The figure shows the evolution of public spending on health care and long-term care in two scenarios, the “cost pressure scenario” and the “cost-containment scenario”. Both scenarios include the effects of demographic and income changes but they differ in terms of the evolution of other factors such as relative prices, technological progress and the features of health institutions and policies. In the “cost pressure scenario,” no policy action is undertaken to curb pressures on expenditure whereas the “cost-containment scenario” assumes some policy action to rein in these pressures.

Source: de la Maisonneuve, C. and J. Oliveira Martins (2013), “A Projection Method for Public Health and Long-Term Care Expenditures”, *OECD Economics Department Working Papers*, No. 1048.

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In addition, the government’s fiscal sustainability estimates assume that labour market participation will improve. Reforms carried out in recent years to raise labour market participation will help. The shortening of the maximum unemployment insurance period will raise potential employment. The reform of the disability pension scheme and of the special employment programme for persons with disabilities (*Flexjob*) has the potential to lower the number of persons trapped into these schemes. The 2013 reforms of social

Box 2. Recommendations on fiscal policy

Key recommendations

- In case of a weaker or postponed recovery, the automatic stabilisers should be allowed to work. In the event of a faster recovery than the euro area one and a renewal of capital inflows, the fiscal stance should be tightened more than projected.
- Further lower marginal taxes on higher incomes. Raise taxes on property once the recovery of the housing market is well under way. Improve the structure of environmental taxes to raise their efficiency.

Further recommendation

- Closely implement the new fiscal framework and monitor its impact on municipalities' outlays.

assistance, compulsory education, and vocational education and training should help the labour market integration of youth. However, structural reforms will have to be pushed through, especially in the areas of competition, taxes and higher education to boost productivity (see below).

Boosting productivity growth is an overarching challenge

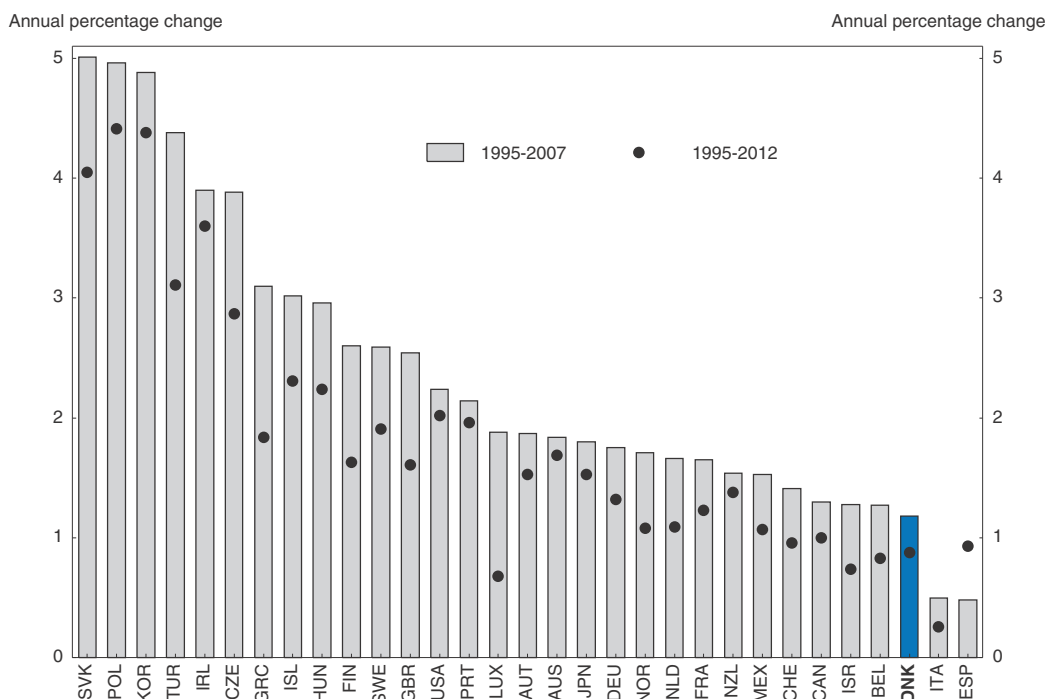
While labour productivity is still high compared with many countries, it has increased less since the mid-1990s than in the leading OECD economies and than in Denmark's geographic neighbours (Figure 15). Productivity growth improved somewhat in 2009-10, but this reflected large job losses in the wake of the global economic and financial crisis and proved only temporary. Durably achieving stronger productivity growth remains a key challenge to maintain Denmark's comparatively high living standards (Adalet McGowan and Jamet, 2012). In 2012, the government appointed a temporary Productivity Commission to help address the issue. This is welcome, but independent work on policies to enhance productivity should continue, either by setting up a permanent Productivity Commission or by giving this mandate to another independent institution.

Productivity growth is increasingly driven by investment in knowledge-based capital (KBC). In Denmark, investment in KBC is relatively high in relation to GDP (Figure 16), but its contribution to growth is lower than in some countries (Finland, Sweden and the United Kingdom) with similar KBC investment (Corrado et al., 2012). Developing the right skills and making a good use of them is also crucial for productivity growth. The new OECD Survey of Adult Skills (PIAAC) shows that adult skills are below the OECD average on the literacy scale and above it on the numeracy and problem solving in technology-rich environment scales (Figure 17). Also, Denmark ranks close to or below other Nordic countries on all scales.

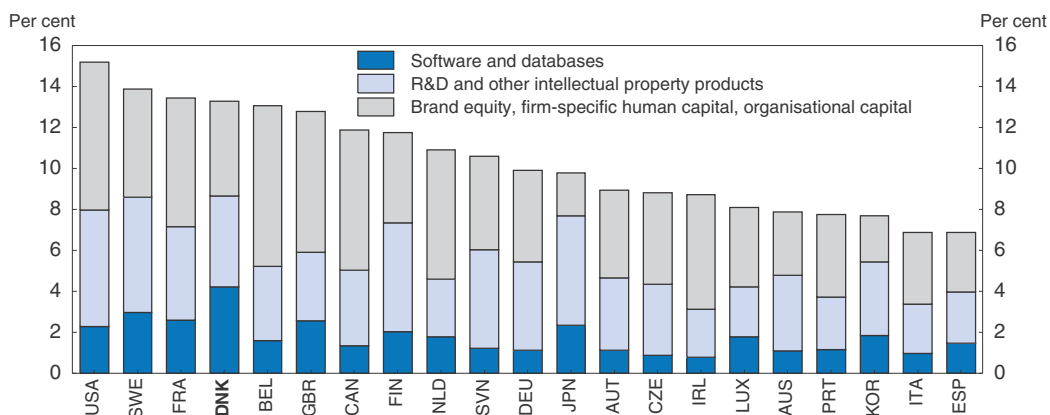

Denmark's participation in global value chains (GVCs) is closely associated with productivity growth. On the one hand, it reflects the ability to specialise and be competitive for highly demanded products. On the other hand, participation in GVCs in itself can generate productivity gains by boosting competition and the diffusion of knowledge. Denmark's participation in GVCs is close to the median among OECD countries, but less than other small open economies (Figure 18; OECD, 2013b). It is mainly driven by the use of foreign intermediates in Danish exports (backward participation) rather than Danish

Figure 15. **Trend growth in real GDP per hour worked has been weak**

Total economy

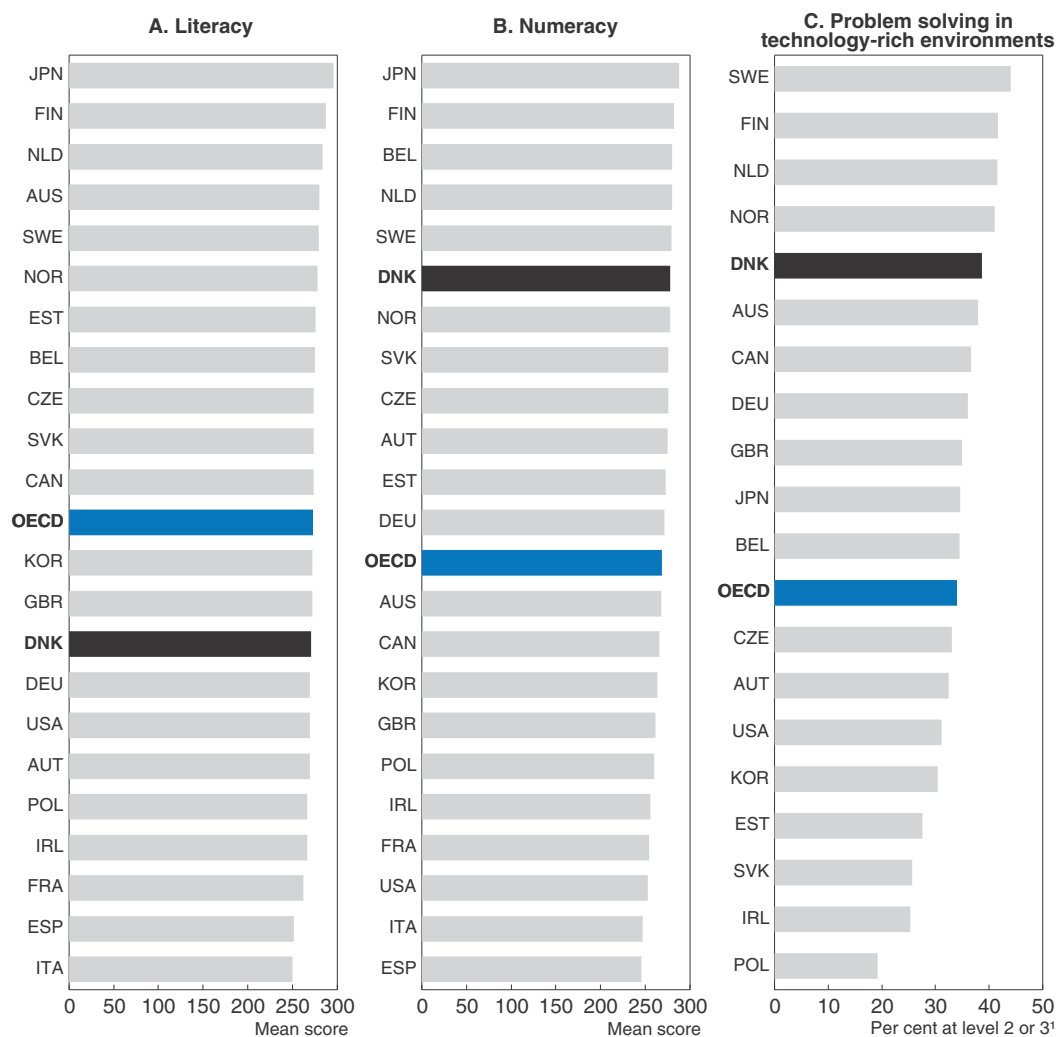
Source: OECD, *Productivity Database*, December 2013.StatLink  <http://dx.doi.org/10.1787/888932980127>Figure 16. **Investment in knowledge-based capital is relatively high**

Selected OECD countries in per cent of value added of the business sector, 2010 or latest data available

Source: OECD (2013), *Science, Technology and Industry Scoreboard*.StatLink  <http://dx.doi.org/10.1787/888932980336>

production of inputs used in other countries' exports (forward participation). Analysis of trade in value-added terms also shows the large role of trade in services for Denmark.

The country should continue with structural reforms in various areas so as to benefit more from R&D investment, skills and trade, and to enhance productivity growth. Efforts to further strengthen education and labour market institutions should continue. Reforms should also spur competition and improve framework conditions for innovation and

Figure 17. **Adult skills in Denmark are below those of other Nordic countries**

1. Levels 2 and 3 are the highest proficiency levels. France, Italy and Spain did not field the problem solving in technology-rich environments assessment.

Source: OECD, Survey of Adult Skills (PIAAC) (2012).

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entrepreneurship. Stronger competition in private services would raise productivity growth in these sectors, boost participation in GVCs, and improve the competitiveness of manufacturing firms, which use services as inputs.

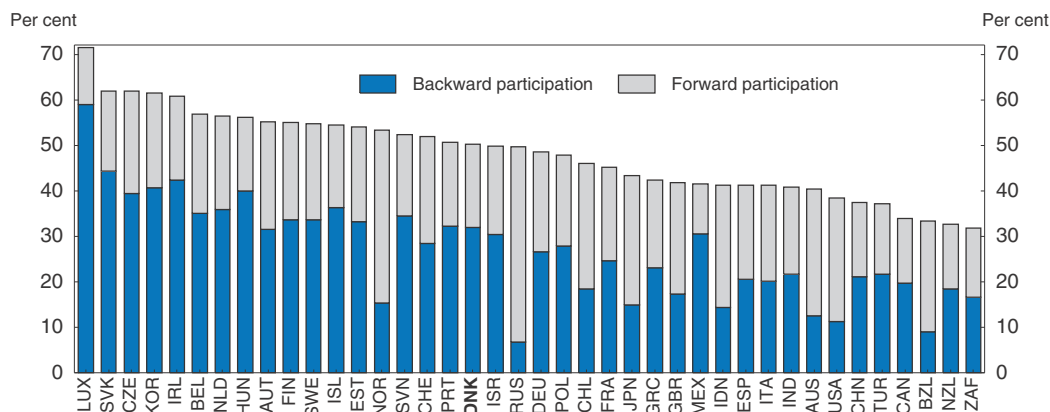
Promoting competition

There is evidence of weak competition in parts of the economy. For instance, prices corrected for taxes and levels of prosperity are 7% higher for goods and 14% higher for services compared to an average of OECD countries (Ministry of Business and Growth, 2013c). Weak competition is also reflected in the large number of low-productivity firms in many sectors (Productivity Commission, 2013b; Danish Economic Council, 2010).

In October 2012, the government presented a policy package that involved: i) strengthening the competition law; ii) conducting an analysis of competition in different sectors, especially non-tradable services; and iii) improving the effectiveness of public

Figure 18. **Participation in global value chains is less than for some other small open economies**

As a share of gross exports, 2009



Note: Backward participation shows the use of foreign intermediates in a country's exports and forward participation the use by other countries of a country's inputs in their exports.

Source: OECD (2013), *Interconnected Economies: Benefiting From Global Value Chains*.

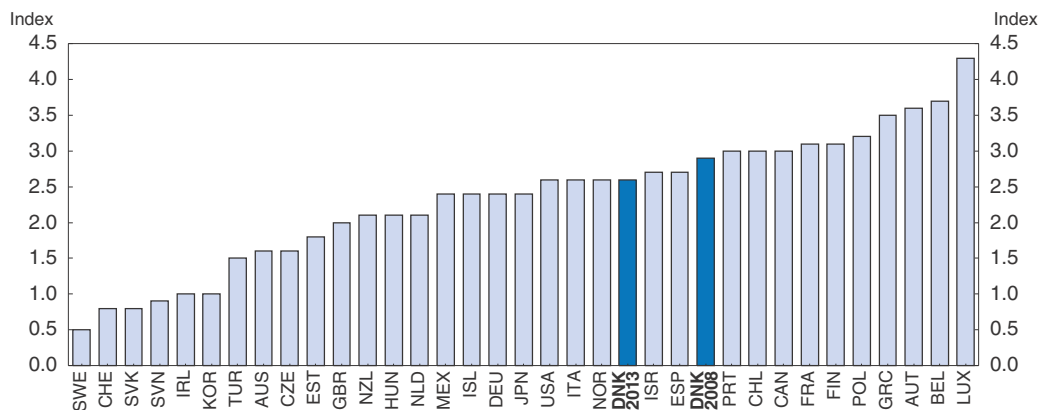
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procurement. Over the past decade, competition problems in several sectors have already been analysed extensively, leading to the identification of the main issues and recommendations to address them, including in the chapter on competition in the 2005 OECD *Economic Survey*. However, not much progress has been made in policy implementation. Competition legislation was stiffened in December 2012, with higher fines and the possibility of imprisonment for cartel behaviour, and Denmark ranks well according to a set of new OECD indicators of competition law and policy (Alemani et al., 2013).

Many professions are highly regulated, notably retail trade, pharmacies, taxis and professional services (lawyers, dentists, general practitioners, real estate agents). An inter-ministerial taskforce has been appointed to examine the highly regulated professions and determine how to improve the regulations that govern them. In retail trade, legal shop opening hours were extended in 2012, with the possibility to open on Sundays. However, the sector remains subject to many restrictions (Figure 19), including the obligation to have permits to engage in commercial activity, specific regulations for large outlets, and protections for existing firms. Zoning regulations that limit the location of stores and strict regulations on their size, prevent entry and exit of firms and restrict competition and economies of scale. Environmental regulations, which are extensive in Denmark, can also create barriers to new firm entry and technology lock-in that would prevent the adoption of better solutions. The impact of these regulations should be assessed and the government should look at ways to increase the flexibility for the size and location of stores and to relax permit obligations, while taking into account objectives such as the quality of the environment. Some network sectors, such as railways, have some scope for further opening competition (Productivity Commission, 2013b). Regulations that hamper competition and are not well justified by other objectives ought to be reconsidered.


Government procurement as a share of public expenditures in Denmark is low. Public authorities find procurement rules difficult to apply, especially since complaints can impose large costs on the public servants concerned. The Danish Competition and Consumer Authority has provided municipalities with guidance notes covering interpretation of

Figure 19. The retail sector is highly regulated
OECD Product Market Regulation indicator in the retail sector



Note: The index scale is 0 to 6, from least to most restrictive. The reference year is 2008 for all countries. The PMR indicator for Denmark for 2013 is preliminary, and for purposes of comparability is calculated on the basis of the 2008 methodology. For more details, see Source.

Source: OECD (2014), "The 2013 Update of the OECD Product Market Regulation Indicators: Policy Insights for OECD and non-OECD Countries", OECD Economic Policy Papers, forthcoming.

StatLink  <http://dx.doi.org/10.1787/888932980241>

legislation, how to apply legislation in practice as well as exchange of best practices as well as guidance on public-private partnerships, whose use has increased in recent years. A working group on public procurement was set up in June 2013 to produce clearer, simpler and more flexible draft legislation on public procurement and to reduce transaction costs faced by the participating parties in public procurement. Legislation on public procurement should be simplified as soon as possible, in line with the recommendations of the working group. In late 2013, the appeals procedure was made more efficient by increasing fees and shortening deadlines on when complaints are allowed to be filed.

The participation of small and medium-sized enterprises (SMEs) in public procurement is higher than that in the European Union at large. However, it is still limited by exacting documentation requirements and tight deadlines that make the bidding process costly, and by their lack of knowledge of procurement rules (Danish Competition and Consumer Authority, 2013). Greater use of e-procurement to decrease transaction costs and make the process more uniform could improve SME participation in public procurement.

Fostering innovation and entrepreneurship

Access to private funding, especially for SMEs, has deteriorated during the crisis and is now more difficult than in other Nordic countries. This underlines the importance of other sources of finance for SMEs, including venture capital and angel investors (OECD, 2011). Venture capital for new growing firms is available in Denmark, though less so than in some other Nordic countries and it declined by 60% between 2007 and 2012 due to the crisis. Since 2009, the government has tried to improve SME financing and export opportunities by strengthening loan guarantees, start-up loans and export guarantees, as well as easing access to risk capital for new businesses.

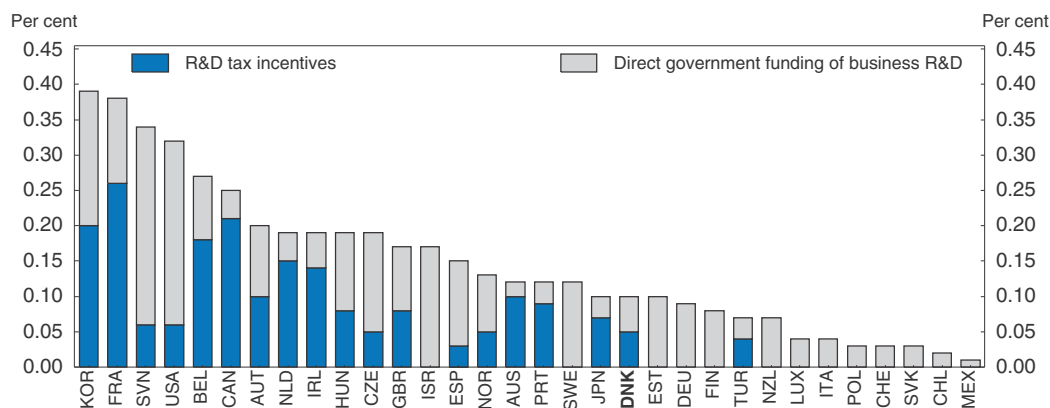
The amount of government-guaranteed loans increased more than seven fold between 2007 and 2012, and has been scaled back only to a limited extent. An analysis of credit guarantee schemes across OECD countries suggests that although they have increased credit availability, they also expose the guarantors to risk and there is scant

evidence that they boost SME sales, employment or innovation (OECD, 2013c). As the economy recovers and access to funding improves, the government should gradually withdraw some of these schemes and ensure that all public intervention schemes are mainly privately co-funded. Evaluation of government support to SMEs is common in Denmark, but there should be a more unified and transparent approach to the monitoring and evaluation of these schemes.

Denmark has a balanced mix of R&D tax incentives for firms and direct government support to business R&D, which is welcome as each has strengths and weaknesses (Figure 20). Although R&D tax credits mitigate the “picking winners” problem associated with direct grants, they may protect incumbents at the expense of new firms, and slow down the reallocation process, if they are not designed well (Bravo-Biosca et al., 2013). This is because firms typically lose money in the early stages of an R&D project. Introducing carry-over provisions and cash refunds in the design of R&D tax incentives would help address this problem. In 2012, a new scheme was introduced allowing firms that spend on R&D and face after-tax income losses to benefit from a tax refund of 25% of these losses. This is a step in the right direction but the refunds remain quite limited compared to other countries. Furthermore, young firms may not fully benefit from this type of scheme if upfront they lack the means to start an innovative project (Busom et al., 2012). The government should continue to improve the access of young financially-constrained firms to funding, possibly by extending the tax refund scheme or increasing direct support.

Figure 20. Public support to business R&D is provided through both tax incentives and direct funding

As a percentage of GDP; 2011 or latest year available¹



1. For Australia, Belgium, Chile, Ireland, Israel and Spain, figures refer to 2010. For Luxembourg, figures refer to 2009 and for Switzerland to 2008.

Source: OECD (2013), *Science, Technology and Industry Scoreboard*.

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The links between business, especially SMEs, and research in higher education institutions are not very strong. Total private R&D outlays, at 2.1% of GDP in 2011, are high in Denmark. However, the share of private financing of Danish university research remains low, despite some recent improvements. The concentration of higher education institution research in areas where business interest is low has been highlighted as one potential reason for this (Ministry of Science, Innovation and Higher Education, 2009). The funding system of universities' research activities was reformed in 2007 and 2010 to raise quality by

developing competition between institutions to obtain funding. However, public funding of universities in Denmark is mostly targeted on institutions and less on projects (Steen, 2012). A move towards a more balanced mix of project and institutional based funding could help nurture tighter links between industry and academia. The *Danish Innovation Strategy* that was launched by the government in December 2012 includes various initiatives to encourage co-operation between business and education institutions, for instance through public-private partnerships.

Even when innovation gets close to the market, the commercialisation of public research results does not seem to be that successful (ERAC, 2012). The GTS (*Godkendt Teknologisk Service*) institutes, which are in charge of transferring applied research to industry, and universities have a key role to play in this regard. The increased involvement of GTS staff in universities and placement of PhD students within the institutes in applied fields of research since 2009 has been effective and should continue (Ministry of Science, Innovation and Higher Education, 2012).

Barriers to entrepreneurship are low in Denmark, leading to high start-up rates. New firms add dynamism to the Danish economy as they contribute heavily to job creation and destruction. However, the prevalence of high-growth enterprises, which is another important sign of entrepreneurial dynamism, is not very widespread (OECD, 2012b; Nordic Innovation Centre, 2012). Market competition, innovation policies and access to funding are important to foster such dynamism, as are specific policies towards high-growth SMEs (OECD, 2010). In Denmark, these policies are run by Business Development Centres and include the provision of a variety of services, such as advice and bringing together collaborating partners. They seem to perform well in the short term, but their longer-term effect should be monitored more closely. Furthermore SME policies could be better co-ordinated with innovation and entrepreneurship policies to boost the impact of KBC investment on productivity growth.

Box 3. Recommendations to foster competition, innovation and entrepreneurship

Key recommendations

- Assess the impact of the regulations of professions and remove those that hamper competition and are not fully justified by other objectives. Harmonise national standards that hinder foreign firm entry with international ones. Relax ownership regulations and zoning and size regulations for stores.
- Simplify the legislation on public procurement and increase the use of e-procurement to lower transaction costs and make the process more uniform.
- To support young and dynamic firms, further extend carry-over provisions and cash refunds in R&D tax credit programmes or increase direct support.

Further recommendations

- Evaluate the effectiveness of the government loan guarantee schemes for SMEs in a unified and transparent manner and gradually withdraw those that are not economically efficient.
- Move towards a more balanced mix of project and institutional based research funding with the objective to increase the links between universities and industry.

Education and adult learning policies to develop the right skills

The share of 30-34 year olds who have completed at least secondary education is at the OECD average, but much below that in Finland and in other countries with large and effective vocational education systems such as Austria, Germany, and Switzerland (Figure 21). In 2012, average PISA results measuring the competencies of 15-year-old students were close to or above the OECD average depending on the competency, but the share of high PISA performers was low. Moreover, while the share of students with weak proficiency was relatively low, students with an immigrant background did not score well. As Denmark is one of the OECD countries spending the most on education, these results point to scope to raise the efficiency of the system.

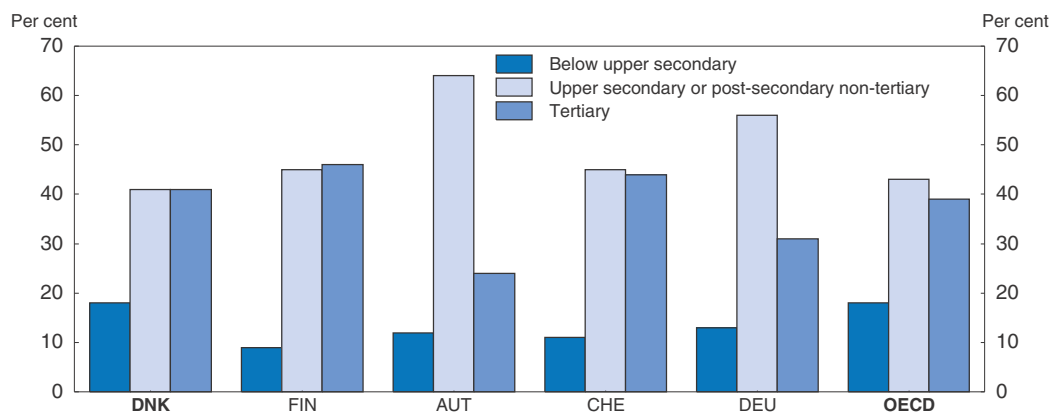
The government has launched a comprehensive reform of compulsory education that: i) introduces a longer and more varied school day with an increase in the number of lessons and in the quality of teaching in mathematics and Danish, and with both extra activities and special targeted help for students; ii) increases the required education level of teachers, strengthens further the training of both teachers and school leaders, and gives more responsibilities to the latter as regards the organisation of school days; and iii) defines clear objectives for public schools and reflects them in performance indicators to improve the assessment framework. In addition, a group of consultants will advise municipalities and schools on the implementation of the reform with the aim to enhance quality. The reform is welcome. It should be implemented with close monitoring of its effects. To enhance the attractiveness of initial teacher-training programmes and improve further career paths for teachers, the government could consider developing university-based initial teacher-training as a pilot programme. The new evaluation framework should more explicitly include teachers' and school principals' appraisals by municipalities.

The vocational education and training system (VET), in which about 20% students enrol, suffers from high drop-out rates, especially among students with an immigrant background, leaving some with poor skills. Some drop out because of a lack of basic skills when they enter the programme. Another reason is the inability to find a workplace (which is required in programmes), especially in times of economic distress. It is crucial to lower drop-out rates while improving the quality and attractiveness of VET.


The government increased funding of VET, including on training places as part of the 2013 Budget, and proposed a reform of VET in October 2013 that includes: i) the introduction of selection criteria to enter VET; ii) measures to increase its attractiveness, including by limiting early specialisation, increasing the number of high-level courses to ease transitions to standard upper secondary education and targeting youth; and iii) measures to raise the quality of VET such as an increase in the number of hours of courses and higher requirements for teachers. The reform also proposes various options for students who do not fulfil the selection criteria, either to prepare them for VET or to help them acquire specific skills. This reform is welcome. It will be important to closely monitor its impact to make sure that VET becomes more attractive to students without increasing school failures among those who are not selected. In addition, some VET programmes targeting high-performing students should offer pathways to tertiary education.

The share of 30-34 year olds with tertiary education has increased in recent years and is close to the OECD average (Figure 21), but below that in other Nordic countries. Estimates of the private return to tertiary education in Denmark vary but are generally relatively low despite free access, due to high marginal taxes and relatively low wage premiums. This

Figure 21. **A relatively large share of young adults have a low level of education**
Decomposition of the 30-34 year olds by highest level of education attained, 2011



Source: OECD (2013), *Education at a Glance 2013*.

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may discourage some youth from undertaking tertiary education. In addition, generous grants and low private returns of education may lead students, when they choose their field of education, to put more weight on criteria such as their own short-term interest and the popularity of the field, rather than their abilities and the potential economic benefits.

To strengthen incentives to undertake tertiary education and encourage students to acquire the right skills, the government should continue efforts to cut marginal taxes on higher incomes in order to increase the return to higher education. The 2013 reform of the grant system limits the duration of the grant beyond the normal length of programmes for students entering a higher education programme more than two years after having been accepted. This should encourage students to choose the right programme in terms of their abilities and labour market needs. However, as underlined in the chapter on education in the 2009 *OECD Economic Survey*, introducing tuition fees would give even greater incentives to students to choose those programmes that will deliver high returns to them and to the society. The introduction of tuition fees should be gradual and in parallel with reductions in marginal income tax rates to preserve incentives to undertake tertiary education. In addition, income-contingent loans and grant programmes should ensure that students from poor families continue to have access to tertiary education.

Reforms to raise the quality of tertiary education should also continue. The National Audit Office has recently questioned the quality of programmes in humanities and social sciences, concluding that the number of teaching hours per student was extremely low in these fields. The government has decided to increase funding for humanities and social sciences. There should be close monitoring of the quality of these programmes and financial sanctions for universities with low quality programmes. Efforts to develop easily accessible indicators on the main features of programmes, including the number of teaching hours, are welcome and should continue by also including information on the labour market situation of alumni. More generally, reforms should improve the quality of the evaluation and control framework while preserving universities' academic autonomy.

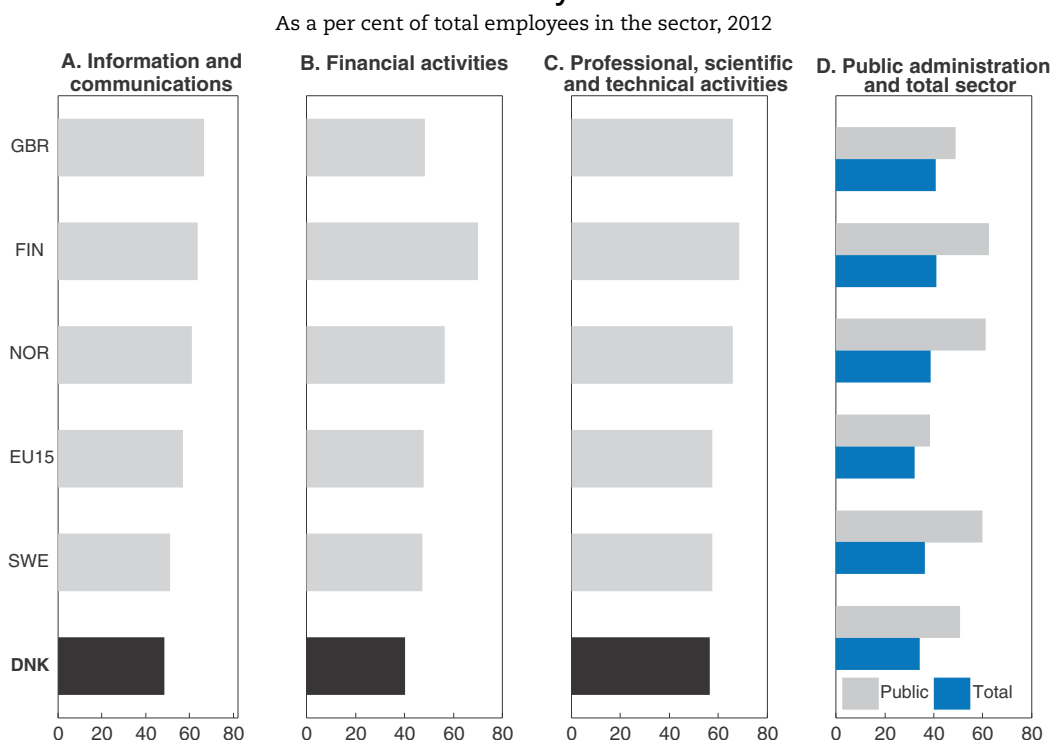
The share of workers participating in formal and non-formal education and the number of hours per participant are relatively high. However, the impact of the Danish adult learning system on employment and careers seems to be mixed (Kristensen and

Skipper, 2009). Since 2010, the government has been reforming the adult education system by making it more targeted on the most vulnerable groups and increasing the role of vocational and higher education programmes. In addition, the funding system should encourage educational institutions to recognise prior learning so as to make for a better use of resources. Finally, teachers in vocational education should be given stronger incentives to update their skills, as planned in the context of the VET reform.


Labour market and social policies to make the most of skills

The low share of high-skilled workers in private service sectors has been identified as one reason for low productivity growth in Denmark (Productivity Commission, 2013a). The country has a slightly higher share of skilled workers overall than the EU average but lower shares in some private service sectors and higher shares in public administration (Figure 22). Other Nordic countries also have a large share of high-skilled workers in the public sector but the large overall number of skilled workers in the economy allows them to also have larger shares in private services.

Figure 22. **The share of high-skilled workers in some private services is relatively low**



Source: Eurostat.

StatLink  <http://dx.doi.org/10.1787/888932980621>

The wage setting system and better work conditions in the public sector, combined with high marginal income tax rates, create some inefficiency in the allocation of skills in the economy. Wage growth in the public sector is indexed on that in the private sector with a delay, and is only weakly linked to individual performance (Productivity Commission, 2013c). While the scheme prevents wages in the public sector from exceeding those in the private sector on average over the long term, wages in the public sector can

temporarily grow more than in the private sector, as has recently been the case as a result of the crisis. Since wages are not closely linked to individual performance in the public sector, there could be stronger incentives for highly productive workers to go to the private sector, although these are blunted by a compressed wage structure and high marginal income tax rates. Wages should be more closely linked to individual performance in the public sector to encourage productivity gains and to align financial incentives to work in the public and private sectors.

Non-compete clauses in employment contracts aim at protecting firm-specific knowledge but can hinder the transmission of knowledge within the economy and reduce labour mobility if they are used excessively. These clauses seem to be very frequent in Denmark (Productivity Commission, 2013b). The government should assess the use and impact of these clauses.

While a good allocation of skills within the economy will help to achieve better growth outcomes, it is also important to activate skills more broadly. Several reforms have been passed in recent years to raise labour market participation and employment. They include reforms of the early retirement programme, disability schemes, social assistance and a shortening of the maximum unemployment insurance period. Efforts should concentrate on:

- Carefully implementing the reform of *flexjob* and disability benefits and monitoring its impact. For those above 40 years old, disability benefits are still granted on a permanent basis. In addition, as part of the reform of early retirement programmes, older workers can more readily access disability benefits. It is important to make sure that new pathways to disability pensions for older workers are not created and to move to regular entitlement assessment of disability pensions. Permanent disability pensions should be granted only under special circumstances.
- Closely monitoring the implementation of the shortening of the unemployment insurance period. While it was appropriate to introduce a temporary scheme to avoid a sharp fall in income of the unemployed whose rights to unemployment insurance ran out, the phasing-in of the reform is now very gradual, stretching out to 2017. If the labour market recovers more swiftly than foreseen, an accelerated phasing-in would be warranted.
- Limiting inactivity traps. Recipients of social assistance face limited financial incentives to take up a job because most of the gains would be offset by the loss of social assistance (which is generous in Denmark), the loss of housing benefits and higher taxes. The 2013 reform of social assistance strengthens the obligation and financial incentives to undertake education for youths who need it, offers more job search help for those who are closer to the labour market, and increases control of job search for adults with ability to work. Its impact on education and labour market participation needs to be monitored.
- Raising the efficiency of ALMPs. The decentralisation of ALMPs to municipalities in 2007 has created new challenges but little is known about its impact. The government has appointed a committee to look at these issues, and more generally at the efficiency of ALMPs. There is a need to find a funding system that gives municipalities the right incentives to help the unemployed find a job and a framework that ensures equal and efficient treatment among the unemployed across municipalities without increasing the administrative burden.

Despite some improvement over the past decade, immigrants are not well integrated in the education system or in the labour market. The gap in PISA results between Danish-born children of immigrants and children of natives is high. Since the crisis, the foreign-

born have seen their unemployment rate reach 14.7% in 2012 against 6.8% for the natives. Efforts to improve the integration of immigrants need to continue. The quality of Danish courses for immigrants should be raised. The Green Card programme, which allows skilled workers to enter and look for a job, has encountered limited success. While labour market weakness has played a role, the government should assess this programme and other relevant programmes to see how they may need to evolve.

Box 4. Recommendations to make the most of skills

Key recommendations

- When implementing the reform of vocational education and training (VET), make sure that VET becomes more attractive to students and more selective without increasing school failures among those who cannot enter VET. Develop VET programmes that offer pathways to tertiary education.
- Raise the performance of the adult learning system by continuing efforts to give educational institutions greater incentives to recognise prior learning and by increasing the quality control of courses.
- Improve the efficiency of ALMPs, including by ensuring that municipalities face the right financial incentives to help the unemployed find a job.
- When implementing the reform of *flexjob* and disability programmes, make sure that the special disability scheme for older workers does not become a new pathway to early retirement. Move to regular entitlement assessment of disability pensions and limit the granting of permanent pensions for those above 40.

Further recommendations

- Closely monitor the implementation and impact of the reform of compulsory education. Consider the introduction of university-based initial teacher-training programmes to enhance their attractiveness and improve career paths for teachers.
- Raise the incentives to choose the right tertiary education programme by gradually introducing tuition fees while continuing efforts to lower marginal income taxes.
- More closely link wages to individual performance in the public sector.
- Closely monitor the implementation of the shortening of the unemployment insurance period and implement a quicker phasing-in if the labour market recovers rapidly.
- Maintain the spending on efficient programmes for the integration of immigrants. Continue efforts to raise the quality of Danish courses for immigrants.

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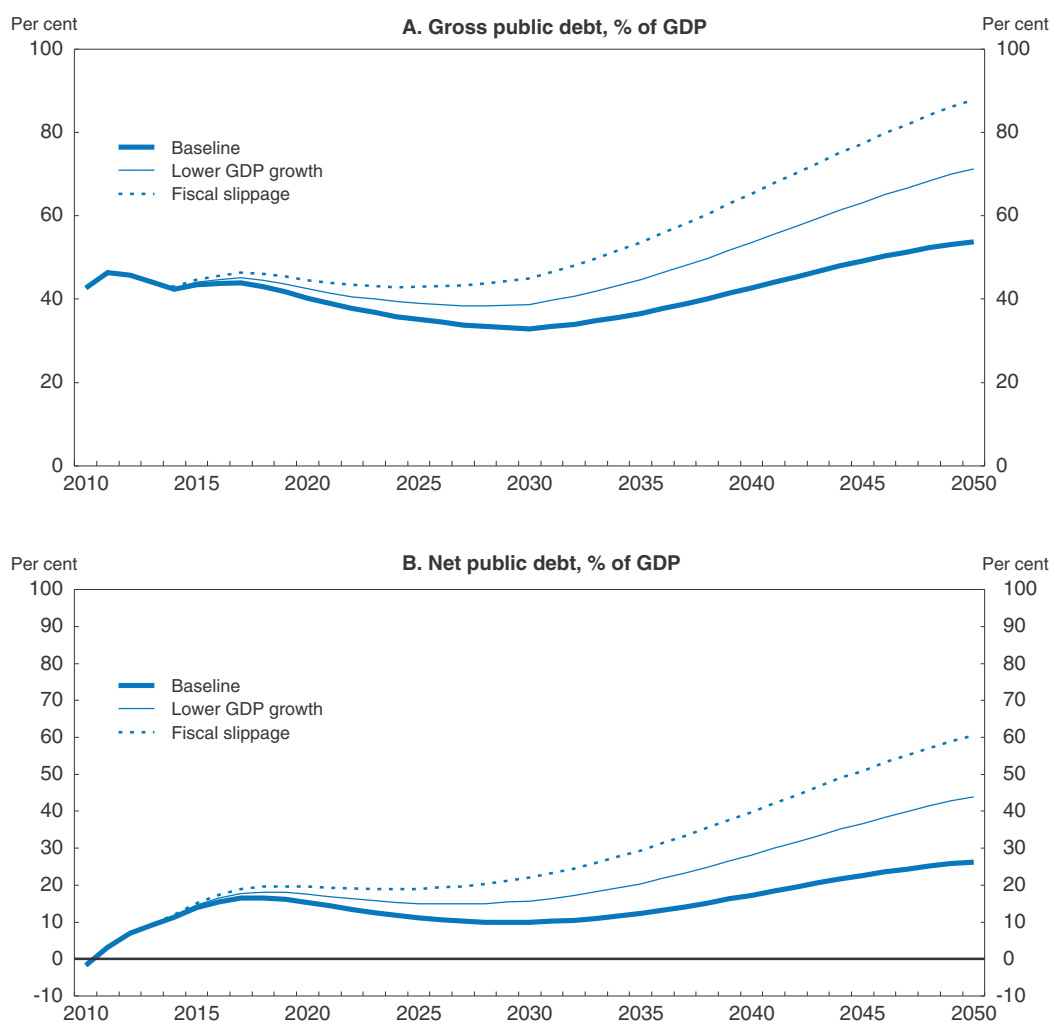
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ANNEX A1

Public debt sustainability


Denmark does not appear to face fiscal sustainability challenges in the medium term. Gross public debt as a share of GDP is well below 60% and the government projects that the debt ratio will remain below 40% by 2030 as part of the 2013 Convergence Programme (Figure A1.1, “Baseline” scenario). Past structural reforms mentioned in the main text (including reforms of the pension system, fiscal framework, unemployment insurance and tax system) will strengthen public finances. The Baseline scenario of the Convergence Programme assumes an improvement by 1.6 percentage points in the primary balance to GDP ratio over 2014-30. With a moderate fiscal slippage, the debt ratio would remain well below 60% by 2030 (scenario “Fiscal slippage”). Because of the relatively small size of the debt, the mechanical impact of lower GDP growth (with an unchanged primary balance) on debt dynamics would also be limited until 2030 (scenario “Lower GDP growth”).

Pressures on public finances will increase in the longer term due to demographic change and declining North Sea oil production. The primary balance is projected to turn negative and the primary deficit to widen over 2030-40. Nonetheless, Danish public finances are deemed to be sustainable over the long term by several institutions (Danish Government, 2013; Danish Economic Council, 2010; European Commission, 2012). The pension reform that links the statutory retirement age to life expectancy has made fiscal sustainability more robust to longevity changes. In addition, analyses by the government and the Danish Economic Council show that since public wages, social transfers, and taxes are *de facto* indexed on wages in the private sector, and thereby on productivity, the primary balance and the sustainability of public finances would not be affected much by lower productivity growth.

Figure A1.1. **Public debt ratio under alternative scenarios**

Note: The Baseline scenario is the one presented in the Convergence Programme for Denmark 2013. The two other scenarios relax one of the assumptions of the Baseline scenario. In the “Lower GDP growth” scenario, GDP growth is lowered by 0.5 percentage point per year. In the “Fiscal slippage” scenario, the primary balance is lowered by 0.5 percentage point per year. Government assets are assumed to be unchanged in the alternative scenarios.

Source: OECD calculations and Danish Government, *Convergence Programme Denmark 2013*.

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ANNEX A2

Progress in structural reforms

This annex summarises recommendations made in previous *Surveys* and actions taken since the *OECD Economic Survey on Denmark* published in January 2012.

Recommendations	Action taken since January 2012
Fiscal framework and taxation	
Fiscal framework	
Introduce expenditure ceilings at general government level covering most public spending (not only public consumption, though perhaps excluding investment and cyclically-sensitive spending such as unemployment benefits) at a medium-term horizon.	In 2012, the government introduced a budget law to better control public spending. It implies that the Parliament has to determine binding multi-annual expenditure ceilings for each level of government consistent with the overall medium-term fiscal objective. The first ceilings, announced in June 2013, are set for four years and start in 2014. In addition, the Fiscal Compact has been implemented into Danish law to achieve budget balance or surplus towards 2020.
Give the Economic Council more of a fiscal council role and to this end grant it access to the necessary information, including the detailed government accounts.	The 2012 budget law gave the Economic Council the role of monitoring the new expenditure ceilings and fiscal policy.
Continue with the use of sanctions to contain local public expenditures and consider raising them further if slippages reappear.	Sanctions have been successful so far in containing local public spending.
If the new sanctions and envisaged spending ceilings fail to contain local public spending, consider limiting the use of grants to sub-national governments to specific purposes and reducing the sharing of responsibilities between levels of government.	The new fiscal framework has been successful so far in containing local public spending.
Taxation	
Reduce marginal taxes on higher incomes, by raising the tax threshold or cutting the marginal tax rate, once fiscal consolidation has been achieved and public spending is better controlled. Increase property taxes by restoring the tax base once the housing market has recovered.	In 2012, as part of a tax reform, marginal taxes on higher incomes were lowered (through an increase in the top income tax threshold) and the earned-income tax credit was increased.
Financial system	
Deposit insurance premia should be contingent on an institution's riskiness. Consider imposing capital requirements dependent on size for systemically-important financial institutions.	In October 2013, an agreement was reached to implement the main recommendations of the Committee on Systemically Important Financial Institutions (SIFIs), including stricter capital requirements for SIFIs.
Continue to improve collaboration between the Danish National Bank and the Financial Supervisory Authority with a view to ensure consistency between the DNB macroprudential supervision mandate and the FSA microprudential mandate focusing on individual banks.	In February 2013, a Systemic Risk Council was set up, including representatives from various ministries, the Financial Supervisory Authority and the Danish National Bank. The Council is responsible for the identification of systemic risks in the financial system. In October 2013, a draft law put the Ministry of Business and Growth in charge of implementing macroprudential tools.
Closely supervise new deferred-amortisation mortgage loans, possibly by introducing more stringent caps on loan-to-value or loan-to-income ratios for such loans, once the housing market recovers. Continue the ongoing efforts to improve data collection to get a better understanding of the characteristics of the users of these types of loans.	In May 2013, new rules restricting mortgages with variable rates or deferred-amortisation to people who can afford an equivalent mortgage with a fixed-rate or amortised loan came into effect. In July 2013, a risk labelling scheme for housing mortgages was introduced. In 2013, several reports were published by the Ministry of Business and Growth analysing the characteristics of households with deferred-amortisation loans.

Recommendations	Action taken since January 2012
Labour market and integration	
Labour market	
Implement the 2011 Agreement on early retirement while making sure that the provision concerning the “new” senior disability scheme does not lead to an unwarranted increase in the number of recipients of these benefits.	The Agreement on early retirement is being implemented, with the first increase in the early retirement age taking effect in 2014. No action on the new senior disability scheme, which will come into effect in 2014.
Improve work incentives and targeting of support for the sick and disabled with ability to work, while tightening eligibility conditions, and reassess entitlements regularly. In particular, the special disabled employment programme (<i>flexjob</i>) should be reconsidered. It should be better targeted, work ability should be regularly reassessed, and the wage subsidy should be lowered.	Since June 2012, the disability benefit for people under age 40 has been replaced by a new rehabilitation scheme with only a very limited number of people in this age group continuing to be entitled to a permanent disability benefit. The <i>flexjob</i> scheme has been reformed to limit its excessive use, including by making it less generous and temporary.
To move the unemployed into employment faster, the unemployment benefit entitlement period should be cut from four to two years.	From the beginning of 2013, the maximum unemployment benefit entitlement period has been cut from four to two years (as part of the 2010 Fiscal Consolidation Agreement). A temporary scheme has been introduced for the unemployed having exhausted their rights but who did not find a job, which will be gradually phased out until 2017.
Consider gradually reducing the unemployment benefit replacement rate over the benefit entitlement period.	Under the temporary scheme, the maximum benefit is 60% of the maximum unemployment benefit, which implies a reduction in the replacement rate after two years of unemployment.
To better align funding with municipalities' responsibilities for labour market programmes, municipalities should receive proportionally less reimbursement for the costs of public benefits the longer a person is receiving benefits.	A working group of independent experts has been commissioned to examine ways to improve the performance of active labour programmes.
Integration	
Further efforts are needed to streamline immigration processing to ensure that high-skilled workers can quickly and easily migrate to Denmark.	No action taken.
Education	
Compulsory education	
Since pre-school class has been made compulsory, further strengthening its educational content should be undertaken to make it effectively the first year of primary education.	No action taken.
The voluntary 10th year could be scaled back and targeted at those students most in need of further development.	As part of the October 2013 VET reform, the 10th year will be used to prepare students for VET and make them ready to meet the new eligibility requirements.
Develop school management and incentives to get more value for the comparatively ample resources that are available for compulsory education in Denmark. Develop outcome measures and hold managers accountable.	As part of the June 2013 compulsory education reform, the assessment and evaluation framework will be improved. Teachers and school leaders will be encouraged to use national tests.
Introduce accreditation of teachers and give more weight to teachers' specific competencies when allocating tasks among staff. Introduce more wage flexibility.	No action taken concerning the accreditation system. The 2013 reform sets a target that, by 2020, all students in public schools should be taught by teachers who have obtained main subject qualifications.
Vocational education	
Review the structure of apprenticeships and programmes to make sure that they are well anchored into a generic competence structure. Consider whether practical elements can be introduced earlier in vocational education programmes.	The VET reform includes a streamlining of VET education programmes and measures to increase pathways towards general upper secondary education.
Tertiary education	
Consider gradually replacing some of today's student grants with loans, particularly if studies are prolonged.	The grant system has been reformed in 2013 to limit the possibility to receive grants to the normal duration of programmes for students entering a higher education programme more than two years after having been accepted and thereby to speed up completion.
Move gradually towards a system where not only non-EU students, but also Danish and EU students are charged for tuition, while extending income-contingent loans to finance tuition costs.	No action taken.
Integration of immigrants	
A broad strategy is needed to better integrate immigrants and the second generation in the education system, starting at compulsory level.	The compulsory education reform aims at better integrating students with an immigrant background into the education system and at raising their educational outcomes.
Encourage private institutions to establish more international schools to cater for children of foreign workers living temporarily in Denmark.	No action taken.

Recommendations	Action taken since January 2012
Competition	
Increase competition for pharmacies, taxis, and public transportation.	With the Competition Package of October 2012, a number of working parties and commissions have been appointed to examine competition in the pharmacy sector and for taxis.
Improve competition in the public sector via greater tendering.	The Council for Public-Private Co-operation was established in April 2013 to support competition for public sector contracts. A working group on public procurement was set up in June 2013 to produce simpler and clearer legislation for public procurement.
Ease regulations under the Planning Act surrounding the size and placement of new shops.	No action taken.
Streamline the institutional set-up of the authorities in charge of competition and increase the fines for violations of competition policy.	In December 2012, competition law was strengthened with higher fines and the possibility of imprisonment for cartel behaviour.
Entrepreneurship and innovation	
Entrepreneurship education programmes need to be designed in a way that incorporates practical work experience as an employee in order to improve students' understanding of running a business.	No action taken.
Consideration needs to be given to whether tax incentives could be used as well as, or instead of, direct expenditure as a tool to promote investment in R&D.	In 2012, a new tax incentive scheme was introduced, allowing firms that spend on R&D and face after-tax income losses to benefit from a tax refund of 25% of these losses. The scheme is capped at DKK 5 million, but the cap will be increased to DKK 25 million by 2015.
Climate change	
Regularly reassess national targets in the light of international and technology developments. Adjust accordingly the share of GHG emission cuts to be achieved domestically by financing GHG emission cuts outside Denmark.	No action taken.
Push for more binding caps in future EU negotiations.	As part of the 2012 <i>Energy Agreement</i> , the government has announced that it will continue to push for ambitious climate and energy policies at the EU level. In June 2013, the Danish government called for the adoption of a binding target at the EU level to reduce GHG emissions by 40% in 2030 compared with 1990 levels.
Ensure that policies towards renewable energy support least-cost abatement options and avoid supporting one technology in particular. Work at the EU level towards the introduction of a common strategy to help meet EU renewable targets at least cost.	The 2012 Energy Agreement supports the development of various types of technologies but includes specific targets for wind energy (by 2020, 50% of electricity should come from wind energy).
Rationalise the Danish energy tax system to harmonise the implicit carbon price. In particular, raise tax rates on coal and diesel to reduce the gap with the implicit carbon price on petrol.	No action taken.
At the EU level, push for the adoption of a common policy to limit non-CO ₂ emissions from agriculture.	No action taken.

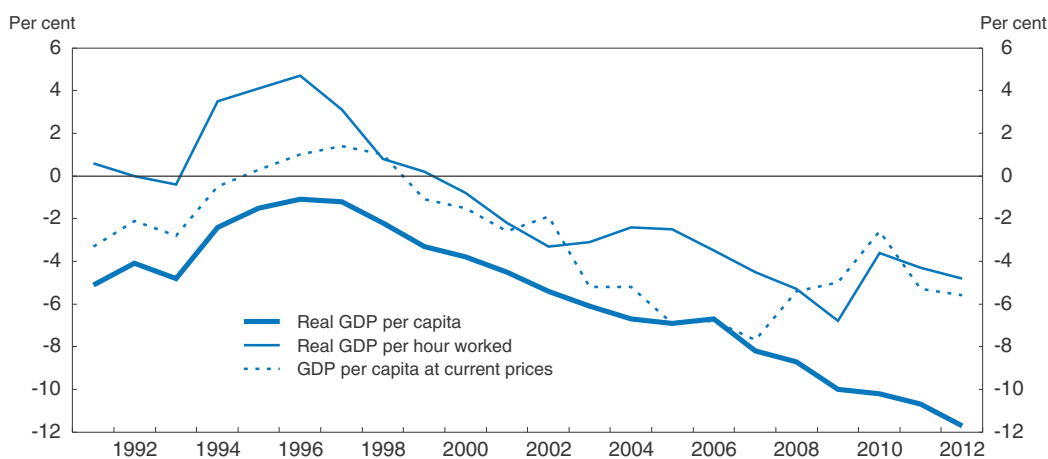
Chapter 1

Trade specialisation and policies to foster competition and innovation

Danish productivity has grown only weakly over the past two decades, both historically and in relation to other countries, despite sound policies and institutions. At the same time, the country has lost export market shares. Denmark needs to continue its efforts to reap the benefits of globalisation, which would contribute to invigorating productivity growth. Fostering competition by removing regulatory barriers and improving public procurement would help. In addition, innovation policy needs to become more efficient and more in line with the growing importance of the service sector and knowledge-based capital. Small and medium-sized enterprises could be better integrated into global markets by improving their access to finance and developing the entrepreneurship culture.

Weak productivity growth over the past two decades has contributed to a widening of the income gap vis-à-vis leading OECD economies, although the gap is smaller when terms of trade gains are taken into account (Figure 1.1). Reinvigorating productivity growth is a key challenge to achieve stronger growth and sustain Denmark's welfare system. Over the same period, the country has also lost export market shares. The slowdown in productivity growth and losses in market shares are closely linked. On the one hand, there is a need to be productive in order to be competitive and reap the benefits of globalisation. On the other hand, being open to trade and foreign direct investment and participating in global value chains (GVCs) help to become more productive.

Figure 1.1. **Gaps in GDP per capita and productivity to the upper half of OECD countries¹**



1. Percentage gap with respect to the simple average of the highest 17 OECD countries in terms of real GDP per capita (in constant 2005 PPPs), real GDP per hour worked (in constant 2005 PPPs) and GDP per capita at current prices (in current PPPs). The income gap is smaller at current than at constant prices partly because of terms of trade gains.

Source: OECD, *Going for Growth Database*.

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The highest value from participating in trade is generally created in upstream activities, such as R&D and product design, or downstream activities such as in marketing and branding (OECD, 2013a). Denmark already has some comparative advantage in these activities, but there is room to do better on innovation and maintain or even increase participation in GVCs, and thereby raise productivity growth.

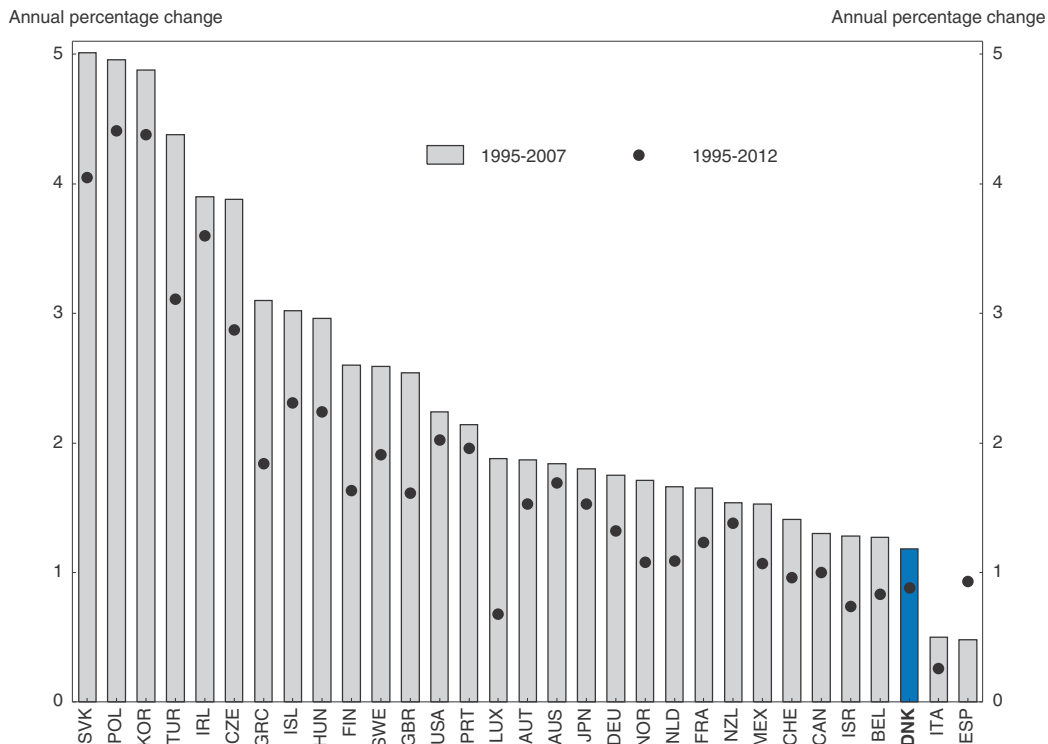
Well-designed general framework policies and institutions are crucial for productivity growth and help the country benefit from globalisation. After looking at productivity developments and the pattern of Danish trade specialisation to identify areas for improvement, this chapter discusses some of these policies. Stronger product market competition, policies to foster a dynamic business sector that make it easier for new,

innovative firms to emerge, experiment and grow, and policies to boost investment in knowledge-based activities all will help to develop new products and become more productive. Policies to nurture the right skills and make good use of them will contribute as well but are discussed in Chapter 2.


Productivity growth has been sluggish

While labour productivity is still high compared with many countries, it has increased less than in some of the leading OECD economies and Denmark's geographic peers, although there have been some improvements in recent years (Figure 1.2). Statistics Denmark recently released a preliminary productivity growth time series for the whole economy incorporating new estimates of productivity in the public sector based on direct measures of output instead of input-based measures (Statistics Denmark, 2013). While these data point to a slightly better productivity record than suggested by previous data, sluggish productivity growth remains a problem. In 2012, the government appointed a temporary Productivity Commission to help address these issues (Box 1.1). This is welcome, but independent work on policies to enhance productivity should continue, either by setting up a permanent Productivity Commission or by giving this mandate to another independent institution.

Figure 1.2. **Growth in real GDP per hour worked, total economy**



Source: OECD, *Productivity Database*, December 2013.

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Labour productivity growth since 1995 has been held back by total factor productivity (TFP), which on average has contributed negatively (OECD, 2009b; IMF, 2010; Danish Economic Council, 2010). In contrast, capital deepening has contributed substantially to labour productivity growth in Denmark (Table 1.1).

Box 1.1. Productivity commissions in selected OECD countries

In 2012, a temporary productivity commission consisting of independent experts was set up in Denmark to analyse productivity trends and make specific recommendations to enhance productivity in Denmark's private and public sector. Its mandate stated that the proposals made must not impair the structural fiscal balance in 2020 or the sustainability of public finances. The Commission is composed of a chairman and eight other members, served by an independent secretariat, and takes advice from a board of international experts. The Commission has debated its work and conclusions publicly, and has published several interim reports during 2012-13.

Some other OECD countries have permanent productivity commissions that act as review and advisory bodies on microeconomic policy reform and regulation with the aim of achieving better informed policy decisions through independent analysis and advice:

- The Australian Productivity Commission, created as an independent authority in 1998, provides research and advice on a range of economic, social and environmental issues affecting the welfare of Australians. Twelve commissioners (one of which acts as Chair) are appointed for periods of up to five years and associate commissioners are appointed by the Treasurer. The Commission holds public inquiries and carries out research studies requested by the government, undertakes performance monitoring and benchmarking services to government bodies, provides advice to the government on private sector complaints of unfair competition from the public sector and reports on productivity, industry assistance and regulation every year. Its reports, including those on power sector, innovation, export credits and business regulation have been used in parliamentary inquiries, contributing to policy discussions and some of the recommendations were implemented by the government (Australian Productivity Commission, 2013; OECD, 2009a).
- The New Zealand Productivity Commission is an independent body created in 2011, with the purpose to provide advice to the government on improving productivity in a way that is directed to supporting the overall well-being of New Zealanders. It has a three member board, which is supported by fifteen staff. It undertakes in-depth inquiries on topics referred to it by the government, carries out research to help improve productivity over time and promotes the understanding of productivity issues. For example, its main recommendations based on inquiries on housing affordability and the international freight transport system were implemented by the government (New Zealand Productivity Commission, 2013).

Both productivity growth within sectors and productivity growth due to reallocation of resources across sectors have contributed to the deceleration in labour productivity over the past 15 years (Andersen and Spange, 2012; Danish Economic Council, 2010). The contribution of the service sector to aggregate productivity growth has been very small, while the share of this sector in total gross value added has increased from 48% in 1995 to 55% in 2012. According to the Danish Productivity Commission, if productivity growth in the private service sector had matched that in the United States between 1995 and 2011, total productivity growth in Denmark would have been 0.7 percentage points per year higher over this period (Productivity Commission, 2013a). Low productivity growth in services also affects the rest of the economy as services are inputs to other sectors, but this effect is not accounted for in this type of calculation.

Table 1.1. **Labour productivity, total factor productivity and capital deepening**
1995-2011

	Labour productivity growth	Contribution of capital deepening	Contribution of TFP
Italy	0.36	0.58	-0.22
Spain	0.77	0.90	-0.12
Belgium	0.88	0.63	0.25
Denmark	0.94	1.07	-0.13
Switzerland	0.97	0.43	0.53
New Zealand	1.00	0.61	0.39
Canada	1.07	0.73	0.35
Netherlands	1.23	0.78	0.45
France	1.28	0.62	0.67
Germany	1.37	0.48	0.88
Japan	1.54	0.81	0.74
Austria	1.56	0.61	0.95
Australia	1.64	0.76	0.98
Finland	1.78	0.29	1.50
United Kingdom	1.89	1.05	0.83
Portugal	1.92	1.37	0.58
Sweden	1.98	0.75	1.23
United States	1.99	0.73	1.27

Source: OECD (2013), *OECD Compendium of Productivity Indicators 2013*.

Reallocation of resources towards the most productive firms is crucial for productivity growth within a sector (see also Chapter 2). Cross-country analyses find that allocative efficiency has been relatively low in Denmark, especially in the services sector. The most productive firms do not attract a large share of employment (Bartelsman, 2013; Andrews and Cingano, 2012; Productivity Commission, 2013b). Many sectors have a large number of low-productivity firms, partly due to this low allocative efficiency (Danish Economic Council, 2010). Recent analysis shows that during the recession, the exit of low-productivity firms improved this allocation slightly and contributed positively to labour productivity growth, although the full effects are yet to be seen (Danish Economic Council, 2013).

Trade specialisation as a source of growth

Trade and globalisation contribute to economic and productivity growth through several channels (Box 1.2). Denmark is a very open economy, with total exports and imports at 104% of GDP in 2012 and approximately one job in four depending on exports, directly or indirectly (Kristensen et al., 2010). According to the Ernst and Young index of global connectedness, using indicators of openness to trade, capital flows, exchange of technology and ideas, labour movements and cultural integration, Denmark ranked eighth amongst 60 countries in 2012.

Manufacturing accounts for about three quarters of exports of goods and about half of total exports, according to gross trade statistics. In terms of products, Denmark remains relatively specialised at the low-tech end with the combined share of high and medium-high tech manufacturing being far below the OECD average despite a gradual shift to more medium and high-tech products over the past two decades. The relative importance of services has increased over time, as evidenced by the higher share of services in value-added terms. In 2009, 54% of Danish exports were services. Furthermore, Danish trade is highly concentrated, with 58% of exports going to European Union (EU) partners in 2012.

Box 1.2. Globalisation and productivity

Globalisation and increased international trade in goods and services can contribute to higher productivity (Hausman et al., 2005; Jones and Olken, 2008). The long-term benefits of trade can be through several channels, including technology diffusion, competition and allocation of resources (Kiryama, 2012):

1. Imports allow domestic firms access to foreign technology which can be a basis for product innovation, process innovation with superior capital goods, and marketing and organisational innovation through the effective deployment of information and communications technology. Foreign direct investment (FDI) can also serve as a channel for domestic firms to access inputs from upstream foreign affiliates or to superior technologies from downstream foreign affiliates. Moreover, trade and FDI both tend to accompany intangible knowledge flows.
2. Trade, FDI and licensing can affect competition in the domestic market. In turn, competition can improve innovation by increasing incentives to innovate, especially if the firm is closer to the technology frontier (Aghion et al., 2001).
3. Firm-level studies show that exporting firms are more productive than non-exporting firms and firms tend to be more productive when they start exporting, though the main reasons are debated (Bernard and Jensen, 2004; Wagner, 2007). Similar links between productivity and exports and FDI in services have been established, but the causality remains to be determined (Wagner, 2013).

Denmark specific analysis using firm-level data to look at the third channel shows that exporting firms are more productive than non-exporting firms. Whether this is due to learning-by-exporting or self-selection is not clear. Bryla (2010) documents learning-by-exporting among manufacturing firms in Denmark but Smeets and Warzynski (2010) find evidence of self-selection but not of learning. Innovative activities, especially product innovation, are another determinant of export behaviour in Denmark, both for manufacturing and service firms (Laursen, 2008). Skill-intensive firms that engage in product and marketing innovation grow faster than skill-intensive firms that do not and may be more likely to export (Junge et al., 2012).

Denmark's major export markets are Germany, Sweden, the United Kingdom, Norway and the United States (Table 1.2).

Openness to foreign direct investment (FDI) can contribute to enhancing productivity. Despite high wages and taxes, Denmark remains an attractive FDI destination thanks to its location as a gateway to the Nordic market, its well-educated labour force and its flexible labour market. In terms of stocks, the ratio of Denmark's inward FDI to GDP was above the EU average in 2012. However, FDI inflows to Denmark have not been very high in recent decades compared to countries like Sweden and Finland that have seen an increase in their stock of FDI as a share of GDP. This is not necessarily a cause for concern, but suggests that Denmark could have benefited more from its external openness insofar as wholly or partially foreign-owned firms are more productive and innovative than the average Danish enterprise (Ebersberger and Lööf, 2005; Dachs et al., 2007; Pedersen, 2011). In 2012, sectors such as retail trade, professional services and construction had much lower shares of foreign-owned companies, than those in manufacturing and transport as well as compared to some of Denmark's Nordic peers.

Table 1.2. Destination of Danish exports
In per cent of total exports

	1995	2000	2012
European Union	63.0	63.8	57.8
Germany	21.9	17.3	14.2
Sweden	10.4	12.3	12.7
United Kingdom	7.3	9.1	8.7
Norway	5.9	5.4	6.7
United States	3.4	5.1	5.6
Netherlands	4.2	4.6	4.1
France	4.8	4.3	3.0
China	0.5	0.8	2.5
Italy	3.3	2.8	2.3
Poland	1.2	1.5	2.2
Finland	2.5	3.1	2.2
Russia	1.1	0.8	1.7
Brazil	0.3	0.4	0.6
India	0.7	0.2	0.4

Source: OECD, Trade Database.

Assessing the decline in market shares

Since 1995, Denmark has recorded a persistent current account surplus, which stood at 5.9% of GDP in 2012. This surplus has been driven by strong exports of goods and services and an increase in the income balance. Even so, Denmark has not fared that well in terms of export market shares. Over 1995-2010, the loss in market share in volume terms for goods and services combined was 20%. This partly reflects emerging markets' integration into the global economy (OECD, 2014), but the loss has been large compared with that in Sweden and the Netherlands. During the same period, the market share loss in value terms was 14%, smaller than that in Sweden, as Denmark was able to charge relatively high prices for its products and its terms of trade improved.

Decomposing goods export growth in terms of existing and new trade flows sheds some light on the sources of the market share losses before the crisis (Beltramello et al., 2012; Box 1.3). The largest contribution to export growth came from the expansion of existing trade flows. The sale of new products or to new destinations only accounted for 37% of growth, almost all of which was due to firms trying new combinations of existing products in existing markets. Contrary to other countries such as Germany and Finland, the contribution from the introduction of existing products to new markets was small. Denmark's deteriorating competitiveness, as proxied in this quantification, more than fully explains the market share losses, as with Sweden and the Netherlands. However, in contrast to Sweden, this negative effect has barely been compensated by sectoral and geographical factors, suggesting that there is scope to improve the product and geographical diversification of Danish exports.

Participation in global value chains

World trade is increasingly organised around global value chains (GVCs), which include the full range of activities that firms engage in to bring a product to market. Participation in trade and GVCs can boost productivity growth by enhancing competition and the diffusion of knowledge. Denmark's participation in GVCs through exports of goods and services is close to the median among OECD economies, but less than other small open

Box 1.3. Market share analysis

It is possible to break down the change in market shares (in value terms) into three components to better understand the underlying drivers. The sectoral component is the part of export growth that is explained by the predominance in a country's export basket of the products benefitting from relatively high world demand. The geographical component is the contribution to export growth derived from the extent to which a country's exports are oriented towards markets with dynamic demand relative to the rest of the world. Together, these two effects measure the variations in a country's market shares resulting from the structure of world demand. The performance (residual) term explains the gain or loss in export market share that would have resulted if the sectoral and geographical components remained unchanged. Table 1.3 shows that the loss of export market shares in Denmark is relatively large compared with similar countries and is not explained by sectoral and geographical factors.

Table 1.3. **Contribution of structural and performance effects to total export market shares growth, 1995-2007**

	Market share growth	Performance	Geographical	Sectoral
Denmark	-21.9	-22.9	-1.7	3.0
Finland	7.5	-8.9	16.7	1.1
Germany	-1.0	-14.9	5.2	10.6
Netherlands	-19.9	-20.8	-6.5	8.2
New Zealand	-24.3	5.7	-8.8	-21.4
Norway	-17.1	-19.3	1.7	1.0
Sweden	-14.6	-26.9	4.1	12.3

Source: Beltramello et al. (2012), "The Export Performance of Countries within Global Value Chains", OECD Science, Technology and Industry Working Papers, No. 2012/02.

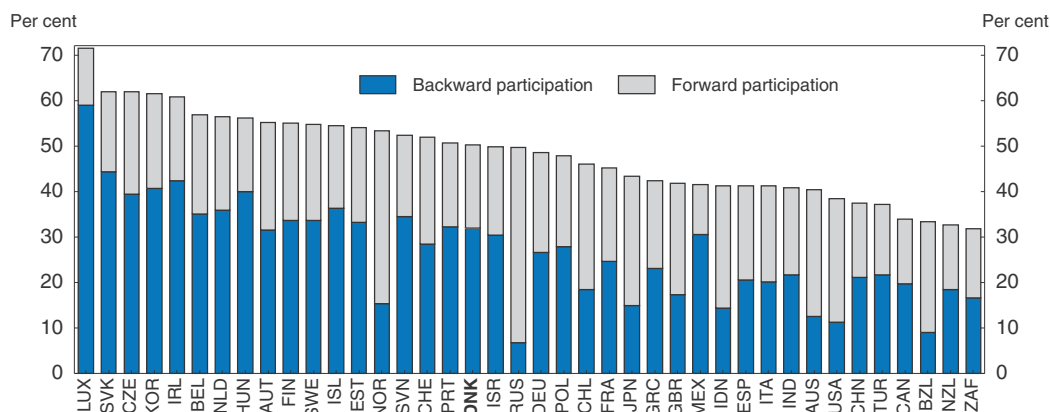
economies (Figure 1.3; OECD, 2013b). It is mainly driven by the use of foreign intermediates in Danish exports (backward participation) rather than the use of Danish inputs in other countries' exports (forward participation). Similar to most EU member states, there is also some evidence that around half of the participation of Denmark in GVCs is due to trade in intermediate goods within the EU (de Backer et al., 2013).

The existence of GVCs makes it important to look at trade flows not just in gross terms, but also in value-added terms. Denmark's export share in value-added terms is roughly the same as in gross terms, at around 0.9% of world exports in 2009. Looking at various recent measures of competitiveness based on real effective exchange rates with value-added data does not show a big difference to that based on gross trade data for Denmark (IMF, 2013). According to the revealed comparative advantage indicator, which is one measure of international specialisation and competitiveness based on export market shares, Denmark's comparative advantage in manufacturing appears to be larger in high-tech sectors and smaller in other ones when using value-added instead of gross trade data (Table 1.4).

Denmark's bilateral trade balances with its main trading partners differ markedly depending on the measure used (Figure 1.4). The biggest change in Denmark's bilateral trade balance is in relation to Germany and the Netherlands, highlighting the fact that

Figure 1.3. **Participation in global value chains**

As a share of gross exports, in 2009



Note: Backward participation shows the use of foreign intermediates in a country's exports and forward participation the use by other countries of a country's inputs in their exports.

Source: OECD (2013), *Interconnected Economies: Benefiting From Global Value Chains*.

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Table 1.4. **Revealed comparative advantage in manufacturing**

In 2009

	Based on gross exports	Based on value-added exports
Food products, beverages and tobacco	3.17	2.76
Textiles, textile products, leather and footwear	0.32	0.28
Wood, paper, paper products, printing and publishing	0.69	0.63
Chemicals and non-metallic mineral products	1.22	1.33
Basic metals and fabricated metal products	0.51	0.49
Machinery and equipment	1.59	1.51
Electrical and optical equipment	0.79	0.84
Transport equipment	0.23	0.20
Other manufacturing; recycling	1.16	1.12

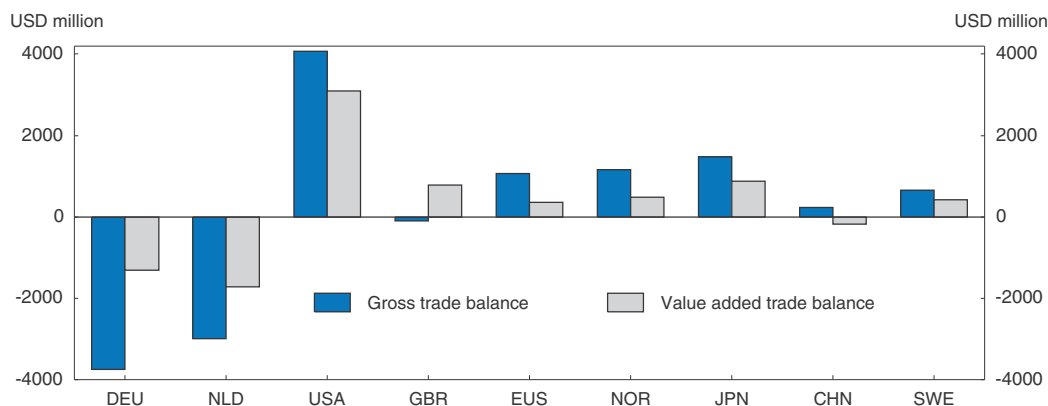
Note: Revealed comparative advantage is calculated as the share of exports of a certain industry by a specific country and the world in relation to the total exports of that country and the world. A value greater than 1 indicates a comparative advantage by a country in a certain industry.

Source: OECD-WTO TiVA Database, June 2013.


their intermediate exports to Denmark are embodied in Denmark's own exports. In value-added terms, the United States was a more important partner as a market for Danish exports, reflecting Danish value added embodied in the exports of other countries to the United States, as well as a more important source for imports, resulting in an overall smaller bilateral trade surplus.

The estimates of trade in value-added terms confirm that services play a far more significant role than suggested by gross trade statistics, as manufacturing exports include significant value-added from services. In value-added terms, 54% of Denmark's exports consist of services, higher than the 48% OECD average. Between 1995 and 2009, the contribution of services to exports rose in almost all industries, but most notably in transport equipment, textiles and apparel, and chemicals and minerals. Policies exclusively focusing on manufacturing may thus ignore the growing importance of services for value creation in GVCs, including for the production of manufactured goods.

Figure 1.4. **Bilateral trade balance between Denmark and its main trading partners**
In 2009



Source: OECD-WTO TiVA Database, May 2013.

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Getting more from trade specialisation

As noted, the share of Danish exports to fast-expanding markets has been smaller than for a number of other OECD economies. For example, in 2010, only 5% of Danish goods exports went to BRIC countries, compared to 11% for Germany. In May 2012, an ambitious export strategy was adopted to boost exports of goods to emerging markets by more than 50% and to double the amount of FDI in Denmark from emerging markets compared to 2005-10 by 2015. Priority is given to sectors where Denmark has specialised competences or a competitive advantage.

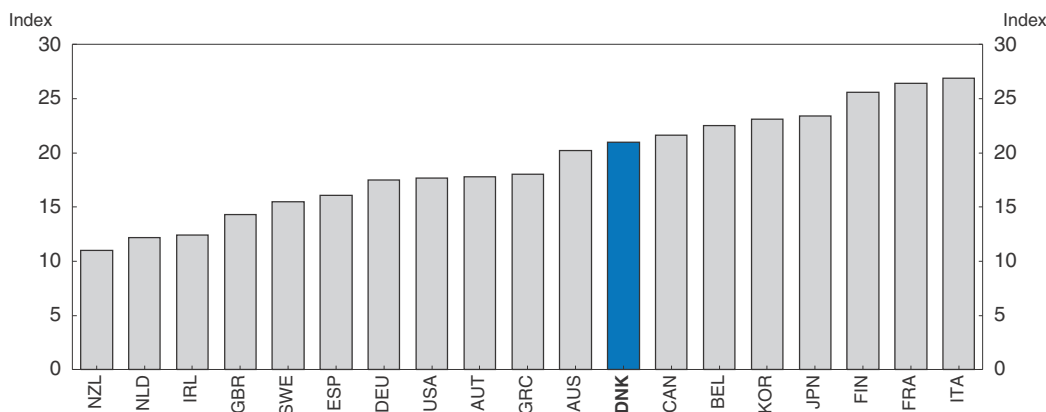
Whether Denmark has a competitiveness problem that mainly explains the loss of market shares has been widely debated (Ministry of Economic Affairs and the Interior, 2013; Whitta-Jacobsen et al., 2013). Price competitiveness has deteriorated, while non-price competitiveness has improved. The overheating of the economy between 2004 and 2006 is likely to have led to unsustainable wage increases that have already started to be offset by wage moderation in recent years. Hence, the loss in price competitiveness is expected to be temporary. Weak productivity growth over the past two decades is a more important concern.

Greater trade openness in services would raise productivity growth by exposing Danish firms to foreign competition, which would boost productivity in the service sector. In addition, manufacturing firms increasingly use and produce services as inputs in their products, with a growing importance of services for manufacturing competitiveness. Services also help manufacturing firms gain a competitive edge as they differentiate, customise and upgrade their products and develop closer and more longstanding relationships with customers (Nordås, 2010). Firm-level analysis for Denmark finds a positive relationship between firms that export services and productivity and size as measured by employment (Malchow-Møeller et al., 2011 and 2013).

There are large potential benefits from service trade liberalisation given the greater restrictions compared to those in trade in goods and the large role played by services in national economies (Dihel and Shepherd, 2007; Borchert et al., 2012). According to the World Bank's restrictions on international trade in services indicator, which includes policies concerning entry and licensing, Denmark has more restrictive policies than some


similar countries (Figure 1.5). An analysis to measure the impact of the barrier reductions from the implementation of the EU Services Directive on the level of productivity shows an effect of 2.7% for Denmark (Monteagudo et al., 2012). Other analyses have shown that by raising the costs of entering a market, regulatory barriers might deter small and medium sized enterprises (SMEs) from engaging in international trade in services (Kox and Nordås, 2007; Borchsenius et al., 2010).

Figure 1.5. **Restrictions on international trade in services**
As of 2008



Note: A higher value of the index indicates a more restrictive policy. The index covers the financial sector, telecommunications, retail trade, shipping, aviation and business services.

Source: World Bank, Service Trade Restrictiveness Index.

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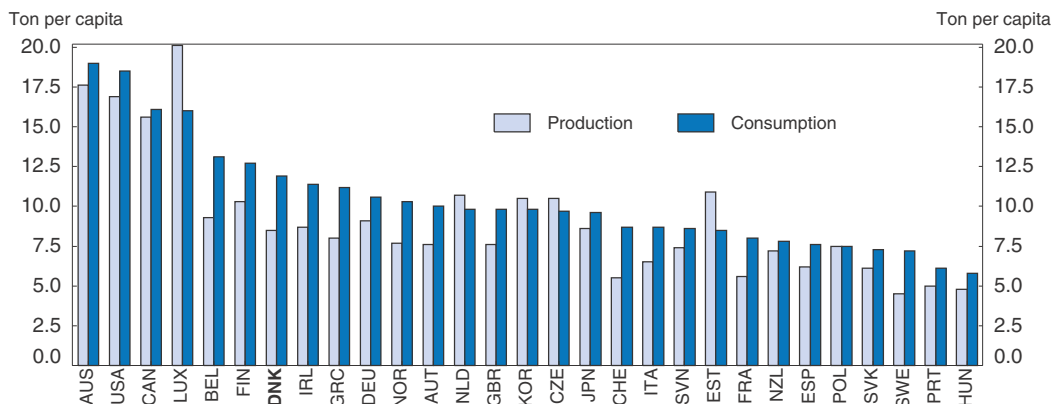
Maintaining participation or even further integration in GVCs becomes more important as international competition intensifies and is closely related to innovation. Investment in knowledge-based capital (KBC) that supports higher capabilities in production processes, technology, or knowledge-intensive activities is an important determinant of value creation in GVCs. Market regulations that hamper competition or market entry are likely to reduce the incentives of incumbent firms to invest in KBC. Policies that facilitate the flow of resources to their most productive use can improve the ability of economies to capitalise on the growth opportunities implied by the rising importance of KBC.

Trade and green growth

There are close links between trade and green growth. A country can trade CO₂ emissions through its exports and imports. CO₂ emissions associated with consumption are higher than those associated with production of emissions in Denmark (Figure 1.6), as its imports are more carbon-intensive than its exports. This is typical for many OECD countries. Furthermore, in Denmark, the gap between consumption and production has been growing since 1995. Denmark stands out as one of the few countries that have recorded trade surpluses in goods and services at the same time as a trade deficit in CO₂ emissions, reflecting in part the relatively low carbon intensity of electricity generation and the relatively low energy intensity of GDP (Nakano et al., 2009).

By acting as a “leader” in developing and exporting technologies that will help reduce greenhouse gas (GHG) emissions, Denmark can contribute to addressing climate change worldwide, although there are risks and costs associated with this strategy (OECD, 2012a;

Figure 1.6. **Per capita production and consumption-based CO₂ emissions**
In 2009

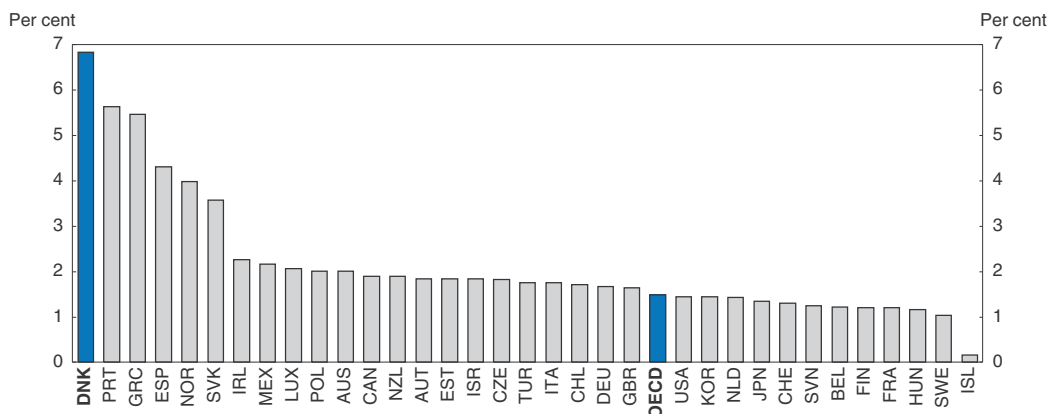


Source: OECD, STAN, Input-Output Database.


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Jamet, 2012). In 2011, government R&D spending for energy and environment as a share of the total government R&D budget stood at 6.9%, above the OECD average of 6.4%. There is some evidence that stricter environmental policies lead to specialisation in innovative activities and diffusion of green technologies via technology transfer through international trade in intermediate goods, foreign direct investment and licensing (OECD, 2013c; UNCTAD, 2011). In addition, well-designed environmental policies do not seem to be harmful to the export competitiveness of the manufacturing sector (Constantini and Mazzanti, 2012). However, strict environmental regulations can create barriers to competition (see below). In Denmark, green exports constituted 11% of total goods exports in 2011, and increased faster than total exports in recent years. Denmark has been at the frontier in the area of renewable energy technologies, especially those related to wind (Figure 1.7). The country has been successful in diffusing its knowledge to other countries, for instance in wind technology (Botta, 2013). However, this also means that part of the return to innovation has been captured abroad, which, in return, lowers the incentives for Danish firms to innovate.

Figure 1.7. **Renewable energy patents**
As a per cent of total Patent Co-operation Treaty patent applications, 2005-11



Source: OECD, Green Growth Indicators.

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Fostering competition

Enhancing competition can boost productivity and spur innovation. Denmark ranks well on overall competition indicators, including the OECD Product Market Regulation (PMR) and World Bank Doing Business indicators. Barriers to entrepreneurship, regulatory and administrative opacity and burdens on start-ups are low. Over the past decade, competition problems in the services and construction sectors have been identified and analysed extensively, including in the chapter on competition in the 2005 *OECD Economic Survey* (OECD, 2005). However, reform has not made much progress in these areas. Lack of competition and the large number of low-productivity firms in many sectors have been highlighted as one of the sources of weak productivity growth by various institutions, including the Productivity Commission, which has presented recommendations to improve competition (Productivity Commission, 2013b; OECD, 2012a; Danish Economic Council, 2010).

In October 2012, the government unveiled a policy package to improve competition and enhance compliance with international standards, involving: i) strengthening competition law; ii) increasing competition in domestic-oriented sectors; and iii) improving the effectiveness of public procurement. Competition legislation was stiffened in December 2012, with higher fines and the possibility of imprisonment for cartel behaviour, and Denmark ranks well according to a set of new OECD indicators of competition law and policy (Alemani et al., 2013).

Addressing regulatory barriers

Weak domestic competition has resulted in high prices of goods and services in Denmark. Corrected for taxes and levels of prosperity, prices are 7% higher for goods and 14% higher for services, compared to an average of OECD countries (Ministry of Business and Growth, 2013). Improved competition in the service sector will have spillovers to the rest of the economy through three main channels. *First*, improved competition in the non-tradable sectors would provide cheaper inputs to globally-competing sectors. *Second*, it will contribute to the reallocation of resources to more efficient firms. *Third*, as noted in Box 1.2, it will also enhance innovation, especially for firms that are closer to the technological frontier.

The large number and characteristics of some regulations are a major hindrance to competition in Denmark (McKinsey, 2010; Productivity Commission, 2013b). Regulations can impede competition if they restrict the number of suppliers and their ability to compete, reduce the incentives to compete or curb the choices and information available to customers. They can also limit firm entry and reduce incentives to compress costs. An example of how removing regulatory barriers has been successful is the book market (Box 1.4). The Danish Competition and Consumer Authority (DCCA) has identified a number of industries where regulation can be eased: pharmacies, taxis, construction, retail trade and professional services (lawyers, dentists, general practitioners, real estate agents) (Nordic Competition Authorities, 2013). An inter-ministerial taskforce has been appointed to review more than 100 professions, regulated by law to determine whether the regulatory system can be made more effective.

Professional services still have potential for improvement, despite some recent relaxation of barriers to entry in the legal service sector (Monteagudo et al., 2012; Productivity Commission, 2013b). Even if the small size of the domestic market prevents the exploitation of economies of scale, further progress can be made to remove

Box 1.4. Regulatory reform of the Danish book market

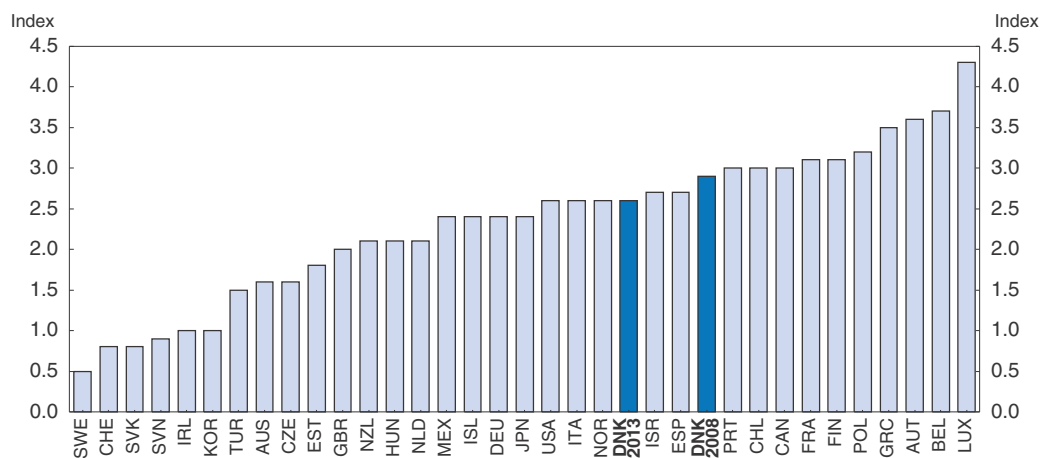
Until 2001, the book market in Denmark was heavily regulated, with books being sold only in bookstores and at fixed retail prices. In response to the recommendations from the Danish Competition and Consumer Authority (DCCA), the regulations in this sector were relaxed gradually, with full deregulation coming in January 2011. A 2010 evaluation by the DCCA found that the regulatory reform did not harm cultural policy objectives or consumer access to books and that the variety in the supply of books increased whilst the price of books relative to other goods and services fell.

In response to a request for a reintroduction of fixed retail prices in the book market, for example for a period of three to four months for new publications, by some parts of the book sector in February 2013, the DCCA sent an open letter to the Minister of Culture advising against this.

anticompetitive regulations in these sectors. Regulatory barriers should be reviewed and removed when they create barriers to competition and are not well justified by other objectives or harmonised with international ones.

Between 1995 and 2010, average annual productivity growth in the retail sector in Denmark was 1.5 percentage points lower compared to the average for Germany, the Netherlands and Sweden. At the same time, grocery prices are higher in Denmark than on average in Belgium, Finland, France, Italy, the Netherlands and Germany when corrected for taxes (Danish Competition and Consumer Authority, 2012). The Danish Shop Closing Act in 2010 relaxed the rules on shop opening hours as of 2012, but the Danish retail sector remains highly regulated (Figure 1.8).

Figure 1.8. Regulation in the retail sector



Note: Index scale is 0 to 6, from least to most restrictive. The reference year is 2008 for all countries. The PMR indicator for Denmark for 2013 is preliminary, and for purposes of comparability is calculated on the basis of the 2008 methodology. For more details, see OECD (2014).

Source: OECD (2014), "The 2013 Update of the OECD Product Market Regulation Indicators: Policy Insights for OECD and non-OECD Countries", *OECD Economic Policy Papers*, forthcoming.

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Regulations in the retail sector include permit requirements to engage in some commercial activity, specific regulations for large outlets and some forms of protection of existing firms. The importance of zoning regulations as a barrier to competition has been

highlighted by several studies (OECD, 2005; McKinsey, 2010; Copenhagen Economics, 2013). By limiting the location and the size of stores, they hinder entry and exit, thus restricting competition and economies of scale. Furthermore, the small scale of firms due to strict zoning regulations might prevent the adoption of new technologies, further limiting productivity gains. In Sweden, for instance, the relaxation of zoning regulations in the 1990s improved productivity growth (Maican and Orth, 2012). Hence, the impact of these regulations should be assessed and the government should look at ways to increase the flexibility for the size and location of stores and to relax permit obligations, while taking into account other objectives such as the quality of the environment.

The pharmacy sector in Denmark is also subject to many regulations, including entry and ownership restrictions, price and profit controls and the equalisation scheme between pharmacies which implies that pharmacies with higher revenues have to subsidise low-revenue ones in rural areas through a special sales tax. The number and location of pharmacies is determined by the state through a system of licenses to set up a pharmacy tied to a specific location. In addition, one pharmacist can own no more than four pharmacies. These regulations result in a high number of inhabitants per pharmacy compared to other European countries and significantly less competition (Danish Competition and Consumer Authority, 2013a). Removing such ownership restrictions should be considered.

The construction sector in Denmark exhibits low productivity growth, but prices, driven by high labour costs and material prices, are high. The existence of some Danish-specific standards makes it harder for foreign firms to enter the market, limiting competition. Harmonising national standards that hinder foreign firm entry, with international ones would spur competition in the sector. Apart from some regulatory barriers, the small size of the Danish market also limits entry by foreign firms due to a lack of knowledge of projects. In addition to sector-specific initiatives to remove regulatory barriers, more general policies to attract more foreign firms should be considered, such as increasing awareness of public construction tenders abroad, perhaps through *Invest in Denmark* (which facilitates the entry of foreign firms in the Danish market).

While network industries have undergone a significant process of opening to competition since the early 1990s, as in several other EU countries, there is still scope for further deregulation (Productivity Commission, 2013b). The main remaining potential for deregulation lies in the passenger rail system, which is mainly dominated by a state-owned company, as in many other EU countries. Denmark has some experience with tendering since a few lines are operated by another supplier. The 2013 European Commission package on rail liberalisation aims at opening EU passenger railways to new entrants by 2019. To achieve productivity and consumer welfare gains, the country should continue to open the rail system to competition by increasing tendering and to deregulate other network industries as proposed by the Productivity Commission.

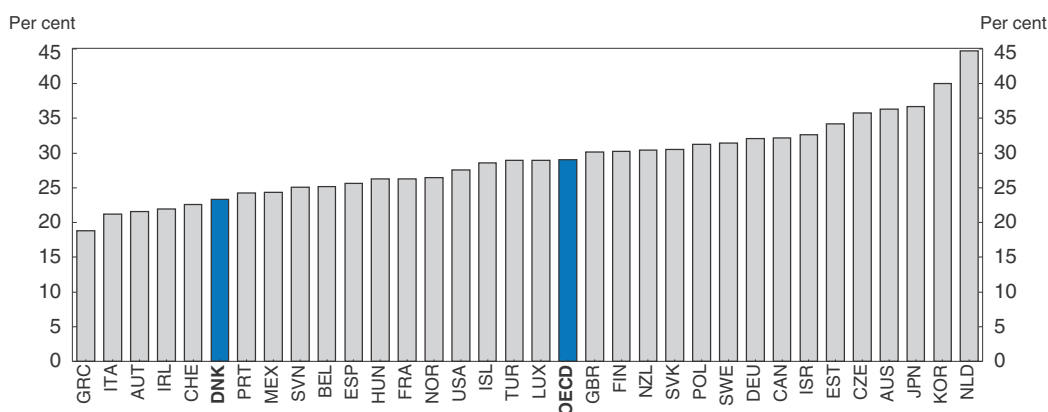
Improving the public procurement process further

Healthy competition in public procurement would reduce costs to the public and enhance incentives to innovate and the quality of goods and services. Danish public spending is one of the highest in the OECD, making competition in the public sector crucial for nationwide productivity. According to new estimates, productivity growth in the public sector has been relatively strong over 2005-12, amounting to close to 2% per year on average (Statistics Denmark, 2013). Further productivity gains in the public sector will help better contain public expenditures and the tax burden, which would generate some

positive feedback on the whole economy (Adalet McGowan and Jamet, 2012). A productive public sector also leads to productivity gains in other sectors as public services are used by firms and workers.

Government procurement as a share of government expenditures in Denmark is low (Figure 1.9). The extent of competition for public services has improved in recent years. In the municipalities, 26% of publicly-provided services were subject to competition in 2010. However, large differences exist between municipalities with respect to their use of private suppliers. A December 2012 report from the DCCA on competition in the public sector indicates that the greatest potential for further opening up to competition is within the health care and social services areas, which are administered by the regions and municipalities.

Figure 1.9. **Public procurement spending**
As a percentage of government expenditures, 2011



Source: OECD (2013), *Government at a Glance*.

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Public authorities find procurement rules difficult to apply, especially since complaints can impose large costs on the civil servants concerned. The DCCA has provided municipalities with guidance notes covering interpretation of legislation, how to apply legislation in practice as well as exchange of best practices. In late 2013, the appeals procedure was made more efficient by increasing fees and shortening deadlines for the filing of complaints. A working group on public procurement was set up in June 2013 to produce clearer, simpler and more flexible draft legislation on public procurement and to reduce transaction costs for the participating parties. Its mandate is to formulate a comprehensive legislative package to implement the public procurement directive into Danish law. The group is to report by mid-2014. Legislation on public procurement should be simplified as soon as possible, in line with the recommendations of the working group.

Recently, much emphasis has been put on public-private partnerships (PPPs) – which are less developed than in other Nordic economies (Weihe et al., 2011) – to improve the public procurement process. In 2011, a strategy to promote public-private co-operation was initiated. The Council for Public-Private Co-operation was established in April 2013 to support competition for public sector contracts and to promote co-operation between public authorities and private companies. In 2012, the DCCA studied the Danish experience with PPPs in 13 projects and found them to be effective, which suggests that efforts should continue to develop them further.

Public procurement could be better harnessed to encourage innovation, especially for SMEs. Danish SMEs account for 45% of the value of public procurement contracts, as against 38% in the EU at large (Danish Competition and Consumer Authority, 2013b). However, there still exist some barriers that may constrain the participation of SMEs such as limited knowledge of procurement rules, exacting documentation requirements and tight deadlines, making the bidding process costly for firms with limited expertise. Greater use of e-procurement would help cut transaction costs and make the process more uniform. Some countries have established small business innovation research (SBIR) programmes in order to increase procurement to SMEs, which would also help spur competition. Denmark should consider setting up a similar programme. One potential risk involved with SBIR programmes is the crowding out of privately-financed R&D (Wallsten, 2000). Hence, these schemes should be designed carefully and target proposals that are unlikely to receive funds from private sources.

Strengthening and streamlining the competition framework

Until recently, the weakness of sanctions and fines undermined the competition framework, as discussed in the 2012 *OECD Economic Survey* (OECD, 2012a). The recent changes to the Competition Act, which came into effect in March 2013, increase the minimum fine for a cartel violation by 10% and introduce prison sentences for cartelists for up to six years. The new legislation enhances compliance with international standards and will help promote competition.

Despite these improvements, some gaps still remain in the competition framework and its enforcement. In June 2013, the Productivity Commission recommended that competition law be aligned on the best practices of other EU members. There have also been problems of enforcement of competition in 2012 as investigations can take a long time, decreasing the effectiveness of enforcement (Global Competition Review, 2013). Hence, going forward, it will be important to ensure that competition law is effectively enforced.

The DCCA is the main regulator. The Competition Council can grant and revoke individual exemptions, review mergers and certify that conduct is not anti-competitive, and the Appeals Tribunal acts as a check on Council and Authority decisions before they get appealed to the regular court. This institutional set-up may undermine decisions made by the DCCA. It should be streamlined in order to improve the independence and impact of the competition authorities, as recommended by the Productivity Commission. Furthermore, the Competition Council has 17 members, including experts and consumer and industry representatives, but its effectiveness would benefit from a better representation of legal and economic experts (OECD, 2012a).

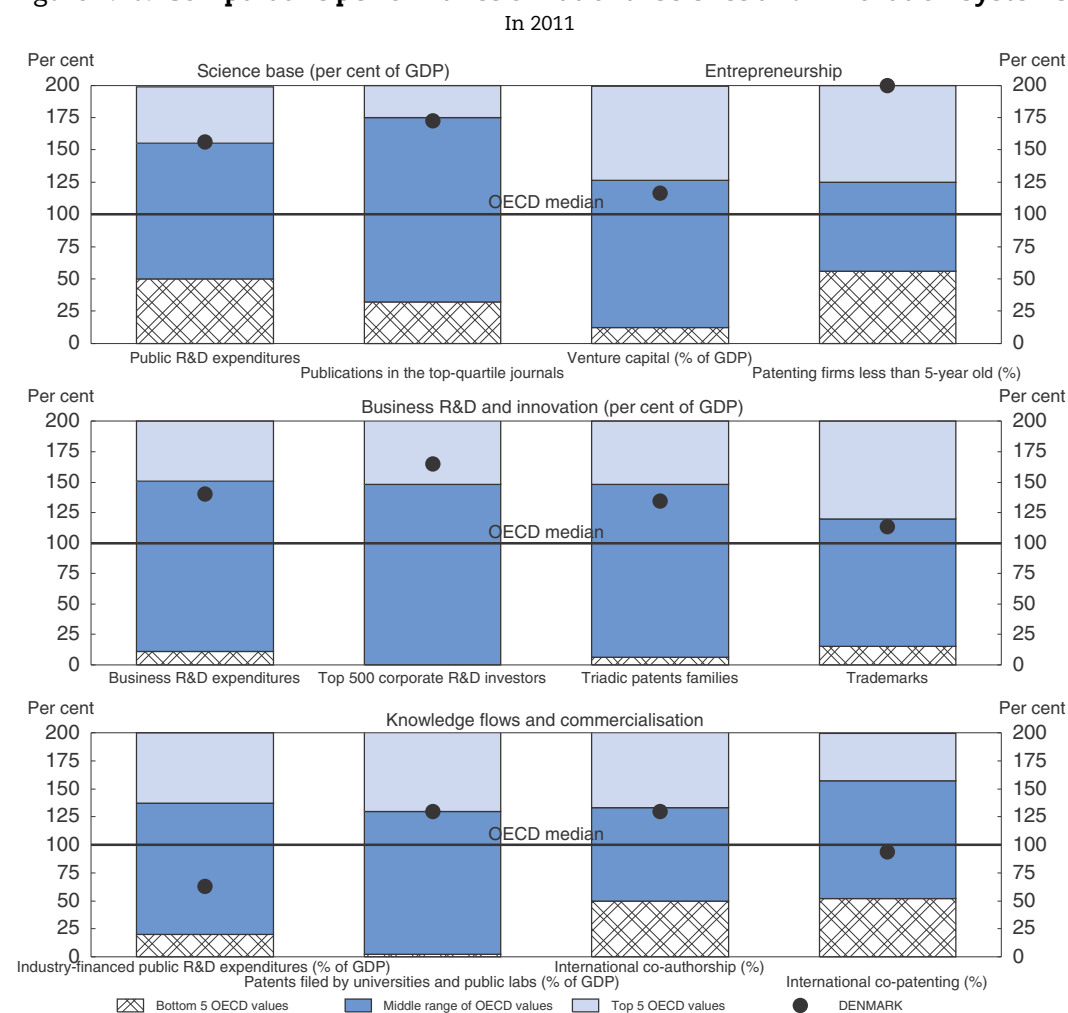
Promoting innovation

Innovation is key to foster TFP and remain internationally competitive in an increasingly globalised world. This requires strong investment in R&D and innovation and a well-functioning innovation system. Sound framework conditions for innovation, including a stable economy, a skilled labour force, a robust financial system, well-functioning product and labour markets, competition, international openness to trade and investment and low barriers to entrepreneurship, are also crucial.

Assessing Denmark's innovation performance

Denmark fulfills most of these conditions and is in many respects on the innovation frontier. Both public and business R&D expenditure as a share of GDP are amongst the highest in the OECD (Figure 1.10). Business innovation is strong, particularly in emerging and renewable energy technologies. Denmark is among the “innovation leaders” according to the EU Innovation Union Scoreboard 2013, ranking third behind Sweden and Germany, and just ahead of Finland (European Commission, 2013). Furthermore, between 2008 and 2012, Denmark's innovation performance as measured by this set of indicators has improved fast compared to the other leading countries.

Figure 1.10. **Comparative performance of national science and innovation systems**



Note: Normalised index of performance relative to the median values in the OECD area (Index median = 100).

Source: OECD (2012), *Science, Technology and Industry Outlook*.

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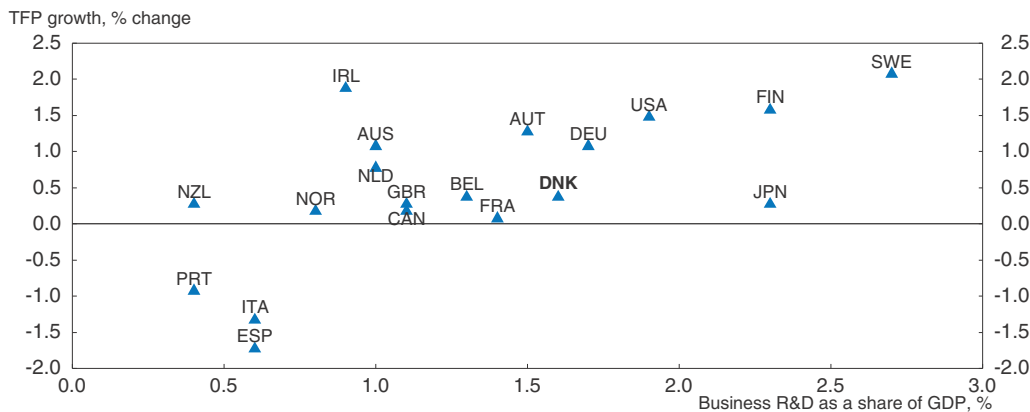
Although Denmark is an innovation leader in many aspects, the outcomes do not fully reflect the high level of spending in innovation policies:

- High R&D outlays and favourable framework conditions have not translated into strong TFP growth (Figure 1.11). Relative to other countries, the return on investment in R&D in

Denmark has been low (McMorrow, 2011) or close to average for both low-tech and high-tech industries (Lööf and Savin, 2012), although analysis suggests that, at the firm-level, R&D investment is associated with higher productivity (Christensen et al., 2014).

- The share of high-growth enterprises is relatively low. Young and small firms may face some barriers in accessing finance. There has been a decline in the share of SMEs introducing organisational innovations and knowledge-intensive services exports.
- The service sector accounts for 26% of total trademarks, far below the 39% OECD average, which may indicate a weakness in service-related innovation in Denmark (Figure 1.12).

Figure 1.11. **Total factor productivity growth and business R&D intensity**
1995-2011



Note: Between 1995 and 2011, the average annual percentage change in TFP (calculated from a decomposition of GDP to labour, capital and human capital) in Denmark was 0.4%, while the ratio of business R&D spending to GDP at 1.6% was relatively high. Both indicators are calculated from data in constant 2005 PPP USD terms.

Source: OECD, *Analytical Database*; OECD, *Long-term Scenarios Database*, OECD, *Main Science and Technology Indicators*; calculations based on Johansson et al. (2012), "Long-Term Growth Scenarios", *OECD Economics Department Working Papers*, No. 1000.


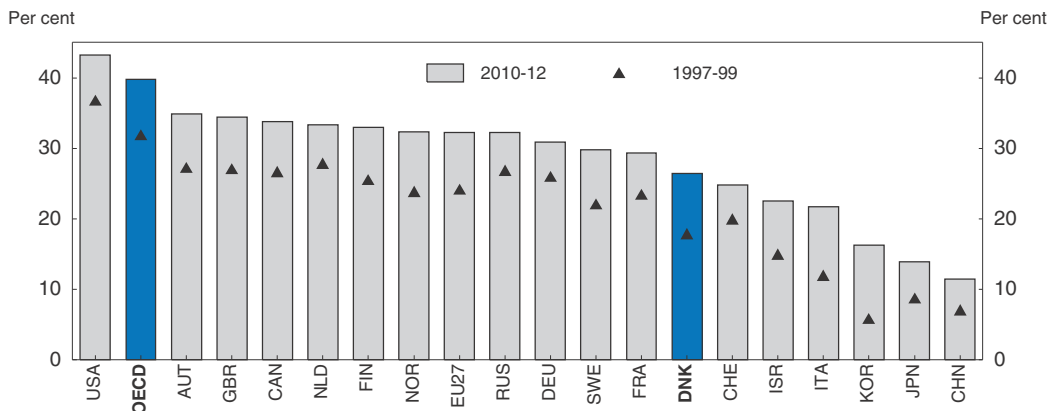
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Figure 1.12. **Service-related trademark applications**
As a percentage of total trademark applications



Note: In Denmark, the share of service-related trademark applications as a percentage of total trademark applications was 26.4% between 2010 and 2012.

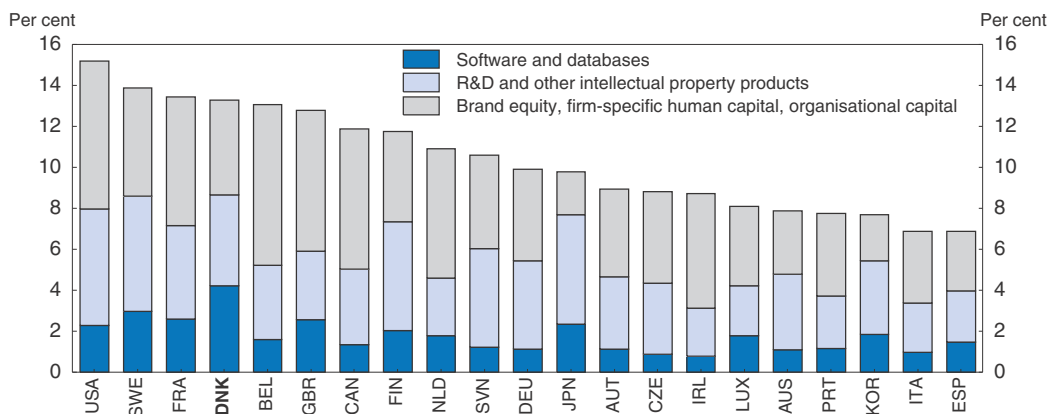
Source: OECD (2013), *Science, Technology and Industry Scoreboard*. Based on US Patent and Trademark Office (USPTO) and OHIM (European Union) Community Trademark Databases.

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Investment and growth are increasingly driven by KBC, which includes computerised information, innovative intellectual property and economic competencies such as organisational capacities. Investment in KBC as a share of GDP is relatively high in Denmark (Figure 1.13). Intangible investment in Denmark is concentrated in manufacturing, business services and wholesale and retail trade (O'Mahony et al., 2012). Despite high levels of intangible investment, the contribution of intangibles to growth is lower than in Finland, Sweden and the United Kingdom, which have similar KBC investment (Corrado et al., 2012). Enhancing competition as discussed above and policies to develop and better use the skills of the workforce as discussed in Chapter 2 would help achieve better outcomes in terms of innovation. In addition, there is room to improve the efficiency of innovation policies and access to funding, as well as to better adapt innovation policies to the service sector.

Figure 1.13. **Investment intensity in knowledge-based capital**

Selected OECD countries in per cent of value added of the business sector, 2010 or latest data available



Source: OECD (2013), *Science, Technology and Industry Scoreboard*.

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In December 2012, the government launched an *Innovation Strategy*. It identified some gaps in the innovation framework and proposed initiatives to help Denmark remain an innovation leader. The *Strategy* mainly focuses on innovation driven by societal challenges, translating more knowledge into value and education to improve knowledge capacity. The *Strategy* includes 27 initiatives and targets to put Denmark in the OECD top five by 2020 in terms of the share of innovative companies, private R&D spending as a share of GDP, and companies making use of high-skilled workers (Annex 1.A1).

Raising the efficiency of innovation policies

Streamlining institutions

Public support to basic research is relatively high in Denmark, which is important as this spending is associated with higher firm-level productivity (Andrews and Criscuolo, 2013). However, until recently, basic public innovation policies were conducted via a bewildering number of funding institutions and instruments, making for a complicated institutional framework with many overlaps. In 2014, the three different funding bodies (Council for Strategic Research, Council for Technology and Innovation and Advanced Technology Foundation) will be merged into the Innovation Foundation with a view to improve efficiency, increase transparency and reduce red tape.

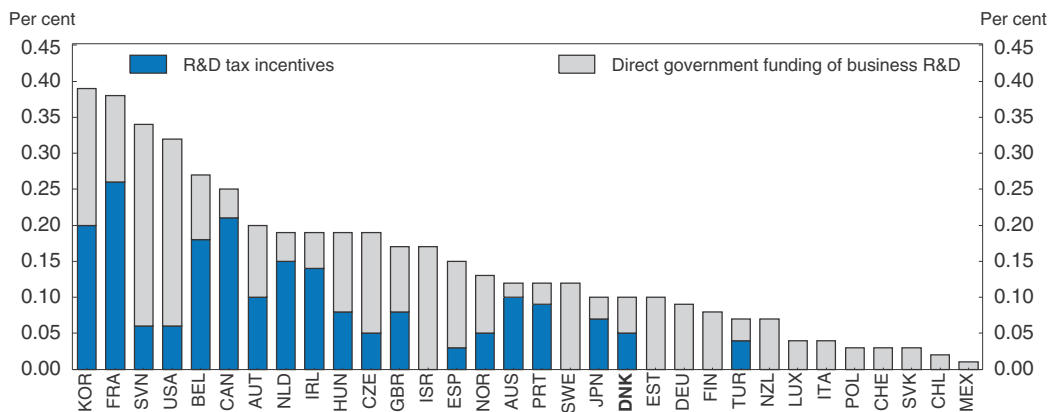
There is room for other improvements. The business-government task forces that were established in 2012 to make policy recommendations in various areas – such as better regulation, public-private partnerships and attracting FDI – add another layer to the institutions involved in innovation strategies. Their link to the implementation of innovation policies could be defined better.

Improving instruments to support innovation

Denmark has a balanced mix of R&D tax incentives for firms and direct government support to business R&D (Figure 1.14). This is welcome as each has strengths and weaknesses. Although R&D tax credits avoid the “picking winners” problem associated with direct grants, they may have the unintended consequence of protecting incumbents at the expense of new firms, slowing down the reallocation process (Bravo-Biosca et al., 2013). Furthermore, tax incentives might favour multinational companies rather than SMEs (Westmore, 2013; Clark, 2013). In contrast, recent evidence from Finland and Germany shows that direct support schemes do not preserve the dominance of market leaders and make small firms more likely to undertake R&D (Czarnitzki and Ebersberger, 2010). Evaluations are rare for Denmark and focus mainly on manufacturing (Köhler et al., 2012). The effectiveness of Denmark’s R&D tax incentives ought to be assessed further using statistical methods that generate control groups to isolate the effect of the tax credit.


Figure 1.14. **Direct government funding of business R&D and tax incentives for R&D**

As a percentage of GDP; 2011 or latest year available¹



1. For Australia, Belgium Chile, Ireland, Israel and Spain, figures refer to 2010. For Luxembourg, figures refer to 2009 and for Switzerland to 2008.

Source: OECD (2013), *Science, Technology and Industry Scoreboard*.

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R&D tax credit programmes that lack carry-over provisions or cash refunds may provide less assistance to young and small firms than other forms of innovation support since such firms typically lose money in the early stages of an R&D project (OECD, 2013d; Elschner et al., 2011). According to the interviews conducted for the latest ERAC review, this was a problem in Denmark (ERAC, 2012). In 2012, a new scheme was introduced allowing firms that spend on R&D and face after-tax income losses to benefit from a tax refund of 25% of these losses. The scheme is capped at DKK 5 million (about € 670 000), though the

ceiling is to be increased to DKK 25 million by 2015. This scheme improves the effectiveness of the system, but the refunds remain quite limited compared to other countries. Furthermore, young firms may not fully benefit from it if upfront they lack the means to start an innovative project (Busom et al., 2012). The government should continue to improve the access of young financially-constrained firms to funding, possibly by extending the tax refund scheme or increasing direct support.

Enhancing the links between universities and industry

Tighter links between industry and academia tend to push up firm-level TFP (Andrews and Criscuolo, 2013). According to the Global Competitiveness Index, in 2013, Denmark ranked 22nd amongst 144 countries in terms of R&D collaboration between university and industry. The share of higher education sector research financed by industry, which stands at 3.4% in Denmark, is far below the 6.3% OECD average. The concentration of higher education institution research in areas where business interest is low has been highlighted as one potential reason for the low share of private financing of Danish university research (Ministry of Science, Innovation and Higher Education, 2009a). The funding system of universities' research activities has been reformed in 2007 and 2010 to raise quality by developing competition between institutions to obtain funding. However, public funding to universities in Denmark is mostly targeted to institutions and less to projects (Steen, 2012). A move towards a more balanced mix of project and institutional-based funding could help nurture tighter links between industry and academia. The 2012 *Danish Innovation Strategy* includes various initiatives to encourage co-operation between business and education institutions, for instance through public-private partnerships.

Even when innovation gets close to the market, the commercialisation of public research results does not seem to be that successful (ERAC, 2012). The universities' links with business ought to have been strengthened by their merger in 2007 with the government research institutes, which had experience collaborating with private stakeholders, but this has not been the case (Solberg et al., 2012). Universities do not patent and license much and they have limited experience with start-up companies, despite some recent improvements. The intellectual property right policies of universities may not give enough incentives to researchers to commercialise their research and therefore should be investigated. Further enhancing the links between the GTS (*Godkendt Teknologisk Service*) institutes, which are in charge of transferring applied research to industry, and universities would also help. The increased involvement of GTS staff in universities and placement of PhD students within the institutes in applied fields of research since 2009 has been effective and should continue (Ministry of Science, Innovation and Higher Education, 2009b and 2012).

Demand-side innovation policies

In recent years, there has been a renewal of policy interest in so-called demand-side innovation policies, including innovation-oriented public procurement, regulations and standards (Beltramello and Nolan, 2014). In the presence of market imperfections, such policies can helpfully complement the supply-side instruments discussed above.

The concept of fostering innovation through demand-side policies is not new and Denmark has had some success in this area (Stern et al., 2011). For example, strict environmental regulations have been used extensively and Denmark was among the first European countries to introduce a national standardisation strategy with an innovation

perspective (ERAC, 2012). In recent years, Denmark has further increased its focus on innovative public procurement. The Danish Programme for user-driven innovation, which ran from 2007 to 2009, was launched to create a systematic approach to the development of new products and services based on user (such as consumers, enterprises, and co-operation partners) needs. An evaluation of the programme shows that it facilitated the creation of new goods by firms, co-operation across sectors as well as PPPs (Mollerup, 2011). In 2009, the programme was replaced by the “Business Innovation Fund”, which was created to support the introduction of innovative green and welfare solutions to the market. In 2012, it implemented a pilot programme for innovative public procurement in the welfare sector, with the aim to contribute to market maturation of new welfare solutions. The initiative was replaced by the “Market Development Fund” in 2013. This fund is to support the introduction of innovative solutions to the market, including green and welfare solutions. In 2013, the government also established the “Green Transition Fund”, to provide funding for the late-stage development of innovative solutions intended to increase resource efficiency, as well as funding for innovative green business models.

Demand-side innovation policies are hard to design, implement and evaluate (Beltramello and Nolan, 2014). There is still a lack of solid empirical evidence that demand-side policies can be harnessed to effectively promote innovation and lead to the development of substantial market opportunities. The design of procurement procedures must ensure sufficient competition and facilitate SME participation. Innovation-oriented regulation could be cost-ineffective compared to other policies and might hinder competition. The development of technical standards should take into account the possibility that inappropriate design or timing in the introduction of a standard could lock businesses into an inferior standard and limit innovation. Furthermore, there are technical challenges in the evaluation of demand-side policies, such as the difficulty of establishing a control group, inadequate data and time lags between implementation and effect, leading to their under-evaluation compared to other categories of innovation support (Edler et al., 2012).

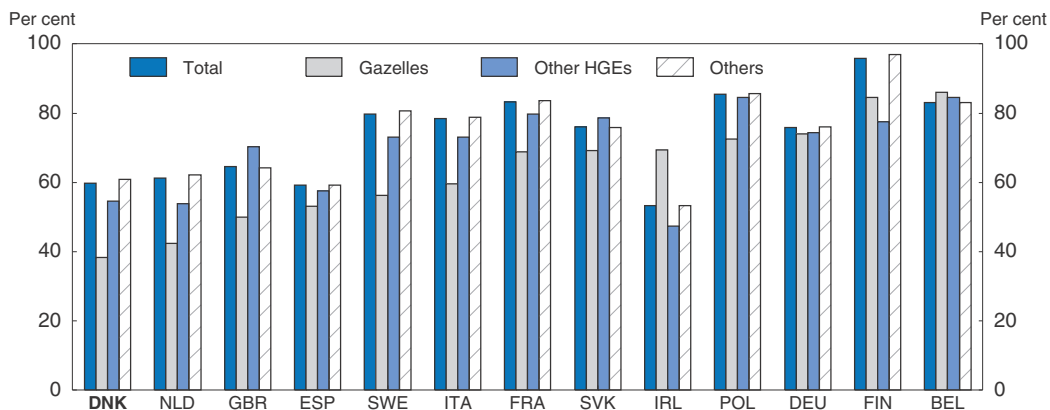
Improving access to funding

Innovative start-ups and SMEs can face extra barriers to funding due to their lack of collateral, cash flows and track record. Financing of firms can become more difficult if the bank lending channel is impaired, as was the case during the recent crisis when banks tightened lending standards, making it more difficult for firms, especially SMEs, to obtain private financing (Figure 1.15). The share of SME loans in total business loans declined during the crisis and is below that in its Nordic peers (OECD, 2013e).

Public support to SMEs has increased in recent years with the introduction of new measures by the *Vækstfonden* (Growth Fund), the government investment fund created in 1992 which offers guarantees and loans to established SMEs and invests equity in young growing companies. Since 2009, the government has introduced initiatives to improve SME financing and export opportunities by strengthening loan guarantees, start-up loans and export guarantees, introducing subordinated loans targeted to young firms as well as improving access to risk capital, including through corporate bonds (OECD, 2013e). Since 2011, Danish pension funds have been allowed to allocate risk capital to new SMEs with growth potential through the investment fund, Danish Growth Capital.


Government guaranteed loans increased from DKK 130.5 million in 2007 to DKK 940 million in 2012 and has been scaled back only to a limited extent. In 2013, the

Figure 1.15. **Firms' success rate in obtaining loans**
In 2010



Note: "Other HGEs" refer to other high-growth enterprises. Gazelles, a subset of high-growth enterprises, are enterprises that have been employers for up to five years, with average annualised growth in employees (or in turnover) greater than 20% a year over a three-year period, and with ten or more employees at the beginning of the observation period.

Source: OECD (2012), *Entrepreneurship at a Glance*.

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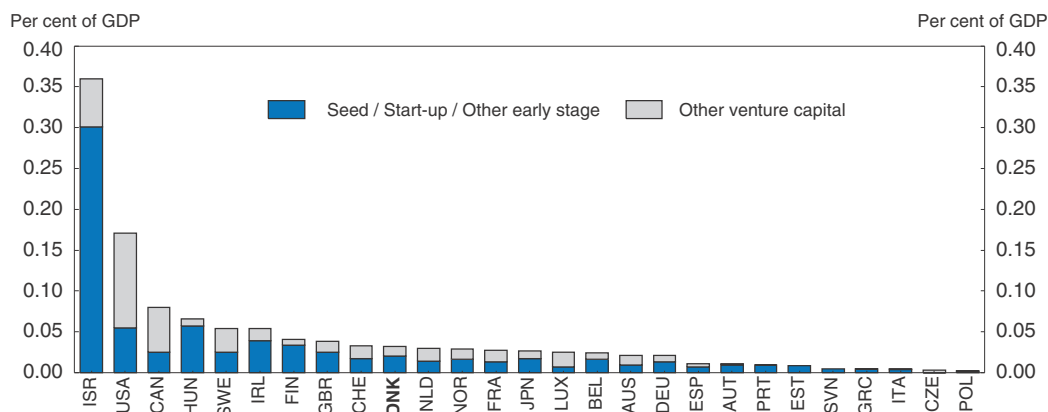
various loan guarantee schemes were merged into a single one. The share of government loan guarantees in total business loans to SMEs rose from 0.3% in 2007 to 2.4% in 2012. This can partly be attributed to increased knowledge of the scheme and partly to the fact that the scheme is attractive to banks, as it reduces the risk of lending. Another explanation is that it has become more difficult for businesses to get access to loans on normal terms. These difficulties highlight the importance of other types of financing for SMEs such as corporate bonds.

An analysis of credit guarantee schemes across OECD countries suggests that they have increased credit availability, but also expose guarantors to risk; and there is very little evidence that they boost SME sales, employment or innovation (OECD, 2013e). As the economy recovers and access to funding improves, the government should gradually withdraw some of these schemes and ensure that all public intervention schemes are mainly privately co-funded. Evaluation of government support to SMEs is common in Denmark, but there should be a more unified and transparent approach to the monitoring and evaluation of these schemes.

The financing needs of new entrants and young firms that have no history of success or with KBC assets that are difficult to value can be filled by venture capital or business angel investment. Countries with developed seed and early stage venture capital are more likely to invest in KBC and more effective at distributing labour and capital to young innovative firms (Andrews and Criscuolo, 2013). Early-stage venture capital funding is relatively high in Denmark by OECD standards but lower than in some other Nordic countries and it declined by 60% between 2007 and 2012 due to the crisis (Figure 1.16).

However, business angel investment is relatively low in Denmark, compared to some other small countries. In 2009, only 7% of Danish growth entrepreneurs had received funding from a business angel at any time. The low share of high-growth firms in Denmark compared to some other countries could be linked to a weaker business angel culture in Denmark (FORA, 2009). Although the empirical evidence on the impact of angel investment

Figure 1.16. **Venture capital investment**
In 2012 or latest year available



Source: OECD (2013), *Entrepreneurship at a Glance*.

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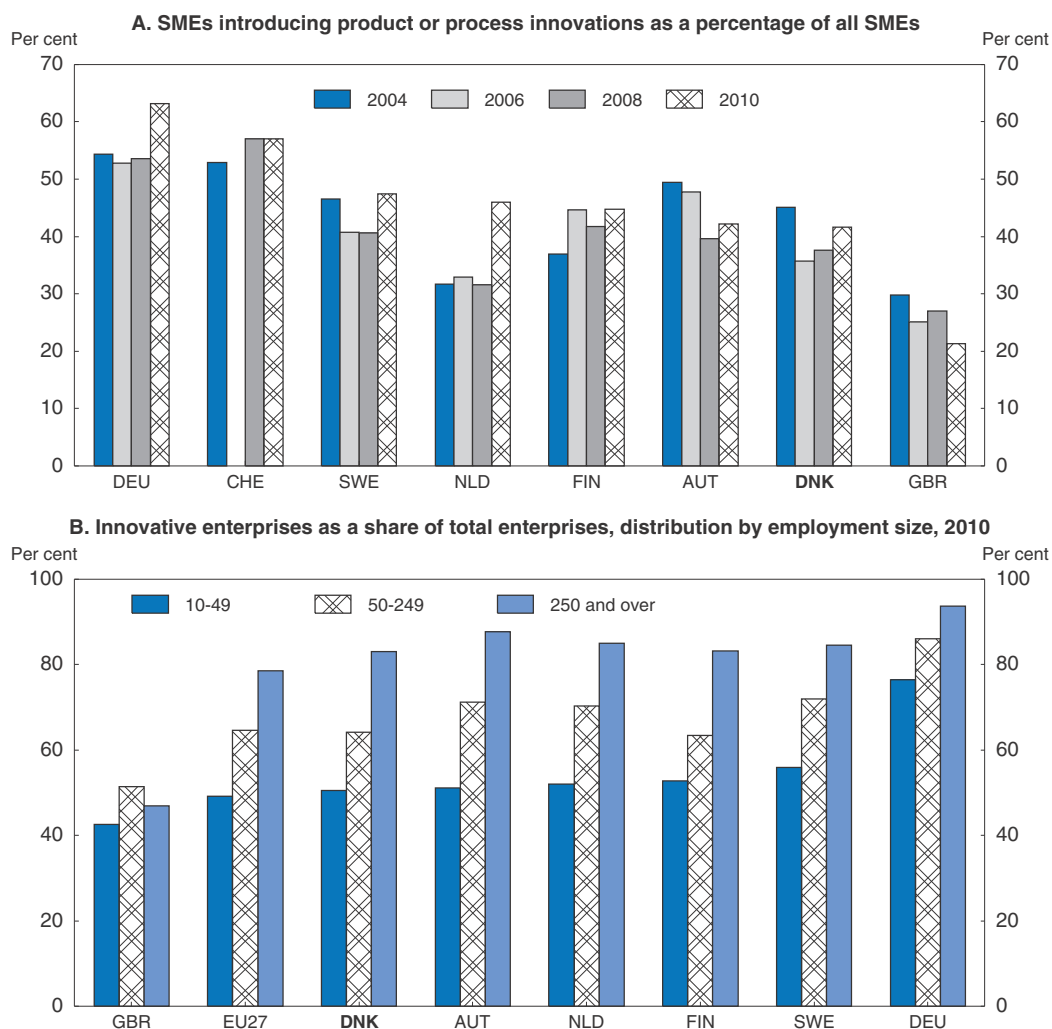
on productivity is not clear-cut, angel investment can be useful, especially for young firms with little track record and collateral (OECD, 2011). With their lower cost structures compared to venture capital funds, angel investors can make smaller investments and spread out more geographically (Mason, 2009). Angel investors and venture capitalists also provide other benefits to SMEs beyond funding, including business expertise on commercialising an invention and creating connections that will facilitate an eventual sale. Specific measures such as co-investment funds and tax incentives have helped to successfully develop business angel networks in some other countries, but they also have drawbacks (OECD, 2011). Continuing efforts to foster a more entrepreneurial culture and improve the training of angel investors would contribute to developing business angel networks, thus also helping to address young firms' funding difficulties.

Facilitating SME growth and internationalisation


As in other OECD economies, SMEs account for a very large share of firms and employment. Their capacity to innovate, develop new products and attract skills is therefore central for the competitiveness of the Danish economy and productivity growth. The innovation activities of Danish SMEs are comparable to their Nordic peers, but below Germany's. Since the beginning of the global economic crisis, their access to funding has been hampered and they have introduced fewer marketing and organisational innovations (Figure 1.17).

Promoting high-growth firms and entrepreneurship

A sign of entrepreneurial dynamism is the prevalence of both high-growth firms and young high-growth firms (gazelles), but in this respect Danish performance is not very strong. The share of high-growth firms decreased from 6% in 2008 to 2.5% in 2010. In 2009, 0.43% of all enterprises in manufacturing were gazelles and the average number of jobs created by gazelles between 2006 and 2009 was also relatively low in Denmark compared to its Nordic peers (Table 1.5). Furthermore, the share of gazelles that grows and reaches 50 employees, at 20%, is much lower than in Finland (48%). High-growth firms in Denmark face three main challenges: access to finance, ability to attract foreign high-skilled labour (see also Chapter 2), and entrepreneurial culture (Nordic Innovation Centre, 2012). The

Figure 1.17. **Innovation by small and medium enterprises**

Source: European Commission, *Innovation Union Scoreboard*, 2013; Eurostat, *Community Innovation Surveys*.

StatLink  <http://dx.doi.org/10.1787/888932980412>

Danish government has focused on strengthening the entrepreneurial environment and access to finance (see above) in order to foster the creation of high-growth firms, but there remains scope to improve their number and performance.

Improving framework conditions by enhancing competition and openness to FDI, easing access to finance and streamlining innovation policies, as discussed above, would foster the development of high-growth firms (OECD, 2010). In addition, there is a need to have certain policies targeted at these firms to address their specific needs. Cross-country analysis including Denmark shows that young and foreign-owned companies are more likely to be high-growth firms. In 2007, five Business Development Centres (*Væksthus*) were established to promote entrepreneurship and high-growth firms.

According to a recent study benchmarking policies for high-growth SMEs, the Danish system does well (OECD, 2013f). The Business Development Centres are generally well-designed and cover companies of all ages, industry and location (Lilischkis, 2011). A recent evaluation shows that enterprises using the Danish Business Development Centres

Table 1.5. **Gazelles in Nordic countries**¹

	Number of gazelles, ² 2009	Share of gazelles that grow to reach more than 50 employees, 2009	Number of jobs created by gazelles, 2006-09	Number of gazelles, 2006-09	Average jobs created per gazelle, 2006-09
Norway	0.87	38	10 594	214	50
Sweden	0.70	25	8 447	206	41
Finland	0.56	48	7 617	93	83
Denmark	0.43	20	2 800	84	33

1. Gazelles are defined here as enterprises that have been employers for up to five years, with average annualised growth in employees greater than 20% a year over a three-year period and with ten or more employees at the beginning of the observation period.

2. As a share of enterprises with 10 or more employees.

Source: Nordic Innovation Centre (2012), *The Nordic Growth Entrepreneurship Review*, Report No. 25.

perform better than those who do not (Danish Business Authority, 2013). However, even the firms receiving assistance do not reach the goals of achieving at least 15% higher growth in employment and turnover and at least 10% higher growth in exports than other firms in the region.

There is scope to improve some of the characteristics of the Business Development Centres. The number of services and advisors offered may be too large, making the system overly complex. Some regulations prevent Business Development Centres from providing support to firms for successive years (OECD, 2013f). Nonetheless, the longer-term effect of these services should be monitored more closely.

Barriers to entrepreneurship, including regulatory and administrative opacity and burdens on start-ups, are low in Denmark. As a result, start-up rates are high, around 10-12% as a percentage of all registered firms. Despite the sound conditions for entrepreneurship, the entrepreneurial culture in Denmark is not as supportive for high-growth firms as in the United States, Canada, and other Nordic countries (Nordic Innovation Centre, 2012). The Global Entrepreneurship Monitor indicates that entrepreneurship is not regarded as a good career choice in Denmark in a comparative perspective. According to recent surveys, 28% of respondents prefer to be self-employed in Denmark compared to an EU average of 37% (European Commission, 2012).

Denmark ranks 25th amongst OECD countries in terms of self-perceptions of entrepreneurial capabilities (OECD, 2012b). In 2010, the Danish Foundation of Entrepreneurship was set up to improve entrepreneurship education and competence. Despite these efforts, the supply of entrepreneurial skills and capabilities remains a barrier to entrepreneurship, with 21% of survey respondents citing lack of skills as the largest barrier, much higher than the EU average (OECD, 2013g). Efforts to foster a more entrepreneurial culture through the education system and the media should continue.

Denmark also lags behind in terms of female entrepreneurship (Global Entrepreneurship Monitor, 2012). The share of exporting firms founded by women is lower, at 15%, than the 20% average of several OECD countries (OECD, 2012b). One reason is women's more than proportionate representation in the public sector compared to other OECD countries (OECD, 2012c; Nordic Innovation Centre, 2007). Some initiatives were launched as part of the Danish national action plan to promote women entrepreneurs between 2009 and 2011. The Danish Business Authority has set up a web portal to support the creation of networks for women, but the participation of Danish women in new

enterprises remains below that of Sweden and the Netherlands. Efforts to encourage female entrepreneurship should continue, for instance with a specific focus on women entrepreneurs at universities to address cultural barriers and stereotypes about the role of women in society.

Increasing internationalisation further

While SMEs are more internationalised in Denmark than in the European Union at large, there is potential for more Danish SMEs to expand their export destinations from European to more global markets. The increasing role of KBC creates new challenges for innovation, entrepreneurship and SME policies for many countries (OECD, 2013h; Cox and Rigby, 2012). In order to address these challenges, it is important to better co-ordinate policies specifically targeted to SMEs, entrepreneurship policies and innovation policies.

The *Vitus Growth* export programme, run by the Trade Council, is meant to facilitate Danish SMEs' access to international markets. Moreover, several initiatives were launched following the onset of the global economic crisis with the same objective. A temporary scheme for short-term export credit guarantees to EU and OECD countries was established and extended until the end of 2015. A guarantee facility that specifically targets SMEs was created. A working capital scheme was introduced and made permanent in 2012 to help Danish firms access credit. These initiatives are useful, but an explicit overall internationalisation strategy for SMEs may be called for.

SMEs may face barriers in their involvement in FDI, given their limited financial, managerial and information resources. The Ministry of Business and Growth is currently working on improving the access of Danish SMEs to FDI, particularly from other EU countries. The 2013 *Growth Plan* features various initiatives, including lower corporate taxation, to create a more attractive business environment that can increase the ability of Danish firms to attract FDI. The Innovation Centres offer various consulting services on access to venture capital and investors, an overview of foreign competency clusters and networks, as well as access to suitable research and innovation partners to aid Danish innovative companies that wish to expand their business globally.

Clusters can contribute to improving the capability of businesses, especially SMEs, increase external linkages in terms of FDI and exports by building up a skills base, increase links between research and industry, improve access to finance and more generally create spillovers (OECD, 2007). However, the effects of clusters depend on a number of factors, including the industry, stage of development and location (Uyarra and Ramlogan, 2012; FORA, 2011). Studies on Danish clusters show that participation in clusters increases the probability to innovate by over 4.5 times and the probability to collaborate in R&D projects by four times (Danish Agency for Science, Technology and Innovation, 2011).

In April 2013, a new cluster strategy was launched to improve framework conditions for innovation and knowledge sharing, with a view to expanding clusters. It includes the establishment of a forum to increase collaboration in cluster development at local, regional and national levels and the strengthening of international activities of clusters (Ministry of Science, Innovation and Higher Education, 2013). This is in line with earlier OECD recommendations to improve cross-regional opportunities to build critical mass (OECD, 2012d). However, to maximise the effect of clusters on international activities of SMEs, special attention should be paid to sectoral needs in the implementation of the new cluster policy (Lämmer-Gamp et al., 2011).

Box 1.5. Recommendations to foster competition, innovation and entrepreneurship

Enhancing competition

- Assess the impact of the regulations of professions and remove those that hamper competition and are not fully justified by other objectives. Harmonise national standards that hinder foreign firm entry with international ones. Relax ownership regulations and zoning and size regulations for stores.
- Simplify the legislation on public procurement and increase the use of e-procurement to lower transaction costs and make the process more uniform.
- Continue to open network industries, especially the rail passenger system, to competition.
- Streamline the institutional set-up of the authorities in charge of competition, while implementing closely the new Competition Act.

Promoting innovation and entrepreneurship

- Evaluate the recent merger of different innovation funding programmes and if needed, consider further streamlining innovation policy instruments and funding programmes after a thorough evaluation of the system.
- To support young and dynamic firms, further extend carry-over provisions and cash refunds in R&D tax credit programmes or increase direct support.
- Move towards a more balanced mix of project and institutional based research funding with the objective to increase the links between universities and industry.
- In the design of demand-side innovation policies, ensure sufficient competition and facilitate SME participation. Carefully evaluate these policies.
- Evaluate the effectiveness of the government loan guarantee schemes for SMEs in a unified and transparent manner and gradually withdraw those that are not economically efficient.
- Improve angel investor networks to increase the opportunities for early-stage financing of firms by continuing efforts to foster a more entrepreneurial culture and improving angel investor training networks.
- Streamline the services provided by Business Development Centres and monitor closely their long-term effects.
- Further enhance the entrepreneurship culture, including amongst women, through the use of the media and the education system.
- Consider developing an explicit internationalisation strategy for SMEs. Ensure that the new cluster strategy policies are tailored to the needs of different industries.

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ANNEX 1.A1

Denmark's innovation strategy

In December 2012, the Ministry of Science, Innovation and Higher Education launched an *Innovation Strategy*, with a view to create new jobs and growth through 27 initiatives in the areas of research, innovation and education. The *Strategy* has three main focuses: innovation driven by societal challenges, translating more knowledge into value and education to improve knowledge capacity.

Innovation driven by societal challenges

- Implement a restructuring of the Danish councils for research and innovation.
- Restructure the “Business Innovation Fund” to turn it into a “Market Development Fund” to support the introduction of innovative solutions to the market, including green and welfare solutions.
- Strengthen Danish participation in European innovation efforts.
- Establish “INNO+”, a solid, professional basis for prioritisation of innovation policy.
- Establish a model for societal partnerships on innovation.
- Initiate pilot partnerships on innovation in 2013.
 - a) Pilot partnership on sustainable and efficient pork production.
 - b) Pilot partnership on better use of alternative water sources.
 - c) Pilot partnership on innovative climate adaptation solutions.
 - d) Pilot partnership on the development of an intelligent energy system.
- Produce a national strategy for Danish participation in EU programmes.

Translating more knowledge into value

- Support more professional clusters and networks.
- A collective programme for knowledge-based innovation in SMEs.
- Prioritise R&D that supports Danish production.
- Establish a “start-up pilot” to provide financial and advisory support to graduates wanting to work on a business idea, develop their entrepreneurial skills, and start their own company.
- Establish three new international innovation centres.
- Implement a simplification package for all public innovation schemes.
- Increase the critical mass and gather competences in fewer innovation environments.

- Strengthen knowledge co-operation and innovation in education through recognition and attractive career paths for researchers and educators.
- Strengthen the framework and documentation for knowledge co-operation.
- Strengthen commercial access to knowledge.
- Promote co-operation with companies on practice-oriented innovation.

Education as a means to improve innovation capacity

- Increase practice-elements at all education levels to support innovation.
- Support innovation in the education of teachers and educators.
- Provide support to talented students.
- Create a cohesive primary school system to promote talented and independent students.
- Strengthen the build-up of competences in innovation and entrepreneurship in vocational education.
- Strengthen the innovative and business-oriented competences of PhD students.
- Develop new learning targets, and forms of teaching and exams.
- Implement an innovation competition for students in primary and secondary education.
- Strengthen the integration of innovation and entrepreneurship in education programmes.

Chapter 2

Making the most of skills

Surveys suggest that Denmark ranks close to or slightly above the OECD average in terms of student and adult skills, even though Denmark spends more than many OECD countries on education, labour market policies and adult learning. Sluggish productivity growth over the past two decades raises the question of how to develop better skills and use them more efficiently to achieve stronger and more inclusive growth. Improving the performance of compulsory and tertiary education would help all students acquire the right skills. Ensuring adults upgrade their skills is another key challenge, which involves strengthening the adult learning system. Reforms of taxation and of the wage setting system in the public sector would promote a better allocation of skills economy-wide. Finally, to activate skills more broadly, reforms to raise labour market participation should continue and the efficiency of active labour market policies will have to be increased further.

With free and broad access to education, a long tradition of active labour market policies (ALMPs), and a well developed adult learning system, Denmark can be expected to harbour a rich set of skills. High participation and employment rates of both women and men suggest that these skills are largely used in the economy and have contributed to growth as well as to the sustainability of the welfare system. Nonetheless, mediocre productivity growth since the 1990s raises the question of whether the country could develop better skills and use them more efficiently to achieve stronger and more inclusive growth.

The links between skills and growth are complex. Demand for cognitive skills has increased in recent decades, while demand for skills involved in routine tasks has declined and low skills have tended to be reallocated into services as a consequence of technological change and globalisation (Autor et al., 2003; Goldin and Katz, 2007; Handel, 2012). It has been argued, however, that demand for high-skilled workers underwent a reversal in more recent years (Beaudry et al., 2013). For Denmark, the challenges are to develop the skills needed in an increasingly globalised world and thereby to move up global value chains (see Chapter 1; OECD, 2014). Non-cognitive skills also play a major role in economic performance, both directly and indirectly as a determinant of the accumulation of cognitive skills (Heckman and Rubinstein, 2001).

Overall, the extent to which skills will deliver growth and well-being depends on many factors, notably the lifelong effects of education (Heckman, 2000). The *OECD Skill Strategy* helps to better understand how to make the most of skills (OECD, 2012a). Strong education and labour market institutions are crucial to develop the right skills and allocate them efficiently but these institutions also have to adapt to new needs. As well, the tax system plays an important role by shaping incentives to acquire and use skills. This chapter first summarises the results of the new OECD Survey of Adult Skills for Denmark. It then turns to the policies needed to develop the right skills for youth and adults, focusing on education. The following section examines how skills could be better allocated in the economy. Finally, the chapter discusses policies to activate skills that are not fully used, mainly by raising participation in the labour market.

Assessing skills

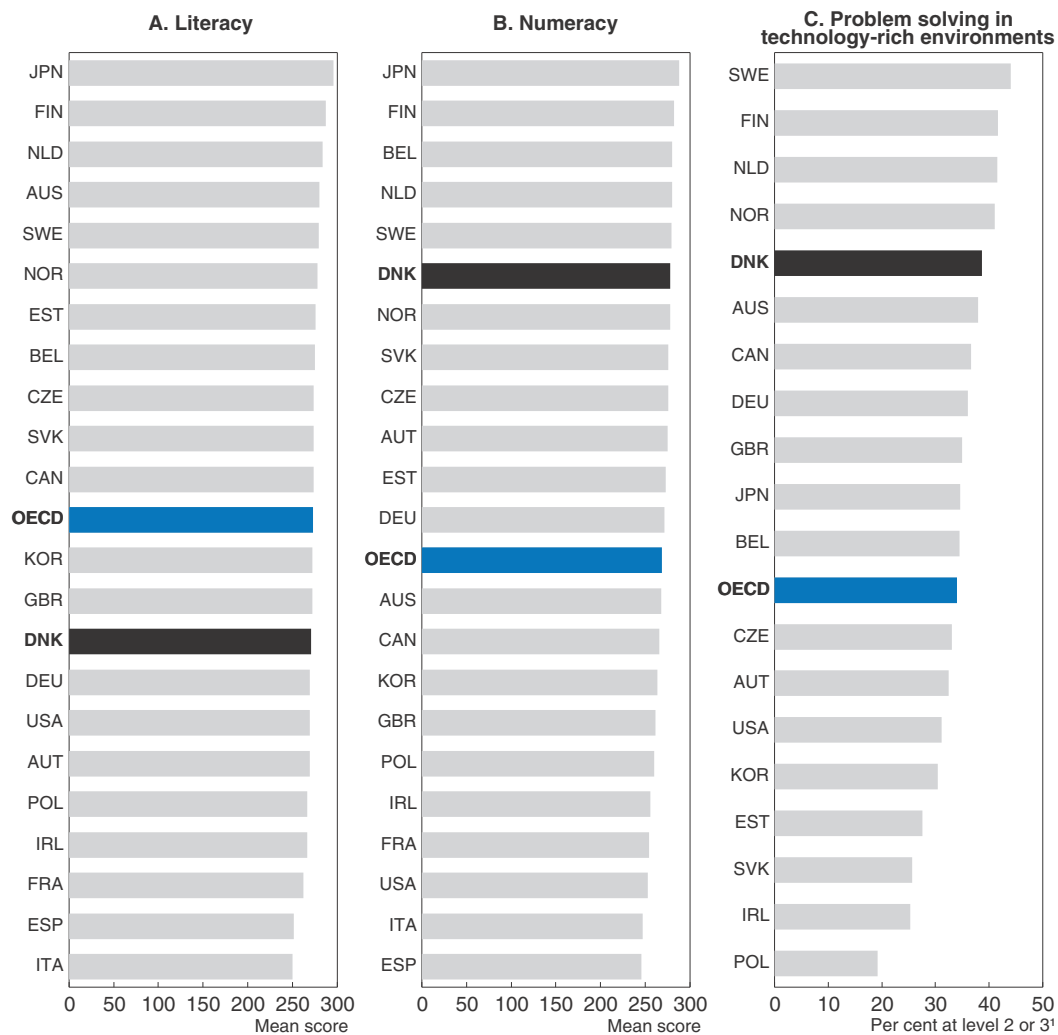
There have been a few national surveys of skills and a few cross-country ones (OECD/ Statistics Canada 2000, 2005). The more ambitious and comprehensive new OECD Survey of Adult Skills, as part of the Programme for the International Assessment of Adult Competencies (PIAAC), measures the key cognitive and workplace skills needed for individuals to participate in society and for economies to prosper (OECD, 2012b). The first results were released in October 2013. The survey covers adults aged 16 to 65 and involves a wide range of questions to assess literacy and numeracy skills and the ability to solve problems in technology-rich environments. These skills are considered as “key information-processing competencies” relevant to adults in many social contexts and

work situations, and are deemed necessary to fully participate in the labour market, education and training, and social and civic life. In addition, the survey collects information on how skills are used at work and in other contexts.

The survey leads to the following observations for Denmark, bearing in mind that the OECD average encompasses the 23 countries or sub-national entities that participated in the first PIAAC wave:


- Denmark ranks below the OECD average on the literacy scale and above for numeracy and problems solving (Figure 2.1). On all three scales, Denmark is below Sweden and Finland, which rank at the top.
- Low performers in reading and numeracy achieve high scores compared to other countries while high performers are not particularly good.

Figure 2.1. **Proficiency in key processing skills according to the OECD Survey of Adult Skills**



1. Levels 2 and 3 are the highest proficiency levels. France, Italy and Spain did not field the problem solving in technology-rich environments assessment.

Source: OECD, Survey of Adult Skills (PIAAC) (2012).

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- Despite a relatively high mean score on the scale of problem-solving using IT, the share of adults with low scores is relatively high.
- Youth aged 16 to 24 score below all adults and the OECD average on numeracy, and well below the OECD average on problem-solving using IT.
- The difference in literacy scores between natives and foreign-born exceeds the OECD average. While in most countries, the score of the foreign-born with more than five years in the country is higher than for those who have immigrated more recently, this is not the case in Denmark.
- Education and the level of education of parents tend to affect skill proficiency somewhat less than on average in the OECD. Individuals with tertiary education do not show a particularly high level of skills, their mean literacy score being below the OECD average, especially for youth. The mean literacy score of youth whose highest level of education is vocational upper secondary education is relatively low. It is relatively higher for those with general upper secondary education.
- Denmark has small gender differences in skill proficiency scores.
- Being part of the labour force is associated with stronger skills but not as much as in other OECD countries. The mean literacy score is slightly below the OECD average for employed and unemployed persons, and well below the OECD average for adults outside the labour force.
- At work, low-skilled workers tend to display relatively strong skills while high-skilled workers show relatively low skills. This is particularly true for literacy and “problem solving”. Overall, the difference in skill proficiency score between high-skilled and low-skilled workers is modest on all scales. It is also modest in Finland but large in Sweden and Norway.
- The survey allows qualification and skill mismatches to be measured. The incidence of both is relatively low.
- Denmark ranks high on the share of adults in adult learning programmes, including job-related adult education. This share is similar in Finland and Sweden.

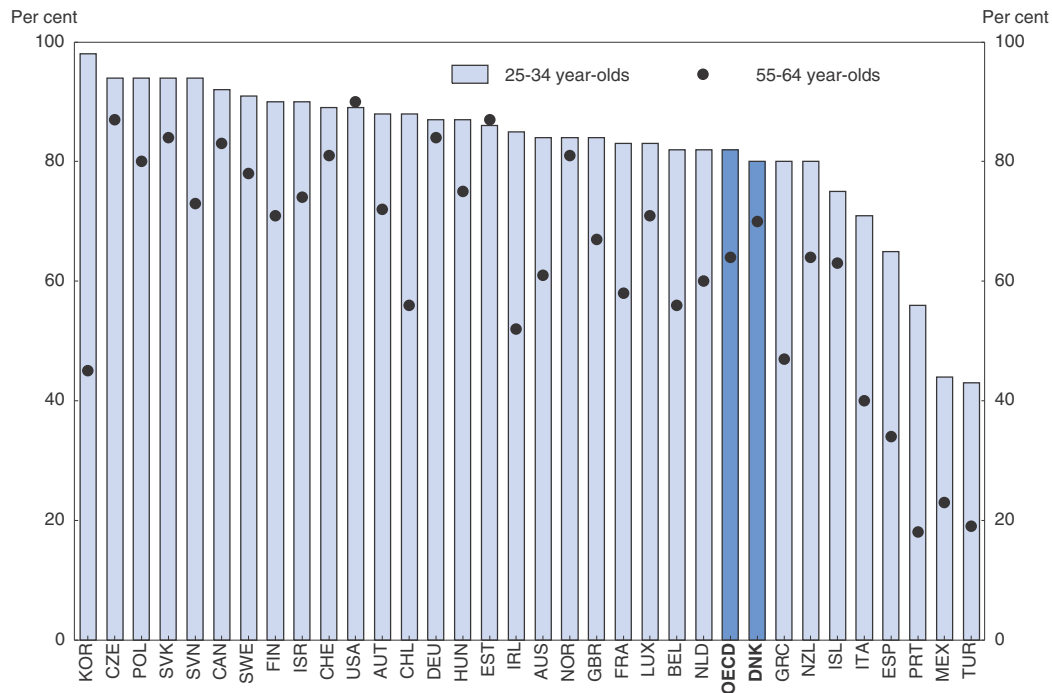
Further work will be required to better understand these results, but they seem to point to a number of problem areas. These include the integration of people with an immigrant background, the performance of the education system and in particular of upper secondary vocational education and tertiary education, and finally, the inclusion of more people into work. However, amongst adults with low literacy skills, substantial shares are employed (50%), below 45 years old (40%) or of Danish origin (70%), suggesting that the challenge of lifting skills is a population-wide one. Overall, with the skills of the adult population being close to the OECD average while spending on education, ALMPs and life-long learning is relatively high, there is scope to raise the efficiency of various policies and make the most of skills.

Developing skills

Raising the performance of primary and secondary education


In 2011, the share of the population with at least upper secondary education was below the OECD average for young adults, but above it for older adults (Figure 2.2). As upper secondary education provides the main basic skills to start to work or to continue with higher education, it is crucial to ensure that most youth complete it, especially when unemployment is high. Those who left education without completing upper secondary education are often in special need of acquiring additional skills. With the global crisis, the percentage of 15-24 year-olds neither employed nor in education or training (NEET) rose

Figure 2.2. **Upper secondary education attainment**
At least upper secondary education, percentage, by age group in 2011¹



1. Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained tertiary education or at least upper secondary education.

Source: OECD (2013), *Education at a Glance 2013*.

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from 5.0% in 2008 to 8.2% in 2012. Although the NEET rate remains below the EU21 average, its rapid growth is worrying. The government is now aiming at having 95% of each youth cohort completing upper secondary education in 2015 compared to 80% in 2011.

Average PISA results, which measure the competencies of 15-year-old students, are close to the OECD average on the reading and science scales and slightly above in mathematics. This performance is below that of Finland's but above those of Norway and Sweden. The share of students with weak proficiency levels is below the OECD average (Figure 2.3). That said, the share of high PISA performers is low and has remained broadly stable since 2006.

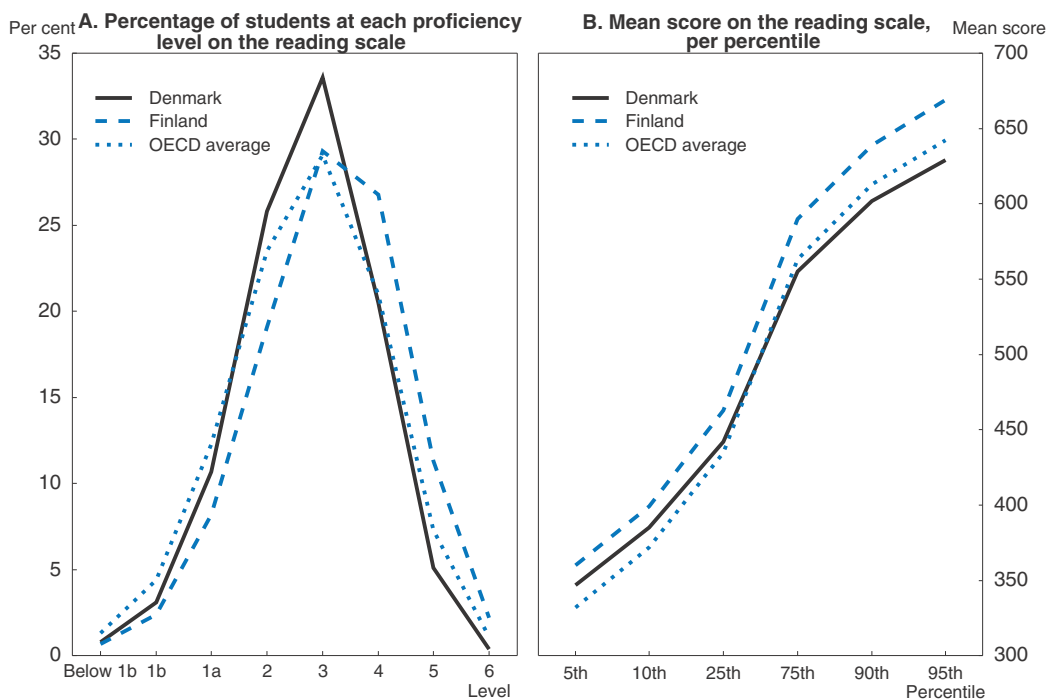
Students with an immigrant background do not perform well according to PISA results. Their mean score is substantially below those of natives, even for students of the second generation, and below the OECD average for comparable groups (Figure 2.4).

With public spending as a share of GDP or per student above the OECD average for all levels of education, a comprehensive education until age 16 and low grade repetition, this performance is somewhat disappointing. Raising the performance of compulsory education is one of the government's priorities. Policies to improve education outcomes have been discussed in various OECD publications including in a chapter on education in the 2009 *OECD Economic Survey* (OECD, 2009a; Shewbridge et al., 2011; OECD, 2010a). The main features that can be improved are the following:

- A good framework to assess students, teachers and schools is crucial to identify students with specific needs and underperforming teachers and schools, and to address these problems. For instance, Finland, which scores very highly on PISA despite a fall in


Figure 2.3. PISA results for Denmark and Finland

In 2012



Note: Panel A shows that the distribution of PISA scores among students in Denmark is slightly less unequal than that in the OECD, with fewer low performers and fewer high performers. The distribution of PISA scores in Finland is relatively equal, but with a higher mean. Panel B shows that in Finland, mean scores are above the OECD average for all percentiles, while in Denmark, they are close to the OECD average.

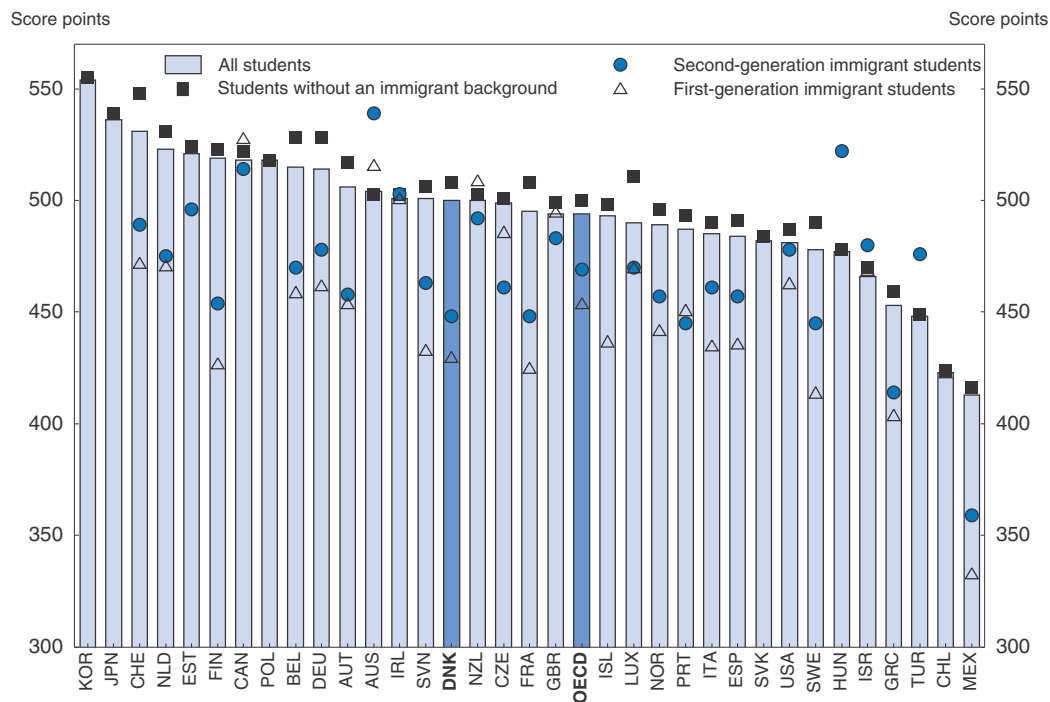
Source: OECD (2013), *PISA 2012 Results: What Students Know and Can Do: Student Performance in Mathematics, Reading and Science* (Volume I).

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the 2012 ranking, has successfully introduced a system in which students are tested regularly so as to adjust learning to their specific needs, even absent a strong national framework (Sabel et al., 2010). In Denmark, student testing has been largely developed at the national level with test results being available very quickly and the possibility to re-administer the tests to monitor student progress. However, these tests are not fully used by teachers and school leaders to identify students with specific needs, for two related reasons (Shewbridge et al., 2011): i) school leadership is relatively weak with school principals not seeing themselves as school leaders and not giving enough feedback to teachers to help them improve; ii) municipalities are responsible for schools but in practice they do not always take action when problems arise.


- OECD analysis suggests that school autonomy, especially in terms of curriculum and assessment, is positively correlated with PISA results (OECD, 2013a). School autonomy is high in Denmark in terms of curriculum, but much lower in terms of personnel management. In particular, rigidities in teachers' employment contracts concerning the allocation of their working times between various activities has hindered reforms (Pluss Leadership and Molin, 2007). The number of teaching hours is relatively low in Denmark (Figure 2.5).
- In Denmark, all teachers have a tertiary non-university diploma and the duration of initial teacher-training programmes is relatively long. However, the number of

Figure 2.4. **Learning outcomes for immigrant and native students compared**
Average on the mathematics scale, PISA 2012¹



1. Only includes countries with at least 3% of students in each category.

Source: OECD (2013), PISA 2012 Results: Excellence Through Equity: Giving Every Student the Chance to Succeed (Volume II).

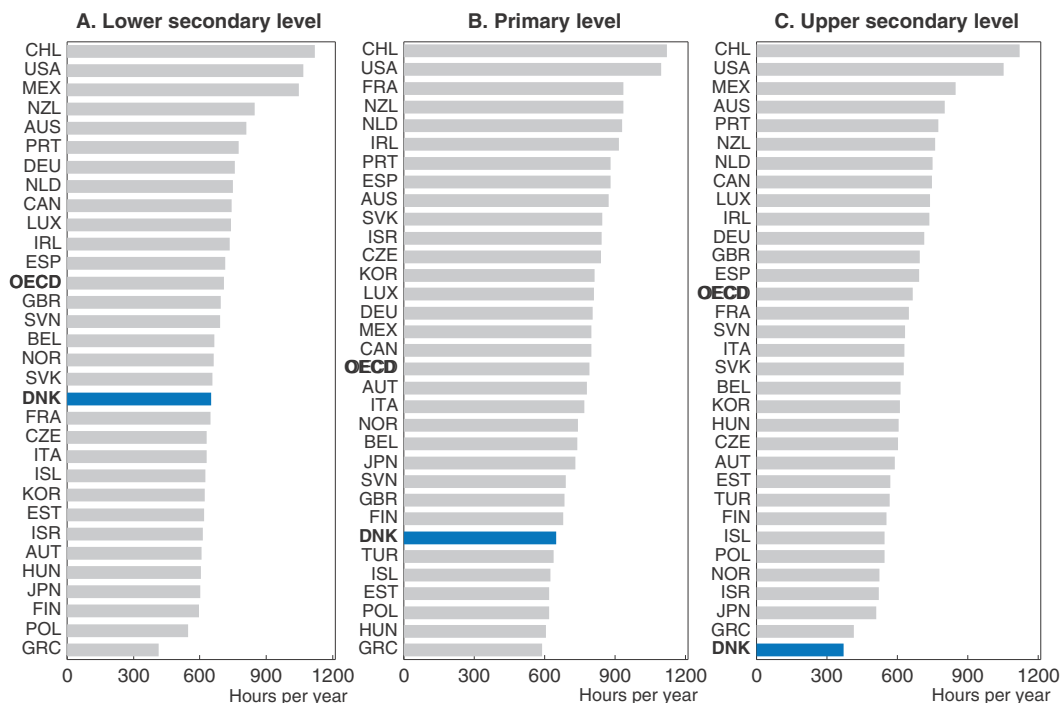
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applicants to teacher colleges has declined and in practice education programmes admit almost all applicants (Reimer and Dorf, 2011). In addition, the level of students at the entry of teaching programmes, measured in terms of grade point average at the end of upper secondary education, has deteriorated sharply since 1990. By contrast, education programmes are highly selective in Finland. The content of education programmes for teachers in Finland is strongly research-based and includes a lot of pedagogical education compared to the Danish one (OECD, 2010b). The status of teachers is relatively low in Denmark, even if salaries (relative to GDP per capita) are close to or above the OECD average (depending on the level of education) and significantly above those in Finland.


Against this backdrop, the government introduced a comprehensive reform of compulsory education in June 2013. It is being implemented with the help of a group of 40 consultants, who are expert teachers or school leaders and will advise schools and municipalities on how to improve the quality of education. The main elements of the reform are:

- A longer and more varied school day. The number of lessons is increased, especially in mathematics and Danish. In addition, schools will offer other activities including special help for needy students. While the framework sets the number of hours in each discipline for each level of education, school leaders now have the responsibility to organise school days and extra activities. The rigidities in the teachers' contracts concerning the organisation of hours worked have been reduced.

Figure 2.5. Number of teaching hours per year, by level of education

Net statutory contact time in hours per year in public institutions by level of education in 2011¹

1. Countries are ranked in descending order of the number of teaching hours per year in lower secondary education. Source: OECD (2013), *Education at a Glance 2013*.

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- The goals of education are clarified and the assessment and evaluation framework is improved. There will be three main objectives: i) at least 80% of the students must be good at reading and mathematics in national tests, with a sub-target on the share of high performing students; ii) the public school system must diminish the impact of social background on academic results; iii) the well-being of students, as measured in surveys, should improve. The national tests will be improved to make them a better tool for teachers and the consultants will help and encourage teachers and school leaders to use them. In addition, the reform aims at improving transitions from lower to upper secondary education. In 2013, 17% of students in the tenth year of education did not achieve the so-called “mark 2” in Danish and mathematics. The objective is that all students achieve this level. This will be needed to attend vocational education, although other options are offered to those who fail to meet this requirement (see below). To increase transitions towards upper secondary education, the government also plans to bring forward (to the eighth year of compulsory education) the evaluation of students and to use the last two years of lower secondary education to better guide students, give them some knowledge of the labour market and improve their skills.
- The reform aims at increasing teachers’ qualifications. The target is that by 2020, all students in the public school be taught by teachers who have obtained main subject qualifications from their teacher education or similar qualifications from relevant professional development education. The required education level to enter initial teacher-training programmes is raised. Increased funding is allocated to adult learning and training for teachers and school leaders.

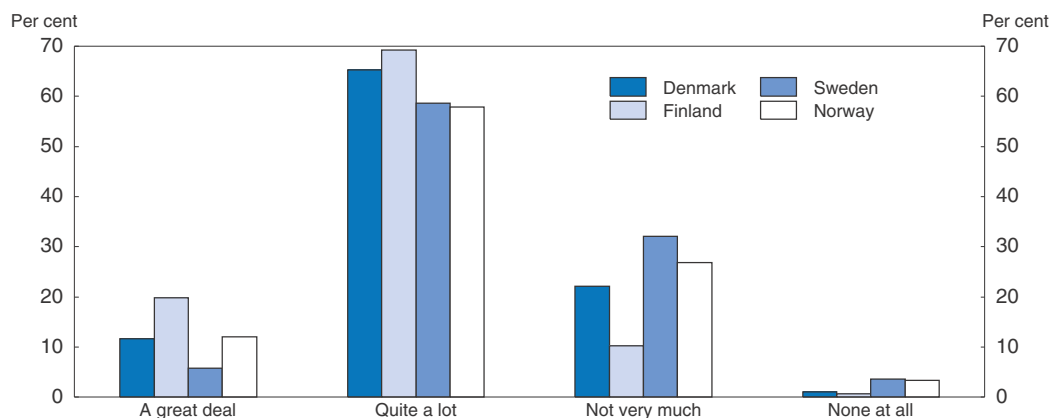
The reform is welcome as it has the potential to address many weaknesses of the education system. Raising the skills of teachers is an important challenge. Efforts to strengthen the teacher-training programme and to make it more attractive and selective go in the right direction but need to be closely monitored. Indeed, due to the existence of other paths to enter this programme, the effect of the change on the level of students has so far been limited and the number of applicants to these programmes has continued to fall in 2013 (Productivity Commission, 2013a). The government should introduce pilot university-based teacher-training programmes to improve career paths for teachers and make these programmes more attractive.

Efforts to strengthen the assessment and evaluation framework are also welcome. In the implementation of the reform, it is important to make sure that teacher and principal appraisal is fully part of the framework. Municipalities have a leading role to play in school evaluation and many of them need to develop the capacity to fulfill this task. In this respect, the use of financial sanctions, in the form of reduced grants, for municipalities with poor outcomes would help.

Overall, one of the main goals of reforms should be to raise trust in the education system. These would go hand in hand with measures to raise its performance, as discussed earlier. Exceptionally high trust in the system in Finland contributes to its success by attracting talented teachers and encouraging parents to follow the educational development of their children (Simola, 2005). In Denmark, primary school teachers' image with the public is not very good (Reimer and Dorf, 2011). Overall, 20% of the population doesn't trust the education system much in Denmark compared with only 10% in Finland (Figure 2.6).

Figure 2.6. **Confidence in the education system**

In 2011



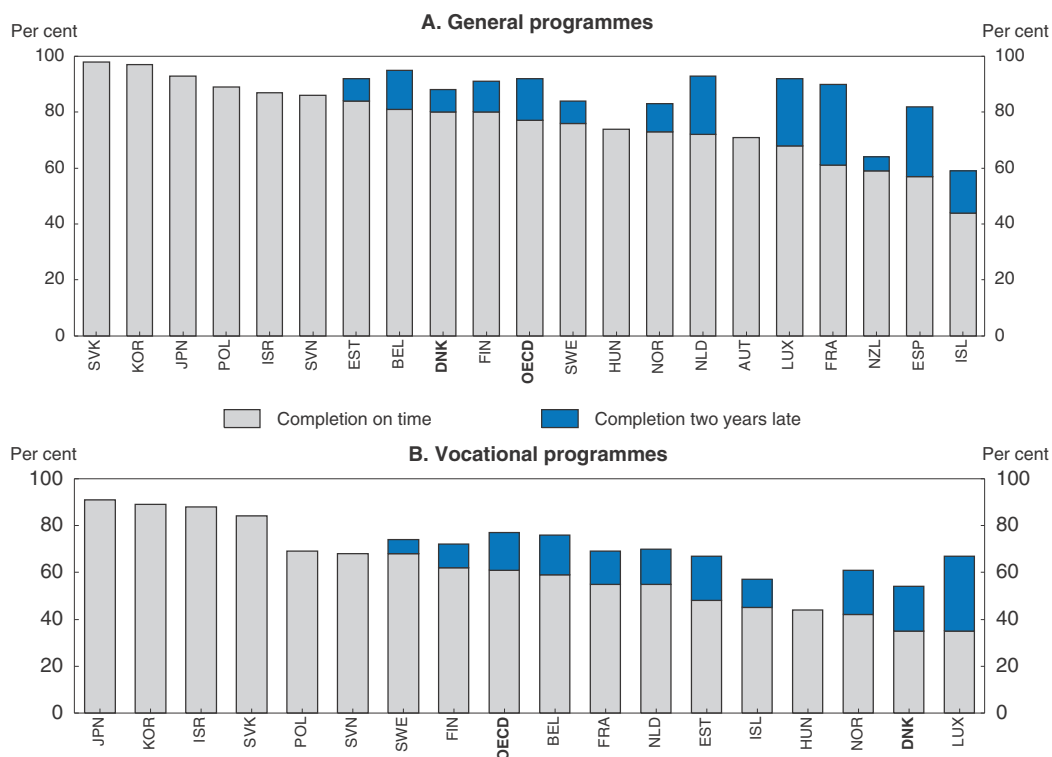
Note: Answers to the question "How much confidence do you have in the education system?".

Source: European Value Study.

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Further strengthening vocational education and training

One of the reasons for the relatively low graduation rates in upper secondary education is the high drop-out rate from vocational education. Even two years after the normal duration of vocational education programmes, only slightly more than half of the students have completed their programme and almost two-thirds of those students are not in vocational education anymore (Figure 2.7).

Figure 2.7. **Successful completion of upper secondary programmes**

Note: This figure shows the percentage of students who enter an upper secondary programme for the first time and who graduate from it in the theoretical duration of the programme (on time) and within two additional years. Countries are ranked in descending order of the successful completion of upper secondary programmes (after the theoretical duration of the programme).

Source: OECD (2012), *Education at a Glance 2012*.

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The vocational education and training (VET) system is an important pillar of upper secondary education, enrolling almost 20% of each youth cohort, although this share has declined over the past decade. The system aims at providing the technical skills needed for the labour market but also at helping students develop personal and social skills, such as independence and a co-operative spirit. Many of its features are best practice in international comparison (Box 2.1). However, the system has been facing two main challenges: a decline in the share of students who enrol in the system, accompanied by a deterioration in quality, and high drop-out rates (OECD, 2010c).

The challenges faced by the VET system reflect general problems that have emerged in many countries, such as the decrease in the demand for VET from students and a tendency to guide the weakest students to these programmes while global competition and technical progress require having both good general and specific skills (OECD, 2010d). Some youths drop out of VET because they lack sufficient basic skills or suffer from mental health problems. Students with an immigrant background are particularly likely to drop out. In addition, one of the reasons for dropping out is the inability to find a workplace, a problem that has been exacerbated by the economic crisis.

In 2012, the government appointed a committee to examine VET, which included employee and employer confederations, representatives of municipalities and regions, the Ministry of Finance and the Ministry of Children and Education. It first looked into the

Box 2.1. Main features of the Danish VET system

The Danish VET system includes a flexible and balanced mix of basic and vocational education and strong links with the labour market. Programmes consist in a basic (academic) and a main (practical) programme. Typically, the student will start with the basic programme of around half a year and then continue with the main programme for three years but various options are proposed including the possibility to start with practical education for students facing academic difficulties. For the main programme, the student has to find a training agreement with a company approved by the social partners. When undertaking the main programme, students alternate between training periods in the company and practical education at the college (the so-called “sandwich-type” programme). Overall, 50 to 70% of practical education takes place in a company. Almost all programmes include various steps to allow students to stop VET after having obtained partial qualification and resume later without losing time.

Social partners are strongly involved at various levels of the organisation of the VET system, which ensures close links between programmes and labour market needs. With school associations and other institutions, social partners are part of the Advisory Council for Initial Vocational Education and Training that monitors labour market needs and makes recommendations on the need to create new VET qualifications and to adapt existing ones, or to merge or reorganise programmes. In addition, they fund the trade committees that advise on the content, structure and evaluation of VET programmes at the sector level. Social partners sit on the boards of vocational schools. When new needs emerge in areas not covered by trade committees, the Ministry of Education can appoint development committees to investigate whether new programmes are required.

There are incentives for students and employers to find a balance between on-the-job and school-based education. Apprentice wages are set at the sector level through collective agreements and typically reach 40 to 50% of the minimum wage, depending on the experience and expected productivity of the worker. On the side of employers, there are various direct and indirect subsidies to apprenticeship although they are not fully predictable for the employer. All companies, both public and private, contribute to the Employers’ Reimbursement Fund by a fixed annual amount for each of their employees (in 2013, around 400 euros per year). In return, employers are reimbursed by the Employers’ Reimbursement Fund for the wage when the student is attending college. Reimbursements are relatively generous and may exceed the wage in some cases. In addition, some temporary bonuses have been introduced to raise incentives to propose training in times of crisis and to hire students who involuntarily lost their workplace. On the side of students, there are bonuses for youth who find a paid apprenticeship alone and the Fund also finances some of the costs of taking up a workplace abroad. When students attend school, they either continue to receive the wage or they may be eligible for a public grant if they have no paid workplace. Schools are free of charge.

issue of lack of workplaces for VET students. This was followed by a number of initiatives including higher subsidies to employers to take apprentices in fields for which VET places are limited, the development of practical work experience in VET centres as a substitute for firm-based experience, increased funding for teacher training and the continuation of the “Youth Plan” as part of the 2013 Budget Bill. The Committee then looked at how to raise the

quality of VET and make it more attractive to students, leading to the October 2013 reform of VET, whose main elements are as follows:

- To improve the level of students, selection criteria are introduced. Students with a minimum grade in Danish and mathematics at the final exams in lower secondary schools 9th or 10th class have direct access to VET. For other students, there are options to enter with passing a test in Danish and mathematics, personal interview and overall assessment. The 10th (optional) year of compulsory education will be used to prepare students for VET and help them meet the new eligibility requirements.
- To make VET more attractive to students, vocational education for youth below 25 will be separated from that for adults above 25 years old. The structure of VET is simplified with four main areas instead of 12 and a first year spent on basic courses. The area of vocational education will be chosen after one year. More high-level courses will be introduced to raise opportunities to move from VET to further education.
- Career guidance will be improved with the introduction of new flexible training programmes for youth who do not meet the requirements to enter VET and help them acquire basic skills and be prepared for an unskilled job. Efforts on guidance on transitions from lower to upper secondary education will be stepped up.
- To raise the quality of VET, the number of hours per student will be raised. There will be higher requirements for teachers on their vocational skills, and management development programmes for school leaders.

The reform is welcome and should be implemented as soon as possible. It will be important to closely monitor its impact to make sure that the attractiveness of VET is raised without increasing school failures among those who cannot enter VET. The labour market outcomes of the specific programme for those who do not fulfil the requirements to enter this type of education should also be closely monitored. In addition, some VET programmes should offer pathways to tertiary education.

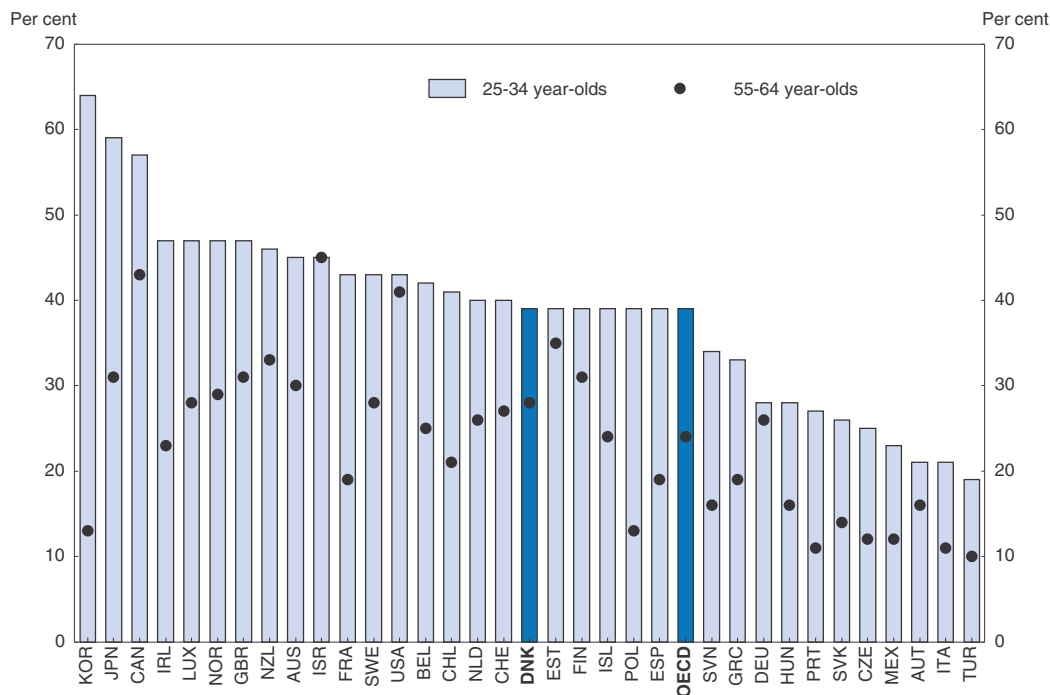
Ensuring that tertiary education nurtures the right skills

High tertiary attainment rates help to cope with the impact of globalisation and technical progress on skill needs. The share of the population with tertiary education has increased over the past decade and is at the OECD average for young adults and above for older ones (Figure 2.8). In 2011, half of the students were expected to complete theoretically-oriented tertiary education – well above the OECD average. However, graduation rates in advanced research qualifications (second stage of tertiary education) are not especially high, close to the OECD average and well below those in Finland and Sweden for instance. These results raise the questions of whether there are disincentives to continue and complete education and of how to improve the performance of the system.

Raising the incentives to invest in education and acquire the right skills


Estimates of the private returns to tertiary education in Denmark vary depending on the methodology and factors that are included. Using an approach in which the private internal rate of return (IRR) is computed as the discount rate equalising the benefits from education with its private costs, with benefits estimated through earning equations, the IRR of education has been found to be close to the OECD average for men and below the average for women (Boarini and Strauss, 2008). On the one hand, the direct cost of education is among the lowest in OECD countries, which boosts the IRR. On the other hand,

Figure 2.8. **Tertiary education attainment**
Tertiary education, percentage, by age group in 2011¹



1. Countries are ranked in descending order of the percentage of 25-34 year-olds who have attained tertiary education.

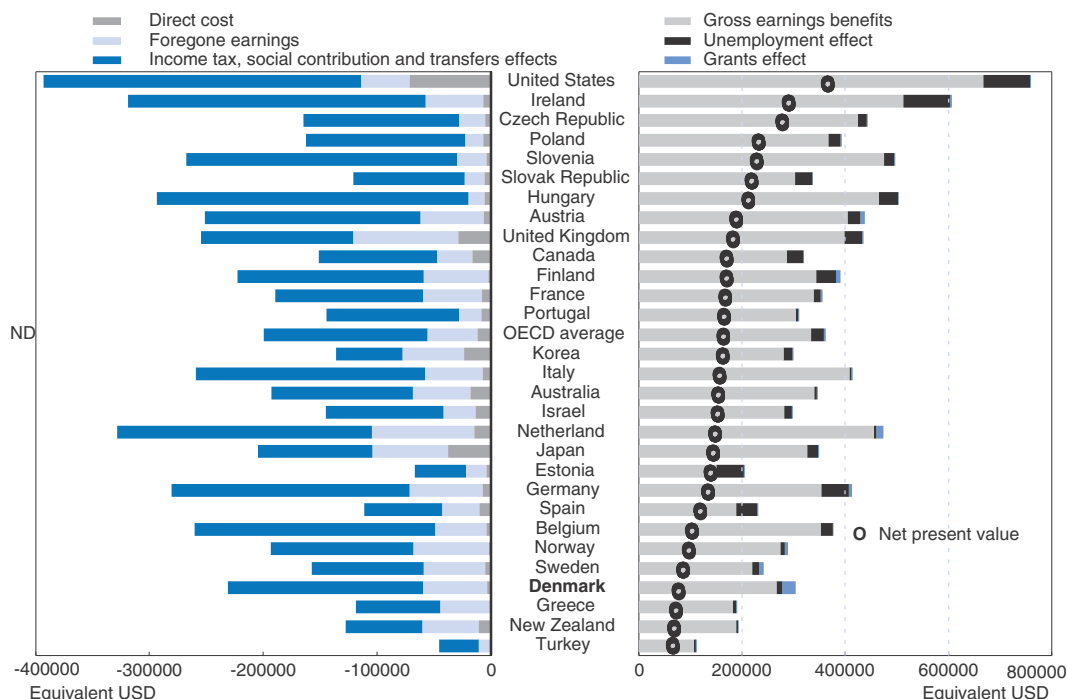
Source: OECD (2013), *Education at a Glance 2013*.

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the wage premium for education is moderate (Strauss and de la Maisonnette, 2007) while marginal taxes are relatively high, which lowers returns. The benefit of education in terms of a lower probability to be unemployed has long been low but has risen in recent years. The opportunity cost of studying depends on whether students work part-time or not. When they do, which is often the case in Denmark, the foregone earnings during education are lower and the IRR of education is higher. More recent estimates done at an aggregate level find a lower private IRR of education for Denmark, mainly because the wage premium is estimated to be low (OECD 2013b, Figure 2.9).

Overall, private returns to tertiary education are not very high in Denmark. The very generous grant system at least partly offsets the relatively low incentives to undertake tertiary education. In addition, the deterioration of the labour market in recent years will strengthen these incentives. Nonetheless, since attainment rates in tertiary education for young adults are not especially high, it is important to ensure that students face substantial incentives to continue their studies. The main factors that would lead to a higher IRR are an increase in the wage premium and a decrease in marginal taxes (Boarini and Strauss, 2008). It is not easy to raise the wage premium but there is room to continue to reform the tax system as discussed below.

The education and tax systems need to encourage students to choose fields of education that are in line with their abilities, to complete education in a reasonable time, but also to focus on high-return occupations. Free tertiary education associated with generous grants may not give strong incentives to students to make the best choices in these respects.

Figure 2.9. **Private incentives to invest in tertiary education**In equivalent USD converted using PPPs for GDP, in 2009 or latest available year¹

1. Components of the private net present value for a man obtaining tertiary education, ISCED 5/6. Countries are ranked in descending order of the net present value.

Source: OECD (2013), *Education at a Glance 2013*.

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The recent reform of the grant system limits the possible extension of public grants beyond the normal duration of the programme to one year (Box 2.2). The reform will give stronger incentives to students to take into account factors such as labour market outcomes and their own abilities when choosing their field of education, so as to limit the risk of failure. Introducing tuition fees would give higher incentives to students to make sure that the type of programme and area they choose will bring them a high return. Since raising the direct cost of education would increase the disincentives to undertake tertiary education, which are already relatively strong in Denmark, reforms should be gradual and parallel cuts in marginal income taxes. In addition, income-contingent loans and grant programmes should ensure that students from poor families continue to have access to tertiary education.

Raising the quality of tertiary education

There is currently no broad assessment of the performance of universities, though OECD work is ongoing in this area with the AHELO (Assessment of Higher Education Learning Outcomes) project. Existing rankings of universities focus on a restricted number of criteria. For instance, the Shanghai Jiao Tong University ranking rests on the number of alumni and staff winning Nobel prizes and Fields Medals, the number of highly quoted researchers and the number of articles published in significant journals. This ranking does not indicate the extent to which universities are good at developing the right skills, but rather how universities are competing on the international scene. It has the first Danish university (University of Copenhagen) in 44th place.

Box 2.2. The reform of the education grant system

In April 2013, the state grant system for tertiary education was reformed to speed up completion and thereby raise labour supply. The main elements of the reform are as follows:

- Students who begin their tertiary education more than two years after completing upper secondary education will only receive the state education grant for the official duration of their study programme.
- Students have to enroll for the exam in the six months following the end of the programme, lest they lose the grant.
- Universities will have to shorten the average duration of a programme by 4.3 months by 2020, otherwise their funding will be cut.

Over the past decade, the government has implemented various reforms to raise the quality and performance of tertiary education. They include the merger of institutions, the introduction of a new accreditation agency, changes in the management system of universities with the introduction of new boards with a majority of external members and a new University Act that increases the autonomy of universities. Higher education institutions have also extended the number of programmes and courses in English, which has helped to raise the number of foreign students and better compete in the international environment. In 2013, the government commissioned an independent review of higher education to identify further options to improve its quality.

Studies have shown that when universities compete for students, research funding and faculty, greater autonomy improves their performance (Aghion et al., 2008). The European Autonomy Scoreboard allows an assessment of the degree of autonomy of universities in European countries (Estermann et al., 2011). Danish universities enjoy a very high level of organisational autonomy, since they can freely decide the structure of their faculties and departments, and their governing bodies include external freely appointed members. Autonomy is also quite strong in terms of staffing. Danish universities have considerable leeway to recruit and dismiss staff though there are national regulations for salaries and promotion procedures. In terms of funding, their autonomy is also relatively strong although they can only charge tuition fees for non-EU students. However, academic autonomy is weaker. While universities can choose the language of instruction, some regulations set the minimum requirements to enter a university programme. Since 2013, there has been a switch from a system of accreditation of each individual programme, except in some areas, to accreditation of the institution as a whole, which raises academic autonomy.

The universities' funding system, the taximeter (Box 2.3), gives incentives to deliver output at the lowest cost, as funding is directly linked to the number of students who complete their programmes. However, this funding system can also lead universities to lower the standards and manipulate outcomes in order to achieve the expected performance. The system of indicators to inform students on some features of programmes, such as the number of courses and the labour market outcomes, is not well developed. The National Audit Office has recently questioned the quality of programmes in humanities and social sciences, showing that the number of teaching hours per student is very low in these fields: in 2010-12, a bachelor student in humanities received an average

Box 2.3. Funding of compulsory and tertiary education

The taximeter system determines the funding of upper secondary, tertiary and adult education (as well as of private primary and secondary education). It consists in taximeter “rates” that are applied to the activity of institutions. Students are free to choose their school and there are no tuition fees.

The taximeter directly links funding to activity to give institutions incentives to adjust their capacity to demand and to raise efficiency, and to ensure that resources are automatically transferred from programmes with declining activity to those with rising activity. Activity is measured by the number of enrolled full-time students for upper secondary education and by the number of students who have completed the programme for tertiary education. Taximeter rates depend on the field of education and are set by the government according to various criteria, including political priorities, teachers’ salaries and building and administrative costs. *Ex post* however, institutions are free to allocate the grant as they wish and can move funds from one area to another.

Universities do not receive compensation for students who fail or do not take exams. This gives them an incentive to limit drop-outs, which can be achieved either by raising the quality of education or by lowering the level of programmes and the requirements to complete them. The government has acknowledged the risk of decreasing quality as a consequence of an output-based funding system, and in 1992 established the Danish Evaluation Institute (EVA), which performs regular evaluations and accreditation of primary and secondary education and tertiary programmes depending on the Ministry of Education. Another accreditation authority (ACE) was created in 2007, as part of the European Bologna Process for tertiary programmes, under the Ministry of Science, Innovation and Higher Education. In 2013, ACE was put fully in charge of the accreditation of all tertiary programmes following the allocation of all tertiary education to the Ministry of Science, Innovation and Higher Education in 2011. However, a negative evaluation has no direct financial consequences for the institution, though in principle the Minister can intervene if performance is not improved.

To give incentives for timely completion, the government introduced a completion bonus in 2009 that is paid when students complete their study programmes within a specified period of time (prescribed study period plus one year for bachelor degrees and prescribed period of time for master’s degrees).

of eight hours of teaching per week and a master’s student five, even though taximeter rates were hiked in 2009. The Ministry of Science, Innovation and Higher Education has begun to develop indicators of the main features of programmes including the number of teaching hours and, in universities, hours of supervision including by researchers. The first results are expected in late 2014.

The institutional framework has been streamlined and now a single Ministry and a single agency are in charge of tertiary education (Box 2.3). However, the accreditation agency cannot intervene directly on the funding of institutions in case of a negative evaluation although in principle, the government can intervene if performance fails to improve.

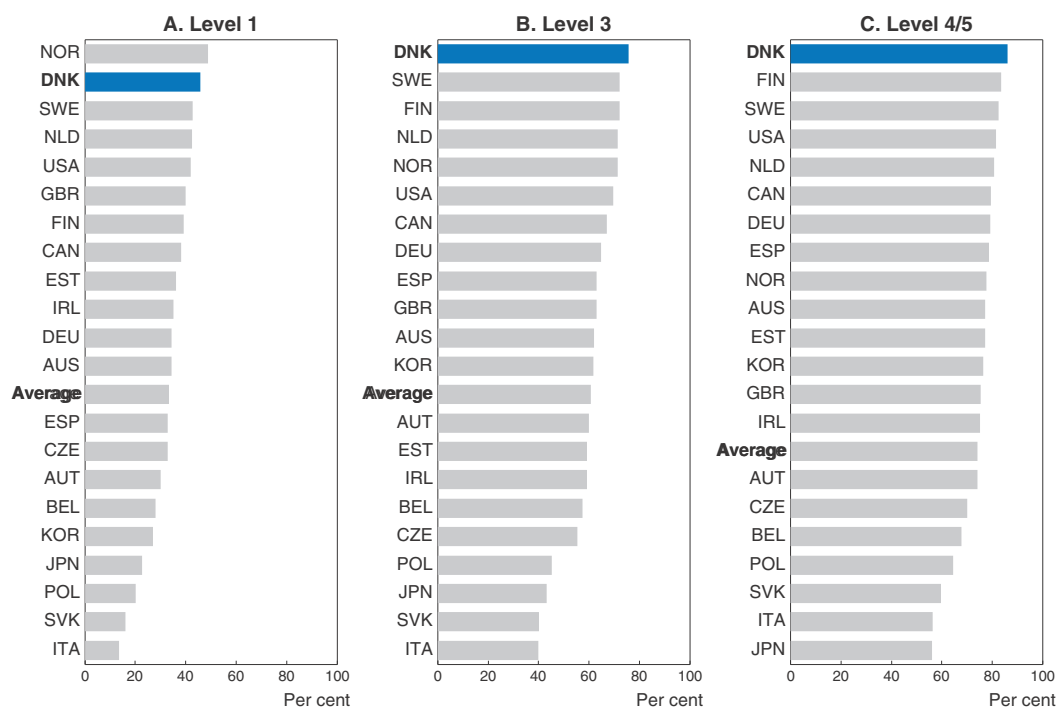
Reforms should further enhance universities’ academic autonomy while improving quality assessment and the control framework. There should be more requirements to publish indicators of the quality and performance of programmes and indicators should

also include the labour market situation of alumni while direct control of selection criteria could be relaxed. When programmes are identified as underperforming, there should be swift funding sanctions. The evaluation agency should have well identified tools to get tertiary institutions to improve. The government has decided to increase funding for humanities and social sciences. In return, there should be close monitoring of the quality of these programmes.

Adult learning is widespread

Adult education has a key role to play in helping workers cope with technical progress and globalisation. Denmark is one of the OECD countries that spends the most on adult education and participation in adult learning is high (Figure 2.10). As in many countries, higher skilled workers are more likely to receive adult education in Denmark, but a sizeable share of workers with low skills on the literacy scale participates in this type of education. Adult education is relatively widespread for older workers, but Denmark is one of the rare OECD countries where youth receive less adult education than the overall working age population (OECD, 2013b).

Figure 2.10. **Participation in adult education, by literacy proficiency level¹**
Percentage of adults who participated in adult education and training during the year prior to the PIAAC survey, by level of proficiency in literacy



1. Countries are ranked in descending order of the percentage of adults scoring at Level 1 (the weakest level) in literacy who participated in adult education and training during the year prior to the survey.

Source: OECD, Survey of Adult Skills (PIAAC) (2012).

StatLink  <http://dx.doi.org/10.1787/888932980602>

Adult education and training broadly follows the structure of initial education, and can be grouped into general (or “preparatory”), vocational, and post-secondary (or higher) education. Vocational education and training is the most widespread type of education for adults (Hummels et al., 2012). Vocational courses last two to three weeks, can take place on

the job, and cover firm-specific, industry- or occupation-specific materials. They take place during work hours and the government covers wages during training, while workers pay very low tuition fees.

Studies looking at the impact of adult education in Denmark have concluded that it has had mixed results overall, with some programmes having significant effects and other with no, or even negative, effects (Kristensen and Skipper, 2009):

- Overall, higher education programmes have better results, followed by vocational programmes. General (or “preparatory”) education programmes have small or negative effects. This finding is not very surprising as general programmes aim at raising the basic skills but are not expected to have a direct impact on employment and wages.
- The impact of adult education on employment (in terms of hours worked and the probability of moving from unemployment to employment over five years) is positive for vocational education proposed by firms and for higher education programmes but negative for general education programmes.
- Overall, training tends to increase the probability to stay with the initial trade. However, training leading to a certificate, such as a truck driving licence, increases job mobility, while training related to team-work increases the probability to stay with the firm.
- General education programmes increase the likelihood to continue with further education, which is not the case for other adult education programmes.

Identifying those who most need to receive adult learning is difficult. Overall, most workers need to receive some form of further education in their working life but some groups are in higher need. They include workers directly facing the consequences of globalisation through offshoring, workers with low initial education and those who have skills in areas where there is a lot of technical progress. Workers dismissed by offshoring firms ask for retraining at substantially higher rates than other displaced workers (Hummels et al., 2012). Another finding of this study is that for workers who stay within offshoring firms, training rises sharply. This suggests that training is indeed used by workers and firms to help them adjust to globalisation. However, the study also shows that adult post-secondary education, which in theory could help displaced workers changing occupation and sector, is not taken up more by displaced workers, both those affected and unaffected by offshoring, than the general population.

Since 2010, the government has been reforming the adult education system. The focus has been put on people with short or no education or vocational education and vulnerable groups such as some young adults. Non-formal education will play a smaller role while resources into the formal part, general and vocational education, will be increased to develop work-related skills. The government is also working on changing the institutional framework with mergers of institutions to streamline the overall system (OECD, 2012c). The government has started to improve the system of evaluation and recognition of prior learning that is crucial to identify needs and help participants to complete their education in a timely and efficient manner (Field et al., 2012). Finally, a taskforce has been established to improve the quality and quality control of these programmes, and additional funding has been allocated to these goals as part of the 2013 *Growth Plan*. These efforts should be pushed further, in particular to improve the quality control of which courses are followed by whom and why. In addition, the funding system should give incentives to educational institutions to recognise prior learning. Finally, teachers in vocational education should be given incentives to update their vocational skills.

Green skills

Denmark's green growth policies have already started to reshape the demand for skills and the labour market. As discussed in the special chapter on energy and climate change policies in the 2012 OECD *Economic Survey*, Denmark has taken measures to limit greenhouse gas emissions and other forms of pollution (OECD, 2012c; Jamet, 2012). These policies have spawned sizeable energy efficiency gains and helped diversify energy supply, with a growing role of renewables, especially wind. They create new opportunities but also challenges for workers, as demand for some existing skills will decrease while that for other skills will rise. The most polluting industries now account for a relatively low share of employment (11%), although high-skilled workers are still over-represented in these industries (OECD, 2012d).

The education system is responding to the shifts in the demand for skills (Cedefop, 2010a). Specifically, the Ministry of Education has taken initiatives to integrate climate and energy topics in the curriculum, from compulsory school to higher education, to raise awareness of green issues. Many VET and tertiary programmes have been adjusted to match the demand for skills related to green technologies.

However, for Denmark, as for many other EU countries, the main issue is general weaknesses in the skill base rather than shortages in green technology specialists (Cedefop, 2010b). Indeed, few specific green skills are required for a transition to a low carbon economy while there is a need for technical skills in the areas of science, technology, engineering and mathematics, and management. The recommendations made in the previous sections will therefore help to develop the right skills for a greener economy.

Many features of the Danish labour market will also facilitate the transition towards a low-carbon and resource-efficient economy. For instance, as a consequence of the flexicurity system, the mobility of workers in Denmark is higher than in many other countries. That said, gross worker flows data analysis shows that in Denmark, worker mobility is substantially lower in most polluting industries (OECD, 2012d). Raising the performance of adult learning but also of ALMPs (see below) will help workers adapt to this structural change.

Making good use of skills

For skills to translate into growth, they have to be efficiently allocated and used in the economy. Labour market institutions, work organisational practices, and the tax system, play a major role in this context.

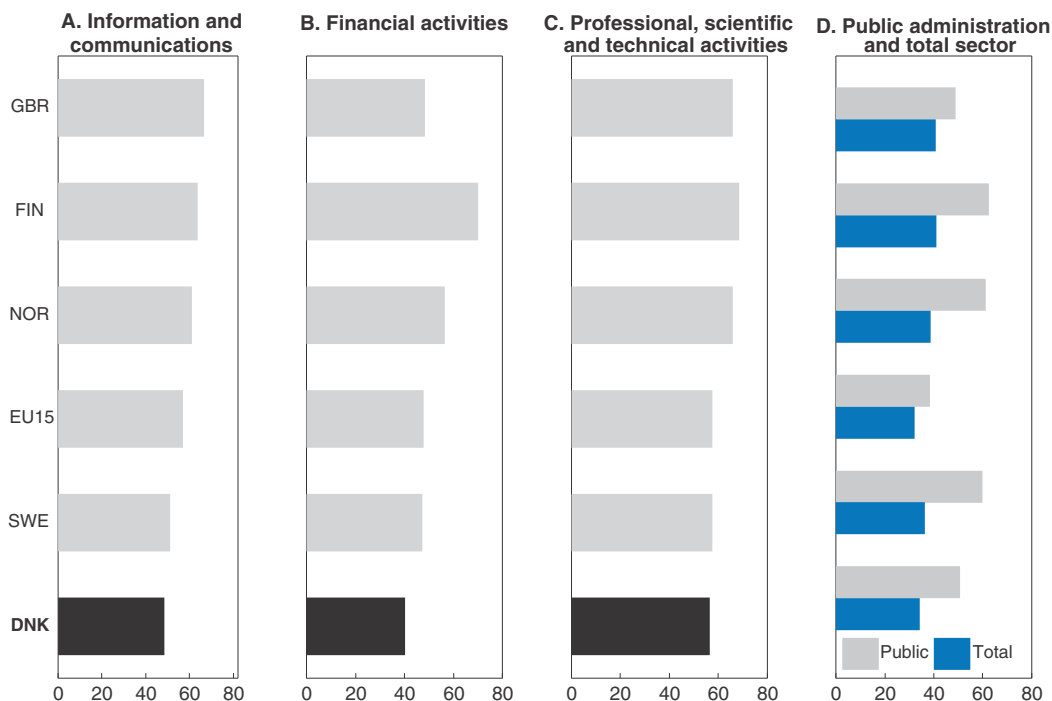
Evidence on the efficiency of the allocation of skills within the economy is mixed

Some recent studies covering many OECD countries including Denmark suggest that the reallocation of labour between firms within main sectors (manufacturing, services and ICT) does not generate much productivity growth. Over 2003-09, Bartelsman (2013) finds that the allocation of employment within industries has contributed only marginally to productivity growth in manufacturing, and negatively in the ICT and service sectors. Looking at 2005 and following similar methodology, Andrews and Cingano (2012) find that the actual allocation of employment has boosted labour productivity by around 30% compared to a situation where employment is allocated randomly across firms. This is much lower than in Sweden, Finland, Germany and Norway, for instance. However, these estimates are highly sensitive to the representativeness of the sample and the treatment of small firms, which makes international comparisons difficult (Productivity Commission, 2013b).


The allocation of high-skilled workers between sectors could shed light on these findings. Some service sectors are less intensive in high-skilled workers than in the EU on average or in other Nordic countries (Figure 2.11). Overall, Denmark has a slightly higher share of skilled workers than the EU average and a higher share of high-skilled workers in the public sector than in other Nordic countries. This finding also suggests that the allocation of skills in the economy could be improved.

Figure 2.11. **Share of high-skilled workers per sector**

As a per cent of total employees in the sector, 2012



Source: Eurostat.

StatLink  <http://dx.doi.org/10.1787/888932980621>

Participation in global value chains (GVC) reflects the capacity of a country to develop productive and competitive activities, but will also help it to become more productive (see Chapter 1). In all EU countries, the skill distribution of GVC workers has become more skewed towards higher skills than the overall economy skill distribution (Timmer et al., 2013). If participation in GVC is to deliver benefits in terms of growth, productivity and employment, high-skilled employment growth should be stronger in GVC sectors than in the rest of the economy. This would suggest that the country has realised employment growth in activities that are productive and relatively well paid in a highly competitive international environment. This has been the case in a limited number of countries including Sweden but not in Denmark, where high-skilled employment growth in GVC sectors has been the same as in the whole economy.

Sound work organisational practices help employees make good use of their skills

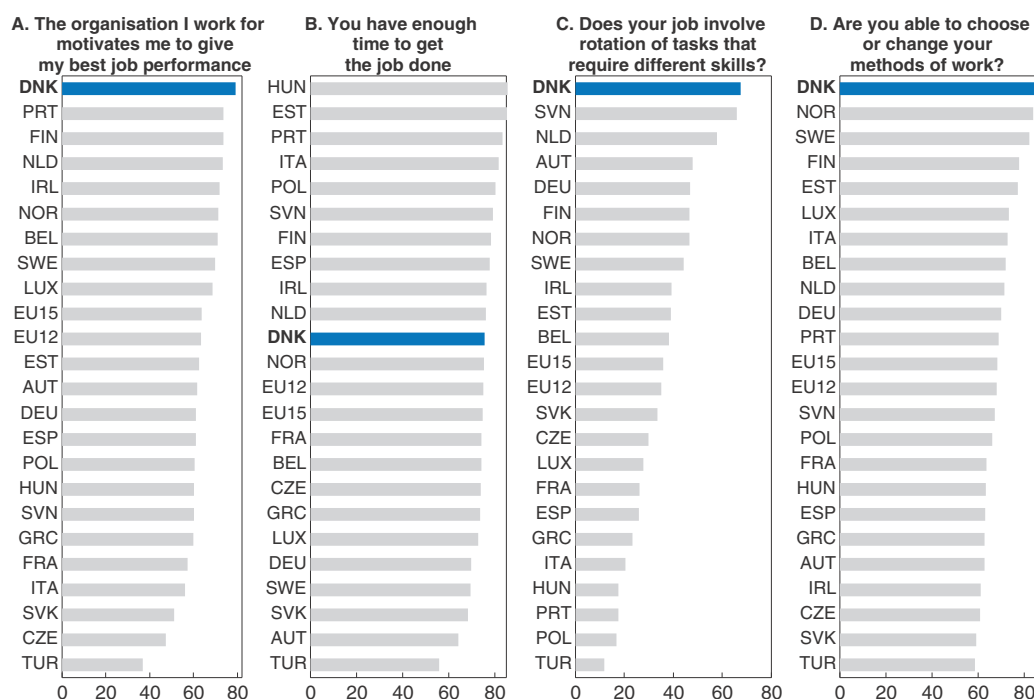
There is a vast literature on the links between work organisation, skills and productivity or firm performance. On the one hand, some types of organisation can help workers make better use of their skills, thereby improving firm performance

(Ichniowski et al., 1997). On the other hand, a highly skilled workforce helps to adapt the work organisation to technical progress, which in return favours the adoption or emergence of new technologies (Thesmar and Thoenig, 2000).

The European Survey on Work Conditions allows work practices and satisfaction to be compared across EU countries. Denmark ranks at the top on several indicators suggesting that work practices fully involve workers, give them some flexibility in the organisation of their work and help them to perform well (Figure 2.12). Studies show that the so-called *High-Involvement Work Practices System* that consists of workplace practices such as the active participation of employees in the work process and employee training and skill development, leads to higher employee and firm performance (Ichniowski and Shaw, 2009). Specific studies on Denmark also show that most workers benefit from such practices, which lower job turnover and thereby enhance firm-specific skill accumulation (Cottini et al., 2011). Finally, the OECD Survey of Adult Skills shows that both specific and generic skills are generally largely used at work in Denmark (Figure 2.13), which should help workers maintain or even improve their skills but should also bring greater job satisfaction.


Figure 2.12. **Working conditions and practices in some EU countries**

Per cent,¹ in 2010



1. Share of answers "I agree" to A and B statements and "yes" to C and D questions.

Source: 5th European Work Conditions Survey.

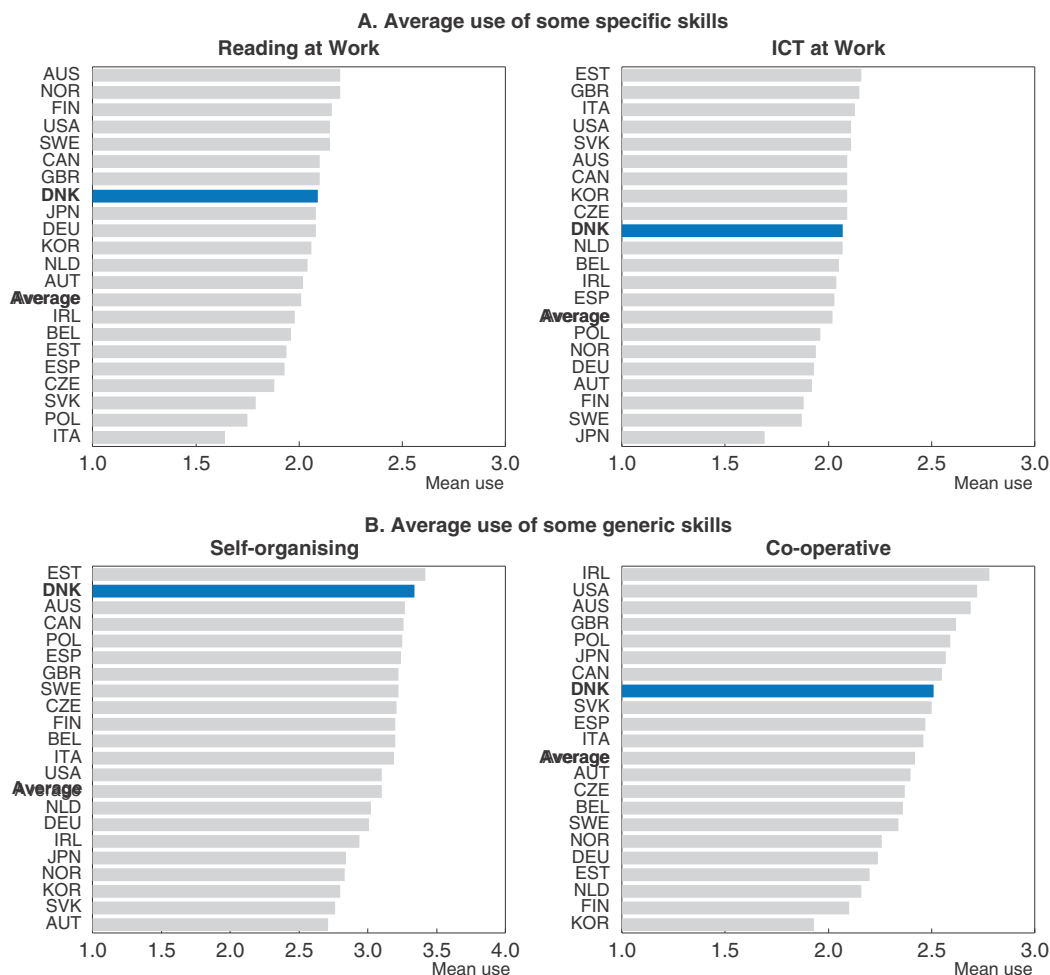
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Labour market institutions are broadly sound

Flexible employment protection legislation (EPL) helps firms adjust their labour force and adapt to rapid technological change (Bassanini et al., 2009). Firms may also be more willing to try out new technologies when the cost of adjustment in case of failure is low (Bartelsman et al., 2010). Low EPL, however, can lead to high labour force turnover and

Figure 2.13. **The use of skills at work**

In 2012



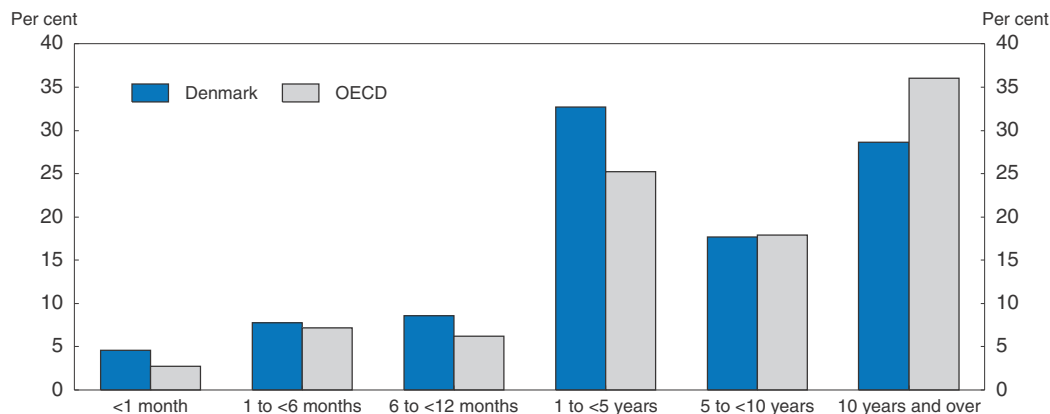
Source: OECD, Survey of Adult Skills (PIAAC) (2012).

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thereby hamper accumulation of skills on the job. In Denmark, a relatively large share of workers has a short job tenure (Figure 2.14). That said, easy access to adult education and training mitigates the risk of insufficient human capital accumulation. Overall, recent empirical evidence suggests that stringent dismissal regulations tend to reduce multi-factor productivity growth (OECD, 2013c).

Job protection for permanent contracts is about average in Denmark (Figure 2.15; OECD, 2013c). The notice period for no-fault individual dismissal and procedural inconveniences are on the stringent side, but severance payments and difficulties of dismissal (in terms of the reasons for dismissals and compensation and reinstatement in case of an unfair dismissal) are low. Additional provisions for collective dismissal are close to the OECD average. Overall, the legislation provides firms with substantial flexibility to dismiss workers, and workers with time to prepare in case of dismissal. Denmark still appears as a country with almost no difference in the intensity of EPL between permanent and temporary jobs, which implies that the risk of labour market dualism is very limited. Indeed the share of temporary jobs is low.

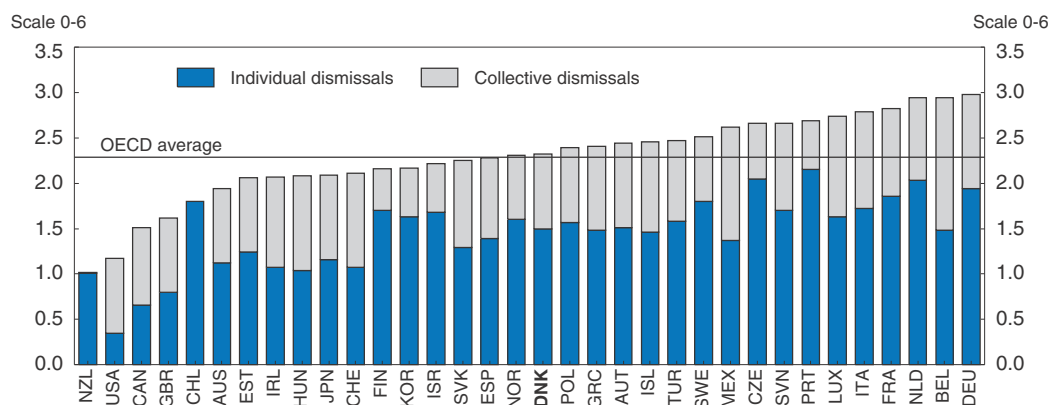
Figure 2.14. **Distribution of workers according to job tenure**
In per cent of total employment by type of duration in 2010



Source: OECD (2013), *Employment by Job Tenure Intervals Database*.

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Figure 2.15. **Protection of permanent workers against individual and collective dismissal**
In 2013



Note: The index scale is 0 to 6, from least to most restrictive.

Source: OECD (2013), *Employment Outlook 2013*.

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Non-compete clauses in employment contracts, which are not included in EPL indicators, aim at protecting firm-specific knowledge but can curtail the impact of the accumulation of human capital on productivity and economic growth. These clauses generally concern highly skilled workers. If used excessively, they may hinder the spread of know-how in the economy (Productivity Commission, 2013b; Box 2.4). These clauses are widely used in Denmark (Dahl and Stamhus, 2013). Once introduced in a contract, it is relatively easy to implement the clause. This is not the case in Sweden for instance where there is always the possibility for the Court to mitigate or suppress the clause even if it is valid. The government should assess the use and impact of non-compete clauses and consider giving more options to reassess clauses when firms implement them.

The wage distribution reflects the options for firms to attract skills and the incentives for workers to develop skills. Wage formation in Denmark occurs through collective bargaining and almost all workers are covered by collective agreements. However, in the

Box 2.4. Non-compete clauses in employment contracts

Non-compete clauses exist in most countries. They are legal agreements between the employer and the employee that the latter will not look for a job in a competing firm if the employee leaves. These agreements aim at protecting firm-specific knowledge but they may also hinder the transmission of knowledge within the economy and reduce labour mobility.

There are no international data on non-compete clauses. However, a comparison of the Legislation between Sweden and Denmark shows that it is easier to use them in Denmark than in Sweden (Table 2.1). In Denmark, the non-compete clause needs to be very clear to be valid but when it is valid, it is possible to enforce it. In Sweden, legislation puts a higher focus on ensuring that these clauses are not too hard on the employee and there is more room to mitigate a clause even if it is valid.

Non-compete clauses became fairly widespread in Denmark during the 1990s, prompting the government to introduce a minimum level for the compensation in 1999, to make it more costly for employers to use them (EIROnline, 1999).

Table 2.1. Legislation on non-compete clauses in Denmark and Sweden

	Denmark	Sweden
Requirements for a non-compete clause to be valid	A written contract is required. A non-compete clause set at a general level (collective bargaining) is not valid. The non-compete clause needs to be clear especially in terms of restricted activities. Not valid in case of dismissal.	A written form is required. For white-collar workers in manufacturing, a collective agreement limits the use of non-compete clauses. It should not be too hard on the employee. It is restricted to employers that are dependent on some specific products or methods. Not valid in case of dismissal.
Compensation	At the minimum, 50% of the employee's pay at the time of the termination during the restricted period. The first 3 months are paid in a lump-sum. After 3 months, if the employee has found a new job, the employer can deduct the income of the new job from the compensation.	No precise definition of the amount but the employer must compensate for the inconvenience for the employee.
Enforcement	Easy to enforce: if the clause is valid, the employer can apply for a quick injunction if the employee is suspected from engaging in restricted activities	Even if a clause is valid, the Court can moderate it or suppress it if it goes beyond what is deemed reasonable. According to the law, a person is not bound by a pledge to pursue an activity or sign an employment contract if the pledge is more far-reaching than reasonable.
Penalty	Generally stipulated in the clause or set by the Court. The employee is liable for the financial losses the former employer has faced.	Generally stipulated in the clause and close to 6 months salary. The employee is liable for the financial losses the former employer has faced.
In case of no clauses	The employee can be hired by a firm competing with the former employer but it is prohibited from using internal information.	Employees are free to make use of knowledge they have acquired but there is a duty of confidentiality and it is prohibited to use trade secrets.

Source: OECD from Ius Laboris (2010), *Non-Compete Clauses, An International Guide*, Brussels.

private sector, collective bargaining sets framework conditions but wage negotiations now take place at firm level for around 80% of the employees (OECD, 2012d). This is the result of the decentralisation process that has taken place since the 1980s, which raised the returns to skills (Bingley et al., 2011; Dahl et al., 2011). Nonetheless, the wage structure remains very compressed, for various reasons. First, wage setting in the public sector, which

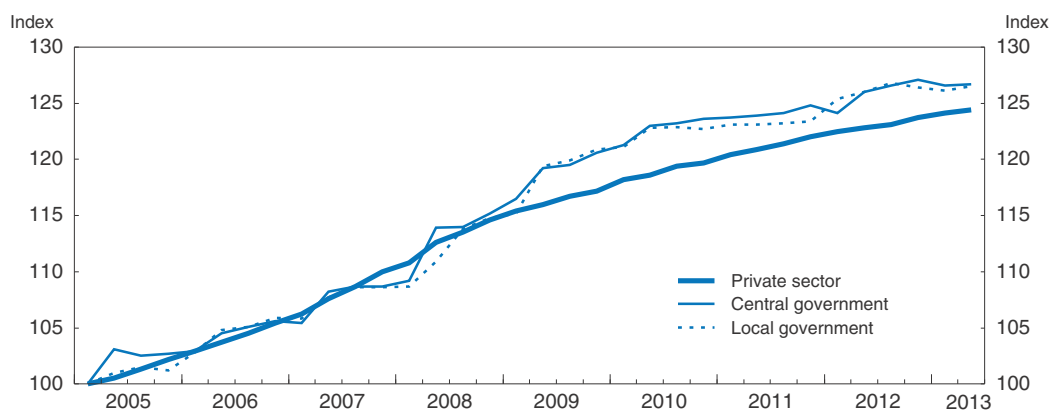
accounts for 30% of employment, is highly centralised (see below). Minimum wages are relatively high. Collective bargaining still plays an important role in the private sector, either directly for workers who are covered by wage agreements or indirectly by promoting equality and thereby contributing to low wage dispersion. Wage increases based on seniority are also still widespread. Moreover, other factors, such as the relative homogeneity of the labour force and low competition in some sectors (see Chapter 1) may also contribute.

Reforming the wage setting system in the public sector

The wage setting system in the public sector remains highly centralised. In 1998, it was reformed to introduce some link between individual performance and wages but the performance pay element remains small. A basic wage is set at the central level for all professions and there is a top-up based on seniority and qualification and a small top-up for individual performance. Unions must be consulted regarding bonuses. In addition, wage growth in the public sector is indexed on that in the private sector according to a “pay adjustment scheme”, with some delay. The scheme implies that if the wage increase in the private sector for a given period of time has been higher (lower) than in the public sector, 80% of the difference in wage growth is applied to public sector wages in the following period. While the scheme prevents wages in the public sector from exceeding those in the private sector on average over the long term, wages in the public sector can temporarily grow more than in the private sector, as has recently been the case as a result of the crisis, hindering needed reallocations (Figure 2.16).

Figure 2.16. **Wage developments in the private and public sectors**

Seasonally-adjusted with 2005:Q1 = 100



Source: Statistics Denmark.

StatLink  <http://dx.doi.org/10.1787/888932980716>

Against this backdrop, a key question is whether the public sector has crowded out skills from the private sector and thereby exerts a drag on productivity growth. The main study on this issue, not specific to Denmark, shows that, if there are some rents from being in the public sector, employment in the public sector can indeed crowd out employment in the private sector (Algan et al., 2002). It also suggests that the crowding-out effect increases with the degree of substitutability between the production of the public sector and the private one.

The Danish wage setting system in the public sector can create rents since workers will automatically benefit from wage increases in the private sector and wage increases are not closely linked to individual performance (Productivity Commission, 2013c). On the other hand, since wages are not closely linked to individual performance in the public sector, there could be stronger incentives to go to the private sector for high-skilled workers but these are blunted by a compressed wage structure and high marginal taxes on higher incomes. Wages should be more closely linked to individual performance in the public sector to encourage productivity gains and to align financial incentives to work in the public and private sectors. The pay adjustment scheme should be used as a ceiling for public sector wage growth rather than as a starting point. In Sweden for instance, wage negotiations in the public sector take place at the local level with a substantial performance pay element.

The tax system weakens the incentives to gain more

High marginal income taxes discourage efforts to earn more and thereby can weaken the incentives to acquire new skills or become more productive. The top marginal income tax rate, at 56%, is the highest in the OECD. It starts to apply at incomes very close to the average wage, even after the 2012 tax reform (Box 2.5), although only 12% of taxpayers have income above this level as a consequence of the compressed wage distribution. Efforts to lower marginal taxes on higher income should continue. As mentioned earlier, this would also increase the returns to education and boost human capital accumulation. To offset the impact of lower marginal taxes on higher incomes on government revenues, property taxes, which have partly be frozen and have contributed to the build-up of a housing market bubble, should be raised.

Box 2.5. The 2012 Danish tax reform

In 2012, the government launched a tax reform that is expected to increase revenue in the long run. It aims at lowering taxes on income to boost employment. The main measures are an increase in the top income tax threshold and in the earned-income-tax-credit. Despite the increase in the top income tax threshold, the top tax rate is expected to start to apply at incomes close to 1.1 times the average wage in 2014 and 1.2 times the average wage by 2020. Losses from the increase in the threshold are financed by various increases in taxes including higher taxes on pensions, company cars and financial institutions. Housing taxation was not changed.

Activating skills more broadly

With employment and participation rates well above the OECD average for both women and men, Denmark is generally good at activating skills. However, some groups are not well integrated in the labour market: older workers, people receiving social assistance including youth, immigrants and recipients of sickness and disability benefits. The recent reforms of social assistance and disability benefit schemes target these groups.

Population ageing can create skills gaps, especially in newly developing areas. Better activation of youth and immigrants and policies to attract skilled foreign students and immigrants would help address this issue. More broadly, better integration of the working age population into the labour market will help lift skills. The OECD Survey of Adult Skills

shows that the inactive persons' skills are below the OECD average. Participation in the labour market will help them improve their skills though this may require some efforts to upgrade their skills beforehand. While raising participation rates may not directly boost productivity growth in the short term, it will have various positive effects in the longer term. An important one will be to limit the share of children with inactive and excluded parents and to raise their opportunities to be successful.

Efforts have been made to retain older workers

While employment rates are well above the OECD average for workers aged 55 to 59, they are closer to the OECD average for those aged 60 to 65 and the labour force exit age is slightly below the OECD average for both women and men (Table 2.2). These results reflect extensive recourse to early retirement (VERP) in the past and a long unemployment insurance period for older workers. However, in 2011, the government introduced reforms to postpone retirement (OECD, 2012b):

- The official retirement age is to be raised from 65 to 67 in 2019-22, five years earlier than agreed in the 2006 Welfare Reform.
- The eligibility age for early retirement, the VERP, will gradually rise from 60 to 62 over 2014-23. The VERP pension period will be gradually shortened from five to three years over 2018-23. Financial incentives are being changed to lower incentives to retire early.
- Older people with less than five years before reaching the official retirement age will be given a fast administrative decision on whether they are entitled to a disability pension.

In addition, the maximum unemployment benefit period was cut from four to two years, with a gradual phasing-in over 2013-16, which also limits the options to leave the labour market early. Overall, these reforms should increase the employment rate of older workers in the long run and help to face the challenges of ageing. However, efforts are also needed to raise the employability of some older workers and change firm behaviour. Indeed, the older workers' hiring rate is lower than the OECD average. In addition, it is important to ensure that the possibility to receive a quick decision on the access to disability benefits does not create an easy pathway to this type of out-of-work income support.

Ageing has impacts on skills. Several studies have found a tendency for cognitive skills to decline with age, although a sizeable share of adults only show a minor cognitive decline (Desjardins and Warnke, 2012). In addition, not all cognitive skills have the same pattern. According to Cattell's (1987) theoretical framework, intelligence can be divided into "fluid" and "crystallised". Fluid intelligence comprises attentional capacity, processing speed, reasoning and working memory capacity and is thought to decline with age. By contrast, crystallised intelligence, which includes knowledge and wisdom, is thought to increase with age.

Policies can influence the relationship between skills and ageing. Adults with advanced education have higher cognitive skills at an older age. Some studies show that education can reduce or delay the risk of dementia and Alzheimer at older age. Training and life-long learning improve cognitive skills and raise the employability of older workers. The use of skills at work helps to continue to accumulate skills with ageing. Physical activities also have a positive effect on skills according to studies. These findings point to the need to continue to raise the performance of the education and adult learning systems as well as to increase labour market participation of older workers as discussed above not only to make more use of the existing skills but also to mitigate the depletion of some skills with ageing.

Table 2.2. **Older workers scoreboard**

	Denmark			OECD ⁸		
	2001	2005	2011	2001	2005	2011
Employment						
Employment rate, 55-64 (% of the population in the age group)	56.5	59.5	59.5	44.9	49.0	52.9
<i>of which</i> 55-59	73.5	78.0	76.4	55.9	59.9	64.8
60-64	33.7	37.3	42.9	32.5	35.6	40.0
Employment rate, 65-69 (% of the population in the age group)	12.2	13.4	13.5	15.2	16.5	18.5
Job quality						
Incidence of part-time work, 55-64 (% of total employment)	11.9	14.5	14.7	17.2	17.2	18.7
Incidence of temporary work, 55-64 (% employees)	4.7	4.4	3.6	9.0	9.1	9.1
Full-time ¹ earnings, 55-59 relative to 25-29 (ratio)	1.20	1.25	1.29	1.32	1.33	1.34
Dynamics						
Retention rate, ² after 60 (% of employees <i>t-5</i>)	35.1	36.7	33.1	37.8	40.4	42.2
Hiring rate, ³ 55-64 (% of employees <i>t-1</i>)	9.3	7.6	7.5	7.8	9.2	8.5
Effective labour force exit age ⁴ (years)	Men	62.9	63.2	63.5	63.1	63.3
	Women	61.0	61.9	61.4	61.1	62.0
Unemployment						
Unemployment rate, 55-64 (% of the labour force)	4.0	5.2	5.7	4.6	4.8	5.8
Incidence of long-term ⁵ unemployment, 55+ (% of total unemployment)	42.6	48.3	42.0	46.8	47.7	45.9
Employability						
Share of 55-64 with tertiary education ⁶ (% of the population in the age group)	18.9	27.3	27.9	15.9	19.9	22.9
Participation in training, ⁷ 55-64						
Absolute (% of all employed in the age group)	10.0	21.0	26.7	6.6	8.2	9.4
Relative to employed persons aged 25-54 (ratio)	0.55	0.72	0.78	0.44	0.52	0.57

1. Mean gross hourly earnings, 1999, 2004 and 2009.

2. All employees currently aged 60-64 with tenure of five years or more as a percentage of all employees aged 55-59 five years earlier.

3. Percentage of employees aged 55-64 with a job tenure of less than one year, 2000, 2005 and 2010.

4. 2001, 2005 and 2011. Effective exit age over the five-year periods 1996-2001, 2000-05 and 2006-11. The effective exit age (also called the effective age of retirement) is calculated as a weighted average of the exit ages of each five-year age cohort, starting with the cohort aged 40-44 at the first date, using absolute changes in the labour force participation rate of each cohort as weights.

5. Unemployed for more than one year.

6. 2000, 2005, 2010.

7. Job-related training during the last month.

8. Unweighted averages for 34 OECD countries.

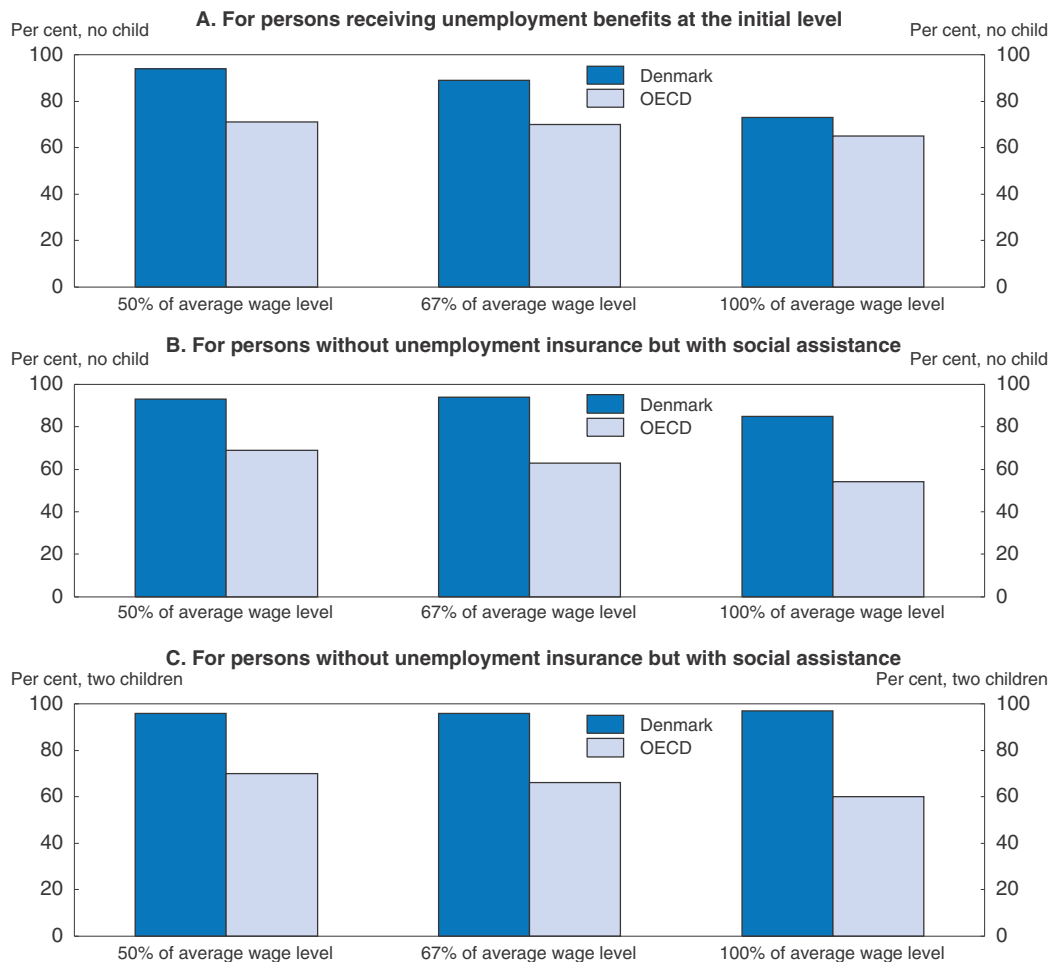
Source: OECD estimates from national labour force surveys and OECD Education Database.

Financial incentives to participate in the labour market are weak

Unemployment insurance and even more so social assistance recipients face limited financial incentives to take up a job (Figure 2.17). For social assistance recipients, as in many other OECD countries, the financial reward for exiting inactivity is smaller if both members of the couple are inactive than if one of them works, and even less if the couple has children. For instance, for a couple with the two members receiving social assistance and two children, if one of them takes a job at the average wage, almost 100% of the gain would be lost in 2011. These weak incentives mainly come from the withdrawal of social assistance as income from work increases. Taxes and social contributions also contribute.

These weak financial incentives are the flipside of a welfare system that provides broad and generous income support to those outside the labour market. Relatively high employment and participation rates show that, on average, the activation part of the

Figure 2.17. **Unemployment and inactivity traps**
Average effective tax rates for a transition into full-time work, 2011



Source: OECD, Tax-Benefit Models.

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flexicurity system largely offsets the negative effect of support to the non-employed on incentives to take a job. Nevertheless, some groups are particularly at risk of being excluded from the labour market. Almost 40% of the recipients of social assistance are young adults and most receive the benefits for more than one year (Table 2.3). In addition, many of the recipients are not ready for the labour market according to national estimates. In 2013, the government has reformed social assistance, especially for youths (Box 2.6). The reform strengthens the obligation to undertake education for youths who need it, job search help for those who are closer to the labour market, and monitoring of job search for adults with ability to work.

Raising the efficiency of ALMPs to help the unemployed get back into the labour market

Denmark has long used ALMPs as a cornerstone of the flexicurity system. Activation of the unemployed starts after nine months for persons above 30 years old and, since 2013, after three months below 30. Activation typically starts with counselling and assessment

Table 2.3. **Characteristics of recipients of social assistance by age group**
2012

		Among recipients:	
		<i>Below 30 years old, %</i>	<i>Above 30 years old, %</i>
Origin	Danish	80	67
	With an immigrant background from Western countries	2	4
	With an immigrant background from non-Western countries	17	28
Benefit duration	Less than 3 months	8	2
	3-12 months	33	15
	Over 12 months	59	83
Education level	Vocational education	8	
	Without vocational education	90	
Distance to the labour market	Prepared for employment but away from it since more than 3 months	32	24
	Not prepared for employment but able to be prepared	53	48
	Temporary passive	15	28
<i>Memorandum item</i>	<i>Share of the age group in total recipients</i>	37	63

Source: Danish Ministry of Employment.

Box 2.6. **Main elements of the 2013 social assistance reform**

The government has reformed social assistance in 2013, mainly to avoid having some young people being trapped in inactivity. The reform includes the following main points:

- Low-educated youth under 30 will no longer receive social assistance but will be encouraged to undertake education and will be covered by a benefit equivalent to the education grant system instead.
- Job search obligations and sanctions are increased for adults over 30 years old. After three months, they will be obliged to accept a job to receive the benefit.
- People with various vulnerabilities will receive holistic support and have the right to be followed by a co-ordinating caseworker.
- Disadvantaged young people and youths who are not ready for education have to receive some specific training and to prepare for education.

programmes and continues with job-training and jobs with wage subsidies in the last phase. Overall, around one third of the unemployed are activated.

ALMPs have a key role to play in helping the unemployed get jobs and acquire more relevant skills. Denmark was the OECD country that spent the most on ALMPs in 2010 as a share of GDP, even though labour market conditions deteriorated less than in many other countries. High spending relates to the Public Employment Service (PES) and administration, training and various types of job subsidies.

Overall, studies have concluded that Danish ALMPs increase employment and decrease the duration of unemployment (Vikström et al., 2011; Danish Economic Council, 2012). A strength of the system is the equal treatment of the unemployed. The unemployed receiving unemployment insurance or social assistance are subject to the job-search obligation and assistance. In addition, activation is combined with a stronger requirement to receive benefits and thereby encourages accepting a job even if the

wage is lower than expected. Hence, this mechanism may lead to wage moderation (Andersen, 2011). On the downside, ALMPs have lock-in effects as participants tend to lower their job-search intensity when they participate in a programme as they have less time for searching (Rosholm and Svarer, 2004 and 2008). In terms of specific measures, studies find a positive effect of intensified job-search assistance and frequent meetings with case workers (Vikström et al., 2011).

Municipalities are in charge of the implementation of ALMPs, all services for the unemployed have been integrated into new job centres and outsourcing of ALMPs has spread (Box 2.7). This reform has helped to provide an equal treatment of the unemployed independently from the type of financial support they are receiving although it has not fully delivered its effects and further assessment of the reform is needed. The responsibilities in terms of employment services and financial support remain split for the insured unemployed. Finally, transfers from the central government to finance ALMPs are larger when the unemployed is on a programme, which gives incentives to municipalities to have more of the unemployed in programmes rather than to develop pre-programme measures. The government is planning to address this issue by conditioning reimbursement solely on the duration of unemployment (Danish Economic Council, 2012). The government has also commissioned a working group to look at how to improve the performance of ALMPs.

Box 2.7. Organisation of ALMPs in Denmark

ALMPs have been reformed with the view to unify employment services for all unemployed independently from the type of financial support they were receiving. To this end, the responsibility of ALMPs has been decentralised to municipalities. All services for the unemployed have been integrated into new job centres that are independent municipal agencies. The administration of financial support for the unemployed remains the responsibility of either unemployment insurance funds for insured unemployed or municipalities for uninsured unemployed. Hence, services to the unemployed have been unified but not the administration of benefits.

During a transition period (2007-09), there were two different types of job centres (Bredgaard and Larsen, 2008). In the majority of municipalities, the PES and social and employment services of the municipality worked together in job centres but the responsibilities remained split with the PES being in charge of insured unemployed and municipalities of those who are not insured. Fourteen municipalities took the full responsibility of ALMPs. Since 2009, the latter model has been developed and now, municipalities have full responsibilities of ALMPs. By exploiting this differentiated introduction, the Danish Economic Council has concluded that there was no significant difference in the transition from unemployment to employment between the two institutional frameworks (Danish Economic Council, 2012).

The aims of the reform were to ensure more efficient and better integrated employment services but also to give incentives to municipalities to put more focus on integrating non-insured unemployed into the labour market. Decentralised ALMPs can also help address regional labour market differences.

Since the beginning of 2013, the maximum unemployment insurance benefit period has been cut from four to two years. However, as the reform was supposed to come into force whilst the unemployment rate was relatively high, the government has introduced a temporary scheme for the unemployed who have exhausted the unemployment insurance period without having found a job, which will be gradually phased out until 2017. The maximum benefit under this scheme is below that under the unemployment insurance. The cut in the maximum unemployment benefit period and in the unemployment benefit raise the incentives for the unemployed to actively look for a job. However, the phasing-in of the cut in the unemployment insurance period is now very gradual. If the labour market recovers more than foreseen, an accelerated phasing-in would be warranted.

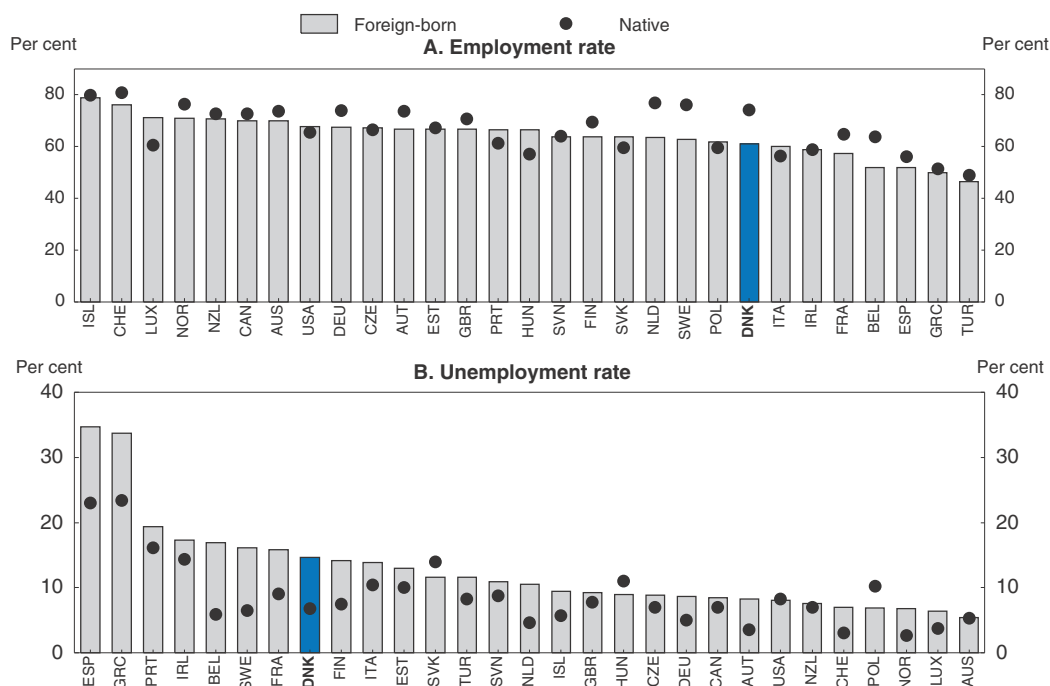
Integrating immigrants into the labour market and attracting skills from abroad

While a relatively low share of Denmark's population has an immigrant background, immigrant inflows have increased recently, especially for tertiary graduates (OECD, 2013d).

Immigrants are not well integrated in the education system nor in the labour market, although the situation has improved as the gap in PISA results between Denmark-born children of immigrants and children of natives narrowed markedly between 2000 and 2012. The disadvantages of immigrants in terms of employment have also fallen sharply. Nonetheless, the employment and unemployment gaps between natives and foreign-born are still among the highest in the OECD (Figure 2.18). Since the crisis, the foreign-born have seen their unemployment rate reach 14.7% in 2012 against 6.8% for the natives.

Figure 2.18. Gaps in labour market performance between natives and foreign-born in OECD countries

In 2012



Source: OECD (2013), *International Migration Policies Database*.

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Accordingly, efforts to improve the integration of immigrants need to continue. The country has a long experience with the development of integration policies and many of these policies are highly innovative (Liebig, 2007). Municipalities have been successfully given incentives and responsibilities to integrate immigrants. More recently, the Ministry of Refugee, Immigrant and Integration Affairs merged with the Ministry of Social Affairs into a new Ministry of Social Affairs and Integration. The government pursues several objectives on integration, including better reception, improved access to education and a more active role for migrants in society and the labour market. A number of specific measures have been taken over the past two years (OECD, 2013d):

- Rules regarding permanent residence permits were eased in July 2012. The former points system was dropped and replaced by new criteria based on a minimum legal residence requirement of at least five years, and on passing a basic Danish language test.
- The Integration Act of 1999 was amended in July 2011 to remove the right of local authorities to assign housing in deprived neighbourhoods, in order to combat residential segregation and thereby strengthen integration.
- New immigrants will now be entitled to social assistance from the moment they arrive in Denmark in lieu of a specific cash allowance.

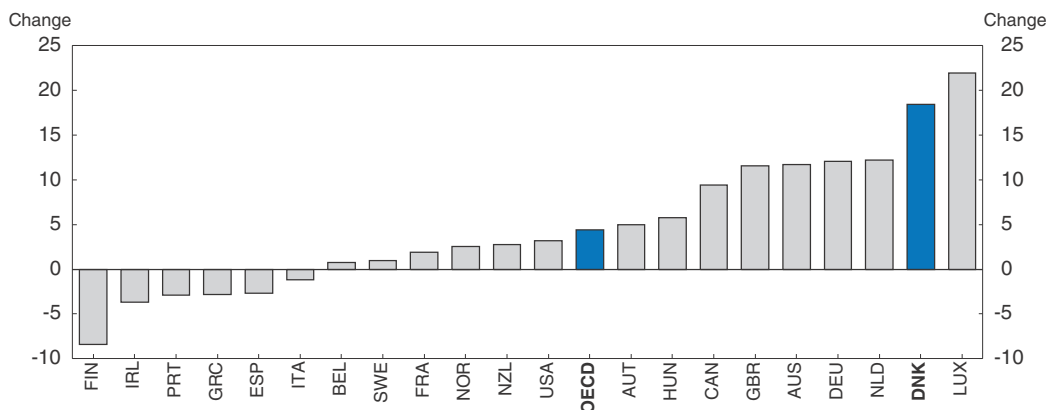
The new immigration rules will help attract and retain skills from abroad. Many of the reforms recently introduced or planned by the government will also help better integrate immigrants and use their skills. This is the case of the reforms of the education system and of social assistance as well as efforts to improve the system of evaluation and recognition of prior learning. Recommendations made in this chapter in the area of education and labour market and social policies would also help.

Denmark has introduced a Green Card programme in 2008 to allow skilled workers to enter and look for a job. Little is known about the effect of this programme but according to one study, a majority of those coming through the programme were over-qualified for the job they finally found (Politiken, 2013). The deterioration of the labour market has contributed to this weak performance. Nonetheless, the government should assess the programme to better understand its pros and cons and see how to make it evolve.

Over the past few years, there has been a tendency to lower public spending on integration (Collett, 2011). This reflects a change in the composition of immigration, with a larger share of high-skilled immigrants (partly as a result of the Green Card Programme and the Pay Limit Scheme for workers who are offered jobs with wages above a certain level) and immigrants coming through the work channel, but also the need to consolidate public finances (Figure 2.19). Nonetheless, it is important to maintain efficient programmes. The literature has shown that a well-targeted temporary wage subsidy, as it exists in Denmark, can help immigrants access the labour market as the minimum wage is relatively high and can hinder their integration (Clausen et al., 2009; Heinesen et al., 2011). Danish courses for immigrants are important for integration but their efficiency can be raised, for instance, by making courses targeted to groups according to their needs, as proposed by the government.

Figure 2.19. **Change in the proportion of highly educated immigrants among recent immigrants**

Between 2000-01 and 2009-10, percentage points



Source: OECD (2012), *Settling In – Indicators of Immigrant Integration*.

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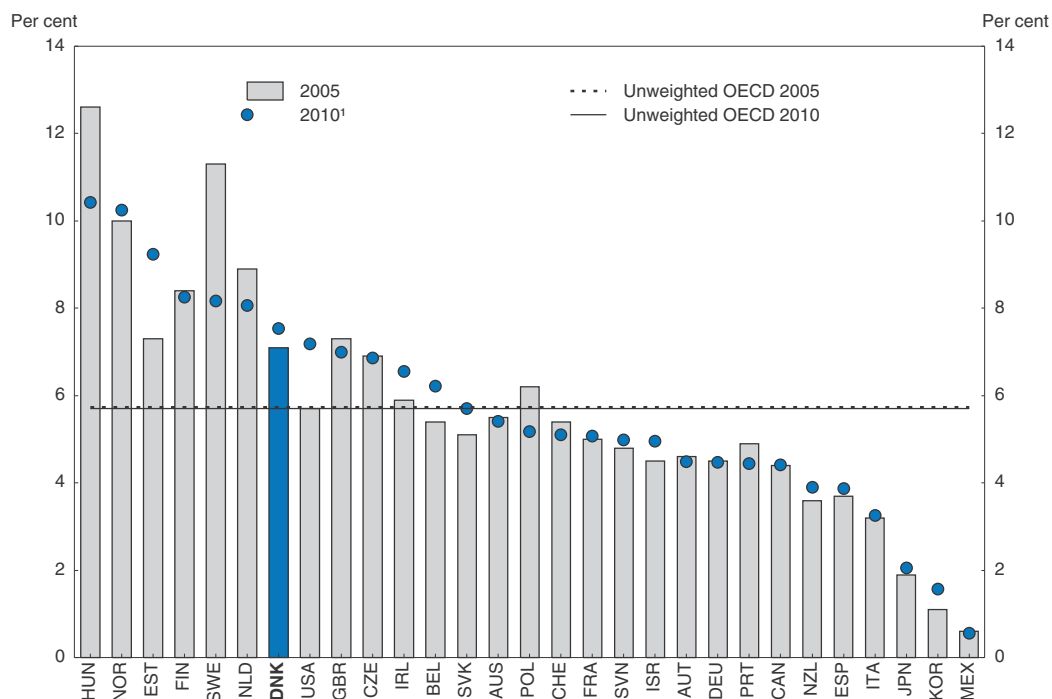
Flexjob and disability schemes have been reformed

Denmark has a relatively large and increasing share of its population receiving disability benefits or on special employment programmes for persons with disabilities, the so-called *flexjob* scheme (Figure 2.20). The share of mental disorders has increased to high levels in both unemployment and disability benefit claimants – at 30% and 45%, respectively – and is even higher for people receiving social assistance or long-term sickness benefits, at 55% and 70%, respectively (OECD, 2013e). Disability benefits trap recipients in inactivity and lead them to lose their skills. Mental disorders are barriers to skill accumulation and reduce worker productivity. The *flexjob* scheme – which is a subsidised job for which the employer and the employee agree on the effective hours worked, with the municipality paying for hours that are not considered to be effective – failed to reduce the number of disability benefit claimants and instead drove people from regular jobs into *flexjobs*.

In early 2013, the government introduced a major reform of these schemes with the following main components (OECD, 2013e):


- For people under age 40, the disability benefit scheme is replaced by a new rehabilitation model with integrated health and employment services and with only few people continuing to be entitled to a permanent disability benefit. However, these changes will affect only those being granted a new disability benefit, and the level of the disability benefit is unchanged. The net replacement rates from disability benefit in Denmark are among the highest in the OECD, at around 80% for an average-wage earner, and at 115% for a low-wage earner, and 10-20% higher than the payment rates for unemployment and social assistance benefits (OECD, 2010c).

Figure 2.20. **Share of the working-age population receiving disability benefits**
 Recipients of disability benefits as a proportion of the population aged 20-64



1. Or latest year available.

Source: OECD Questionnaire on Mental Health.

StatLink  <http://dx.doi.org/10.1787/888932980792>

- To limit excessive use of the *flexjob* scheme, the job centre now has to approve the contract and the subsidy is paid to the employee, instead of the employer before the reform. The system allows various time arrangements while before the reform, there were only two options, corresponding to half and two-thirds of work incapacity loss. In addition, the generosity of the system is lowered and actual income increases with working hours while before the reform, everyone received a full wage, irrespective of the effective number of hours worked. New *flexjobs* will only be granted temporarily, initially for five years, but nothing is changed for those on a *flexjob* already, unless they change job.

These reforms have large potential but they need to be implemented rigorously and their effects should be closely monitored. It will remain attractive for employers to turn existing work contracts into *flexjobs*. In addition, even if *flexjob* schemes are granted temporarily, it will be difficult for municipalities to remove existing entitlements and for *flexjobs* to be transformed into regular jobs. Finally, the government should consider moving towards regular disability benefit entitlement reassessment, as presumably only a very small share of the population suffers from a health condition that justifies a permanent disability benefit.

Box 2.8. Recommendations to make the most of skills

Education

- Closely monitor the implementation and impact of the reform of compulsory education. Consider the introduction of university-based initial teacher-training programmes to enhance their attractiveness and improve career paths for teachers.
- In the implementation of the reform, strengthen the assessment framework of primary and secondary education by including teacher and school principal appraisal. Give financial incentives, in the form of adjusted grants, to municipalities to achieve good outcomes.
- When implementing the reform of vocational education and training (VET), make sure that VET becomes more attractive to students and more selective without increasing school failures among those who cannot enter VET. Develop VET programmes that offer pathways to tertiary education.
- Raise the incentives to choose the right tertiary education programme by gradually introducing tuition fees while continuing efforts to lower marginal income taxes.
- Develop and publish indicators of the quality and performance of university programmes. Give the evaluation agency well identified tools to get tertiary institutions to improve.
- Raise the performance of the adult learning system by continuing efforts to give educational institutions greater incentives to recognise prior learning and by increasing the quality control of courses.

Labour market

- Assess the use and impact of non-compete clauses.
- More closely link wages to individual performance in the public sector.
- Improve the efficiency of ALMPs, including by ensuring that municipalities face the right financial incentives to help the unemployed find a job.
- Closely monitor the implementation of the shortening of the unemployment insurance period and implement a quicker phasing-in if the labour market recovers rapidly.
- When implementing the reform of *flexjob* and disability programmes, make sure that the special disability scheme for older workers does not become a new pathway to early retirement. Move to regular entitlement assessment of disability pensions and limit the granting of permanent pensions for those above 40.

Integration

- Maintain the spending on efficient programmes for the integration of immigrants. Continue efforts to raise the quality of Danish courses for immigrants.
- Assess the Green Card programme to better understand its pros and cons and see how to make it evolve.

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