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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 Sweden were reviewed by the Committee on 16 February 2015. 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 3 March 2015.

The Secretariat's draft report was prepared for the Committee by Christophe André and Jon Pareliussen, with contributions from Margherita Bussi, under the supervision of Vincent Koen. Research assistance was provided by Thomas Chalaux and Clara García. Secretarial assistance was provided by Nadine Dufour and Mercedes Burgos.

The previous Survey *of Sweden was issued in December 2012.*

Information about the latest as well as previous Surveys and more information about how Surveys are prepared is available at www.oecd.org/eco/surveys.

BASIC STATISTICS OF SWEDEN, 2013

(Numbers in parentheses refer to the OECD)

LAND AND PEOPLE

Population (millions)	9.6	(1 261.6)	Population density per km^2	23.5	(34.8)
Under 15 (%)	16.9	(18.3)	Life expectancy (years, 2012)		(80.2)
Over 65 (%)	19.3	(15.7)	Men	79.9	(77.5)
Foreign-born (%)	15.5		Women	83.6	(82.9)
Latest 5-year average growth (%)	0.8	(0.6)	Latest general election	September 2014	

ECONOMY

Gross domestic product			Value added shares (%)		
In current prices (billion USD)	580.2		Primary	1.4	(2.5)
Latest 5-year average growth (%)	0.7	(0.8)	Industry including construction	25.9	(26.8)
Per capita (thousand USD PPP)	45.1	(38.1)	Services	72.7	(70.2)

GENERAL GOVERNMENT

Expenditure (% of GDP)	54.5	(42.5)	General government gross debt (% of GDP)	39.0	(110.4)
Revenue (% of GDP)	53.1	(36.8)	General government net debt (% of GDP)	-28.7	(69.9)

EXTERNAL ACCOUNTS

Exchange rate (SEK per USD)	6.51		Main exports (% of total merchandise exports)		
PPP exchange rate (USA = 1)	8.81		Road vehicles	10.2	
In % of GDP			Petroleum, petroleum products	6.9	
Exports of goods and services	44.0	(28.7)	Paper, paperboard	6.6	
Imports of goods and services	39.0	(28.8)	Main imports (% of total merchandise imports)		
Current account balance	7.3	(-0.1)	Petroleum, petroleum products	12.9	
Net international transfers	-1.7	(-0.8)	Road vehicles	9.4	
Balance of income	3.2	(0.7)	Telecommunication, sound equipment	5.7	

LABOUR MARKET, SKILLS AND INNOVATION

Employment rate for 15-64 year-olds (%)	74.4	(65.0)	Unemployment rate, Labour Force Survey (15-64 year-olds) (%)	8.2	(7.9)
Men	76.3	(73.1)	Youth (age 15-24) (%)	23.6	(16.2)
Women	72.5	(57.0)	Long-term unemployed (1 year and over) (% of unemployed)	17.1	(2.7)
Participation rate for 15-64 year-olds (%)	81.1	(71.1)	Tertiary educational attainment 25+ year-olds (%, 2012)	29.4	(31.5)
Average hours worked per year	1 607.0	(1 771)	Gross domestic expenditure on R&D (% of GDP, 2012)	3.3	2.4

ENVIRONMENT

Total primary energy supply per capita (toe)	5.0	(4.2)	CO_2 emissions from fuel combustion per capita (tonnes, 2012)	4.9	(9.7)
Renewables (% of TPES)	32.9	(8.6)	Water abstractions per capita (m^3 per capita, 2010)	286.8	
Fine particulate matter concentration (urban, PM_{10}, µg/m^3, 2011)	23.0	(24.4)	Municipal waste per capita (tonnes, 2012)	0.5	(0.5)

SOCIETY

Income inequality (Gini coefficient, 2011)	0.270	(0.308)	Education outcomes (PISA score, 2012)		
Relative poverty rate (2011)	9.70	(11.2)	Reading	483	(497)
Share of women in parliement	43.6	(26.7)	Mathematics	478	(494)
Net official devolpment aid (% of GNI)	1.02	(0.37)	Science	485	(501)

Better life index: *www.oecdbetterlifeindex.org*

Source: Calculations based on data extracted from the databases of the following organisations: National Bureau of Statistics, OECD, International Energy Agency, World Bank and International Monetary Fund.

Executive summary

Main findings

The economy is resilient, but policy support remains necessary

Sweden passed through the global financial and economic crisis with limited damage, thanks to strong macroeconomic, fiscal and financial fundamentals and a competitive and diversified business sector. The economy is proving resilient in the current environment of sluggish global growth and high uncertainty. Indeed, Sweden is among the few countries where output is now well above its level before the 2008 global financial and economic crisis. Strong domestic demand has underpinned growth, in a context of weak export markets. Fiscal policy has supported activity through the operation of automatic stabilisers and tax cuts. While sustainability is not at risk, the government plans to gradually improve the fiscal position as the recovery strengthens. Monetary policy is set to remain accommodative to ward off risks of deflation and lift inflation towards target. Macro-prudential policy is being reinforced to prevent the build-up of financial imbalances, not least an unsustainable increase in household debt, as interest rates stay low.

Stronger foundations for growth

Sweden has a strong comparative advantage in knowledge-intensive activities, which has boosted output growth and contained the rise in inequality over the past two decades. Well-being is high, and growth is greener than in most other OECD countries. However, in recent years, productivity growth, which is key to sustaining competitiveness and high employment, has slowed. This reflects cyclical but also structural factors, and calls for a focused effort to formulate and implement policies appropriate for Sweden. Barriers to competition and entrepreneurship remain high in some areas, including licences and permits, and land-use planning. Bottlenecks appear in road and rail transport. Public support for innovation is strong but remains fragmented and faces the challenge of adapting to an economy in which services and SMEs play a growing role.

Skills need to be improved and disadvantaged groups better integrated

A highly skilled workforce is crucial to sustain competitiveness and contain the rise in income inequality. Recent surveys of adult skills and educational performance – notably the dramatic deterioration in 15-year olds' PISA scores – suggest that younger cohorts are doing less well than their predecessors in international comparison. Poor educational outcomes are linked to low attractiveness of the teaching profession, deficiencies in teacher education and a lack of support for struggling students. Limited labour market flexibility hampers access to jobs for young people with low qualifications and immigrants, although temporary contracts are a stepping stone into the labour market.

Key recommendations

The economy is resilient, but policy support remains necessary

- Maintain expansionary monetary policy until inflation is clearly picking up.
- Continue to implement macro-prudential policies to contain the risks related to rising household debt. Consider phasing out mortgage interest deductibility.
- Maintain prudent fiscal policy and let automatic stabilisers work.

Stronger foundations for growth

- Simplify regulatory procedures, in particular regarding licences and permits.
- Streamline land-use planning and zoning regulations and increase incentives for municipalities to release land.
- Invest to improve the quality of roads and rail, with careful consideration of social returns.
- Continue to broaden support for innovation and enhance co-ordination of innovation and research policies. Lower financing constraints by fostering the development of debt and equity instruments and platforms for corporate finance.

Skills need to be improved and disadvantaged groups better integrated

- Raise the attractiveness of teaching by increasing monetary incentives, offer clearer career paths, and improve teacher education.
- Increase support for struggling students, including immigrants, through early intervention and targeting resources based on socio-economic background.
- Enhance support and incentives for immigrants to learn Swedish.
- Consider consolidating existing institutions in charge of advising on and supervising education policies into an education policy council.
- Reduce the gap in employment protection between permanent and temporary contracts and increase flexibility in entry level wages.

Assessment and recommendations

- *The economy is resilient but is facing challenges*
- *Macroeconomic policy issues*
- *A large banking sector, high household debt and high housing prices entail risks*
- *Strengthening foundations for growth*
- *Enhancing the skills and integration of disadvantaged groups*

The economy is resilient but is facing challenges

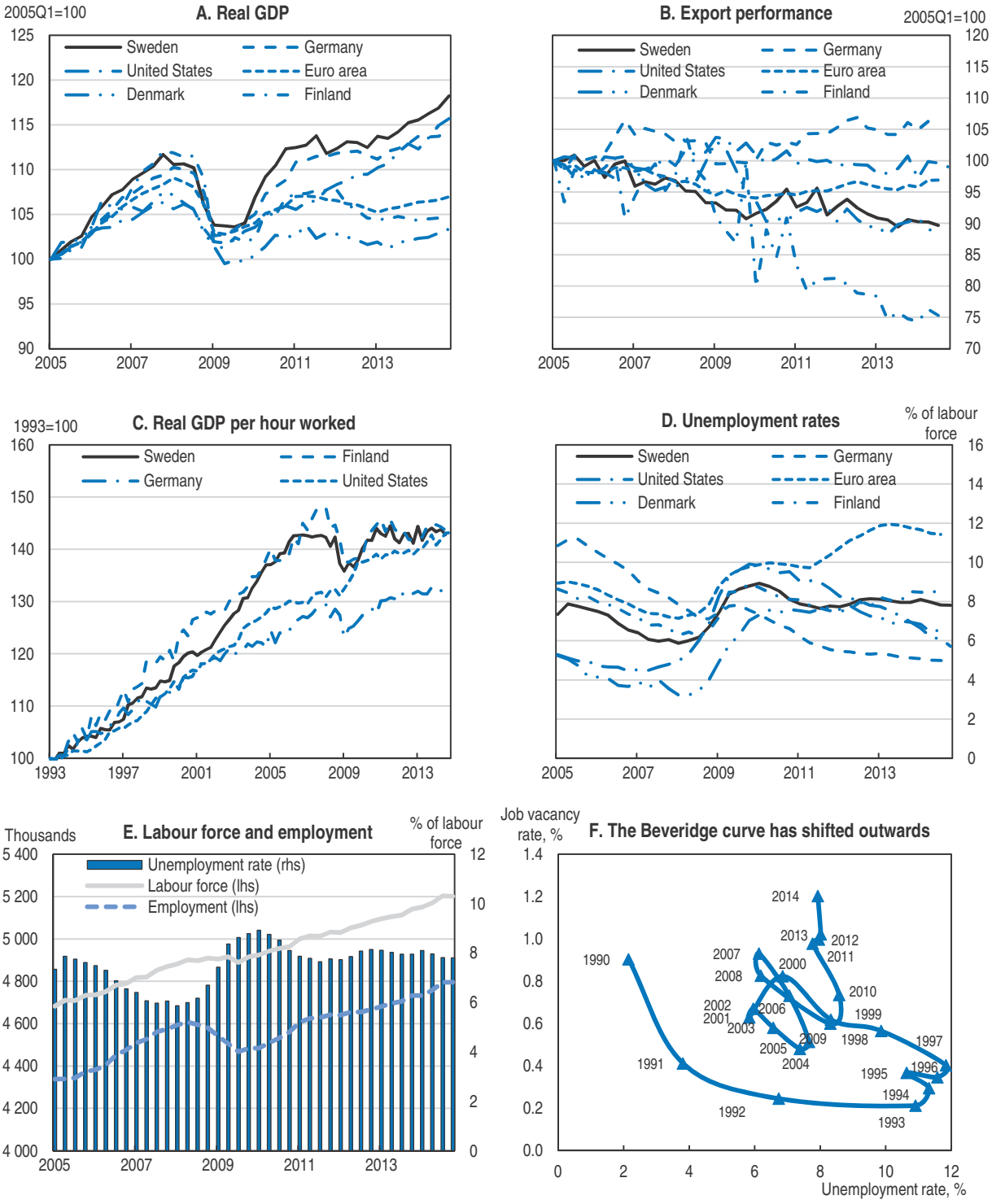
After a deep recession following an acute financial crisis in the early 1990s, Sweden restructured its economy to make it more flexible and competitive. Inequalities have risen over the past two decades but are still low compared to the OECD average, reflecting high employment, low wage dispersion and strong social safety nets. Specialisation in the most profitable parts of global-value chains has allowed Sweden to achieve one of the best productivity performances in the OECD over the past two decades, lifting living standards and well-being. The economy is proving resilient in the current environment of slow global growth and high uncertainty. Indeed, Sweden is among the few countries where output is now well above its level before the 2008 global financial and economic crisis (Figure 1, Panel A), even though GDP per capita has not grown at all during the same period.

Nevertheless, Sweden faces a number of challenges. With countries in Asia and other parts of the world catching up, export performance has been deteriorating in Sweden, as in many other OECD countries (Figure 1, Panel B). Productivity has slowed, as in most other OECD countries (Figure 1, Panel C). The labour market has performed well, with steady growth in employment and the labour force (Figure 1, Panel E). However, the Beveridge curve, which measures the relationship between unemployment and vacancy rates, has been shifting outwards for some time (Figure 1, Panel F), suggesting that it is becoming more difficult to match workers to vacant jobs, which mainly reflect changes in the composition of the labour force. Policies have raised participation of the low-skilled and people with disabilities. The growing inflow of immigrants, particularly asylum seekers, creates more challenges for matching skills with firms' requirements. The unemployment rate therefore remains elevated despite impressive labour market participation and employment rates. This contrasts with some other countries with similar output growth over recent years, like Germany and the United States, where unemployment has receded (Figure 1, Panel D). The youth unemployment rate exceeds 20% but should be interpreted with caution, as many young jobseekers are full-time students. The share of the unemployed who have been out of a job for more than one year is about half the OECD average, with low-skilled workers and immigrants affected most.

Against this background, the key messages of this Survey are:

- Sweden is on the innovation frontier. Raising productivity further will depend on framework conditions and co-ordination of research and innovation policies.
- Sweden's main comparative advantage is in knowledge-intensive activities. Investing in skills and education is essential to foster growth and contain inequalities.
- Strong immigration provides human resources which will support economic growth if labour market inclusion is successful. This potential is, however, currently underused.

Figure 1. **Recent macroeconomic developments are mixed**



Source: OECD Economic Outlook database.

How to read Panel F: The Beveridge curve measures the relationship between unemployment and vacancy rates. Normally, high vacancy rates are associated with low unemployment, and low vacancies with high unemployment. If the curve shifts outwards, this suggests that matching workers to vacant jobs is becoming more difficult, pointing to a higher structural unemployment rate.

StatLink http://dx.doi.org/10.1787/888933198959

Activity is gaining momentum on the back of strong domestic demand

Growth will be supported by strong private consumption and residential investment. Private consumption is projected to remain robust, reflecting rising employment and income (Table 1). Residential investment should also continue to expand, as shortages of dwellings in the largest cities will continue to support construction, despite planned tighter restrictions on mortgage borrowing. Business investment should progressively gather momentum as external demand picks up and spare capacity shrinks. However, the contribution of exports to output growth is likely to remain modest, particularly because of headwinds from weak euro area growth and the slowdown in emerging economies.

Table 1. **Macroeconomic indicators and projections**

Annual percentage changes, volume[1]

	2012	2013	2014	2015	2016
GDP	0.0	1.3	2.3	2.9	3.0
Private consumption	0.9	2.0	2.4	2.8	2.9
Government consumption	1.5	0.8	2.0	1.8	1.4
Gross fixed capital formation	0.3	-0.4	6.6	5.1	4.1
Housing	-11.7	2.2	20.2	11.3	5.0
Business	3.0	-1.6	4.8	4.6	4.4
Government	1.7	1.8	1.7	0.6	2.1
Final domestic demand	1.0	1.1	3.3	3.1	2.8
Stockbuilding[2]	1.1	-0.1	0.2	-0.1	0.0
Total domestic demand	-0.2	1.2	3.5	3.0	2.8
Exports of goods and services	1.5	-0.1	3.5	4.0	4.0
Imports of goods and services	1.1	-0.5	6.5	4.5	4.5
Net exports[2]	0.2	0.2	-1.0	-0.1	0.0
Other indicators (growth rates, unless specified)					
Potential GDP	1.9	1.9	2.0	2.3	2.5
Output gap[3]	-1.8	-2.4	-2.1	-1.5	-1.1
Employment	0.6	1.1	1.4	1.7	1.3
Unemployment rate[4]	8.0	8.0	7.9	7.5	7.3
GDP deflator	1.0	1.2	1.3	1.6	1.8
CPI	0.9	0.0	-0.2	0.5	1.5
CPIF[5]	1.0	0.8	0.5	0.9	1.3
Household saving ratio, net[6]	15.2	15.4	15.2	14.4	14.6
Trade balance[7]	4.9	5.0	3.9	3.8	4.0
Current account balance[7]	6.6	7.3	6.3	6.7	6.7
General government financial balance[7]	-0.9	-1.3	-2.1	-1.5	-0.7
Underlying government net lending[3]	-0.2	-0.3	-1.2	-0.8	-0.2
Underlying government primary balance[3]	-0.2	-0.3	-1.1	-0.8	-0.2
Gross government debt (Maastricht)[7]	36.9	39.0	41.1	41.8	43.5
General government net debt[7]	-25.9	-28.7	-25.6	-23.0	-21.2
Three-month money market rate, average	2.0	1.2	0.7	0.1	0.2
Ten-year government bond yield, average	1.6	2.1	1.7	1.0	1.2

1. Annual data are derived from quarterly seasonally and working-day adjusted figures.
2. Contribution to changes in real GDP.
3. As a percentage of potential GDP.
4. As a percentage of labour force.
5. CPI with a fixed mortgage interest rate.
6. As a percentage of household disposable income.
7. As a percentage of GDP.

Source: OECD Economic Outlook database and projections based on information through early March 2015.

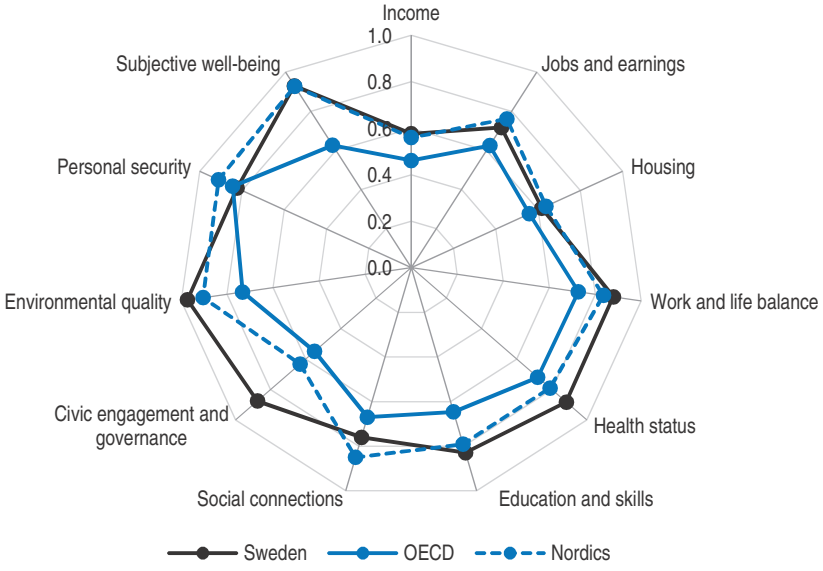
The short-term risks are mainly on the downside. As a small open economy, Sweden is heavily dependent on exports. Further deterioration in economic conditions of trading partners, especially euro area countries, would lower Sweden's growth prospects. Weaker activity in the euro area would also complicate monetary policy and increase deflation risks, as it would likely result in further monetary easing from the European Central Bank which would put upward pressure on the krona. A very stimulative monetary stance will remain necessary for some time to support activity and bring inflation back towards the 2% target. However, it could fuel excessive demand for credit, in particular from households buying housing at ever higher prices. The impact of macro-prudential policies being put in place to address the issue is uncertain, as such policies are largely untested in OECD countries. Geopolitical tensions may affect Sweden through different channels, including weaker confidence due to uncertainty, slower growth in trading partners and volatility in energy markets. Upside risks include stronger-than-expected growth elsewhere in the European Union or in other major trading partners and a boost from lower energy prices.

Well-being is high, and growth is greener than in most other OECD countries

Sweden scores higher than the OECD average on all dimensions of the OECD Better Life Index, except personal security. Compared with the other Nordic countries, it performs slightly worse on jobs and earnings, housing, personal security and social connections, but better in all other areas (Figure 2). Although gender equality compares favourably to most other countries, further improvements are possible. Corruption is low and Sweden has

Figure 2. **Well-being is high in Sweden**

OECD Better Life Index[1]



1. Each well-being dimension is measured by indicators from the OECD Better Life Indicator set. Indicators are normalised to range between 1 (best) and 0 according to the following formula: (indicator value-minimum value)/(maximum value/minimum value).

Source: OECD (2013), *How's Life? 2013: Measuring Well-being*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264201392-en*.

StatLink *http://dx.doi.org/10.1787/888933198963*

made significant progress on enforcing legislation against bribing foreign public officials. Nevertheless, the legal framework on foreign bribery by corporations and other entities should be strengthened (OECD, 2014b).

Sweden stands out internationally with a relatively small gender gap. It ranks fourth in both the Global Gender Gap Index (WEF, 2014) and the Gender Inequality Index (UNDP, 2014). Women have enrolment rates similar to men in secondary education and higher in tertiary, representation in Parliament is almost equal, and female labour participation and health outcomes are high relative to most comparable countries. Even so, gender differences persist in education, where men rarely pursue studies in health and welfare, and women make up only around a quarter of graduates in computer sciences and engineering. More women than men work part time, they are concentrated in fewer occupations, usually in the service sector, and they are less likely to progress to senior management positions, accounting for 31% of senior managers in 2010 and holding 19% of listed companies' board positions in 2009. Only a third of individually-owned businesses are owned by a woman. In 2011, Swedish women earned 14% less than men – a pay gap just one percentage point below the OECD average and higher than in some countries with comparable female employment rates. Lower working hours among women and wage differences also affect pension incomes with retired women twice as likely to be poor as men (OECD, 2012a).

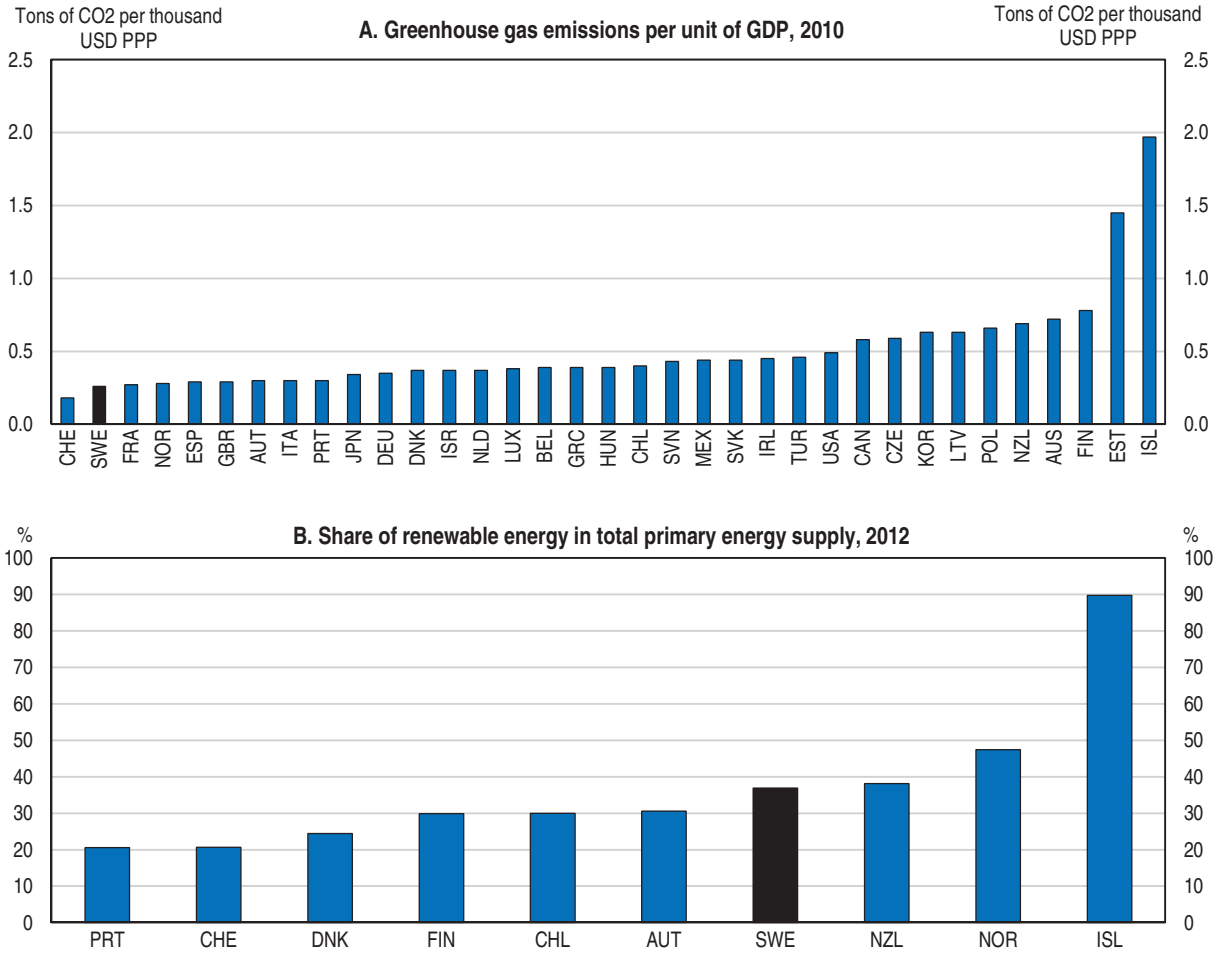
Sweden has long used economic instruments, like carbon and sulphur taxes and participation in the EU Emissions Trading Scheme, to promote green growth. It has achieved complete decoupling of greenhouse gas (GHG) emissions from economic growth and GHG emissions per unit of output are among the lowest in the OECD (Figure 3, Panel A). The share of renewables in energy supply is also one of the largest (Figure 3, Panel B). As low-cost measures to reduce GHG emissions have already been implemented, reducing emissions further will require enhancing the coherence and cost-effectiveness of policies, for example by reducing overlaps between policy instruments, reducing carbon price differences across sectors and phasing out environmentally harmful subsidies. Nevertheless, Sweden has set itself even more ambitious climate change mitigation objectives, including a vision of achieving "no net GHG emissions into the atmosphere" by 2050 and "a vehicle fleet independent from fossil fuels" by 2030. Sweden has created an ambitious system of environmental quality objectives, which covers all policy domains and government bodies. However, most are unlikely to be met by the deadline of 2020. To make this a more effective strategic framework, short- and medium-term priorities should be set and measures and resources clearly defined (OECD, 2014a).

Macroeconomic policy issues

The fiscal position is strong

Sweden's fiscal position is among the strongest in the OECD, with a general government deficit of around 2% of GDP in 2014 and gross debt close to 40% of GDP (Figure 4). Furthermore, government assets exceed liabilities, generating a net asset position of about 30% of GDP. Previous reforms of the pension system, with a transition towards defined contributions, imply a smaller impact of ageing on public finances than in many other countries, even though further increases in the effective pension age and retaining adequate coverage and contributions will be necessary to maintain replacement rates over the long term (OECD, 2012b). The fiscal response to the protracted period of weak

Figure 3. **Carbon emissions are low and renewables well developed**



Source: International Energy Agency, *World Energy Statistics and Balances* (database).

StatLink http://dx.doi.org/10.1787/888933198972

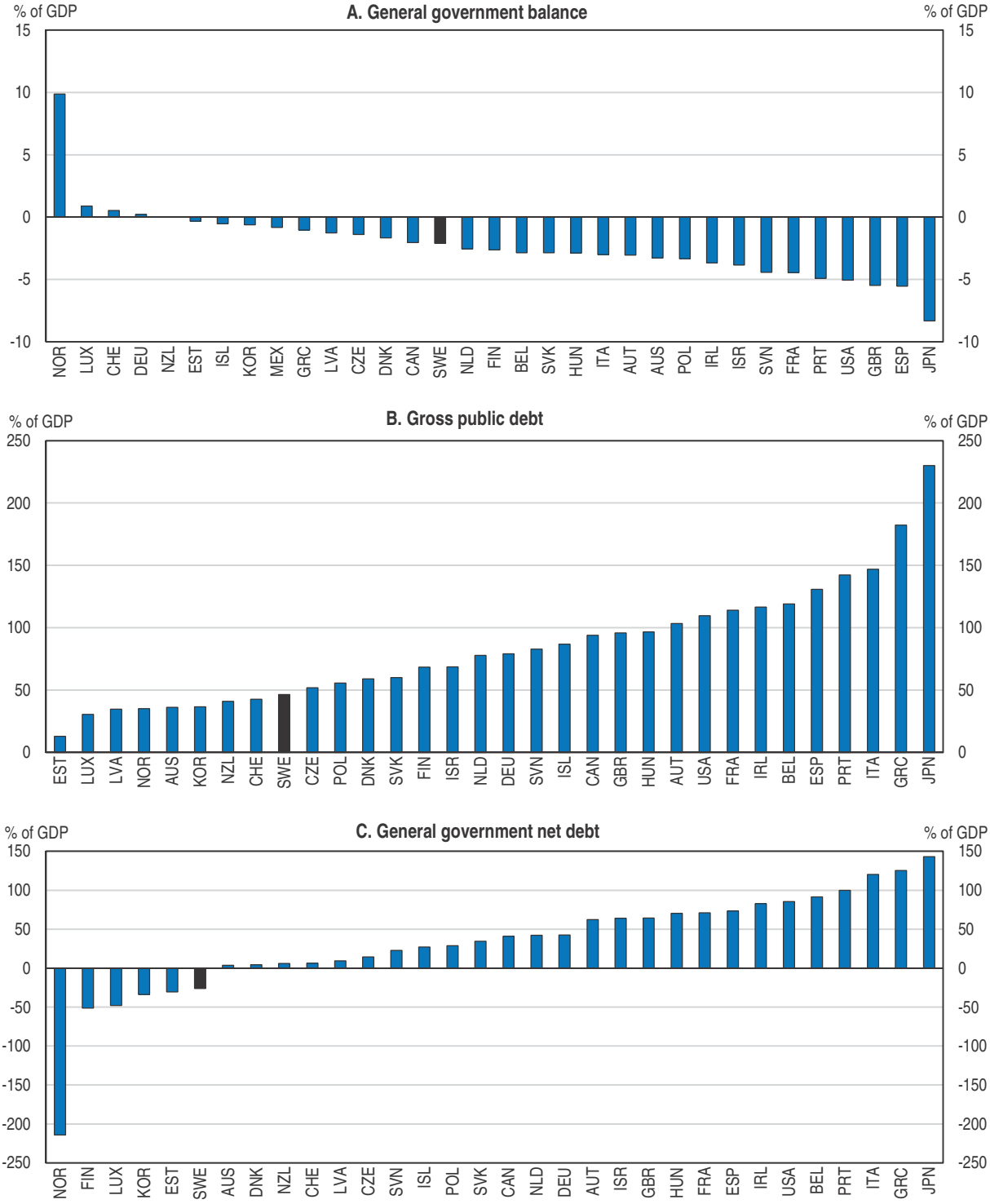
economic growth, together with some permanent personal and corporate income tax cuts and increased expenditures for sickness benefits and asylum seekers, have pushed the general government fiscal balance down, away from Sweden's target of a surplus of 1% of GDP over the business cycle. Nevertheless, the general government deficit has remained below the 3% of GDP threshold of the Stability and Growth Pact and from this year on structural net lending is projected to be broadly in line with the EU medium-term objective of 1% of GDP. Looking further ahead, simulations show that the fiscal position is sustainable (Fiscal Policy Council, 2014).

Monetary policy is appropriately expansionary

Despite good output and employment growth, inflation has been drifting below the 2% target since 2010, mainly reflecting economic slack (Figure 5, Panel A). The Riksbank and other forecasters persistently overpredicted inflation and until recently the Riksbank was reluctant to cut the policy rate to zero, in part out of concern for rising household debt (Panel C). Inflation, however, continued to undershoot expectations. The Riksbank cut the repo rate to zero in October 2014 and, as uncertainties mounted further, to -0.1% in February 2015. It also decided to purchase SEK 10 billion worth of government bonds. In the

Figure 4. **Public finances are healthy**

2014



Source: OECD Economic Outlook database.

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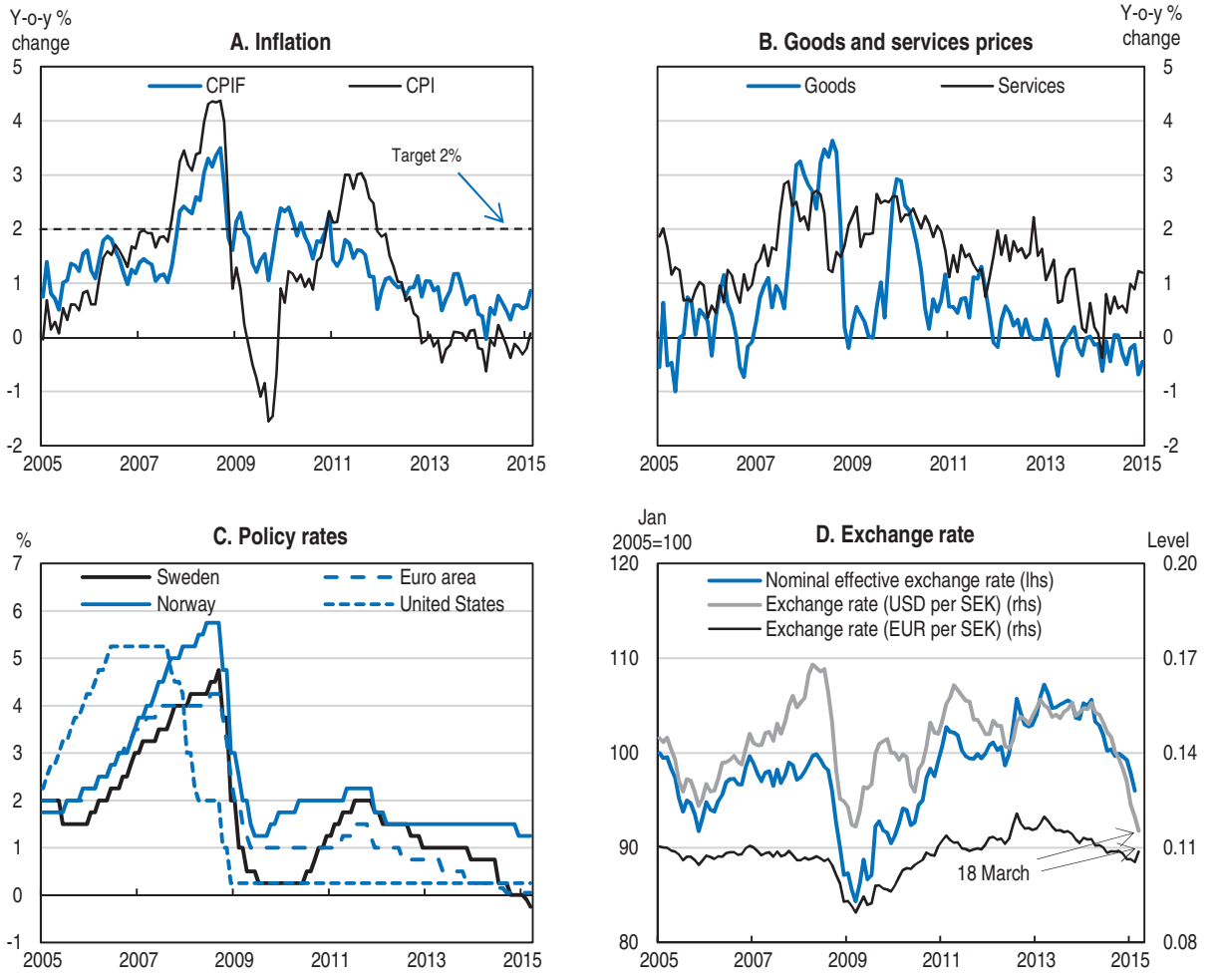
Figure 5. **Inflation is very low**



Source: OECD Economic Outlook database.

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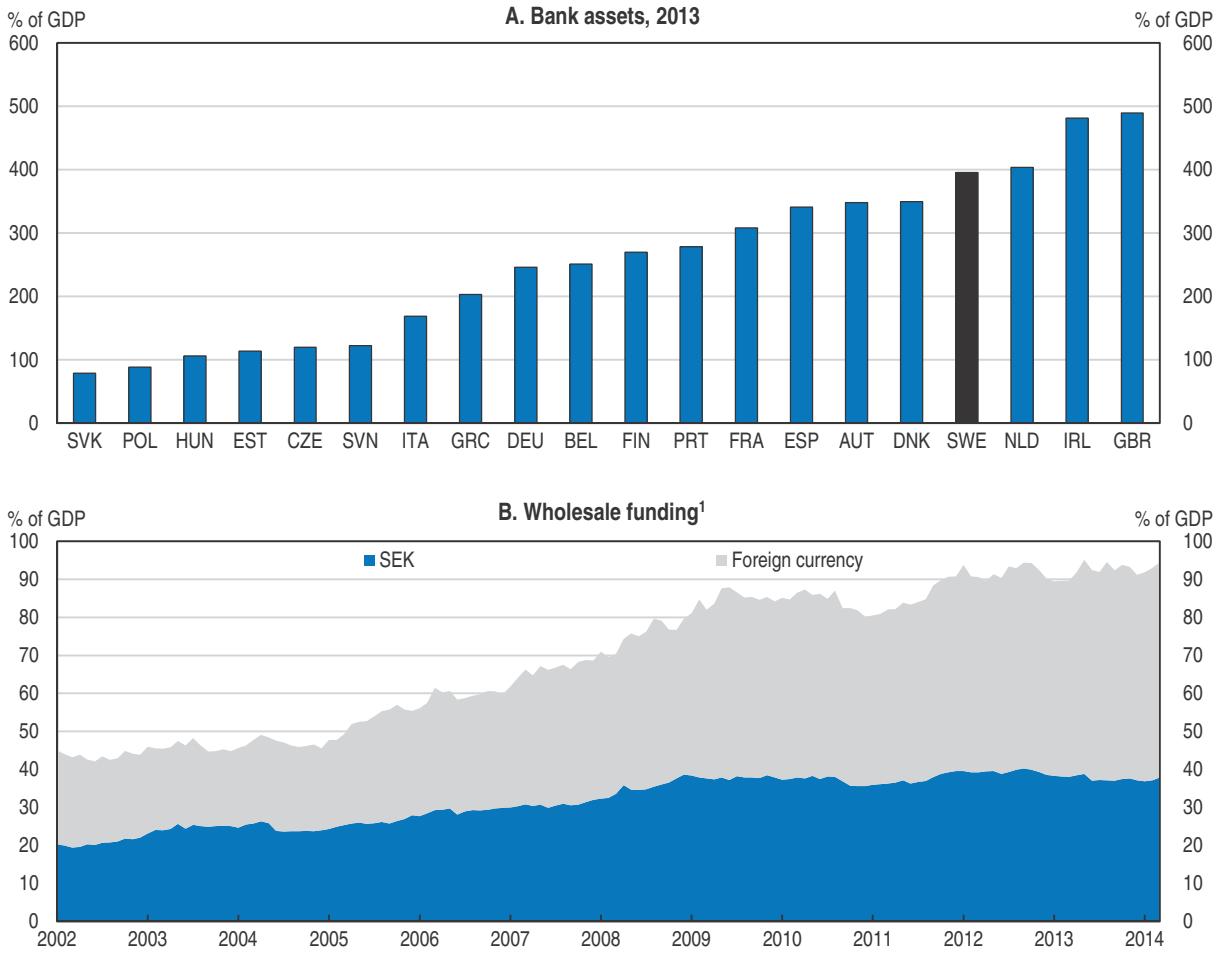
face of the recent appreciation of the krona mainly against the euro (Panel D), the repo rate was cut again to -0.25% in March 2015 and government bond purchases were increased by SEK 30 billion. These measures and the readiness to do more aim at safeguarding the inflation target as a nominal anchor for price setting and wage formation.

A large banking sector, high household debt and high housing prices entail risks

The banking sector is large and reliant on wholesale funding

The Swedish banking sector is large, with assets amounting to about four times GDP (Figure 6, Panel A). The sector is also highly concentrated, with four banks accounting for more than 70% of lending. Moreover, banks are strongly interconnected and have similar business models and vulnerabilities. One of these is heavy reliance on wholesale funding, which is often short term, despite a recent trend towards lengthening maturities (Figure 6, Panel B). These features generate systemic risk and even though banks weathered the global financial crisis well and are highly profitable, strong regulation and supervision is called for.

Figure 6. **The banking sector is large and reliant on wholesale funding**



1. Major Swedish banks' wholesale funding via Swedish parent companies and subsidiaries.

Source: European Central Bank Consolidated Banking Data and Riksbank, *Financial Stability Report*, No. 2014:1.

StatLink http://dx.doi.org/10.1787/888933199009

The authorities have acted to improve the resilience of the financial system by strengthening the institutional framework for financial regulation and supervision, requiring stronger capital and liquidity buffers and implementing macro-prudential measures.

The responsibilities of the Financial Supervisory Authority (FSA, *Finansinspektionen*) were extended in 2014 and now include counteracting financial imbalances in order to stabilise the credit market. The FSA was also given the main responsibility for all macro-prudential tools, complementing micro-prudential and consumer protection duties. While the FSA bears the main responsibility for prudential instruments, financial stability is also related to other policy areas, such as monetary policy and taxation. The government is ultimately responsible for the measures taken and controls the funds which may be needed to support the financial system in a crisis. To ensure close dialogue between all the institutions involved, the Financial Stability Council – which gathers representatives from the Ministry of Finance, the FSA, the Swedish National Debt Office and the Riksbank – has been created. It meets at least twice a year to discuss financial stability and the need for measures to prevent the build-up of imbalances. It also has to meet in the event of a crisis to discuss appropriate responses.

The four Swedish systemically important banks are required to hold an extra 5% capital buffer on top of Basel III minimum requirements. Minimum risk weights on mortgages are being increased to 25% and an additional countercyclical capital buffer of 1% will be applied from September 2015, in view of rising household debt. Altogether, Tier 1 capital requirements for Swedish systemic banks, applicable from 2015, range from 14.4% to 18.8%, more than twice the EU minimum requirement on average. The banks are expected to have no difficulty meeting the requirements (Finansinspektionen, 2014a). Nevertheless, the ratio of common equity tier 1 capital to total assets is below 4%, which is relatively low by OECD standards.

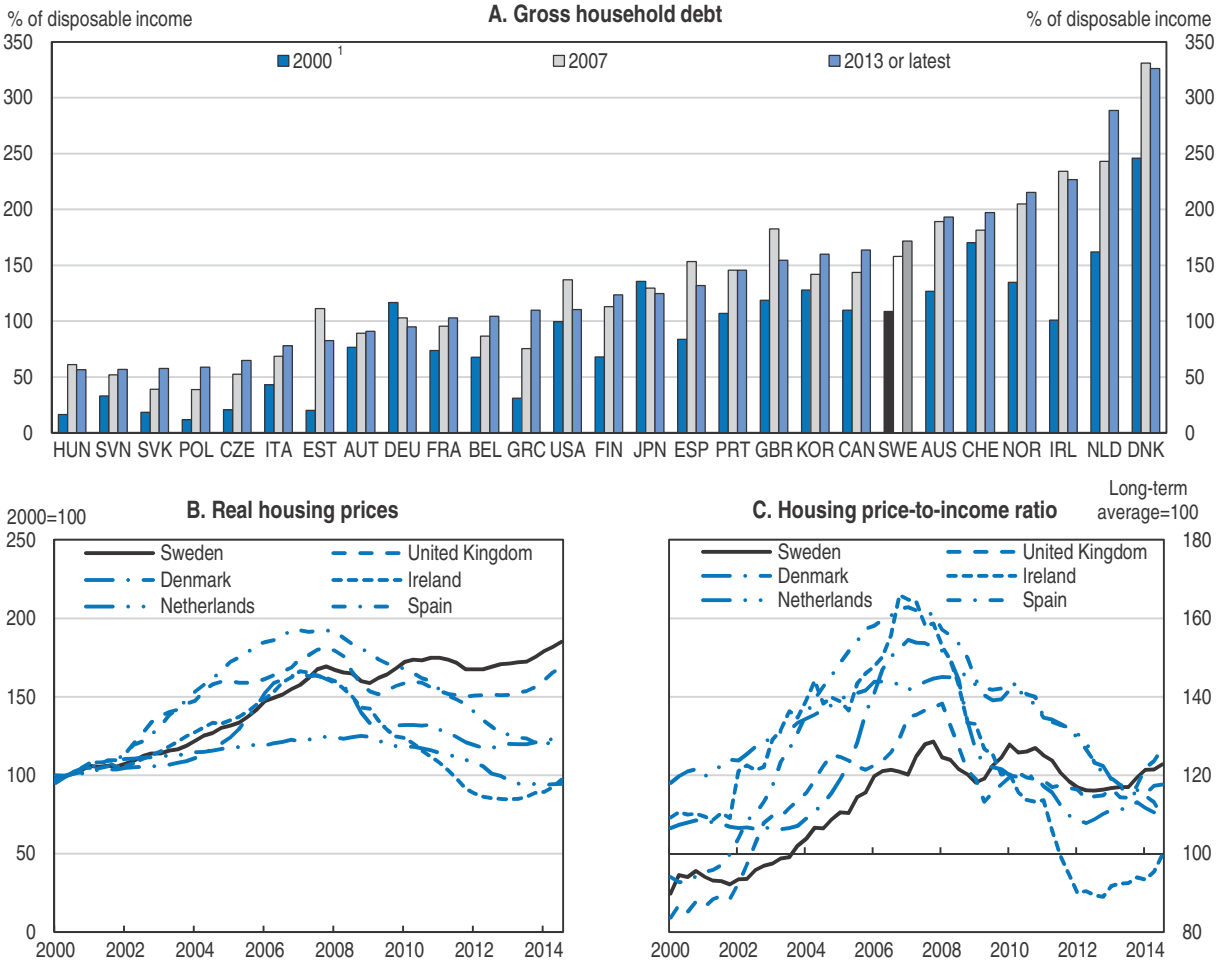
Maturity transformation is substantial in Swedish banks, which have large mortgage portfolios largely funded through market borrowing with an average maturity of about three years and often in foreign currency. This creates liquidity risks in case of stress in international financial markets. A minimum liquidity coverage ratio (the ratio of unencumbered liquid assets to net cash outflows over a 30-day period of liquidity stress) of at least 1 has been required since early 2013 and it is currently around 1.4. The banks also lengthened the maturity of their funding following the onset of the global financial crisis (Riksbank, 2014). Nevertheless, structural liquidity risks remain significant and funding needs to become more stable for illiquid assets. The systemic banks should strive to reach a net stable funding ratio of 100% as soon as possible.

Macro-prudential policy has a key role to play in containing household debt accumulation

Household debt and dwelling prices have soared over the past decade (Figure 7). The housing price-to-income ratio is about 20% above its long-term average, suggesting moderate overvaluation. This creates risks for households and the wider economy. While households look fairly resilient to higher interest rates, lower income and unemployment, high household debt entails significant macroeconomic risks, as deeply indebted households are likely to reduce consumption in response to adverse shocks (Dynan, 2012; Andersen et al., 2014; Bunn and Rostom, 2014). The probability of recession increases as household debt rises above trend, and downturns associated with high debt are generally deeper and more protracted than when debt is low (Sutherland and Hoeller, 2012). However, credit losses on mortgages are generally small and, as noted, banks have had to raise their risk weights on mortgages. For the financial system, risks may result from a maturity mismatch between assets and liabilities, as illustrated by the failure of a number of mortgage lenders that relied on short-term funding in the United Kingdom during the global financial crisis.

Very low policy rates generate risks of excessive financial imbalances. Against this backdrop, macro-prudential policy plays a key role in ensuring financial stability. A number of macro-prudential measures to rein in household debt have been introduced in steps. A cap of 85% on mortgage loan-to-value ratios was introduced in 2010. Minimum capital risk weights on mortgages were increased to 15% in 2013 and will rise to 25% in 2015. Swedes have a long history of paying only interest on home loans and a large share of households (close to 40% in 2013) do not pay down mortgage principal (Finansinspektionen, 2014b). The FSA will present a proposal to make holders of new mortgages repay capital until the outstanding loan is down to 50% of the initial value of the property, which is welcome. Macro-prudential measures entail a trade-off, as stringent rules risk lowering output

Figure 7. **Household debt and real housing prices are high**



1. 2001 for Ireland and Slovenia, 2002 for Korea.

Source: *OECD Economic Outlook database* and national sources.

StatLink http://dx.doi.org/10.1787/888933199019

growth and inflation, while soft rules would fail to deflect risks. The impact of the measures being implemented should be monitored closely and further action should be envisaged if growth in household debt picks up.

Structural measures to improve the functioning of the housing market could help moderate the increase in household debt, which is partly driven by high housing prices, although reverse causality is also at play. Such measures could include streamlining land-use planning and zoning regulations and increasing incentives for municipalities to allow building to improve supply responsiveness, limiting the tax bias in favour of home-ownership (preferably by phasing out mortgage interest deductibility) and easing rental market regulations to foster a more balanced tenure mix (Adalet McGowan, 2013). Improving access and affordability of housing would also enhance labour mobility and well-being.

Recommendations on policies to support the economic recovery

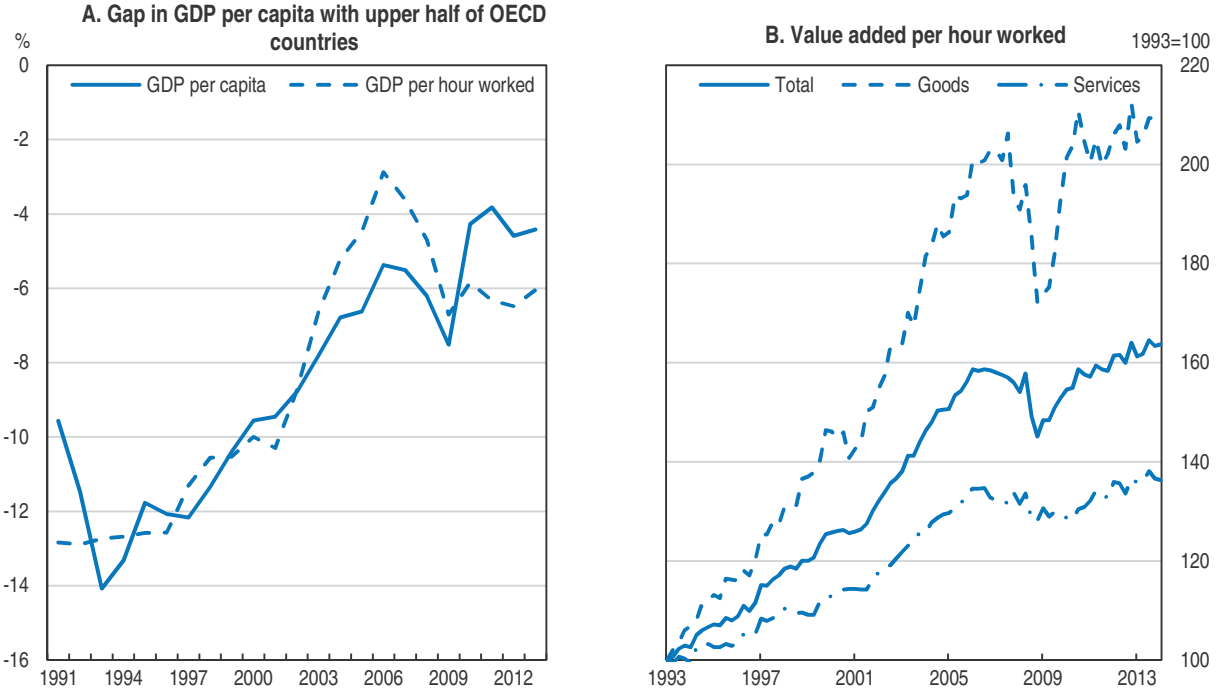
- Maintain expansionary monetary policy until inflation is clearly picking up.
- Continue to implement macro-prudential policies to contain the risks related to rising household debt. Consider phasing out mortgage interest deductibility.
- Maintain prudent fiscal policy and let automatic stabilisers work.

Strengthening foundations for growth

Sweden's GDP per capita is well above the OECD average and the gap with the leading economies has narrowed rapidly over the past two decades, partly as a result of the structural reforms implemented since the early 1990s to increase the competitiveness and flexibility of the economy (Figure 8, Panel A). Even though Sweden's performance remains strong from an international perspective, pushing up productivity further is proving difficult in the context of subdued global growth. Structural factors such as the increasing role of services in the economy, heightened international competition and the exhaustion of gains from earlier reforms have also hampered productivity advances. Since 2007, productivity growth has slowed markedly in the production of both goods and services (Figure 8, Panel B).

The robust performance of the Swedish economy is rooted in its ability to successfully integrate into global value chains (GVCs) in manufacturing, where different stages of the production process are located across different countries. But Sweden's competitiveness increasingly hinges on high-value-added services involving high skills and intangible

Figure 8. **Productivity is high but has slowed**



Source: OECD (2015), *Economic Policy Reforms 2015: Going for Growth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/growth-2015-en*; and Statistics Sweden.

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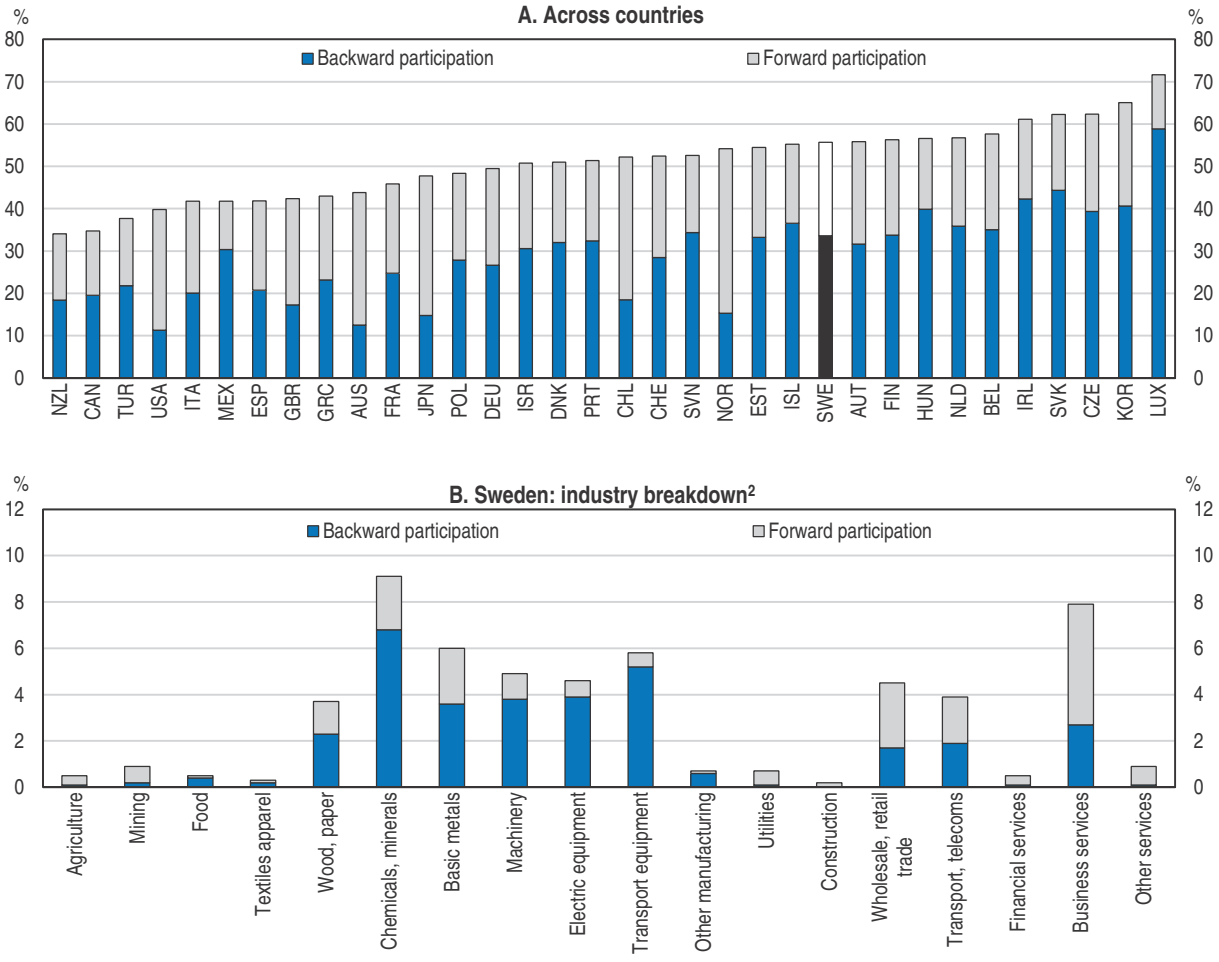
capital intensity. A strong knowledge-based economy has fuelled the growth of such services. Moreover, the content of services in goods exports is increasing, as manufacturing costs fall relative to those of services, production stages are increasingly offshored and Swedish firms move further up the value chain and towards more integrated supply of goods and services. Adequate market regulations, high-quality infrastructure, innovation capability and the availability of high-skilled workers are key to the development of the knowledge-based economy and stronger positions in GVCs, which ultimately fosters productivity growth and lifts living standards.

Sweden is among the OECD countries which participate most in GVCs (Figure 9, Panel A). This is partly related to its size, as small economies tend to source more inputs from abroad than larger ones (backward participation). Exports of most manufacturing sectors therefore embody a significant share of foreign inputs (Figure 9, Panel B). Swedish wood and paper, chemicals, minerals and basic metals also contribute largely to exports of other countries (forward participation). Reflecting its increasingly strong comparative

Figure 9. **Sweden is well integrated in global value chains**[1]

As a percentage of gross exports, 2009



1. 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.
2. As a percentage of total Swedish exports.

Source: OECD Global Value Chains Indicators (May 2013).

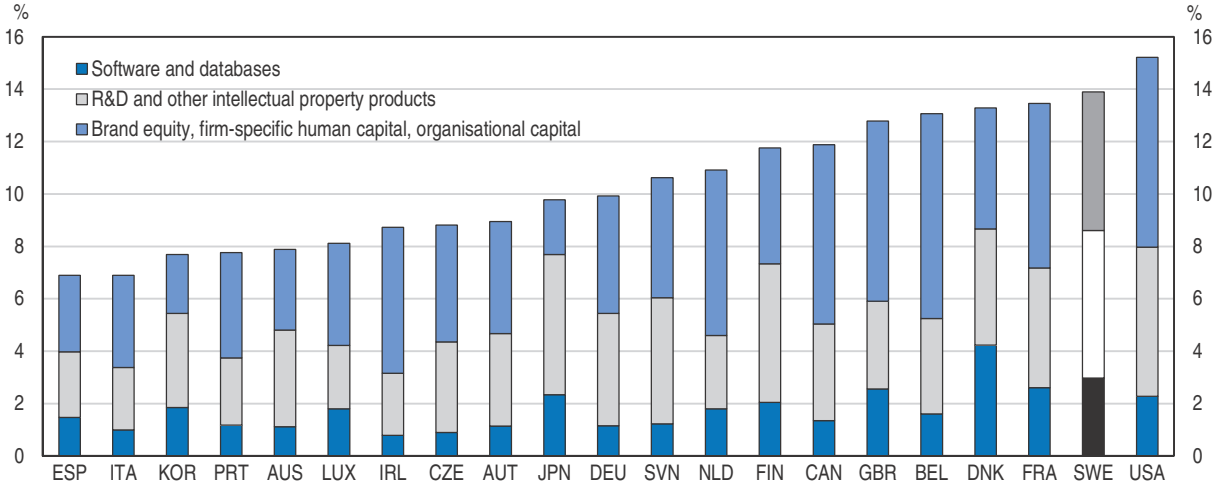
StatLink http://dx.doi.org/10.1787/888933199038

advantage in high-value services, Swedish inputs from wholesale and retail trade, transport, telecommunications and business services are widely incorporated into exports of other countries. Swedish firms have been moving up the value chain, which partly explains the increasing share of services in output. More value is created in upstream activities (e.g. R&D and product design) and downstream operations (e.g. marketing and customer services) than at the production stage, a pattern which has been accentuated over time by productivity gains in manufacturing and offshoring to low-cost production sites. Such activities require a high level of skills and intangible capital to allow firms to gain or retain a comparative advantage by differentiating their products from those of competitors.

In Sweden, intangible investment amounted to about 9% of GDP in 2010, close to the share of tangible business investment (Corrado et al., 2012). The investment intensity in intangible capital was second only to the United States, for countries where data are available (Figure 10). Patenting levels and the ratio of business R&D to GDP are among the highest in the OECD. But the non-R&D intangible capital base is also strong. In particular, management quality is estimated to be among the highest in the OECD, comparable to Canada, Germany and Japan, although slightly below the United States (Bloom and van Reenen, 2010). Fairly efficient markets favour the reallocation of resources towards knowledge-based activities (Andrews and Cingano, 2014).

Figure 10. **Intangible investment is high**

Percentage of value-added of the business sector, 2010 or latest data available



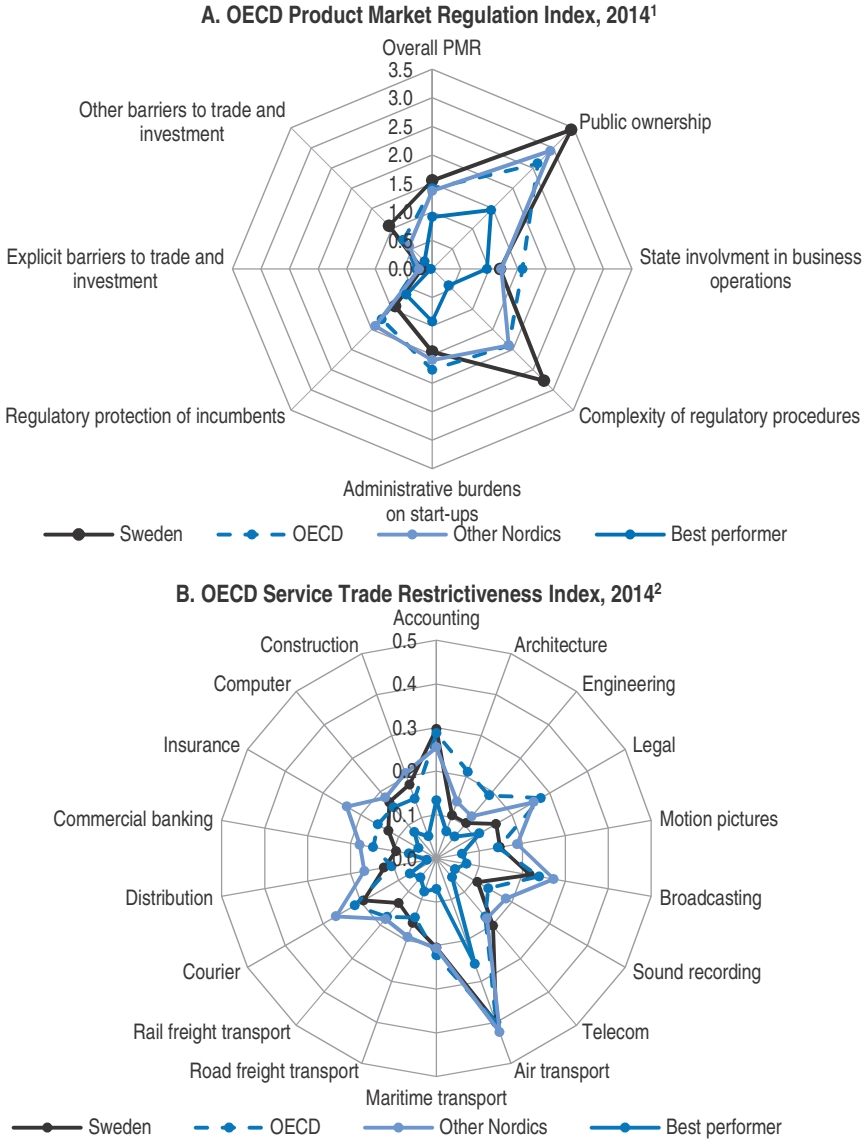
Source: OECD (2013), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/sti_scoreboard-2013-en.*

StatLink http://dx.doi.org/10.1787/888933199047

Lowering regulatory barriers to boost growth

Sweden's overall 2013 Product Market Regulation (PMR) indicator is close to the OECD average (Figure 11, Panel A; Koske et al., 2015). However, a number of OECD countries have leaner regulations, and while many countries have continued to streamline regulations, Sweden's PMR has barely changed over the past decade. As others have reformed, Sweden has therefore moved down the OECD ranking, from 9th in 2003 to 26th in 2013. Rankings should be interpreted with caution, as differences between OECD countries now tend to be small. Nevertheless, in a very competitive global environment, being among the countries with the best regulatory environment is an asset.

Figure 11. **Product market and service trade regulations could be eased further**



1. Index, scale of 0-6 from least to most restrictive.
2. STRI indices take values from 0 to 1, where 0 is completely open and 1 completely closed.

Source: Product Market Regulation Database, www.oecd.org/economy/pmr and *Services Trade Restrictiveness Index Regulatory Database, www.oecd.org/tad/services-trade/regulatory-database-services-trade-restrictiveness-index.htm.*

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Sweden has relatively complex regulatory procedures, in particular regarding licences and permits. It also stands out for a relatively high rate of public ownership of companies. Although state-owned enterprises (SOEs) operate on a commercial basis, based on the PMR indicator, some elements of their governance are weak. Some statutory corporations still exist which operate subject to tailored legislative frameworks.

Sweden's Service Trade Restrictiveness Index (STRI) scores are generally close to or below the OECD average (Figure 11, Panel B). However, the comparison with the OECD's best performers on these indicators suggests that there is room for lowering barriers further in accounting, broadcasting, telecoms, air and maritime transport and

construction. In most cases restrictions concern foreign entry, although restrictions on the movement of people also play an important role in accounting and construction, and restrictions to competition, particularly linked to public ownership, affect telecoms, courier services, air transport and construction.

Regulation in network industries is in line with the OECD average and similar to that of other Nordic countries, except for gas where Finland and Norway have tighter regulations. However, the governance of Swedish regulators seems to be at best on par with the OECD and EU15 average (Koske et al., 2015). A better balance of financing sources, as in Germany, would promote independence further. The scope of action of regulators is limited, especially because regulators do not issue industry and consumer standards, nor guidelines or codes of conduct. Finally, accountability tends to be limited, although there are differences across sectors, with electricity scoring best.

The rigidity of land-use and housing market regulations and the lack of competition in the construction industry in Sweden are detrimental to growth, employment and welfare (*OECD Economic Survey of Sweden 2012*; European Commission, 2014). Regulation is particularly burdensome in the case of complex construction projects, for both housing and office buildings (World Bank, 2014). The inefficient planning and zoning process, combined with tight rental market regulations, results in structural under-supply of housing, which hampers labour mobility. The complexity of planning rules also acts as a barrier to entry in the construction sector, pushing building costs up. The appeal process should be reviewed in order to reduce delays. Heavy regulation of input materials in construction contributes to high costs, and should also be addressed. The government has introduced legislation intended to speed up the planning process, and has announced that a new bill with proposals to streamline the appeal process will be presented in May 2015.

Infrastructure quality is high, but there is room for enhancements in some areas

Sweden's infrastructure is good by international standards, although not among the best. The country ranks 20th on infrastructure in the World Economic Forum 2013-14 Survey, and sixth on overall competitiveness. In the past, the social return on investment projects seems to have been fairly low (NIER, 2013). The transport infrastructure is seen as a "modest advantage", but not a key driver of Sweden's competitiveness (Ketels, 2012). The 2014-25 national transport plan aims at upgrading the transport system to reduce congestion and disruptions and social returns are a significant aspect of the plan. Funding is increased by 20% relative to the previous plan period and amounts to about 14% of 2013 GDP. The plan will improve road and rail maintenance and further develop transport infrastructure. More than 150 investment projects are identified, including road upgrades, new high-speed railways, an expansion of the Stockholm underground railway system and mining-related infrastructure.

Innovation is strong but policies need to adapt to a changing environment

Sweden is one of the innovation leaders in Europe, along with Denmark, Finland, Germany and Switzerland. Strong partnerships between big firms and public research, as well as public procurement processes, have favoured innovation. However, to reflect evolving production structures and international specialisation, innovation policies should broaden their scope, avoiding an overly narrow focus on high-tech and encouraging investment in all forms of knowledge-based capital.

Both direct government support for private R&D and tax incentives have a positive impact on business R&D spending across OECD countries (Westmore, 2013). Tax incentives have the advantage of resulting in a market-based allocation of resources, exempting governments from having to "pick winners". However, they tend to be less effective in generating research than grants and, in a globalised economy, tax credits may generate windfall gains for multinational companies. Sweden, like Finland, Germany and Switzerland, long had no R&D tax incentives. However, Sweden has recently introduced an R&D tax incentive scheme targeted mainly on SMEs. Scaling up fiscal incentives for R&D as a complement to direct funding schemes could increase flexibility and broaden the scope of supported innovations.

Direct government funding should lead to the selection of R&D projects with the highest marginal social returns, although this tends to be difficult in practice. The *OECD Review of Innovation Policy in Sweden* (OECD, 2013b) suggests expanding current direct innovation funding for SMEs and broadening the scope of intervention to non R&D-based innovation, including in services and creative industries. In many fields, innovation is dependent on demand, calling for a greater focus on user needs and societal dimensions in policies, as well as using public procurement in new ways.

The *OECD Review of Innovation Policy in Sweden* shows that the Swedish innovation system is characterised by relatively limited ministry leadership, a multitude of strong agencies, decentralisation and traditional sectoral technology policies involving public-private partnerships. The complexity of the system raises co-ordination and governance issues. Funding of innovation-related activities is scattered between about 20 mostly mid-sized agencies, with high ambitions but often modest budgets. Streamlining the research and innovation system to create stronger players would facilitate their integration into international research and innovation networks. The government has set up an Innovation Council. The Council will focus on creating jobs and fostering sustainable growth through identifying obstacles to innovation, protecting and developing current areas of strength, and improving co-ordination between policies and actors to improve the efficiency of public support. A broad dialogue with external actors will be the main input to the Innovations Council´s work. Two areas have so far been identified for the Innovation Council Agenda, namely life sciences and climate technologies. Although Sweden performs external evaluations of government-funded activities, their coverage is still uneven. Further enhancement of evaluations would reinforce efficiency and help policy design (OECD, 2013b).

Entrepreneurship is strong but further support could help firms to grow

SMEs accounted for 57% of value added and 65% of private sector jobs in 2012. Furthermore about 90% of new jobs created over the past 20 years were in SMEs, especially young growth firms (gazelles). However, young firms face challenges, both in very early stages and subsequently when trying to scale up their operations. Overall access to finance is fairly good by international standards, even for SMEs (European Commission, 2013). Nevertheless, almost one third of Swedish companies report difficult access to finance as the main obstacle to tangible investment. For a quarter of firms, it is also the main obstacle to investment in intangibles (Boumediene and Grahn, 2014). Financing further growth seems even more difficult (OECD, 2014c). The World Bank has recently suggested that Sweden could increase the coverage of credit information, clarify its legal framework for secured lending, strengthen the protection of minority shareholder rights, and make the

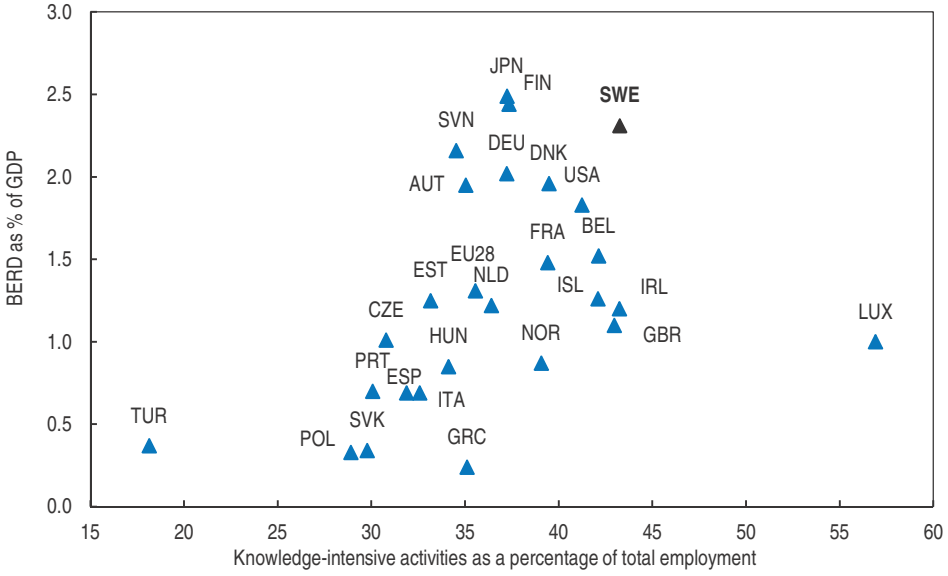
processes for both registering property and resolving insolvency speedier and less costly (World Bank, 2014). Such measures would lower financing constraints by fostering the development of debt and equity instruments and platforms for corporate finance. The development of non-traditional investment vehicles in SME and entrepreneurship finance (e.g. asset-based lending, alternative forms of debt, crowdfunding and hybrid instruments) can support innovation and growth provided a regulatory framework which balances financial stability, investor protection and the opening of new financing channels for SMEs is in place (OECD, 2015).

Continued investment in human capital and skills is essential

Sweden's specialisation in the knowledge-based economy reflects the availability of a wide pool of skilled workers. It is crucial for Sweden to retain its advantage in skills to sustain competitiveness and living standards. Across OECD countries, a high level of business R&D is strongly associated with knowledge-intensive employment and Sweden is a leading country in these areas (Figure 12).

Figure 12. **R&D expenditure and knowledge-intensive jobs go together**

Business Enterprise R&D Expenditure 2012[1]



1. Data for Iceland, Turkey and the United States refer to 2011; for Japan to 2010.

Source: Eurostat.

StatLink http://dx.doi.org/10.1787/888933199060

Recommendations on strengthening foundations for growth

- Simplify regulatory procedures, in particular regarding licences and permits.
- Streamline land-use planning and zoning regulations and increase incentives for municipalities to release land.
- Invest to improve the quality of roads and rail, with careful consideration of social returns.
- Continue to broaden support for innovation and enhance co-ordination of innovation and research policies. Lower financing constraints by fostering the development of debt and equity instruments and platforms for corporate finance.

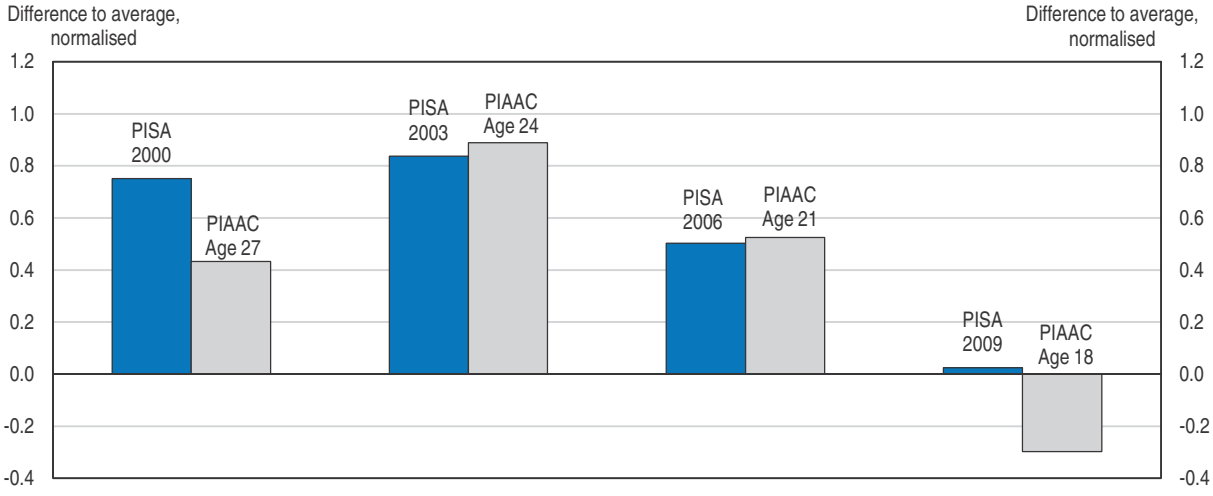
Enhancing the skills and integration of disadvantaged groups

Reversing the slide in young people's skills

Both educational attainment and skills, as measured in the OECD Survey of Adult Skills (PIAAC), are high in Sweden. However, over the past decade Sweden has experienced the most rapid decline of all OECD countries in the performance of 15-year olds in the OECD Programme for International Student Assessment (PISA). From a position well above average in 2000, Sweden fell below average in 2012. Low PISA performance is consistent with weaker results of younger cohorts of Swedish adults in PIAAC (Figure 13; OECD, 2012d; OECD, 2013c). Learning outcomes depend on a range of factors, such as teachers' skills, working methods, curriculum and classroom discipline, as well as school leadership, resource allocation and governance and how these factors fit together within the wider education policy framework.

Figure 13. **Young adults show no signs of catching up from low PISA scores**

Comparison of mean reading scores in PISA with literacy scores in PIAAC for the corresponding cohorts[1]



1. The test score averages are normalised by the cross-country PISA and PIAAC averages and standard deviations for comparison reasons. A three-year band is used in the Survey of Adult Skills to increase size and reliability of estimates, i.e. the group "adults 24" consists of the age group from 23 to 25. The mix of countries contributing to the average in PISA and PIAAC differs, which may contribute to differences in countries' average scores relative to the overall averages in either study.

Source: Survey of Adult Skills (2012) and OECD, *PISA 2009 Database*, Table A5.6 (L).

StatLink http://dx.doi.org/10.1787/888933199078

Good teachers and school principals are critical to student outcomes, but Sweden currently struggles to attract the best students into teaching. Only 5% of Swedish teachers report that their profession is valued in society, as against 60% in Finland. The attractiveness of the profession and motivation of teachers could be raised through more wage progression and clearer career paths. Job satisfaction could be improved by increasing flexibility with respect to working hours outside of the classroom, expanding autonomy on ways to reach learning targets, enhancing coaching and feedback, and granting teachers more influence on issues concerning pupils and the working environment (OECD, 2014e). Freeing up teacher resources by reducing administrative burdens would give teachers more time to teach and prepare for teaching and enable principals to engage more in pedagogical leadership. Measures to improve career paths and reduce the administrative burden have been progressively implemented since 2012, and efforts continue. Teacher quality could be

enhanced through more rigorous teacher education. For example, Finnish teachers receive extensive training in detecting learning difficulties and adapting instruction accordingly, are subject to higher requirements in school subjects and go through longer and higher-quality supervised teaching practice (OECD, 2011a).

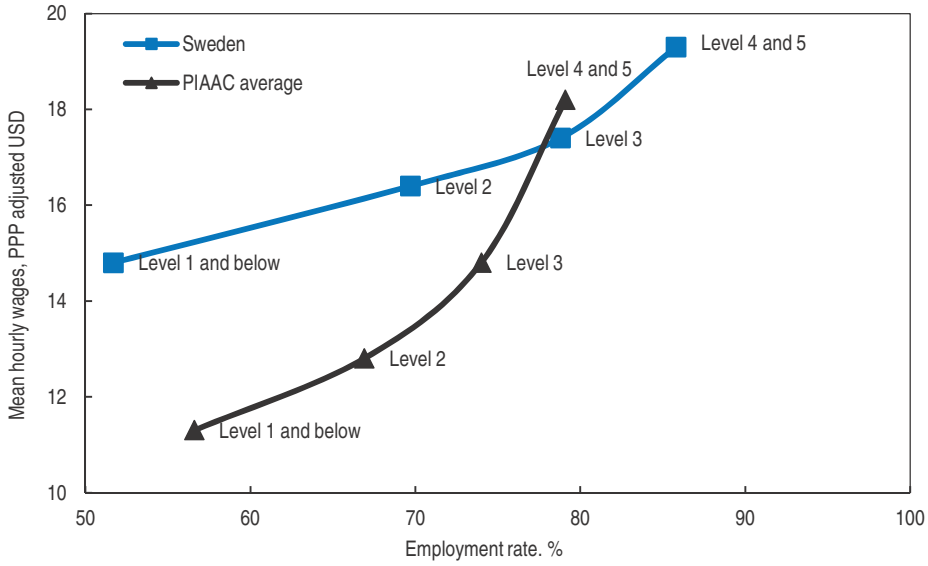
School results started to deteriorate before the decentralisation reforms in the 1990s, but these reforms seem to have accelerated the slide as learning targets became unclear and more responsibility for learning was given to pupils. Following the decentralisation, resources per pupil and teachers' wages fell, partly as a consequence of larger student cohorts and tight budget constraints imposed by the economic downturn. Poor organisation, lack of expertise and unclear responsibilities are still major issues in many municipalities two decades after the reforms (SNAE, 2011; Schools Inspectorate, 2014). Much of the administrative burden facing teachers stems from central and local government interventions to regain control after student results started deteriorating. The school choice reforms implemented in 1992, one allowing for publicly funded private schools ("independent schools") and the other giving pupils the right to choose schools freely, seem to have had a minor positive impact on results, but may have contributed to inequalities (Holmlund et al., 2014; Wondratschek et al., 2013; Böhlmark and Lindahl, 2015). Going forward, Sweden should ensure that education policy proposals are evidence-based, consistent over time, accepted by relevant stakeholders and implemented at a measured pace. One way of achieving this would be to consolidate existing institutions in charge of advising on and supervising education policies into a council of experts and stakeholders tasked with evaluating the appropriateness and consistency of education policies. Such a permanent council, with a secretariat consisting of independent academics and council members representing expertise from academia, teachers' unions, municipalities and other central stakeholders, could also guide the formation of a long-term reform programme.

Early interventions for struggling students improve the chances of successful student outcomes, which in turn facilitates future labour market integration. Both high formal qualifications and high skills are necessary to succeed in the Swedish labour market (Bussi and Pareliussen, 2015). High minimum wages and rigid employment protection pose additional barriers to the low-skilled and those with low qualifications (Figure 14). Enhancing skills is all the more critical as specialisation is increasing demand for high-skilled workers. Adult education is well developed in Sweden and helps many struggling students obtain skills and qualifications later in life. However, most pupils who fall behind early on have difficulties catching up, highlighting the importance of giving children from all social backgrounds the opportunities and the support they need to succeed in compulsory school.

Municipalities are responsible for the allocation of resources to schools, but many allocate insufficient resources to schools with a disadvantaged socio-economic mix of pupils (SNAO, 2014). This should be addressed, if necessary by more centralised control of school financing. The planned increase in support for disadvantaged schools as from 2015 is a step in the right direction. Pre-school classes for six-year-olds are already well attended, but making this first year compulsory, as foreseen, could improve the attendance of children from disadvantaged socio-economic backgrounds, who will benefit the most. Better aligning resources with needs would also make it possible to reward teachers and school principals who work in challenging areas, as disadvantaged students gain most from good teachers and principals (Böhlmark et al., 2012).

Figure 14. **Skills and labour market outcomes**

Mean hourly wages and employment rates by PIAAC skill levels



Source: OECD (2013c), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, Tables A6.3 and A6.4, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264204256-en*.

How to read this figure: Sweden shows high employment rates for middle- and high-skilled individuals, but low employment for the low-skilled (Level 1 and below). At the same time wages are high for those low-skilled individuals who are employed and wages increase less with skills than for the PIAAC average, indicating that high minimum wages reduce employment prospects for the low-skilled in Sweden.

StatLink *http://dx.doi.org/10.1787/888933199086*

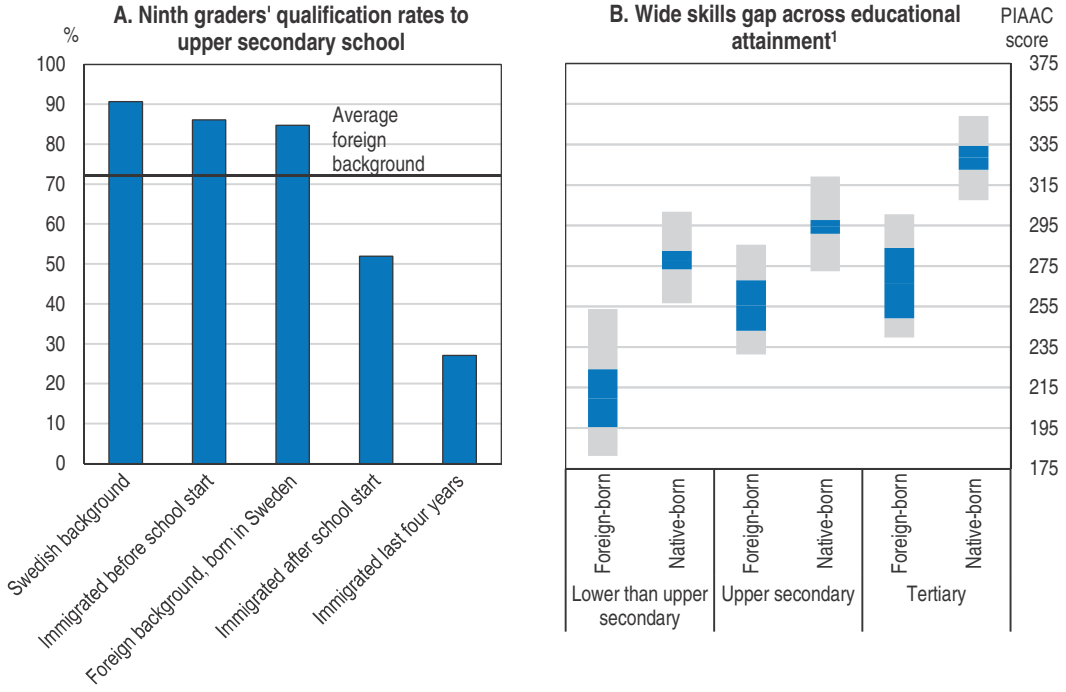
Only 74% of Swedish teachers report that their school provides extra assistance to students with special needs, the second lowest percentage in the OECD behind Mexico (OECD, 2014e). Despite a recent easing of procedures to procure support, decisions are often taken at the principal level without sufficient analysis and oversight of what happens in the classrooms. Poor co-ordination with municipalities and unclear allocation of responsibilities further reduce chances that the necessary resources reach those students who need them most (Schools Inspectorate, 2014). Special needs teachers in Sweden require one and a half year of extra studies, which is not sufficiently reflected in better wages and career paths.

Labour market outcomes of Swedes without an upper secondary diploma are poor. Upper secondary participation is already 98%, but roughly one in ten students drops out. A reform of vocational education and training in 2011 increased co-operation with employers and aimed at better aligning education with labour market demand. Enhanced academic content and high-quality work placements would improve learning outcomes and could increase completion rates (OECD, 2012c). Students who fail to qualify for the upper secondary school national programmes have since 2011 had access to five "introductory programmes". These programmes can be valuable alternatives for students who lack passing grades in a few subjects and can help fill knowledge gaps among immigrants. Equipping students with the right skills to benefit from further education or find jobs should have priority over expanding their stay in school (OECD, 2011b). Learning and labour market outcomes of the Introductory Programmes ought to be monitored closely.

Improving language training for immigrants

In 2013, 16% of Sweden's population was born abroad. The immigrant population is set to increase further in the coming years, and many immigrants are asylum seekers and refugees who need more help to integrate than those who migrate for employment (OECD, 2013d). Seventy-four per cent of children immigrating less than five years before the end of compulsory school and 48% of those immigrating after school starts, fail to qualify for the national upper secondary programmes (Figure 15, Panel A). Immigrant pupils who struggle with the Swedish language study Swedish as a Second Language instead of regular Swedish classes. Of the 9% of ninth-grade students enrolled to study Swedish as a Second Language in 2013, 26% failed, meaning that they also automatically failed to qualify for the national upper secondary programmes. The reception of immigrant children and how they catch up, especially in the Swedish language but also in other subjects, is crucial. It requires effective provision of extra support and well-functioning reception classes.

Figure 15. **Immigrants struggle in school**



1. The interquartile range is depicted in grey. The mean's 95% confidence interval is depicted in blue.

Source: SNAE (2014), *Betyg i grundskolan årskurs 9 läsår*, No. 2013/14, Table 1C and OECD Survey of Adult Skills (2012).

StatLink http://dx.doi.org/10.1787/888933199099

Adult immigrants have lower literacy proficiency than natives irrespective of educational attainment, harming their labour market prospects (Figure 15, Panel B; Bussi and Pareliussen, 2015). Swedish Tuition for Immigrants is provided free of charge by municipalities to all immigrants above compulsory school age, except Norwegians and Danes. Refugees have strong incentives to participate since non-participation may lead to the loss of benefits. "Step in Jobs", a subsidised employment scheme for immigrants, is contingent on participating in Swedish Tuition for Immigrants, while New Start Jobs, a similar scheme with a slightly lower subsidy but no strings attached, creates incentives to go straight into work without necessarily continuing Swedish Tuition for Immigrants. For some

immigrants, the short-term benefit of going into a New Start Job may come at the cost of failing to develop the language skills that would improve the chances of successful integration in society and the labour market in the long term (SNAO, 2013). Still, for immigrants without much formal education, learning Swedish may be as effective in the workplace as in a classroom. Some employers may also hire under New Start Jobs as an alternative to apprenticeships and the new Vocational Introduction Contract. Hence, the envisaged cap on the New Start Jobs subsidy from 2015 is welcome.

Reducing labour market barriers

High minimum wages set by the social partners hamper access to jobs for the low-skilled (Forslund et al., 2014; Eliasson and Skans, 2014). The government has increased work incentives for low-wage earners over recent years with several tax breaks, notably the Earned Income Tax Credit. However, the employment effects are small for some of the tax breaks, which leads to hiring one group of workers instead of another with limited aggregate effect and generates high deadweight costs, as many beneficiaries would be employed even without the tax break. In particular reduced social security contributions for youth and reduced VAT in restaurants seem to bring limited benefits compared to their costs (Fiscal Policy Council, 2014). To increase employment prospects for the low-skilled further, social partners should allow more flexibility in entry wages. Furthermore, increasing the room for employers to differentiate wages locally to take into account company performance and to reward skills, efforts and experience would support employment and work incentives (NIER, 2014).

Sweden's employment protection legislation for regular contracts is the strictest in the Nordics, and the gap between permanent and temporary contracts is among the highest in the OECD. Even though temporary contracts help youth and vulnerable groups gain work experience and many of them subsequently move to permanent employment, temporary jobs have tended to become more concentrated on vulnerable groups, especially immigrants and those with low qualifications, and transitions from temporary jobs to inactivity are fairly common (*OECD Economic Survey of Sweden 2012*). Looser employment protection legislation on regular contracts would help these groups get a more solid foothold in the labour market.

Recommendations on improving skills and making growth more inclusive

- Raise the attractiveness of teaching by increasing monetary incentives, offering clearer career paths, and improving teacher education.
- Increase support for struggling students, including immigrants, through early intervention and targeting resources based on socio-economic background.
- Enhance support and incentives for immigrants to learn Swedish.
- Consider consolidating existing institutions in charge of advising on and supervising education policies into an education policy council.
- Reduce the gap in employment protection between permanent and temporary contracts and increase flexibility in entry level wages.

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ANNEX

Progress in structural reform

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

Macroeconomic and financial stability policies

Recommendations in previous *Surveys*	Actions taken
If the economic outlook turns out to be weaker than projected, the government should let the automatic stabilisers work in full. In the event of a sharp or prolonged downturn, discretionary stimulus would be warranted.	In response to weak economic growth, the government has let the automatic stabilisers work in full and has provided additional support to the economy foremost through corporate and personal income tax cuts.
The Riksbank should use the room it has to lower the interest rate further if weak inflationary pressures and the slowdown in activity persist longer or are more pronounced than expected.	In response to persistently below-target inflation, the Riksbank has cut policy rates several times between December 2013 and October 2014, when they were set at zero.
Address gaps in the macro-prudential toolkit to supervise and influence financial institutions. Clarify the role of and relationship between the Riksbank, the Financial Supervisory Authority, the National Debt Office and the Ministry of Finance.	In 2014, the Financial Supervisory Authority was given the main responsibility for all macro-prudential tools, complementing micro-prudential and consumer protection duties. A Financial Stability Council was created to ensure close dialogue between stakeholders. Macro-prudential measures have been taken, including raising minimum capital requirements and risk-weights on mortgages.
Consider introducing a leverage ratio as a backstop to the risk-weighted capital measures. Continue to closely monitor banks' progress in reducing their wholesale funding dependence and further improve their liquidity reporting framework.	No leverage ratio has been introduced. Monitoring of liquidity positions has been enhanced, extension of the maturity of funding has been encouraged and reporting requirements on liquidity coverage ratios have been strengthened.

Labour market and social policies for greater inclusion

Recommendations in previous *Surveys*	Actions taken
Reduce the gap between the labour cost and the productivity of workers at risk. The government should continue talks with social partners to develop employment contracts that improve employment opportunities for such workers. Studies on the impact of minimum wages on employment should be commissioned and published regularly.	The earned income tax credit has been increased in multiple steps, reducing pressure on gross wages in the lower part of the wage distribution. The Vocational Introduction Contract, an apprenticeship offering youth 75% work practice and 25% education has been eligible for public support since January 2014.
Consider extending the coverage of unemployment insurance by easing the entitlement conditions in terms of duration of past work, and moving to a system with mandatory contributions to unemployment insurance.	No action taken.
Develop further apprenticeship programmes and work placement in vocational education.	Vocational Introduction Contracts have been eligible for public support since January 2014. Subsidies to employers who take on apprentices have been increased. A remuneration for apprentices has been introduced.

Policies to enhance the efficiency of capital taxation and the housing market

Recommendations in previous *Surveys*	Actions taken
Move towards more neutral taxation across types of assets. In particular, to tax owner-occupied housing like other assets, a tax on imputed-rent would be first-best. A property tax based on market value could proxy imputed-rent taxation. Alternatively, abolish mortgage interest deductibility.	No action taken.
Phase out the restrictions on apartment rentals, including on buying an apartment to rent it out. Continue to phase out rent controls so as to more closely align rents with market values.	Rules on rent setting and notification periods for sublets have been eased in 2013.

Climate change mitigation policies

Recommendations in previous *Surveys*	Actions taken
Continue to gradually phase out exemptions to the carbon tax. Clarify the role and the expected costs and benefits of the long-term priority to have a fossil-fuel independent vehicle fleet by 2030.	The tax rate for diesel was increased in 2013. Carbon tax exemptions to industry outside the EU ETS, agriculture, forestry and fish farming have been gradually reduced. The tax refund granted for diesel used as propellants in agriculture and forestry has gradually been decreased.

Thematic chapters

Chapter 1

Strengthening the foundations for growth

Productivity growth, which is key to sustaining competitiveness and high employment, has slowed in recent years. This reflects cyclical but also structural factors, notably the increasing role of services, heightened international competition and the exhaustion of gains from previous deregulation. Barriers to competition and entrepreneurship remain high in some areas, including regulatory procedures regarding licences and permits, and land-use planning. Bottlenecks appear in road and rail transport. Public support for innovation is strong but remains fragmented and faces the challenge of adapting to an economy in which services and SMEs play a growing role. The government has recently set up an Innovation Council to identify obstacles to innovation and improve co-ordination between policies and actors.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

After more than a decade of strong growth following the structural reforms of the 1990s, productivity decelerated in recent years. Beyond the cyclical slowdown resulting from the global financial and economic crisis, structural factors may continue to weigh on productivity going forward. The robust performance of the Swedish economy is rooted in its ability to exploit its comparative advantages to successfully integrate into global value chains in manufacturing, but also increasingly in services. A strong knowledge-based economy has led to growing specialisation in high-value added services, as reflected in large current account surpluses generated ever more by exports of services. Moreover, the content of services in goods exports is increasing, as manufacturing costs fall relative to those of services, production stages are increasingly offshored and Swedish firms move further up the value chain and towards more integrated supply of goods and services. Hence, competitiveness increasingly hinges on high-value added services with high skill and intangible capital intensity. Adequate market regulations, high-quality infrastructure, innovation capability and availability of high-skill workers are key to investment in the knowledge-based economy and strengthening positions in global value chains, which ultimately fosters productivity growth and lifts living standards. Services oriented towards the domestic market offer additional opportunities for growth and employment and could be encouraged by lowering further regulatory barriers in domestic product markets.

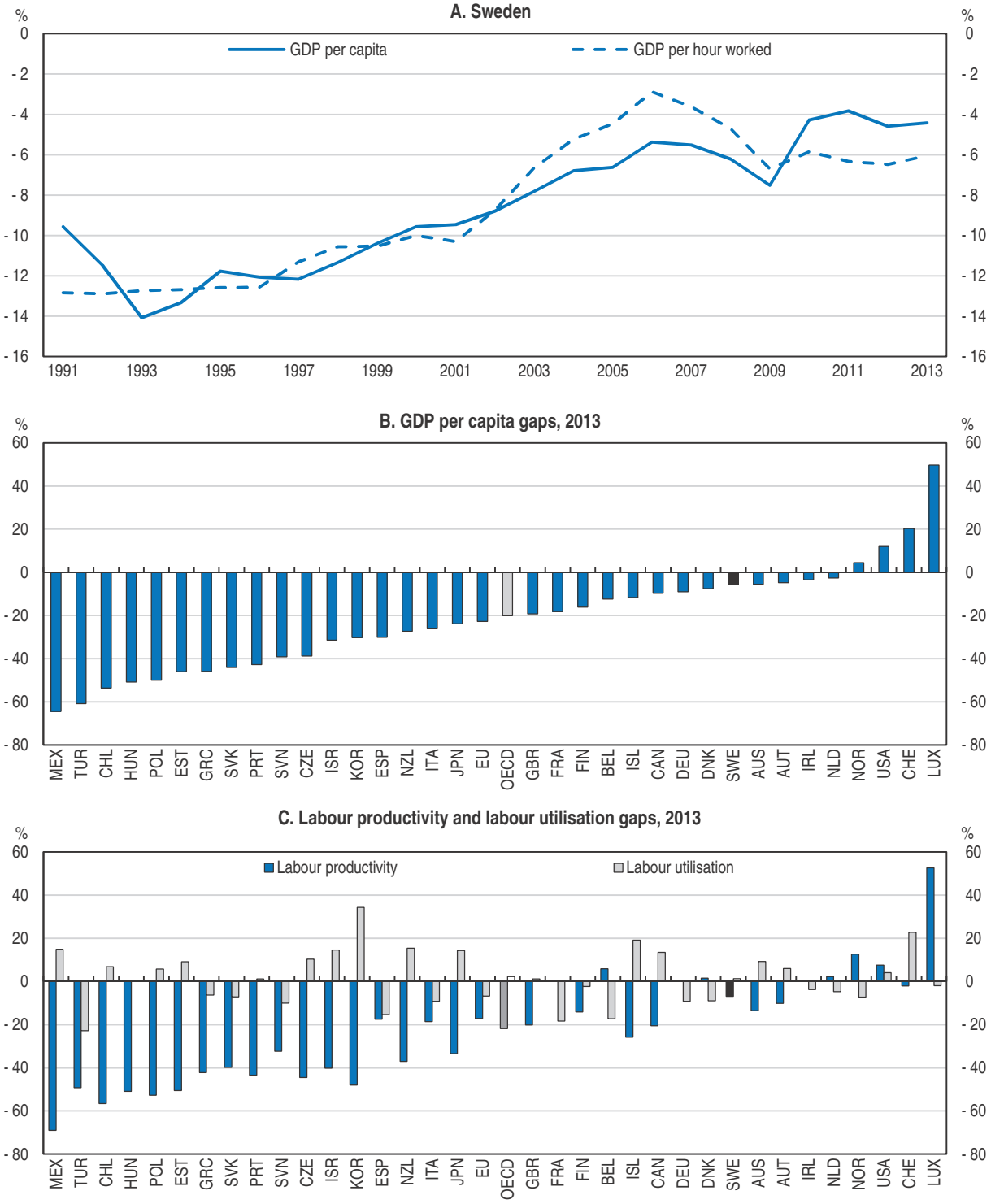
Productivity is high but growth has slowed in recent years

Sweden's GDP per capita is well above the OECD average and the gap with the leading economies has narrowed at a fast pace over the past two decades (Figure 1.1, Panel A). Nevertheless, Sweden still trails the best performers. For example, the gap with the United States is about 20% (Figure 1.1, Panel B). The largest part of the gap *vis-à-vis* top performers results from lower productivity (Figure 1.1, Panel C).

Productivity growth was strong before the global financial and economic crisis. After the deep and protracted downturn of the early 1990s, the Swedish economy rebounded strongly. Structural reforms to increase the competitiveness and flexibility of the economy, stability-oriented macroeconomic policies and a large depreciation of the exchange rate paved the way for more than a decade of sustained output growth. Between 1995 and 2007, Swedish productivity grew faster than in most countries with comparable initial output per hour worked (Figure 1.2).

Pushing up productivity further is proving difficult in the current global economic environment. Since 2007, productivity growth has slowed markedly in the production of both goods and services (Figure 1.3, Panel A). To a large extent, the slowdown in productivity is cyclical, as labour input did not fully adjust to the fall in demand resulting from the global economic crisis. The fall in output per hour worked during the 2008 recession was much sharper than in the United States, both because output fell more, reflecting the vulnerability of a small open economy with a strong manufacturing base to external shocks, and because the number of hours worked fell less. Swedish productivity rebounded, although it is now growing much more slowly than in the pre-crisis years, as in most OECD countries (Figure 1.3, Panel B).

Figure 1.1. **Gaps in GDP per capita and productivity have narrowed**



Source: OECD (2015), *Economic Policy Reforms 2015: Going for Growth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/growth-2015-en.*

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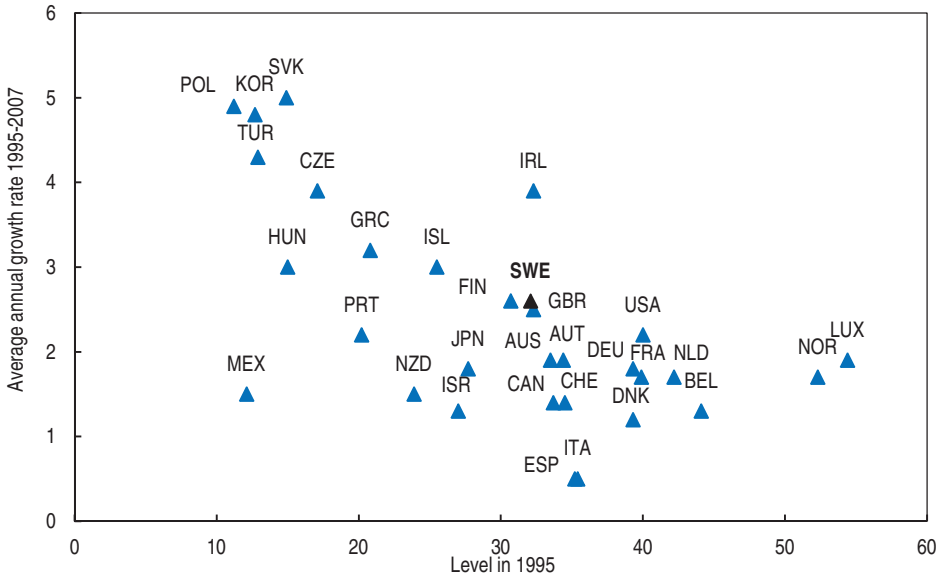
Figure 1.2. **Labour productivity growth since the mid-1990s has been impressive**[1]



1. Labour productivity refers to GDP per hour worked, in constant 2005 USD-PPP.
Source: OECD Productivity database.

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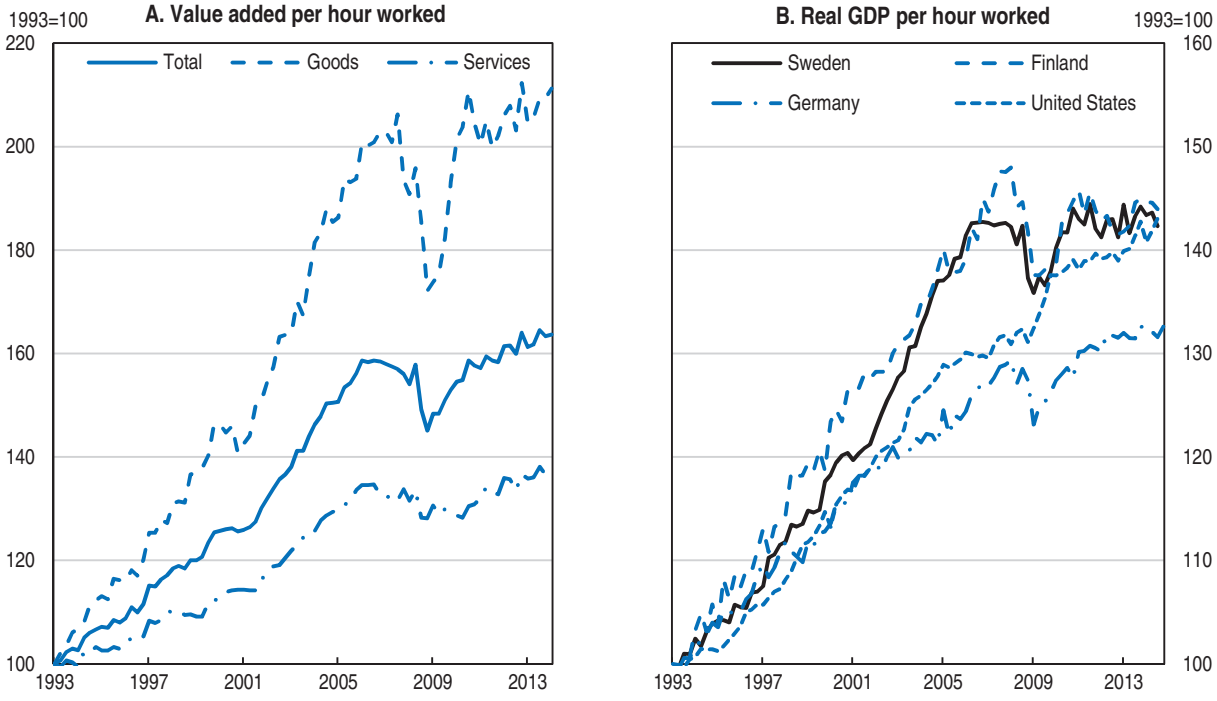
Figure 1.3. **Labour productivity growth has slowed**



Source: Statistics Sweden and *OECD Productivity database.*

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Even though the sluggish recovery in the global economy is the main reason for slow productivity growth, structural factors also seem to be at play. Productivity developments are determined by global factors as well as specificities of the Swedish economy. At the global level, long-term growth is largely related to progress in technology. Progress associated with the expansion of ICT may be slowing, although the future role of ICT in driving global growth is highly uncertain (Box 1.1). But policies also play a crucial role in creating an environment conducive to innovation and optimal organisation of production. Sweden faces the challenge of sustaining high productivity growth as the economy is increasingly shifting from manufacturing to services and confronting tougher international competition from emerging countries, including in high-productivity sectors. Furthermore, productivity gains associated with the wave of deregulation in the 1990s are progressively disappearing.

Box 1.1. **Global long-term growth prospects**

Projecting future output growth is challenging, as its main driver, total factor productivity (TFP) is largely determined by technical progress, which occurs in a non-continuous manner and is mostly unpredictable. The recent economic downturn has revived the old debate on whether the world is heading for secular stagnation or renewed expansion. This box presents the central OECD long-term growth scenario to 2060 and summarises the main arguments underlying pessimistic and optimistic views.

According to OECD long-term projections, OECD trend output growth is set to recover to an average of 1.75 to 2.25 per year after the difficulties associated with the legacy of the global financial crisis are overcome. This is lower than in previous decades, especially as a result of lower labour input due to population ageing. For Sweden, GDP growth is projected to average 2% over 2011-60, down from 2.5% over 1995-2011. Across the OECD, growth could be significantly increased by structural reforms, notably in countries where current policy settings are weak. For example, pension reform can increase labour force participation, restoring well-functioning financial markets lowers the cost of capital and encourages investment, and easing product market regulation fosters competition, which raises productivity (Johansson et al., 2013).

Nevertheless, the most critical and uncertain parameter in assessing growth prospects is technical progress. Gordon (2012) argues that the wave of innovation associated with information technology and the Internet, which boosted US productivity between 1995 and 2004, has largely run its course. Combined with headwinds from ageing, declining education, rising inequality, global competition, environmental challenges and high consumer and government debt, slower innovation could lower real consumption per capita annual growth for 99% of the population to below 0.5% for decades. Although the analysis is US-specific, it is relevant for any country close to the efficiency frontier, where growth is mainly driven by innovation. However, Gordon's pessimistic view is disputed. Byrne et al. (2013) show that semiconductor technology has continued to progress rapidly in recent years. They see a "reasonable prospect" that this could lift back US non-farm business sector labour productivity growth to its long-term average of 2.25%.

Output growth is mainly driven by rising productivity in manufacturing and business services

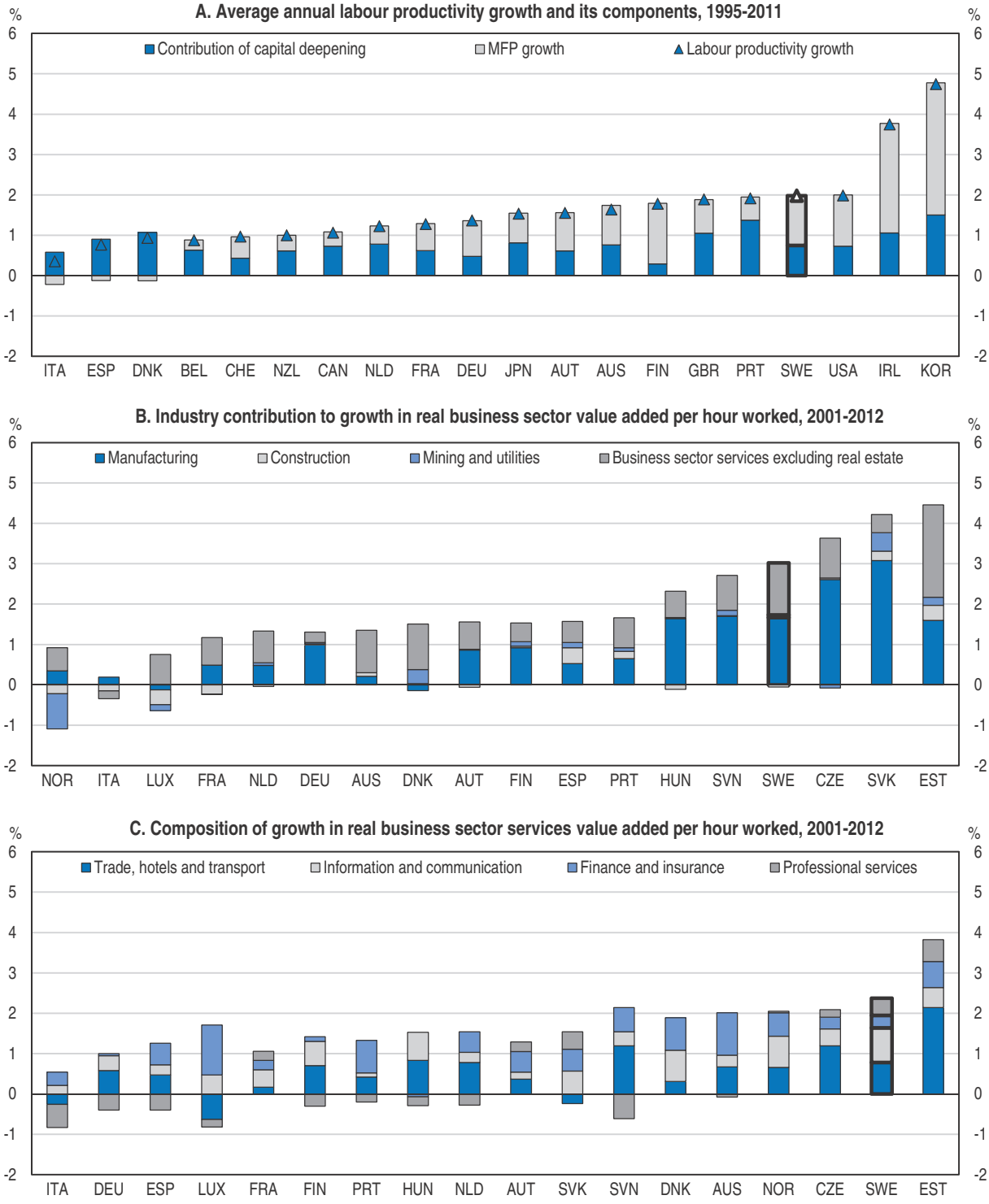
Labour productivity growth since the mid-1990s has been primarily driven by rising multifactor productivity (MFP), although capital deepening also contributed. MFP's contribution to labour productivity growth has been as high in Sweden as in the United States and, among comparable countries, has been surpassed only in Finland, Korea and Ireland (Figure 1.4, Panel A). Industrial structures have evolved markedly over the past decades, notably as a result of rising income, deepening globalisation and structural reforms. Shifts of resources towards more productive industries are only a modest driver of productivity growth. In Sweden, as in most other OECD countries, productivity gains mostly result from intra-industry developments (Box 1.2). Hence, it is chiefly the reorganisation of production processes within industries that has been pushing up productivity. The analysis of the integration of Sweden in global value chains below will shed light on this process. Manufacturing and business services contributed respectively about 60% and 40% of labour productivity growth between 2001 and 2012 (Figure 1.4, Panel B). The contribution of construction, mining and utilities was negligible. Within the business service sector, trade, hotels and transport along with information and communication contributed most, but finance, insurance and professional services also played a large part. The performance of professional services is particularly noteworthy in European comparison (Figure 1.4, Panel C).

The contribution of different growth factors varies across sectors

Statistics Sweden's detailed growth accounting provides further insights into the factors driving economic performance, both at the macroeconomic and sector level (Hagén, 2011). In particular, it provides a breakdown between information and communication technology (ICT) and non-ICT capital and between labour quantity – hours worked – and quality – changes in the composition of the labour force, notably in terms of education profile. Although this is a very comprehensive evaluation of inputs, part of the intangible capital stock – e.g. copyrights, licences, brands and organisational capital – is not taken into account and hence its contribution to growth is recorded as MFP improvement. The role of intangible capital in fostering growth is analysed in more detail below.

Growth drivers vary substantially from one sector of the economy to another (Figure 1.6). In the production of goods, MFP plays an overwhelming role, contributing 3 percentage points (pp) to the sector's value-added annual growth between 1993 and 2013, even though it has stagnated since 2007. In contrast, the contribution of capital has been modest – 0.5 pp, shared fairly evenly between ICT, R&D and other capital – and that of labour slightly negative. Output growth has been more modest in services, but with more balanced contributions from inputs and MFP. While MFP contributed 1.4 pp, capital deepening accounted for 0.4 pp, half of which from ICT, and labour services added 1.5 pp, of which about 40% is related to quality enhancement. Hence, higher labour input, both in terms of quality and quantity, plays a decisive role in generating service value added, whereas its direct contribution to the production of goods is very limited. Furthermore, both labour and MFP have continued to push up service output since 2007, while their contribution to goods output diminished.

Figure 1.4. **Productivity growth has been strong in manufacturing and business services**



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

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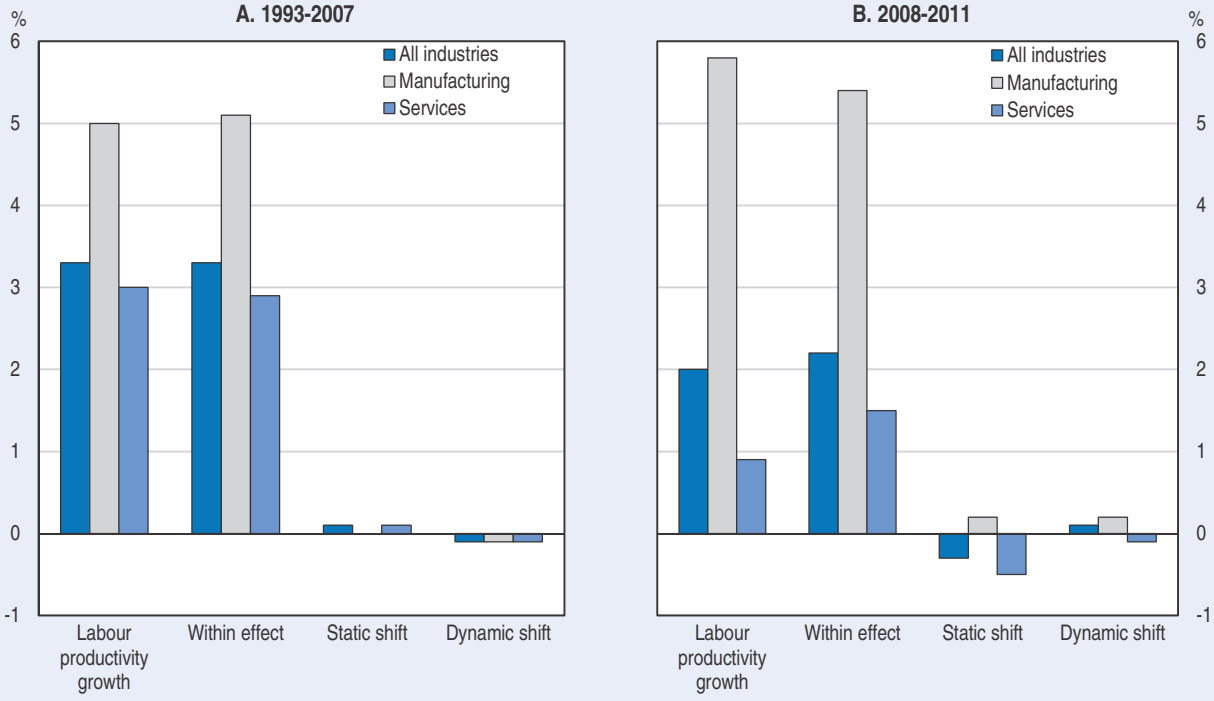
Box 1.2. **Shift-share analysis of productivity growth**

Aggregate productivity growth can be decomposed into gains within industries and gains from the reallocation of resources across industries. More formally, productivity may be decomposed into three effects (Fagerberg, 2000; Andersson, 2006): 1) the within effect measures productivity change holding the structure of the economy constant; 2) the static shift effect accounts for the reallocation of labour towards industries with higher productivity levels; 3) the dynamic shift effect represents the effect of the reallocation of labour towards industries with higher productivity growth. In Sweden, as in most other OECD countries, the within effect is overwhelmingly dominant, both before and after the global financial crisis (Figure 1.5).* Shift effects are negligible during the 1993-2007 expansion, both when considering all industries (excluding education, health, public administration and real estate services, where productivity measurement is unreliable) and when looking at manufacturing and services separately. The situation is broadly similar during the downturn, although there has been a small shift towards less productive services, possibly related to improved work incentives for low-paid jobs.

Figure 1.5. **Shift-share analysis of productivity growth**

Annual growth rates



Source: OECD Structural Analysis database and OECD calculations.

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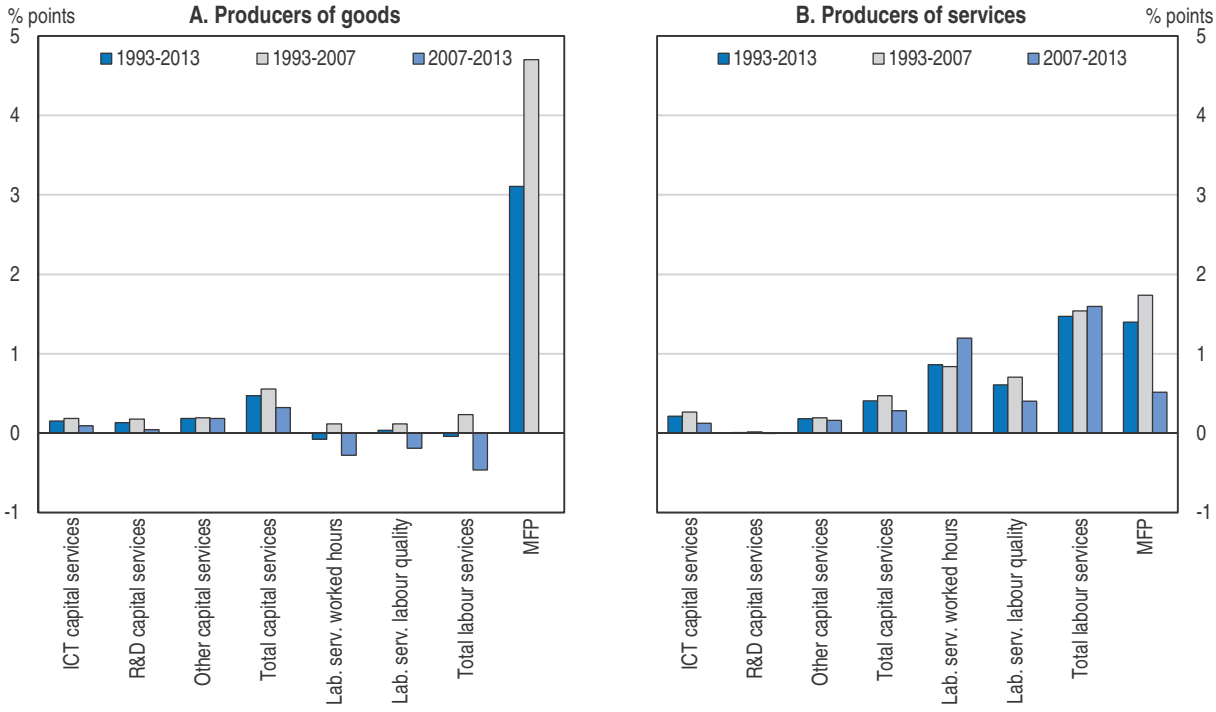
This analysis is consistent with the view that economic specialisation tends to evolve slowly (Johansson and Olaberria, 2014) and that productivity growth is mainly driven by within-industry reorganisation, both through the entry of new firms (Andersson, 2006) and through the reorganisation of production within global value chains (OECD, 2013b).

* For comparisons across countries, see Mora Sanguinetti and Fuentes (2012).

Figure 1.6. **Contributions to growth vary across sectors**

Average annual contributions



Source: Statistics Sweden.

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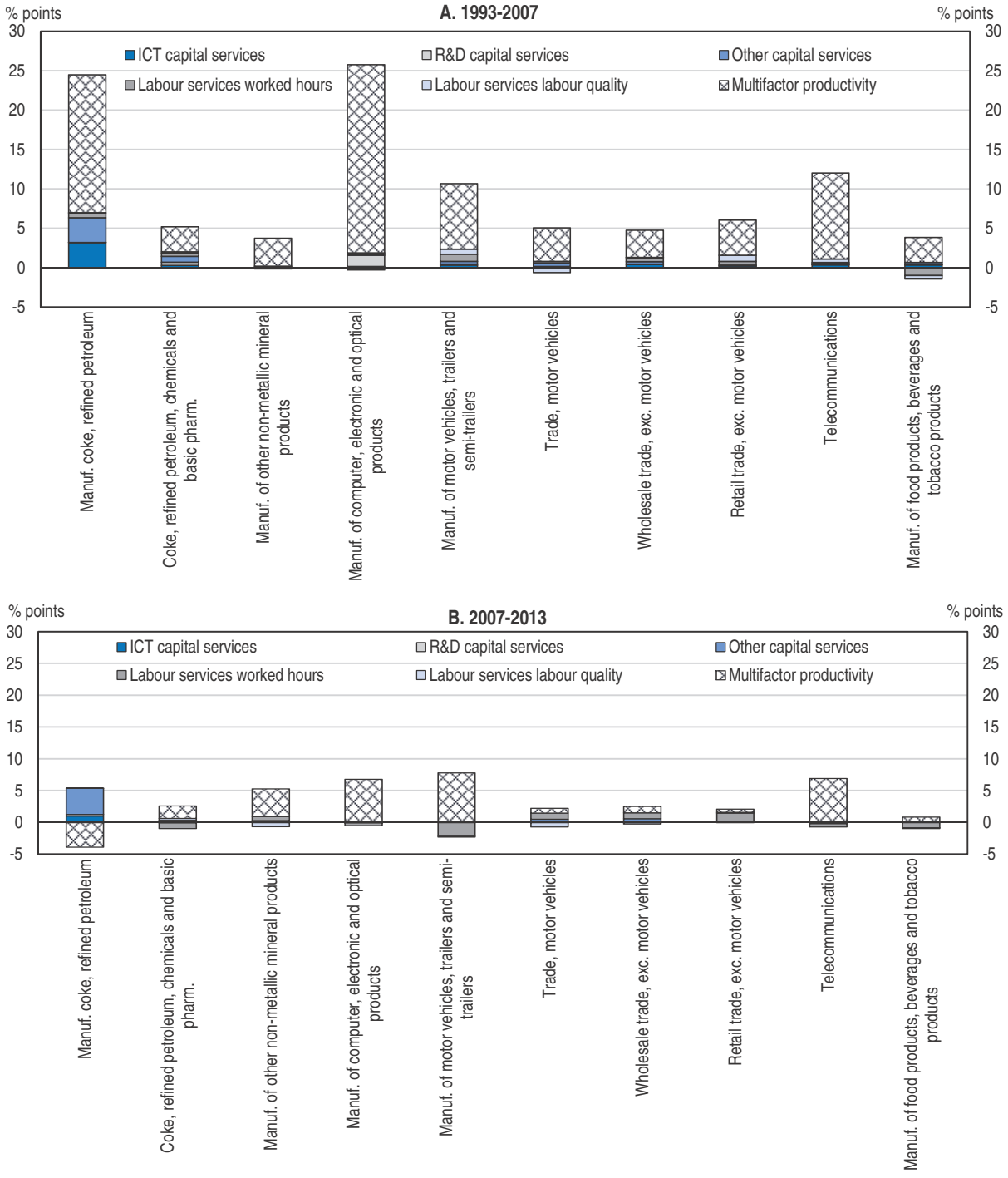
A more detailed sectoral analysis sheds further light on growth trends. Although growth has slowed down markedly since 2007, it remains robust in some manufacturing industries and telecommunications (Figure 1.7). This suggests that these industries still have strong growth potential. Productivity has slowed down noticeably in wholesale and retail trade, partly for cyclical reasons, but maybe also because of an exhaustion of the potential for improvement after two decades of sustained expansion.

The economy is increasingly open and specialised in service-intensive activities

Over the past decades, economies around the world have become ever more integrated, as spectacular progress in ICT lowered communication costs considerably and trade liberalisation and regulatory reforms in key transport and infrastructure sectors facilitated the fragmentation of production across countries. Economies increasingly specialise according to their comparative advantage in stages of production rather than sectors (Baldwin, 2012; Backer and Miroudot, 2013). The organisation of production along global value chains (GVCs) raises global productivity by increasing specialisation, boosting competition and generating economies of scale. Empirically, there is a strong positive relation across OECD countries between labour productivity growth and increases in the ratio of exports to GDP (OECD, 2013a). The literature establishes links between trade and productivity more formally (for a review, see Kowalski and Büge, 2013).

Figure 1.7. **Growth decomposition in industries achieving fast expansion since the mid-1990s**

Average annual growth contributions



Source: Statistics Sweden.

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But dependence on GVCs also creates challenges, both at the firm and the macroeconomic level. Companies need agility to adapt to rapidly evolving international demand and comparative advantage. This in turn requires flexible economic structures and a low burden of unnecessary regulation . Besides, while specialisation may yield high returns, it increases the vulnerability of the economy to sector-specific shocks, as illustrated by the impact on the Finnish economy of the recent collapse of Nokia's mobile phone business. Adjustment can be costly both in economic and social terms and policies have a key role to play in smoothing transitions. Flexible product and labour markets facilitate the reallocation of resources and increase the ability of firms to seize new business opportunities. Well-designed social safety nets protect dismissed workers while providing incentives and support for return to work. They also play a key role in macroeconomic stabilisation by smoothing consumption. The design of policies with longer-term implications, in particular relating to innovation, intellectual property rights, product and labour market regulations, competition, skills, foreign trade and investment, requires taking into account sources of comparative advantage and value added and their potential evolution over time.

Sweden is strongly integrated in global value chains

Sweden participates deeply in GVCs (Figure 1.8, Panel A). This is partly related to its size, as small economies tend to source more inputs from abroad than larger ones (backward participation). Sweden, like other Nordic countries, is also a very open economy with a positive attitude towards trade. Extensive social safety nets facilitate acceptance of structural change in response to evolutions in the international economic environment (Valkonen and Vihriälä, 2014). Exports of most manufacturing sectors embody a significant share of foreign inputs (Figure 1.8, Panel B). Swedish wood and paper, chemicals, minerals and basic metals also contribute largely to exports of other countries (forward participation). Reflecting increasingly strong comparative advantage in high-value added services, Swedish inputs from wholesale and retail trade, transport, telecommunications and business services are largely incorporated into exports of other countries.

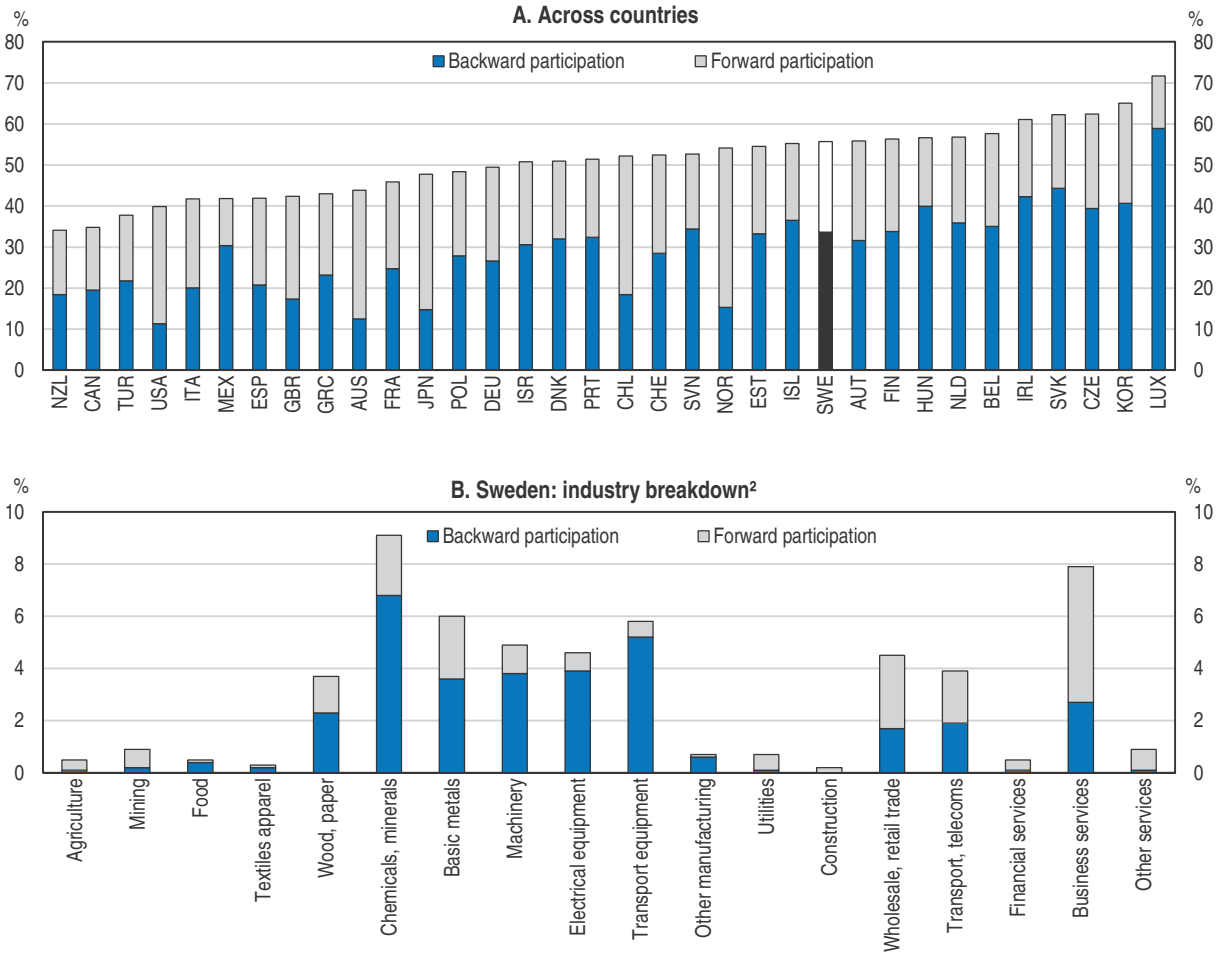
The country's comparative advantage is increasingly in high-value added services

Historically, Sweden has benefitted from a comparative advantage in resource-intensive production, like pulp and paper, steel, and mining. Over time, as technology and the skills of the workforce evolved, specialisation has moved increasingly towards high-value added services, although Sweden's industrial base remains among the strongest in the OECD. More than half of the value of total exports relates to services. About 70% of services incorporated in exports are produced locally.

International specialisation can be assessed through revealed comparative advantage (RCA) indices, which compare the share of specific industries in the country's exports to the world share of the industry in world exports. RCA indices are computed on the basis of domestic value-added in exports rather than gross exports to account for the role of imported intermediate inputs. Sweden has a larger number of sectors with an RCA index above one than most EU countries, although less than Denmark and the Netherlands (OECD, 2013b). The large number of industries where Sweden has a comparative advantage, which has increased over time, reduces the vulnerability of the economy to external shocks (Kaitila and Virkola, 2014). RCAs are high in wood and paper, machinery and equipment, basic metals, fabricated metal products and transport equipment

Figure 1.8. **Sweden is well integrated in global value chains**[1]

As a percentage of gross exports, 2009



1. 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.
2. As a percentage of total Swedish exports.

Source: *OECD Global Value Chains Indicators* (May 2013).

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(Table 1.1). In metals and machinery and equipment, Sweden's RCA has increased between 1995 and 2009. In metals, very few other OECD countries saw their RCA rise over the period, the main exceptions being Slovenia and Turkey. Austria, Germany, Slovenia and the other continental Nordics have also seen their RCA in machinery and equipment increase. Sweden's RCA in transport equipment has remained broadly stable, whereas most countries with comparative advantage in 1995 have reinforced their position, except for Canada and Spain. The countries whose RCA in transport equipment rose most were Hungary, Korea, Poland, the Slovak Republic and Turkey. Except for Korea, this mainly reflects integration in global manufacturers' GVCs. In wood and paper, Sweden's RCA has eroded somewhat albeit less than in Canada, Finland and Norway, while Chile, Estonia, Iceland and New Zealand have reinforced their position.

Overall, comparative advantage at industry level is relatively persistent, except in a few sectors, such as electrical equipment, where positions evolve rapidly. Comparative advantage in advanced economies is based on factors which are difficult for rivals to

Table 1.1. **Revealed comparative advantage in manufacturing**

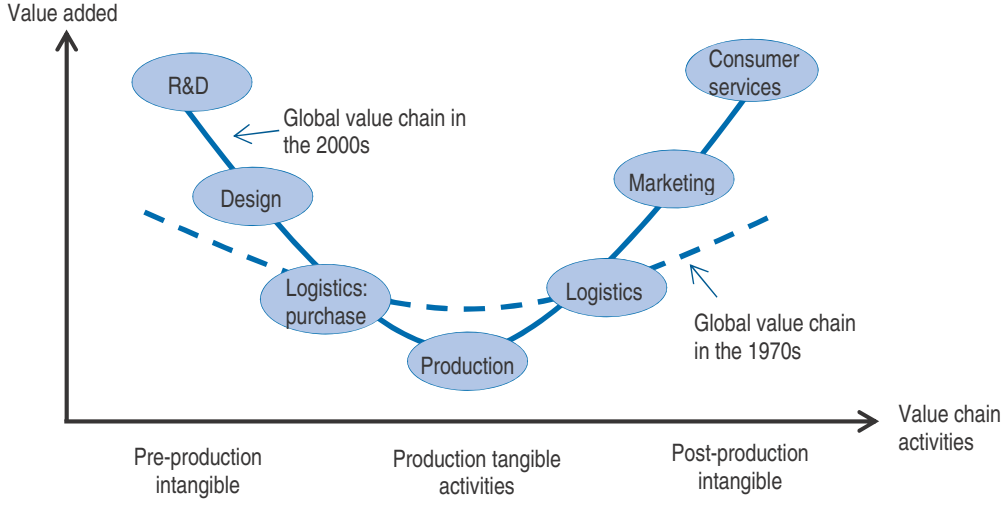
Based on domestic value added embodied in gross exports

	Food products, beverages and tobacco	Textiles, textile products, leather and footwear	Wood, paper, paper products, printing and publishing	Chemicals and non-metallic mineral products	Basic metals and fabricated metal products	Machinery and equipment, nec	Electrical and optical equipment	Transport equipment	Manufacturing, nec; recycling
1995	0.32	0.20	3.17	0.75	1.16	1.23	0.78	1.15	0.74
2000	0.37	0.15	2.88	0.81	1.16	1.27	0.93	1.06	0.76
2005	0.42	0.16	2.70	0.85	1.19	1.33	0.86	1.12	0.57
2008	0.43	0.14	3.08	0.81	1.23	1.51	0.73	1.03	0.83
2009	0.36	0.14	2.96	0.81	1.37	1.61	0.70	1.08	0.79

Source: OECD TiVA database.

replicate, such as knowledge, innovation capability, brands, licences, databases, skilled workforce and organisational capital. Services of increasing quality also contribute to moving up the value chain in industries where a country already has technological capacity and comparative advantage (Nordås and Kim, 2013). Firms build on such strengths to maintain or reinforce their competitive positions, but this also requires agility to adapt to a quickly changing business environment and seize opportunities offered by advances in technology and globalisation. Swedish firms have been increasingly moving up the value chain, which partly explain the increasing share of services in output. Schematically, the distribution of value added along a GVC can be described as a "smiling" curve (Shih, 1996; Baldwin, 2012; OECD, 2013b). More value is created in upstream and downstream activities than at the production stage, a pattern which has been accentuated over time by productivity gains in manufacturing and offshoring to low-cost production sites (Figure 1.9). Upstream activities include R&D and product design. Downstream activities include marketing and customer services. Such activities require a high level of skills and intangible capital, which allows firms to gain or retain a comparative advantage by differentiating their products from those of the competition.

Figure 1.9. **The smiling curve: Value added along the GVC**

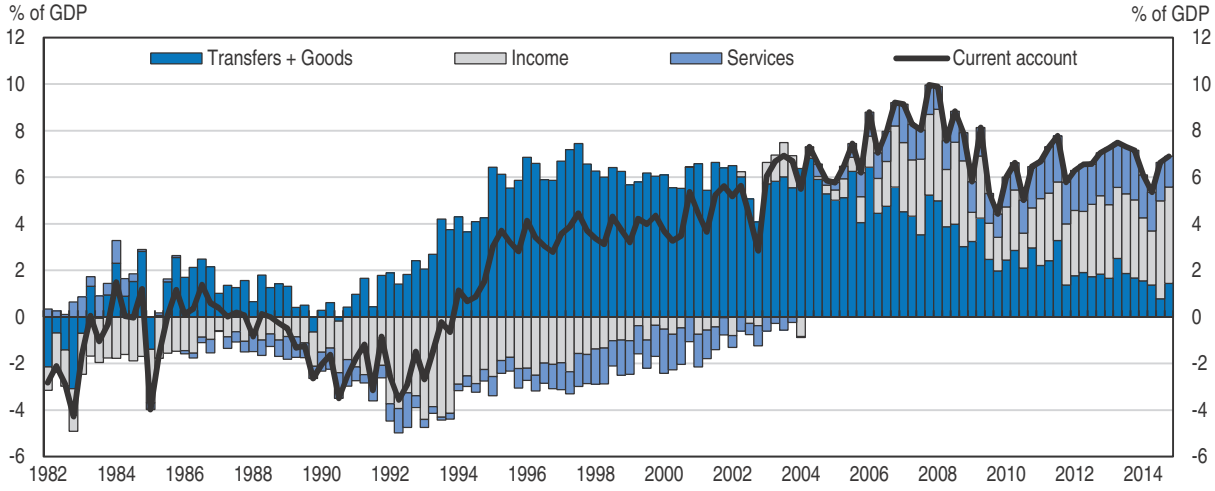


Source: OECD (2013b), *Interconnected Economies: Benefiting from Global Value Chains*.

Services have become the main source of trade surpluses

Although goods still account for about two thirds of gross exports, current account surpluses are increasingly generated by exports of services. Since the mid-1990s, current account surpluses have been large, culminating at more than 9% of GDP in 2006. While the current account surplus has remained high as a share of GDP over the past decade, it has moved from almost entirely reflecting a surplus on goods to being dominated by a surplus on services, along with a rising contribution of foreign income (Figure 1.10). The positive balance of income reflects higher returns on Swedish investment abroad than on foreign investment in Sweden, as the international net asset position remains slightly negative. Merchanting – the purchase of a good by a resident from a non-resident and its subsequent resale to another non-resident, without the good entering or leaving the country, recorded as a service export – amounted to about 2% of GDP in 2013, up from less than 1% a decade ago. This represents nearly half of the improvement in the balance of services over the period and reflects increasing Swedish multinational firms activity abroad.

Figure 1.10. **The services surplus has been rising**



Source: OECD Main Economic Indicators.

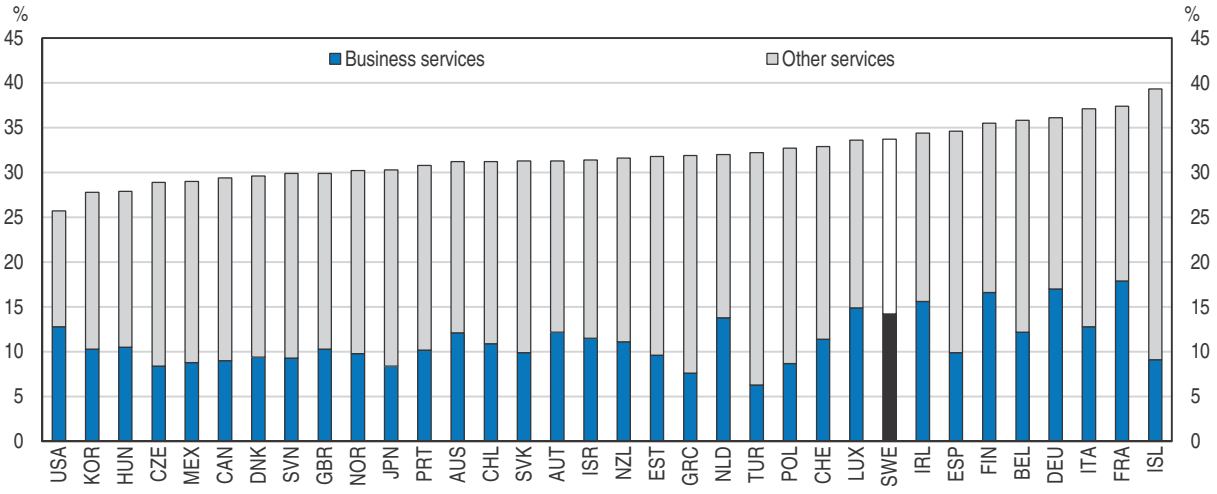
StatLink http://dx.doi.org/10.1787/888933199179

Business services, particularly ICT and engineering services, are the other main contributors to the surplus. Moreover, services account for an increasing share of the value embodied in exports of goods. In 2009, more than a third of the value added embodied in manufacturing exports was from services. The contribution from business services was among the highest in the OECD (Figure 1.11).

Swedish foreign trade has become more diversified geographically compared to the mid-1990s, which may reduce vulnerability to regional economic shocks, although increased integration in GVCs creates new vulnerabilities to shocks to specific parts of the supply chains. The share of trade with the four largest EU countries and the United States declined even before 2007. Conversely, trade with other Nordic countries, as well as China, Poland and Russia has increased (Table 1.2).

Figure 1.11. **Services account for a large share of the value added embodied in manufacturing exports**

Services value added embodied in manufacturing exports, 2009[1]



1. Distribution services for final goods are not included.

Source: OECD-WTO Trade in Value Added database, May 2013.

StatLink http://dx.doi.org/10.1787/888933199180

Foreign direct investment is high relative to GDP

Mirroring strong integration in global trade, the stocks of Swedish investment abroad and foreign investment in Sweden are high as share of GDP (Figure 1.12, Panel A). Both inward and outward investment increased rapidly before the global economic crisis but remained broadly flat in nominal terms thereafter, declining somewhat as a share of GDP. Nevertheless, Sweden has continued to invest heavily abroad, ranking fourth in the OECD for outward FDI relative to GDP in 2013 (Figure 1.12, Panel C). Inward investment has been lower, although it remained above the OECD average and comparable to the inflow into the United Kingdom in 2013.

The bulk of Swedish FDI abroad takes place in OECD countries, which accounted for 88% of the stock as of end 2012 (Table 1.3). However, the share of OECD countries in the flow of FDI over 2008-12 is only 64%. In terms of broad regions, the contrast between flows and stocks is less pronounced, although the share of Swedish investment in Asia tends to increase while it declines in the Americas. Most Swedish FDI in Asia and an increasing part of FDI in the Americas and Europe goes to non-OECD countries. These developments are in line with the general pattern of globalisation, where foreign trade and investment increases more within regions than across continents (Baldwin, 2012; OECD, 2013b). FDI in Sweden is still heavily dominated by OECD countries. Even though FDI from non-OECD countries is expanding, it remains modest.

Rising FDI reflects a tendency to serve foreign markets through local production rather than through exports, coupled with unbundling of GVCs to exploit comparative advantage. Nearly half of the stock of both inward and outward FDI relates to manufacturing, but FDI in services is also important, especially in financial intermediation, trade and real estate (Table 1.4). To some extent, outward FDI is a substitute to domestic investment. However, in vertically-integrated industries FDI and domestic investment are complementary (Braunerhjelm et al., 2005). Hence outward FDI can also contribute to creating activity and jobs in Sweden.

Table 1.2. **Geographical breakdown of foreign trade**

	1995	2007	2013
	A. Destination of Swedish exports, in % of total exports		
European Union (27 countries)	57.4	60.8	56.1
Norway	7.9	9.4	10.5
Germany	13.2	10.4	9.7
Finland	5.1	6.2	7.0
Denmark	6.6	7.4	6.7
United Kingdom	9.8	7.2	6.4
United States	8.1	7.6	5.8
Netherlands	5.6	5.1	5.2
Belgium	..	4.6	4.8
France	5.3	5.0	4.4
China	1.5	1.9	3.6
Poland	1.2	2.4	2.7
Italy	3.7	3.2	2.3
Russian Federation	0.9	2.0	2.1
Spain	2.1	2.9	1.6
	B. Origin of Swedish imports, in % of total imports		
European Union (27 countries)	68.3	71.7	69.2
Germany	20.6	18.3	17.4
Norway	7.5	8.5	8.9
Denmark	7.5	9.1	8.1
Netherlands	7.6	6.1	7.8
United Kingdom	9.9	7.3	6.0
Finland	6.2	6.2	5.4
Russian Federation	0.8	2.9	4.4
China	0.7	3.5	4.2
France	5.5	4.9	4.1
Belgium	..	4.2	3.9
Poland	1.0	2.9	3.2
Italy	3.2	3.5	3.1
United States	5.7	3.1	2.7
Estonia	0.5	0.8	1.6

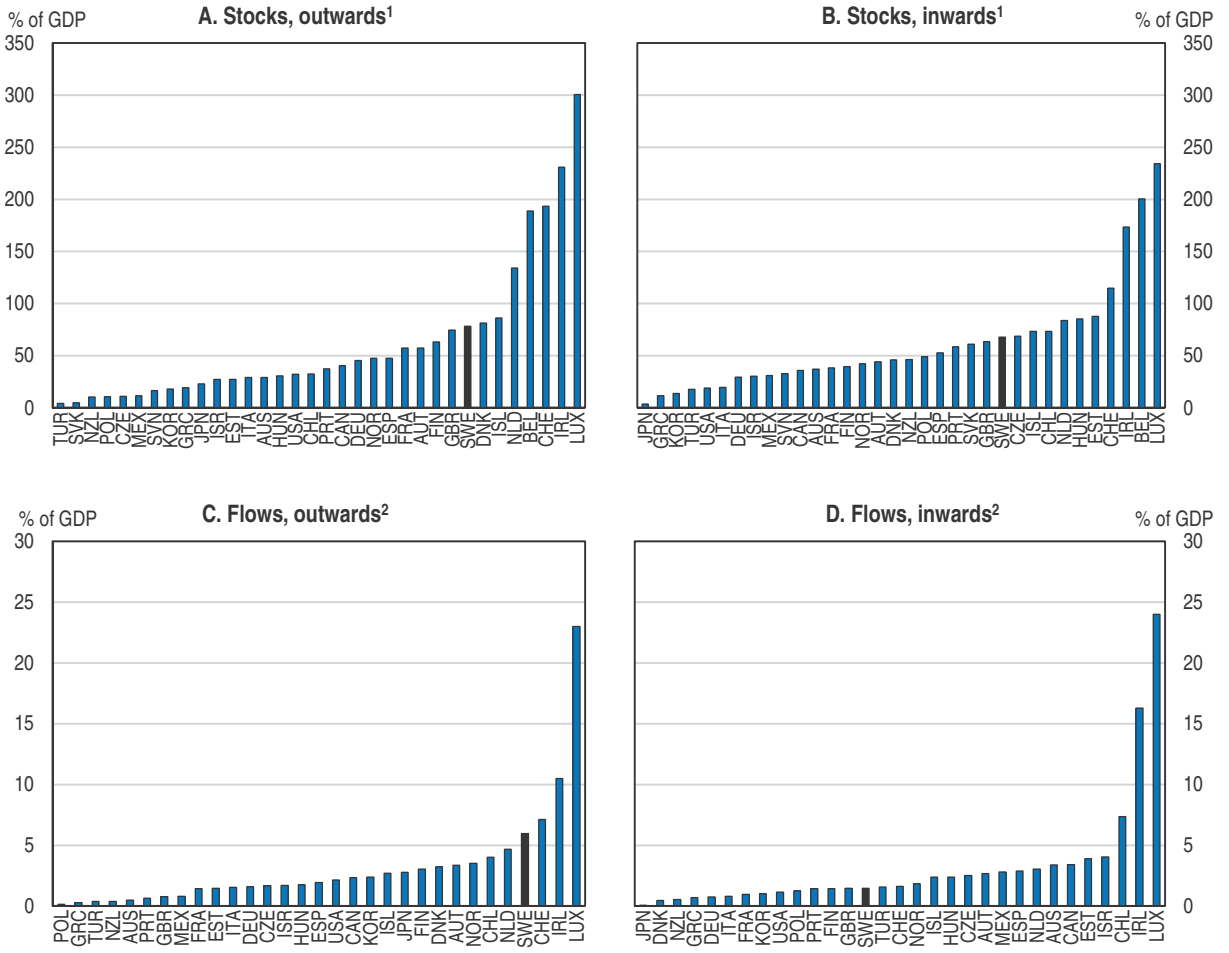
Source: OECD, *Trade Database*.

Policies to support growth

Competitiveness in the global economy increasingly depends on the ability to make the most of GVCs, by participating in trade, attracting FDI, investing abroad to seize opportunities to raise efficiency and serve foreign markets better, and developing activities generating high value, especially through innovative business solutions often involving services. In short, competitiveness revolves around the "trade-investment-services-know-how nexus" (OECD, WTO and World Bank Group, 2014). Increasing prosperity in a country like Sweden which is on the technological frontier in many areas requires innovation and supportive framework conditions. Sweden enjoys a business-friendly environment. It ranks sixth on the World Economic Forum Global Competitiveness Index 2013-14 and 14th on the World Bank 2013 Ease of Doing Business indicator. Global connectedness is evidenced by a 7th place in the Ernst and Young Globalisation index 2012 ranking, based on openness to trade, capital flows, exchange of technology and ideas, labour movements and cultural integration. However, some regulations in product markets, network industries, land-use and construction still hinder growth (*OECD Economic Survey of Sweden 2007, 2008 and 2011*). High taxes and labour market rigidities may

Figure 1.12. **Foreign direct investment is high**

2013



1. 2012 for Finland, Greece, Poland and Switzerland.
2. 2012 for Belgium, Norway and the Slovak Republic.

Source: OECD (2014), OECD International Direct Investment Statistics.

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Table 1.3. **Foreign direct investment by destination or origin**

Stocks as of end 2012, net flows over 2008-12

	Outward				Inward			
	Outward		Non-OECD share[1]		FDI		Non-OECD share[1]	
	Stock	Flow	Stock	Flow	Stock	Flow	Stock	Flow[2]
OECD	88	64	..	..	95	96	..	..
Europe	72	73	6	28	86	85	3	-6
Americas	20	17	10	43	11	10	12	49
Asia	6	8	65	97	2	2	81	111

1. Share of non-OECD countries in Sweden's FDI to/from the specified region.
2. A negative value reflects disinvestment over the period. A non-OECD share over 100% results from disinvestments from OECD countries of the region.

Source: OECD (2014), OECD International Direct Investment Statistics.

Table 1.4. **FDI by industry**
Stock, as of end 2012

	Outward	Inward
Manufacturing	**48**	**46**
of which:		
Food	1	8
Petroleum and chemical	12	18
Metal and mechanical products	9	3
Transport equipment	8	4
Electricity, gas and water	**..**	**9**
Services	**44**	**40**
Trade	**7**	**10**
of which:		
Transport and communication	7	4
Financial intermediation	20	14
Real estate	8	11
Other	**8**	**5**
Total	**100**	**100**

Source: OECD (2014), OECD International Direct Investment Statistics.

also be detrimental (*OECD Economic Survey of Sweden 2008, 2011 and 2012*). Infrastructure, innovation policies and conditions for entrepreneurship could be enhanced. Sustained investment in skills would boost future competitiveness and growth.

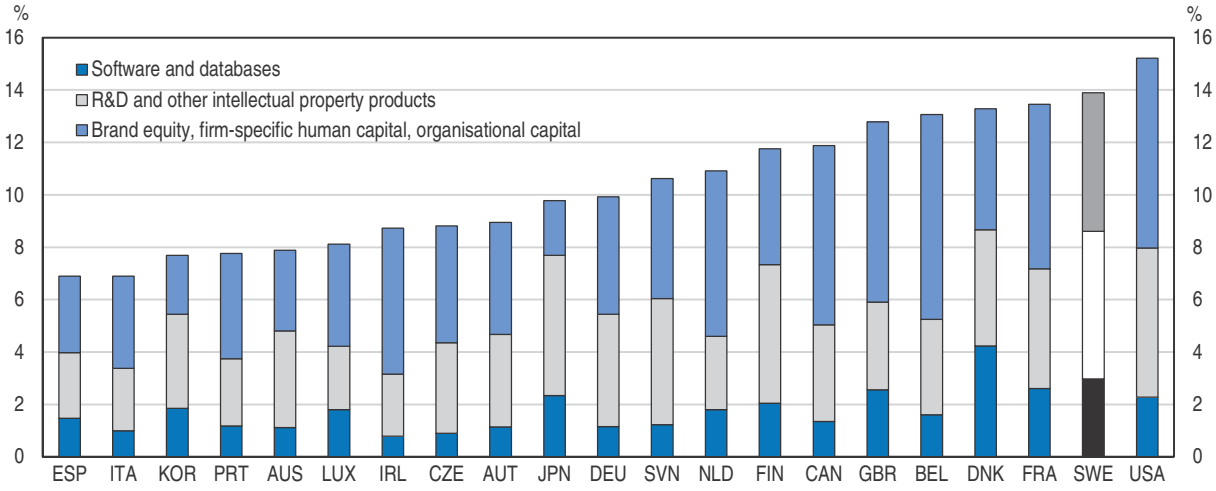
Investment in intangible capital is key to productivity growth and competitiveness

Staying ahead of competition in the global economy requires constantly improving products and production processes. This implies large investments in intangible capital. In Sweden, intangible investment amounted to about 9% of GDP in 2010, close to the share of tangible business investment (Corrado et al., 2012). Intangible investment as a percentage of business output was second only to the United States, for countries where data are available (Figure 1.13). Intangibles can be broadly classified in three categories: computerised information, innovative property and economic competencies (Table 1.5). Swedish firms have been investing heavily in all three. Sweden has among the highest business R&D-to-GDP ratio and patenting rates in the OECD (see below). Management quality is estimated to be among the highest in the OECD, comparable to Canada, Germany and Japan, although slightly below the United States (Bloom and van Reenen, 2010).

Intangibles are estimated to have contributed 0.8 percentage points to annual labour productivity growth between 1995 and 2007 (Corrado et al., 2012). This is slightly less than in the United States, but more than in other EU countries. Returns to investing in intangibles partly depend on the capacity of economies to reallocate resources such as labour and tangible capital towards sectors investing in knowledge-based capital (Andrews and Criscuolo, 2013). In turn, this is linked to well-functioning markets and innovation and entrepreneurship policies. Reallocation of resources towards the most productive firms in Sweden is amongst the most effective in the OECD (Figure 1.14). Looking forward, continuing to invest in knowledge-based capital and improving framework conditions are key to maintaining competitiveness in world markets and high living standards.

Figure 1.13. **Intangible investment is high**

Percentage of value-added of the business sector, 2010 or latest data available



Source: OECD (2013), *OECD Science, Technology and Industry Scoreboard 2013: Innovation for Growth*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/sti_scoreboard-2013-en*.

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Table 1.5. **Types of knowledge-based capital**

Type of KBC asset	Mechanisms of output growth for investor in the asset
Computerised information	
Software	Improved process efficiency, optimised vertical and horizontal integration
Databases	Better market segmentation and appropriation of consumers' rent. Optimised vertical and horizontal integration. The use of information to improve logistics and production efficiency.
Innovative property	
Research and Development	New products and services. Quality improvements to existing ones. Better ways of producing output. New technologies.
Copyright and license costs	Knowledge diffusion (inventions and innovative methods)
New product development in the financial industry	More accessible capital markets. Reduced information asymmetry and monitoring costs.
New architectural and engineering designs	Fixed cost leading to production in future periods. Quality improvements, novel designs, enhanced processes.
Economic competencies	
Brand-building advertisement	Price premium. Increased market share. Changes in consumers' preferences.
Market research	Targeted products and services. Increased market share.
Workers' training	Improved production capability of workers. Increased skill levels.
Management consulting	Faster and better decision making. Improved production processes.
Organisational capital	Faster and better decision making. Improved production processes.

Source: Andrews, D. and C. Criscuolo (2013), "Knowledge-Based Capital, Innovation and Resource Allocation", *OECD Economics Department Working Papers*, No. 1046, OECD Publishing, Paris, *http://dx.doi.org/10.1787/5k46bj546kzs-en*.

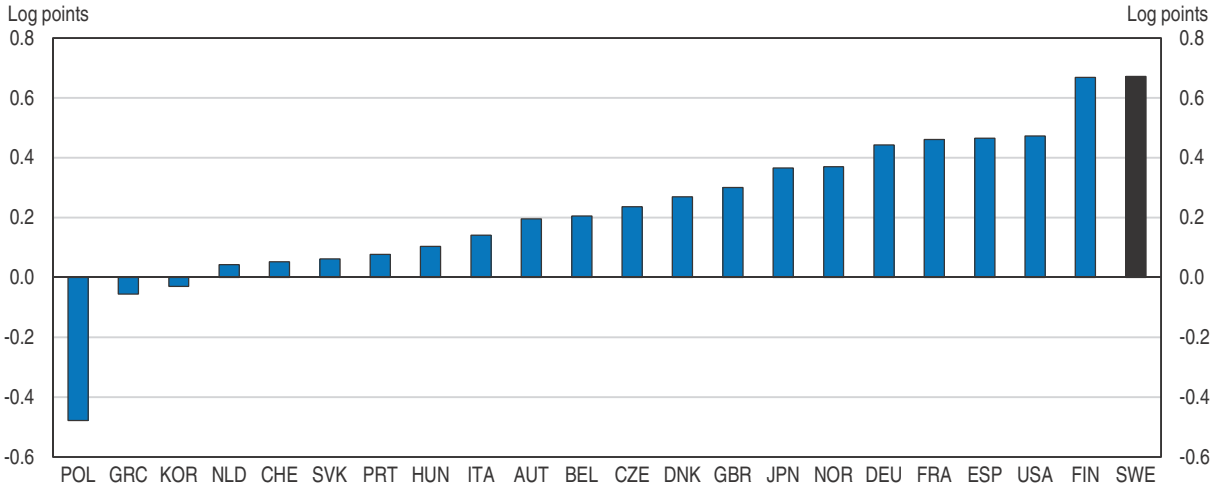
Lowering regulatory barriers would boost growth

Product market regulations

Regulations are indispensable to ensure the proper functioning of markets and address externalities, in particular relating to the environment, safety, consumer protection and fair competition. However, excessively burdensome regulations are detrimental to growth, as they lower productivity, distort the allocation of resources and weaken incentives for work and entrepreneurship. Sweden's product market regulations (PMR) are not very restrictive: the OECD overall PMR indicator 2013 is close to the OECD average (Koske et al., 2015). Nevertheless, in most dimensions, a number of OECD countries

Figure 1.14. **Sweden does very well in reallocating resources to the most productive firms**

Covariance across firms between firm size and labour productivity; manufacturing sector; 2005[1]



1. The estimates show the extent to which the firms with higher than average labour productivity have larger employment shares in the manufacturing sector, based on the Olley and Pakes (1996) decomposition of the log level of labour productivity. For more details, see Andrews and Cingano (2014).

Source: Andrews, D. and F. Cingano (2014), "Public Policy and Resource Allocation: Evidence from Firms in OECD Countries", *Economic Policy*, Vol. 29.

StatLink http://dx.doi.org/10.1787/888933199201

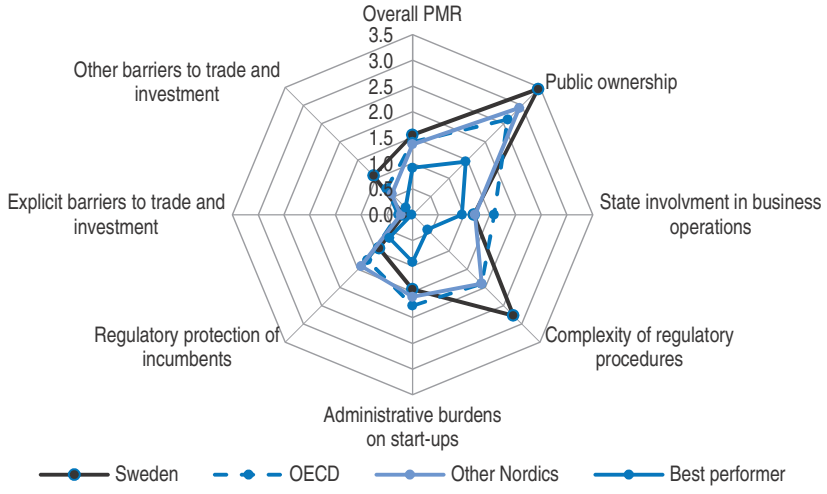
have leaner regulations. Furthermore, while many countries have continued to streamline regulations, Sweden's PMR has barely changed over the past decade. As a result, Sweden has moved down the OECD ranking, from 9th in 2003 to 26th in 2013. However, these rankings should be interpreted with caution, as differences between OECD countries now tend to be small and may not be very significant given the margins of errors surrounding PMR indicators. Nevertheless, in a very competitive global environment, being among the countries with the best regulatory environment is an asset in terms of competitiveness and attractiveness to investors and companies.

Sweden stands out for its relatively high rate of public ownership of companies (Figure 1.15). Public ownership is higher than the OECD average, but also than the average of other Nordic countries. Sweden ranks fourth for the scope of public enterprises, after France, Norway and Italy. State-owned enterprises (SOEs) are present in a wide range of sectors, including energy, telecoms, post and transports. Government involvement in network sectors and direct control over business enterprises are fairly high, albeit not among the highest in the OECD. SOEs operate on a commercial basis. The government appoints the board but is prevented by the Constitution from direct involvement in SOE operations. Even so, some elements of SOE governance are weak according to the PMR indicator because some statutory corporations still exist which operate subject to tailored legislative frameworks. Beside public ownership, state involvement in business operations, in the form of price controls or command and control regulations, is limited.

The second area where Sweden under-performs, both relative to the OECD average and Nordic peers is the complexity of regulatory procedures, in particular regarding licences and permits. Specifically, there is no single contact point for issuing or accepting all notifications and licenses that are required to open up a business, although all such information is available from a single website. A committee of inquiry is also currently working towards reducing and simplifying reporting requirements for businesses.

Figure 1.15. **OECD Product Market Regulation**

Index scale of 0-6 from least to most restrictive, 2013



Source: OECD (2013), *Product Market Regulation Database*, *www.oecd.org/economy/pmr*.

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In other areas, Sweden's PMR indicators are more in line with the OECD average. Nevertheless, this leaves room for improvement, assuming the level of the best OECD performers could be matched. The administrative burden on start-ups is close to the OECD and Nordic average, but much heavier than in Australia and New Zealand. While explicit barriers to trade and investment are very low, implicit barriers are above average, notably with respect to trade facilitation. Regulations are not systematically published or otherwise communicated to the public in a manner accessible (e.g. in a foreign language) at the international level. Furthermore, there are no specific provisions which require or encourage regulators to use internationally harmonised standards and certification procedures in architecture, engineering and legal services.

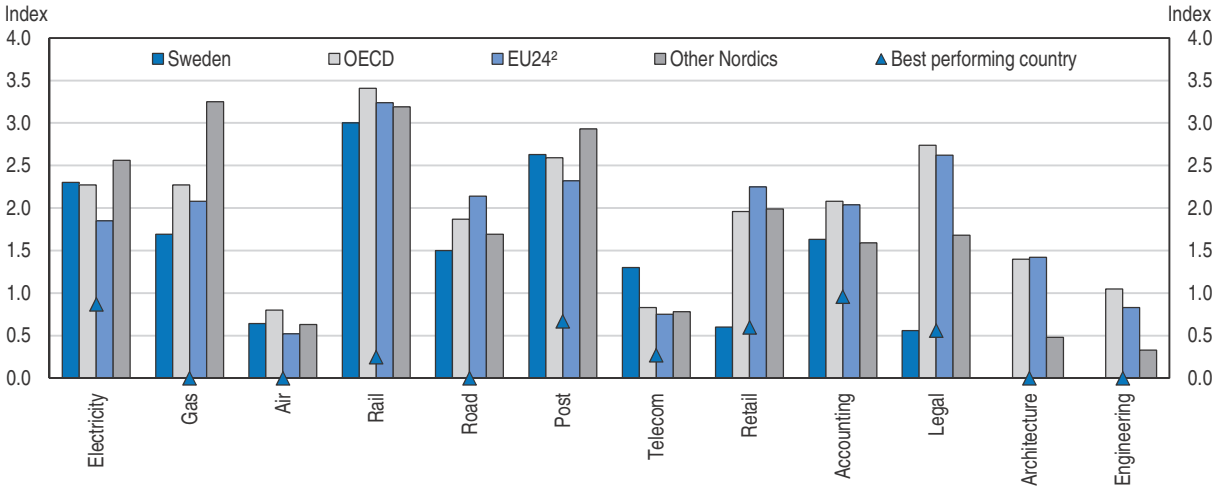
On some dimensions, Sweden's regulations are close to best practice. Regulatory protection of incumbents is only slightly higher than in the United Kingdom, which has the lowest level in the OECD. Sweden has the least stringent regulations of OECD countries in retail trade and professional services, including in sub-sectors except accounting (Figure 1.16). In the latter, entry barriers are among the lowest in the OECD, but inter-professional co-operation is only allowed between comparable licensed professionals, whereas most OECD countries allow all forms of co-operation.

Regulation of network industries

Regulation in network industries is in line with the OECD average. It is also comparable to that of other Nordic countries, except for gas where Finland and Norway have tighter regulations. The main contributor to regulatory tightness is public ownership of operators, especially in electricity and rail transport and to a lesser extent post, telecom and air transport. Entry barriers are inexistent, except in road transport, where there are restrictions other than purely technical and safety-related to establishing a national freight business. Vertical integration of networks is less of an obstacle to competition than in most OECD countries, as there is legal separation between most segments of the electricity, gas

Figure 1.16. **OECD Product Market Regulation by sector**

Index scale of 0-6 from least to most restrictive, 2013[1]



1. No bar corresponds to a value of zero.
2. Member countries of the European Union prior to May 2004, excluding Luxembourg.

Source: OECD (2014), *Product Market Regulation Database*, *www.oecd.org/economy/pmr*.

StatLink http://dx.doi.org/10.1787/888933199225

and rail markets. There is a liberalised wholesale market for electricity and gas and consumers can choose their supplier. There are multiple operators for rail freight and for passenger services.

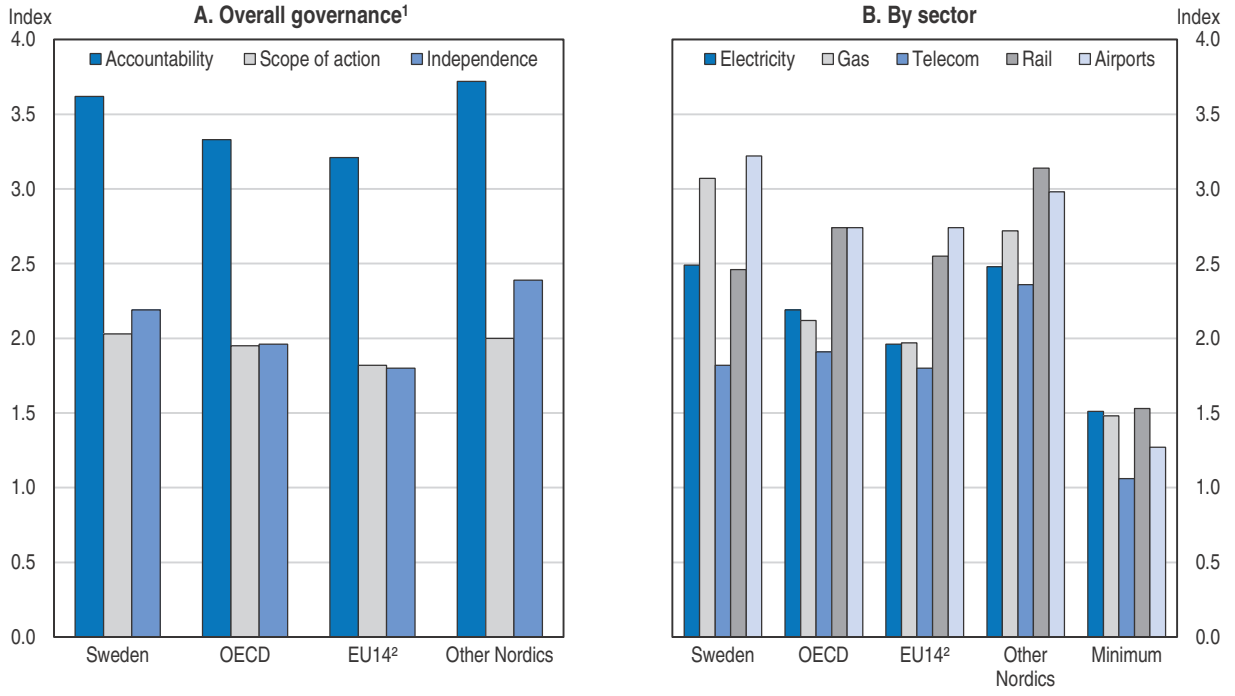
Regulators play a central role in ensuring the efficient and competitive functioning of network industries. The OECD has recently developed indicators for the governance of regulators in the main network sectors (Koske et al., 2015). They show Swedish regulators' governance to be at best on par with the OECD and EU15 average. The government appoints the Director-General and members of the boards, if the regulatory agencies have boards. The scope of action of regulators is limited, especially because regulators do not issue industry and consumer standards, nor guidelines or codes of conduct. The United Kingdom is the only country where regulators perform independently virtually all the tasks they should ideally be responsible for, although Iceland, Italy and Poland also have strong regulators in most sectors. Finally, accountability tends to be limited, although there are differences across sectors, with electricity scoring best. While imperfect accountability and transparency is the norm across OECD countries, Australia, New Zealand, Portugal, Spain and the United Kingdom are performing relatively well.

Land-use and housing market regulations and competition in construction

The rigidity of land-use and housing market regulations and the lack of competition in the construction industry in Sweden are detrimental to growth, employment and welfare (*OECD Economic Surveys of Sweden 2012*; European Commission, 2014a). Regulation is particularly burdensome for complex construction projects, whether housing or office buildings. For such projects, getting a building permit usually takes about three years or even longer if there are appeals against zoning decisions (World Bank, 2014). Responsibility for zoning and planning lies with municipalities, which apply varying criteria, making decisions relatively unpredictable. The inefficient planning and zoning process, combined with tight rental market regulations, results in structural under-supply of housing, which hampers

Figure 1.17. **Governance in network industries**

Index scale of 0-6 from least to most restrictive, 2013



1. Average across all sectors.
2. Member countries of the European Union prior to May 2004, excluding Luxembourg.

Source: OECD (2014), *Product Market Regulation Database*, *www.oecd.org/economy/pmr*.

StatLink http://dx.doi.org/10.1787/888933199232

labour mobility. The complexity of planning rules also acts as a barrier to entry in the construction sector, pushing building costs up. The rigidity of housing supply also complicates macroeconomic stabilisation, as increases in demand for housing rapidly translate into higher property prices and household debt. Hence, the planning and zoning process should be streamlined and the appeal process should be reviewed in order to reduce delays. The government has introduced legislation intended to speed up the planning process, and has announced that a new bill with proposals to streamline the appeal process will be presented in May 2015. Stronger incentives for municipalities to release land and more homogeneity in building requirements across municipalities would also be beneficial. Limited competition and heavy regulation regarding input materials in construction, which contribute to high costs, should also be addressed (Adalet McGowan, 2013).

Restrictions to trade in services

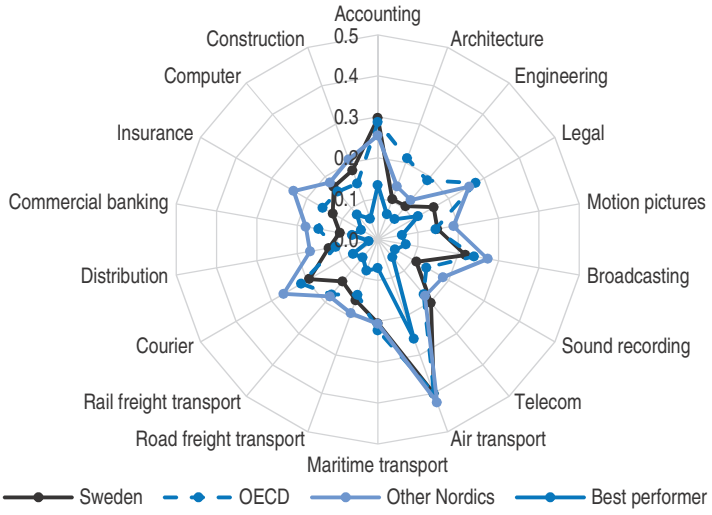
Restrictions to trade in services across countries remain tighter than those to trade in goods. Given the growing role of services in the output of advanced economies and GVCs, barriers to service trade reduce competitiveness and productivity growth, in particular because they hinder access to better quality or cheaper inputs. They also reduce welfare by restricting consumer choices. The OECD services trade restrictiveness index (STRI) offers an assessment of obstacles to trade in the main service categories, taking into account restrictions on foreign entry and on the movement of people, barriers to competition, regulatory transparency and other discriminatory measures (OECD, 2014a). Importantly, the indicator takes into account restrictions that apply on a most favoured nation basis

and does not consider preferential trade agreements, like those in force within the European Union and the European Economic Area. While the bulk of Sweden's trade in services involves countries from these areas, expanding globalisation is likely to increase the cost of barriers on trade with countries outside these blocks.

Sweden's STRIs are generally close or below the OECD average (Figure 1.18). However, the comparison with the OECD's best performers on these indicators suggests that there is room for lowering barriers further in accounting, broadcasting, telecoms, air and maritime transport and construction. In most cases restrictions concern foreign entry, although restrictions on the movement of people also play an important role in accounting and construction, and restrictions to competition, particularly linked to public ownership, affect telecoms, courier, air transport and construction.

Figure 1.18. **OECD Service Trade Restrictiveness Index**

Index scale of 0-6 from least to most restrictive, 2014



Source: OECD (2014), *Service Trade Restrictiveness Index Database*.

StatLink http://dx.doi.org/10.1787/888933199241

Labour market regulations

A lack of flexibility in the labour market is widely seen as an obstacle to growth in Sweden. In the World Economic Forum Global Competitiveness Report 2013-14, restrictive labour market regulations was the most cited problematic factor for doing business, singled out by more than a fifth of the respondents. Labour market regulations, including wage setting, job protection and work incentives could be amended to improve employment prospects for low-skilled workers and the growth potential of the economy (*OECD Economic Surveys of Sweden 2012*). This would also facilitate the development of services for the domestic market, which are often characterised by lower productivity than services subject to international competition (see Chapter 2).

Potential impact of lowering regulatory barriers

Sweden's strong productivity growth after the wave of deregulation in the 1990s suggests that lowering regulatory barriers boosts growth (Erlandsen and Lundsgaard, 2007). In retail trade and professional services, Sweden has among the best PMR scores in the

OECD (Koske et al., 2015). These sectors have experienced strong productivity growth over the past two decades. Streamlined regulations have most likely contributed to this performance by encouraging competition, although other factors, such as technological progress, organisational improvements and skill enhancements have also played a critical role. Moreover, given the key role these sectors play in the economy, spillovers to other industries have certainly been substantial.

Deregulation of trade in services can also boost productivity growth. European Commission analysis estimates that the implementation of the EU Service Directive has increased labour productivity by 5.8% in the sectors covered in the study in Sweden, which represent about 20% of GDP. The impact on exports of the sectors considered is 2.5%, much lower than the impact on imports of 10.7% (Monteagudo et al., 2012).

The tax system has moved towards better incentives for entrepreneurship and work

A competitive tax system is critical to retaining and attracting activity in a world of high mobility of capital and, to a lesser extent, skilled labour. Since 2009, the corporate income tax (CIT) rate has been reduced from 28% to 22% in two steps, while the tax base was broadened by limiting possibilities for deductions. This is in line with a global trend in lowering corporate taxation. Sweden's CIT rate is now close to the OECD average and competitive in relation to other Nordic countries. Nevertheless, there is a risk that further international tax competition may weaken this position. However, tax base mobility is also affected by factors other than tax rates. For instance, good infrastructure and education may compensate for higher tax rates (Blöchliger and Pinero Campos, 2011). While countries should aim at moderate corporate tax rates applying to a broad base, they should make sure that companies cannot escape due taxation through profit shifting. The OECD's Action plan on base erosion and profit shifting provides an opportunity to go forward on this issue where international co-operation is crucial (Box 1.3).

The design of the tax and benefit system also affects work incentives. Sweden has considerably enhanced activation policies in recent years, which is reflected in higher labour force participation despite the relatively weak economy. In particular, the earned-income tax credit, introduced in 2007 and upgraded several times since then, generates work incentives (see Chapter 2). However, marginal tax rates on above average earnings remain high, potentially discouraging working longer and entrepreneurship. In the World Economic Forum Global Competitiveness Report 2013-14, tax rates were the second most cited problematic factor for doing business, gathering 17% of responses. In addition, tax regulations came third, with 11% of responses.

Infrastructure is of high quality but there is room for enhancements in some areas

Well-developed and reliable infrastructure enhances the performance of the business sector and is an important determinant of firms' location decisions. Efficient transport and communication networks facilitate integration into global markets, enhancing the competitiveness of local firms and helping to attract foreign investment. In a world dominated by ICT, competitive and reliable electricity supply is also vital. Sweden's infrastructure is fairly good by international standards, but not among the best, and ranks 20th in the World Economic Forum 2013-14 Survey. The social return on past investment projects seems to have been fairly low (NIER, 2013). The transport infrastructure is seen as a "modest advantage", but not a key driver of Sweden's competitiveness (Ketels, 2012). As road traffic increased in metropolitan areas and on main roads, congestion intensified.

Box 1.3. **Corporate taxation: Dealing with base erosion and profit shifting (BEPS)**

The increasing weight of multinational enterprises (MNEs), the fragmentation of GVCs and the expansion of the digital economy are creating a daunting challenge for tax authorities around the world. MNEs may allocate profits to low-tax jurisdictions, irrespective of where they have been economically generated, for example through the manipulation of transfer prices or the location of group debt and intangible assets. For governments, this entails lower revenues and higher costs to ensure compliance. The tax burden for individual taxpayers may rise as a result and public services may be downscaled. Moreover, competition is distorted, as corporations operating only on the domestic market face a disadvantage compared to MNEs which can shift profits abroad to reduce their tax bill.

The OECD's Action Plan on BEPS states that "fundamental changes are needed to effectively prevent double non-taxation, as well as cases of no or low taxation associated with practices that artificially segregate taxable income from the activities that generate it". Multilateral co-operation is essential in that respect, as involvement of the use of third parties, notably shell companies, is central to tax avoidance. Furthermore, international co-operation is essential to avoid a "race to the bottom" in corporate taxation. The Action Plan, presented in 2013, outlines 15 actions to be completed mainly within two years. These include addressing the challenges of the digital economy, neutralising the effects of tax system mismatches, limiting erosion via interest deductions and other financial payments and assuring that transfer pricing reflects value creation, as well as developing information and transparency (OECD, 2013c). A first set of recommendations on seven points of the Action Plan was released in September 2014. It includes in particular measures to limit abuse of transfer pricing rules in intangibles and to improve reporting on activities, profits and taxes of MNEs (OECD, 2014b).

Disruptions have also become more frequent on the rail network. Increasing capacity and optimising the use of rail and road networks through better maintenance and flow management is necessary to improve the efficiency of the transport system.

The National transport plan 2014-25 aims at upgrading the transport system to promote jobs and growth and social returns is a significant aspect of the plan. Resources are to be increased by 20% relative to the previous plan period and amount to SEK 522 billion (about 14% of 2013 GDP). The plan will improve road and rail maintenance and further develop transport infrastructure. More than 150 investment projects are identified, including road upgrades, new high-speed railways, an expansion of the Stockholm underground railway system and mining-related infrastructure.

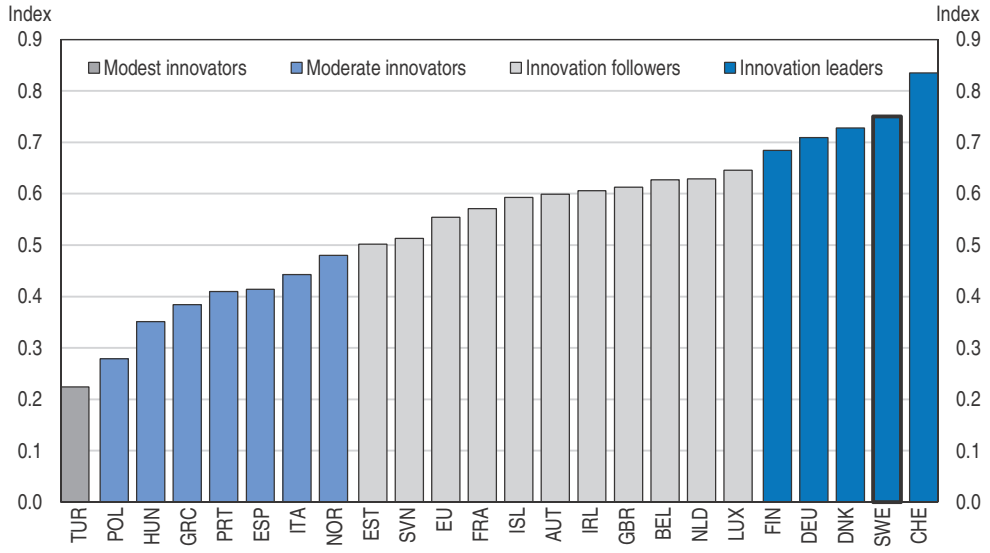
Other infrastructure is well developed. Telecoms are essential in a knowledge-oriented economy. Sweden is one of the seven OECD countries with more than one wireless broadband subscription per inhabitant (OECD, 2014c). Electricity prices for industry are among the lowest in the OECD. Non-fossil energy sources account for two-thirds of total primary energy supply, of which over half comes from renewables (OECD, 2015a).

Innovation is strong but policies need to adapt to a changing environment

Swedish firms have shown a strong ability to innovate over the years, which has allowed many of them to become global players. Sweden is one of the innovation leaders in Europe, along with Denmark, Finland, Germany and Switzerland (Figure 1.19). Strong

Figure 1.19. **Sweden is an innovation leader**[1]

Index scale of 0-1 from lower to higher performance



1. Average performance is measured using a composite indicator building on data for 25 indicators going from a lowest possible performance of 0 to a maximum possible performance of 1. Average performance reflects performance in 2011/12 due to a lag in data availability.

Source: European Commission (2014b), *Innovation Union Scoreboard 2014*.

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partnerships between big firms and public research, as well as public procurement, have favoured innovation. However, rapid change in the global economy and R&D requires the innovation system to adapt. To reflect evolving production structures and international specialisation, innovation policies should broaden their scope, avoiding an overly narrow focus on high-tech and encouraging investment in all forms of knowledge-based capital. Given the increasing role of services in value creation, including in the manufacturing sector, innovation in this area is critical and deserves more attention from policymakers. In many fields, innovation is dependent on demand, calling for a greater focus on user needs and societal dimensions in policies, as well as using public procurement in an innovative way. Population ageing adds new challenges and opportunities to respond to changing needs and promote health-oriented technologies and services. Innovation is also key to dealing with climate change (Box 1.4). International knowledge flows are essential to remain on the innovation frontier. Sweden needs to remain able to attract and retain talented students and researchers as well as FDI in R&D. It is also necessary to foster centres of excellence of critical mass in universities and research and innovation agencies and to reinforce their integration into international research networks (OECD, 2013d).

Sweden's Innovation Strategy published in October 2012 with a 2020 horizon is very much in line with these directions (Ministry of Enterprise, Energy and Communications, 2012a). The Strategy was designed in broad consultation between ministries, agencies and societal and economic forces. It aims at identifying obstacles to innovation and weaknesses in international comparisons, protecting and developing further current areas of strength and improving co-ordination between policies and actors to improve the efficiency of public support. It is based on three principles: creating the best conditions for innovation, by investing in skills and research, while making sure that framework conditions (e.g. regulations, infrastructure and access to capital) promote innovation;

Box 1.4. **Promotion of eco-innovation**

Sweden, like other Nordic countries, has long been committed to sustainable development and is now one of the OECD countries with the lowest greenhouse gas emissions per capita. However, starting from a low level, further reductions in emissions may become very costly in the absence of significant technological breakthroughs (Jamet, 2011). Green growth is being encouraged through regulation, taxation and promotion of environmental innovation. Environmental objectives are increasingly mainstreamed in every policy area. Policies also aim at better integrating user needs and fostering green innovation through public procurement (Nordic Innovation, 2012).

Public investment in environment-related R&D has more than doubled in volume between 2000 and 2012, while total public spending on R&D only increased by slightly more than 60%. Sweden has become a leader in several clean energy technologies, including smart grids and carbon capture and storage. Sweden was second to Japan in the OECD for the number of environment-related patents in 2009-11 and has a revealed technology advantage in environmental management, emission abatement and fuel efficiency in transportation.* Current innovation policy priorities include the development of a vehicle fleet using no fossil fuels, electricity generation based on renewables, energy efficiency in industry, buildings and infrastructures, and use of bioenergy (OECD, 2014d).

Green technologies create a competitive advantage for Sweden in motor vehicles, manufacturing of special-purpose machinery and furniture. However, Denmark and Germany seem to have a green comparative advantage in more sectors. Further green innovation could support competitiveness in many industries going forward. The ability to export green technologies is also essential to achieve the economies of scale making them cost-effective. In 2011, the government has launched a development and export strategy for environmental technology, including energy, waste management, water treatment and air quality (OECD, 2014d).

* Sweden's share of world patents in these technologies is higher than its share in all fields.

encouraging innovation in the business sector, public administrations and regions, through measures such as providing support for SME growth and internationalisation, promoting social innovation and social entrepreneurship, developing e-government further and strengthening regional innovation and growth strategies; and implementing the strategy in a holistic way, with enhanced co-ordination between policies and dialogue between the public sector, industry and the civil society. The Strategy is an important step towards a more integrated and encompassing innovation policy (OECD, 2013d). Progress is visible in some areas, such as public-private co-financing in strategic innovation, increasing international innovation co-operation and greater focus on innovation in the public sector, including at the regional level (Vinnova, 2013). However, wider implementation may require setting more precise targets and allocating responsibilities more clearly.

While historically public support to innovation has tended to focus on technology, a broader strategy is now needed. Innovation is about technology, but also all other kinds of intangible capital. The OECD has carried out a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the Swedish innovation system (OECD, 2013d). Strengths include strong human resources, science base and industrial research, high investment in R&D and other intangible capital, a solid ICT infrastructure, fast developing

innovative services, high quality institutions and participation in international academic and industrial networks. Weaknesses lie mainly in declining education performance (Chapter 2), insufficient links between universities and SMEs, weak innovation policy lacking a holistic approach and overlaps between activities of funding institutions. Opportunities are seen in developing more prominent and larger centres of excellence within the best universities, further internationalisation of research, fostering innovation in SMEs and services, and innovation-oriented public procurement. Threats are linked to global competition in product markets, R&D and hiring talents, and risk of failing to bring up new activities, including in services.

Supporting business R&D and innovation

The government supports private R&D and innovation in several ways. Providing good general framework conditions, such as business-friendly regulations, competitive taxation, quality infrastructure and education is critical to create a favourable environment for innovation. More direct interventions are also warranted, as externalities generated by spillovers of innovation investment raise the social rate of return above the private rate of return, leading to socially sub-optimal investment in the absence of government intervention (Westmore, 2013). Sweden has one of the highest R&D-to-GDP ratios in the OECD, with the bulk undertaken by the private sector (Figure 1.20, Panel A). Multinational companies are responsible for a large, if decreasing, part thereof. The number of triadic patents (protecting inventions in the European Union, Japan and the United States) per capita was the third highest in the OECD in 2011, behind Japan and Switzerland.

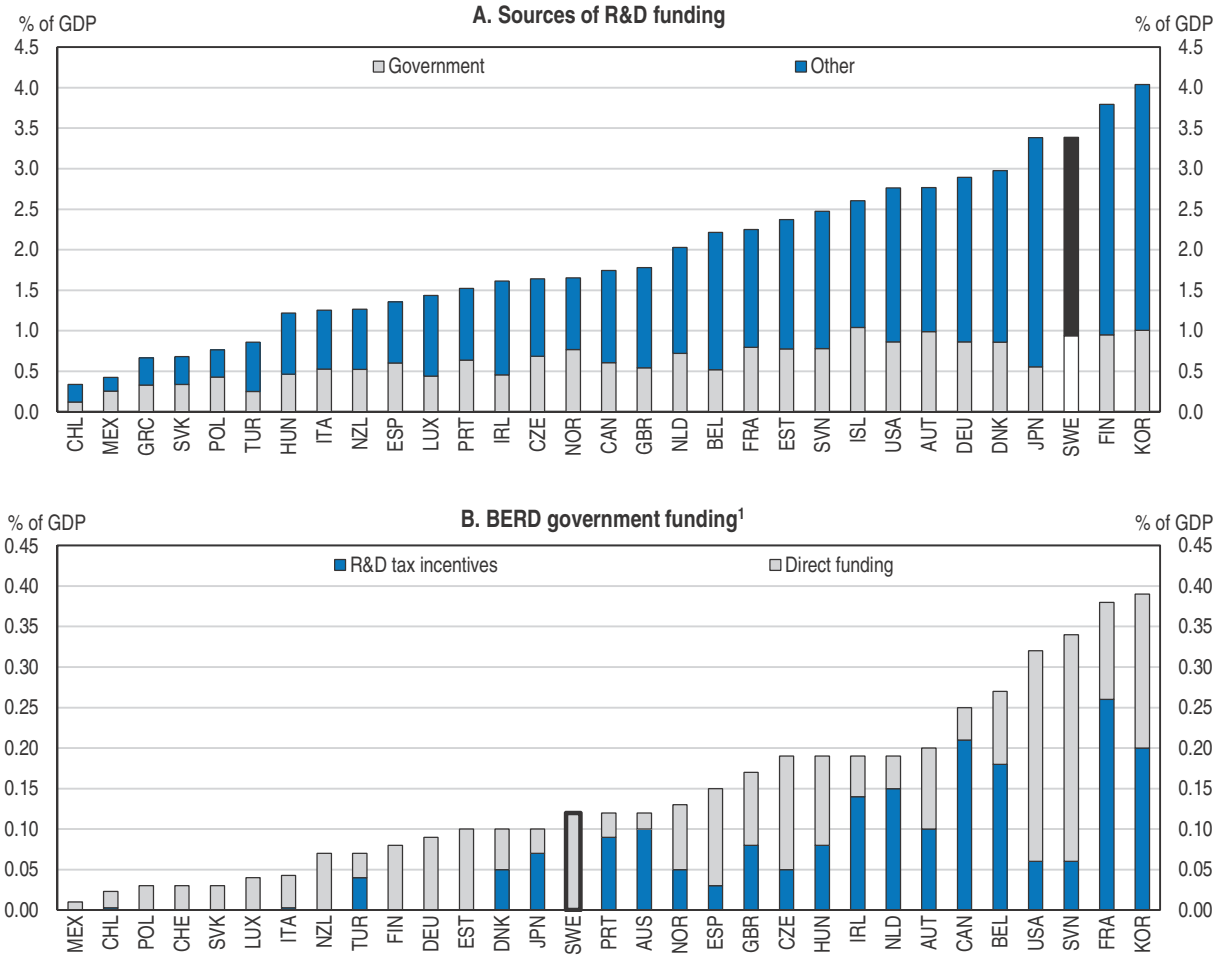
In most OECD countries, public support for business R&D comes both in the form of tax incentives and direct government funding (Figure 1.20, Panel B). Sweden, like Finland, Germany and Switzerland, long had no R&D tax incentives. However, Sweden has recently introduced an R&D tax incentive scheme targeted mainly on SMEs. Both direct government support for private R&D and tax incentives have been found to have a positive impact on business R&D spending across OECD countries (Westmore, 2013). Tax incentives have the advantage of resulting in a market-based allocation of resources, sparing governments from having to "pick winners". However, in a globalised economy, tax credits may generate windfall gains for multinational companies (Box 1.3). Scaling up fiscal incentives for R&D as a complement to direct funding schemes could increase flexibility and broaden the scope of supported innovations. Direct government funding should allow governments to select the R&D projects with the highest marginal social returns. Although this tends to be difficult in practice and the selection may be distorted by influence from rent-seeking entities, overcoming market failure requires public support and well-designed funding schemes can foster innovation. The *OECD Review of Innovation Policy in Sweden* suggests expanding current direct innovation funding for SMEs and broadening the scope of intervention to non R&D-based innovation, including in services and creative industries (OECD, 2013d).

Reducing policy fragmentation and fostering critical mass

The Swedish innovation system is characterised by relatively limited ministry leadership, a multitude of strong agencies, extensive decentralisation and traditional sectoral technology policies involving public-private partnerships (OECD, 2013d). The complexity of the system raises important co-ordination and governance issues. Sweden's 2012 innovation strategy contributes to reinforcing the strategic dimension of

Figure 1.20. **Expenditure in research and development is high**

2011



1. BERD refers to Business Enterprise Research and Development. For Australia, Belgium, Chile, Ireland and Spain data refer to 2010; for Luxembourg, to 2009; for Switzerland, to 2008.

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

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innovation policy. Research and innovation policy bills prepared every four years in broad consultation between the government and other innovation actors also improve co-ordination of policies and medium-term planning. Nevertheless, agencies enjoy large autonomy in setting priorities and designing and implementing programmes. Horizontal co-ordination appears relatively weak.

Funding of innovation-related activities is scattered between about 20 mostly mid-sized agencies, with high ambitions but often modest budgets. Even VINNOVA, the Swedish Governmental Agency for Innovation Systems, has limited funding relative to foreign agencies with similar missions. For example, its Austrian (FFG) and Finnish (Tekes) counterparts have budgets more than two and a half times higher. Reducing fragmentation would improve policy consistency, as agencies' remits often overlap, and would allow better prioritisation and achieving critical scale. Similarly, university research centres should be encouraged to reach critical mass and to be more outward-looking and entrepreneurial. Swedish universities have a very good record in terms of publications and

citations, although they are outperformed by their Swiss counterparts. However, they are weaker on commercialisation of their R&D and patenting activity. Allowing greater specialisation would encourage the creation of centres of excellence, which could better interact with industry, including SMEs. Although Sweden performs external evaluations of government-funded activities, their coverage is still uneven. Further enhancement of evaluations would reinforce efficiency and help policy design (OECD, 2013d).

Streamlining the research and innovation system to create stronger players would facilitate their integration into international research and innovation networks. The small size of Nordic countries is sometimes seen as a challenge for innovation policies (Valkonen and Vihriälä, 2014). On the one hand, resources are too scarce to invest massively in many different fields. On the other hand, selecting priority sectors is fraught with difficulties. As research and innovation are increasingly globalised, participation in international networks is essential to stay on the innovation frontier, while maintaining a reasonable level of risk-sharing.

The government has set up an Innovation Council. The Council will focus on creating jobs and fostering sustainable growth through identifying obstacles to innovation, protecting and developing current areas of strength, and improving co-ordination between policies and actors to improve the efficiency of public support. A broad dialogue with external actors will be the main input to the Innovation Council´s work. Two areas have so far been identified for the Innovation Council Agenda, life sciences and climate technologies.

Attracting and retaining researchers

International mobility of researchers helps spread knowledge across countries and enhances the quality of research. Researchers moving across borders tend to have higher publication and citation records than those never moving internationally. Sweden ranks fifth in the OECD for the inflow of researchers from abroad over 1996-2011, with more than 13% of authors having a previous affiliation abroad, whether new entrants or returnees. The proportion is higher only in Austria, Canada, New Zealand and Switzerland. Publication performance is also very good. Countries can benefit from international mobility of researchers, but also be the victims of a brain drain, which benefits only a handful of countries, notably the United States and the United Kingdom. For emerging economies, but also for a number of advanced economies, such as Italy and Korea, the median impact of authors leaving the country is higher than that of those entering it. For Sweden, the situation is broadly balanced, as in other Nordic countries, Canada, the Netherlands or Switzerland. While Sweden does not attract a net inflow of high-level researchers, it benefits from the international diffusion of knowledge. Furthermore, mobility of researchers is conducive to the expansion of collaborative networks, which have a positive influence on research outcomes (OECD, 2013f). Strengthening excellence centres, along the lines suggested above, could reinforce the attractiveness of Swedish institutions for top researchers. Additional funds are being provided for international recruitment of researchers (Ministry of Education and Research, 2013).

Creating demand for innovation

Uncertainty about demand may deter firms from developing some innovations and investors from funding them. Hence, fostering demand for innovative products is an important dimension of innovation policy. This can be done through regulation, for example imposing tighter norms for energy efficiency, or through dissemination of

information on new products, services and technologies. Public procurement, which amounts to about 16% of GDP in Sweden (slightly above the OECD average) can also be used to foster innovation. Historically, public procurement has played an important role in the development of big innovative Swedish companies. However, changes in economic structures and the regulatory environment, including state aid rules, warrant a new approach to public procurement, with a broader scope and more focus on innovation. Along these lines, innovative public procurement has received renewed attention in recent years, especially regarding green public procurement where Sweden is among the leading EU countries (OECD, 2014d). In 2010, an inquiry commissioned by the government outlined potential for innovative public procurement in infrastructure, health and the environment. The government decided to allocate resources to VINNOVA for this purpose (Nordic Innovation, 2012).

Some countries also have schemes to purchase R&D strategically from SMEs. The Small Business Innovation Act (SBIR) programme, introduced in the United States in 1982, has been widely perceived as a success and has been emulated in other countries, including Australia, Japan, the Netherlands and the United Kingdom. Under SBIR, government agencies earmark 2.5% of their R&D budget for competition-based awards to small innovative firms. Importantly, award recipients retain the rights to intellectual property associated with the project (OECD, 2013d).

Designing and implementing innovation-oriented procurement is challenging, with several issues deserving close attention:

- Public demand will be able to trigger large investments in innovation only in sectors where it accounts for a substantial share of the market. This is generally the case of sectors like transport, education or construction.
- Competition in the tendering process is essential to getting value for money. Public procurement needs to be flexible enough to avoid lock-in effects. This requires more focus on the functionalities of procured items than on technical specifications.
- Effective procurement requires expertise on the part of the purchaser and evaluating innovative procurement schemes is often complex (OECD, 2014e). This is a particular issue in decentralised countries like Sweden, where local authorities may have difficulties in building up the required expertise. This difficulty may be overcome through exchange of information across government authorities, standardisation of procurement procedures or centralisation of procurement. In Sweden, a national network allows information sharing between sub-national authorities. The creation of a National council for innovation and quality in the public sector in 2012 is a further step towards a more holistic approach to public service innovation.

Entrepreneurship is expanding but further support could help firms to grow

While Sweden is well known for its successful multinational companies, SMEs are playing an important role in the economy, accounting for 57% of value added and 65% of private sector jobs in 2012. Furthermore about 90% of new jobs created over the past 20 years were in SMEs, especially young growth firms (gazelles). Small firms also play a key role in innovation. Almost one SME out of two introduces product or process innovations, a proportion only exceeded in Europe by Germany, Iceland and Switzerland. The share of SMEs introducing marketing or organisational innovations exceeds 40%, higher than the EU average (European Commission, 2014b). Sweden performs better than the EU average

on most of the indicators put in place by the European Commission to monitor the implementation of the Small Business Act, the EU's strategy to improve the business environment for SMEs (European Commission, 2013). Access to finance, State aid and public procurement, and internationalisation are areas of particular strength in an EU perspective.

Gazelles are critical to turning new technologies and innovative ideas into economic activity and jobs, and generating new engines of growth. The proportion of gazelles among firms of 10 or more employees in Sweden (0.7%) was above the OECD average (0.6%) and second to Norway in the Nordic region in 2009. About 80% of gazelles are in the service sector, while only 10% are in construction and 5% in manufacturing. More than 40% are in knowledge-intensive services but the high-tech sector is not over-represented. Over 2006-09, Swedish gazelles created more than 8 000 jobs. However, only 25% of the gazelles grew to reach 50 employees, as against 38% in Norway and 48% in Finland. The number of jobs created per gazelle in Finland was twice as large as in Sweden (Table 1.6).

Table 1.6. **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.

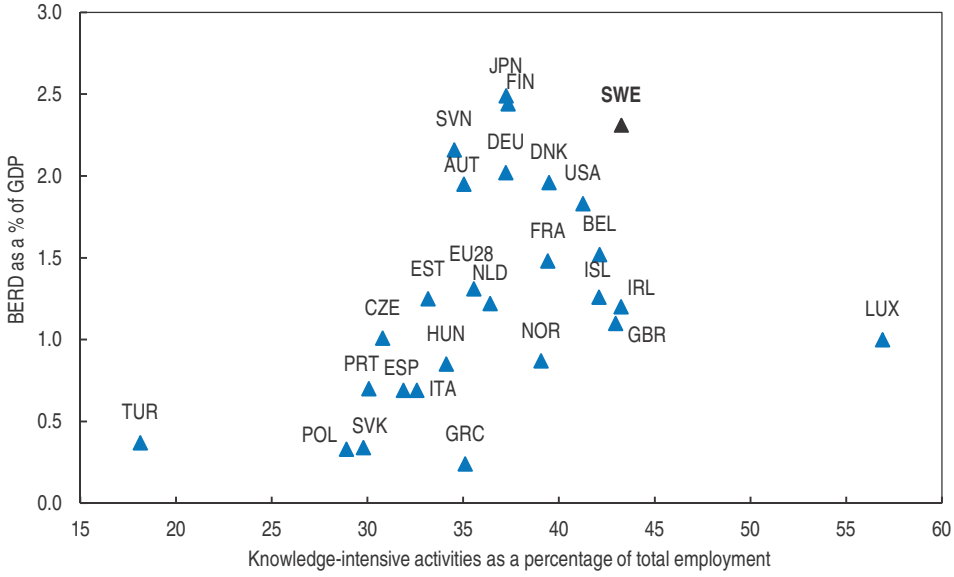
Young firms face challenges, both in very early stages and subsequently when trying to scale up their operations. Sweden still imposes the highest minimum capital requirements in the Nordic region, even though these were lowered in 2010. Overall access to finance is fairly good by international standards, even for SMEs (European Commission, 2013). Nevertheless, almost one third of Swedish companies report difficult access to finance as the main obstacle to tangible investment. For a quarter of them, it is the main obstacle to investment in intangibles (Boumediene and Grahn, 2014). While early stage funding may be adequate, financing further growth seems more difficult (OECD, 2014e). The World Bank has recently suggested that Sweden "could increase the coverage of credit information, clarify its legal framework for secured lending, strengthen the protection of minority shareholder rights, and make the processes for both registering property and resolving insolvency speedier and less costly" (World Bank, 2014). Such measures would lower financing constraints by fostering the development of debt and equity instruments and platforms for corporate finance. The development of non-traditional investment vehicles in SME and entrepreneurship finance (e.g. asset-based lending, alternative forms of debt, crowdfunding and hybrid instruments) can support innovation and growth provided a regulatory framework which balances financial stability, investor protection and the opening of new financing channels for SMEs is in place (OECD, 2015b).

Continued investment in human capital and skills is essential

Sweden's specialisation in the knowledge-based economy reflects the availability of a wide pool of skilled workers. Across OECD countries, a high level of business R&D is strongly associated with knowledge-intensive employment and Sweden is a leading country in these areas (Figure 1.21). The proficiency of Swedish adults (aged 25-65) in literacy, numeracy and problem solving in technology-rich environments is above the average of the countries participating in the OECD Survey of Adult Skills (OECD, 2013g). Young adults (aged 16-24) are also performing well in international perspective, especially in numeracy.

Figure 1.21. **R&D expenditure and knowledge-intensive jobs go together**

Business Enterprise R&D Expenditure 2012[1]



1. Data for Iceland, Turkey and the United States refer to 2011; for Japan to 2010.
Source: Eurostat.

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The number of university graduates among the population aged 20 to 29 has more than doubled since the early 1990s. Sweden has one of the highest rates of doctoral graduation in the OECD (OECD, 2013d). While the relative wage of skilled workers increased during the 1990s, it fell between 2001 and 2010, reflecting growing supply (Eliasson et al., 2012). Hence, Sweden has become very competitive in terms of supply of skilled labour. In most OECD countries, employment has become increasingly polarised, with a sharp decline in jobs requiring mid-level qualifications and increased demand for low- and high-skilled workers. Although polarisation has increased in Sweden, many of the mid-level jobs which disappeared have been replaced by high-skill jobs rather than by low-paying jobs. This contrasts with the United States and the United Kingdom, but is in line with some other European countries such as Austria and Denmark (Goos et al., 2009; Eurofound, 2014). The importance of human capital in fostering growth is confirmed by Swedish micro-data showing that high-skilled employees are overrepresented in high-growth firms during expansions (Ahlstrand, 2009). Besides, human capital plays a decisive role in attracting

multinational companies (Köksal-Oudot, 2011). The impact on employment is sizeable, as foreign affiliates control more than a fifth of Swedish jobs overall and up to a third in manufacturing (OECD, WTO and World Bank Group, 2014).

It is crucial for Sweden to retain its advantage in skills to sustain competitiveness and living standards. In that respect, a decline in education performance is a major concern. The Programme for International Student Assessment (PISA) 2012 scores in mathematics, reading and science are all well below the OECD average. Furthermore, as in most countries, relatively large groups of the adult population in Sweden have poor literacy, numeracy and problem-solving skills. This is especially true for immigrants. Improving the level of skills of disadvantaged groups would both enhance the growth potential of the economy and help contain the rise in income inequality (Chapter 2).

Recommendations on strengthening foundations for growth

- Simplify regulatory procedures, in particular regarding licences and permits.
- Streamline land-use planning and zoning regulations and increase incentives for municipalities to release land.
- Invest to improve the quality of roads and rail, with careful consideration of social returns.
- Continue to broaden support for innovation and enhance co-ordination of innovation and research policies. Lower financing constraints by fostering the development of debt and equity instruments and platforms for corporate finance.

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Chapter 2

Skills and inclusive growth

A highly skilled workforce is crucial to sustain competitiveness and contain the rise in income inequality. Recent surveys of adult skills and educational performance suggest that younger cohorts are doing less well than their predecessors. Many immigrants struggle both in school and in the labour market partly because of low skills and language difficulties. Educational outcomes could be improved through raising the attractiveness of the teacher profession, improving teacher education and increasing support for struggling students. A more flexible labour market would facilitate access to jobs for youth with low qualifications and immigrants.

The high skills of Sweden's workforce support high productivity growth and give the country a competitive edge in knowledge-intensive and high value-added parts of global value chains (Chapter 1). High and increasing employment of both women and men contribute to raising standards of living, ensuring the sustainability of public finances and keeping income inequalities relatively low, even though they have increased since the mid-1990s. Nevertheless, a continuous decline in education results and difficult access to employment for the low-skilled and immigrants are putting this model at risk. Even though policies to strengthen work incentives have pushed up labour market participation over the past decade, especially among lower-income earners and seniors, the low-skilled are less likely to be employed in Sweden than in many other OECD countries, partly as a result of strict employment regulations and high entry-level wages.

The performance of Swedish 15-year olds in mathematics, literacy and science has been steadily declining since the first OECD Programme for International Student Assessment (PISA) survey in 2000. Compulsory school outcomes started to deteriorate already in the 1980s, but a series of reforms in the early 1990s, which decentralised schools and changed curricula and teaching methods seem to have accelerated the slide. To improve results, the attractiveness of the teacher profession should be raised by monetary incentives, reduced administrative burdens, more flexibility and more workplace influence. Furthermore, state-of-the-art teaching methods should be better disseminated by sharpening teacher education and more mentoring. School principals' pedagogical leadership also needs to be reinforced. Enhanced support for struggling students is needed, which requires taking better into account the socio-economic mix of pupils in the distribution of resources.

Immigrants face additional challenges in the labour market, partly because of lower average literacy proficiency than natives, reflecting a weaker command of the Swedish language, but also lower educational attainment and less advantageous socio-economic backgrounds. Other factors that hamper labour market integration include for instance discrimination and lack of relevant networks. Both reception classes, providing intensive training in Swedish, and extra support must be of high quality and available to those immigrant children who need it. Moreover, adult immigrants need intensive Swedish classes in the first years after arrival to succeed in the long term, and low-skilled, subsidised employment should not come in the way of such language learning. For immigrants without much formal education, learning Swedish may well be as effective in the workplace as in a classroom.

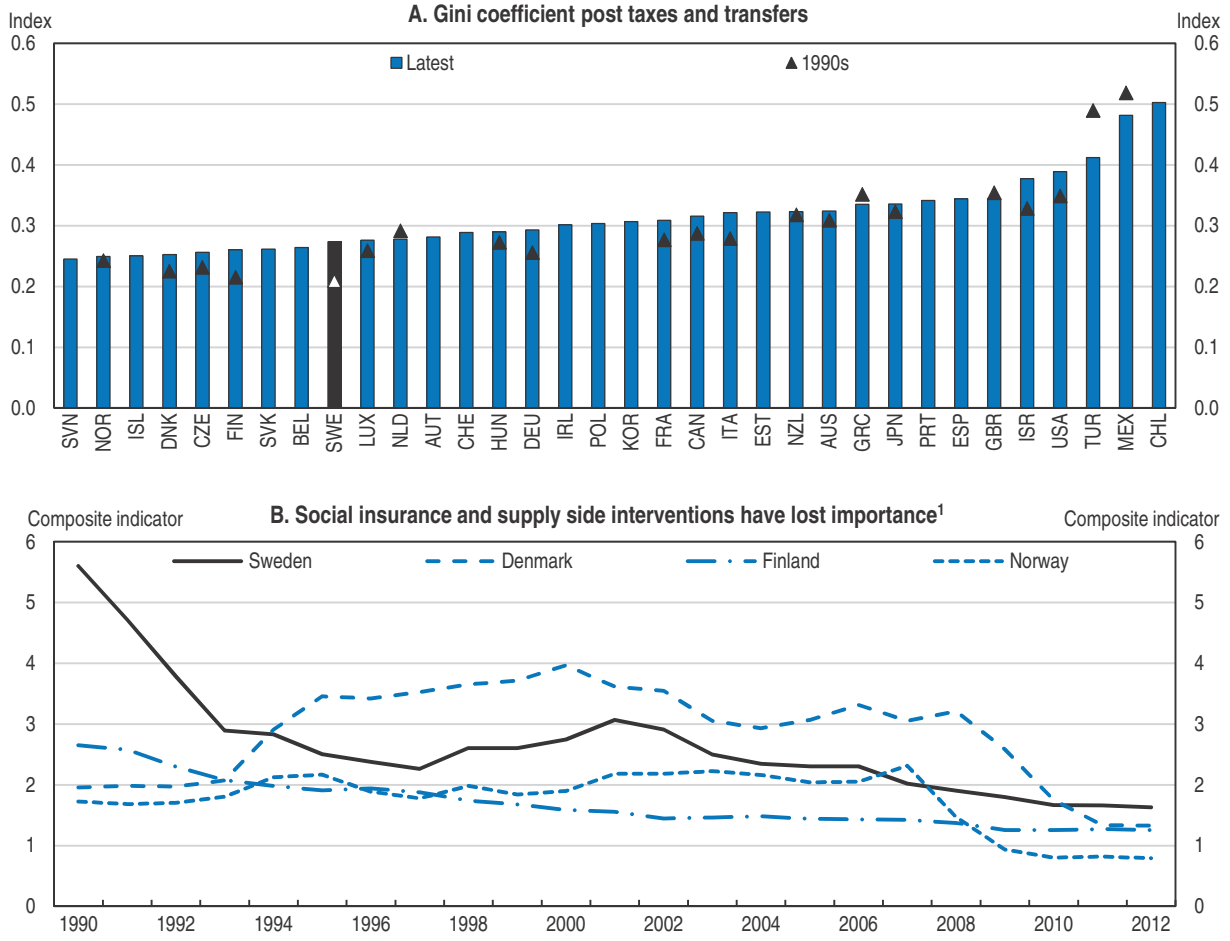
This chapter focusses on ways to improve average educational outcomes to ensure the availability of the high skills needed in a high-income innovative economy, on challenges facing disadvantaged groups, in particular immigrants, and on possible adjustments to labour market institutions which could facilitate employment. The first section outlines income inequality trends. The second investigates the causes and consequences of the fall in youth skills. The third analyses links between adult skills and labour market outcomes,

exclusion and inequalities. The fourth looks at options to halt the decline in average skills and lift the basic skills of weaker individuals so they can get a foothold in the labour market. The chapter ends with a discussion of the scope for labour market policies to improve matching and increase labour participation without sacrificing equity.

Inequalities are low, but have risen since the early 1990s

Strong public protection of workers as opposed to protection of jobs creates flexibility to adapt to the demands of globalisation and technology trends, while protecting those individuals who lose out from economic restructuring. Sweden, along with the other Nordics, has enjoyed considerable success in achieving both high growth and relatively low inequality (Andersen, 2011), although inequality has risen sharply in the two decades following the banking crisis of the 1990s (Figure 2.1, Panel A). Income inequalities are still low in Sweden compared to the OECD average, reflecting high employment and low wage dispersion (Hoeller et al., 2014). Furthermore, Swedish tax and benefit policies along with

Figure 2.1. **Social insurance and inequalities since the early 1990s**



1. Panel B is based on a principal components analysis of unemployment insurance initial replacement rates (high weight), active labour market policy expenditure per unemployed (high weight), employment protection regulations for regular workers (medium weight), union coverage (medium weight), tax wedge (medium weight), product market regulations (low weight) and collective bargaining centralisation (low weight). See Pareliussen (2014) for details.

Source: Panel A: *OECD Income Distribution and Poverty Database* (last accessed 3 November 2014). Panel B: Pareliussen, J.K. (2014), "Overcoming Vulnerability of Unemployment Insurance Schemes".

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in-kind transfers are in general redistributive, although their contributions to reducing inequality have declined (ISF, 2014; OECD, 2014a). Those who are not in employment have seen their relative living standards eroded, as market-friendly reforms helped the economy grow but trimmed the social safety net (Figure 2.1, Panel B).

Swedish social insurance has historically been based on the principle of income replacement, and it is still meant to be governed by this principle, in which benefits are directly proportional to previous income. However, since the economic crisis in the 1990s, most major benefits have either been uprated according to the consumer price index, which over time grows more slowly than wages, or not systematically uprated. Combined with benefit ceilings that are also losing ground compared to wages, this has led to a gradual shift from income replacement to basic income security. The unemployment benefit has already completed this transition. Today the benefit ceiling is below the 10th income percentile, while it was higher than the median in 1992 (ISF, 2014). Differences between in-work income and benefits are further widened by the Earned Income Tax Credit (Fiscal Policy Council, 2014).

Income is intimately connected to the type of household an individual belongs to. Single adult households, especially single mothers, and other groups who depend on transfers, such as immigrants, are most at risk of ending up with a low income. A person born in Sweden or another Nordic country has higher earnings prospects than a person born in a country further away in distance and culture (ISF, 2014). Strong income mobility for Swedish youth, especially students, and the fact that single pensioners often live off savings, own their dwelling and benefit from a wide range of public services, imply that the relative poverty of single-person households may be overstated by the simple metric of income inequality. Although there is also a geographical dimension to inequality, as individuals in Greater Stockholm earn more than inhabitants of smaller municipalities, this dimension seems less important than household type and origin (Figure 2.2).

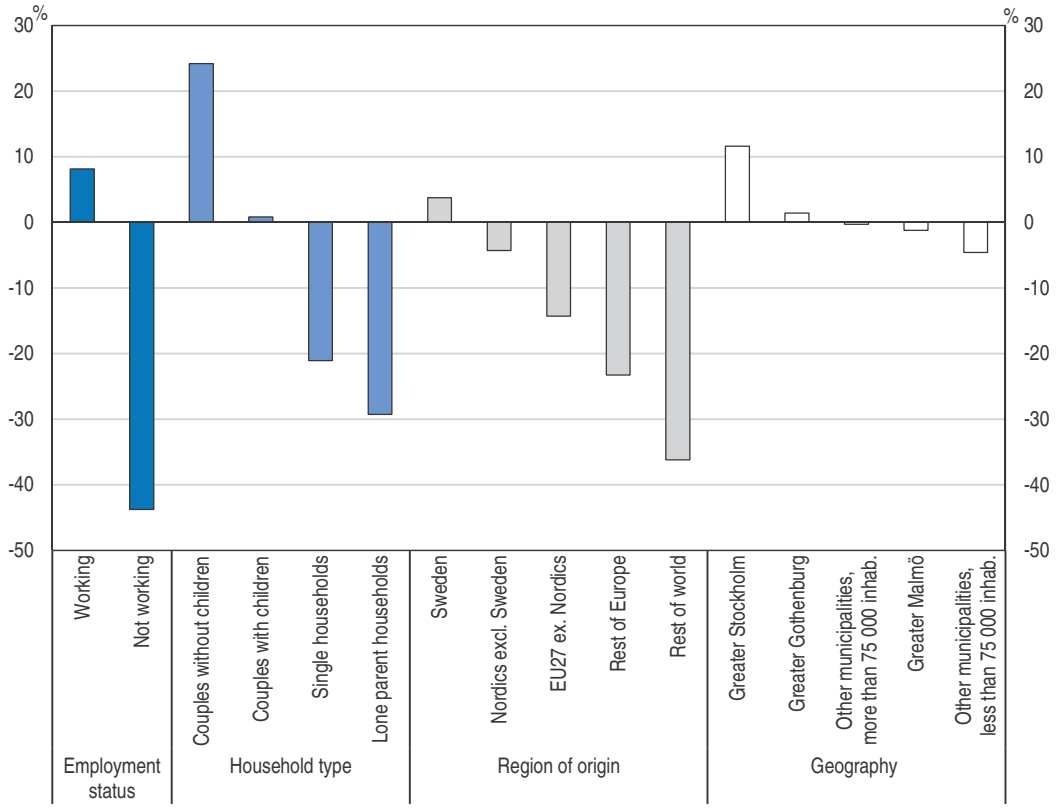
Youth's declining skills threaten future prosperity

Three sets of factors underpin strong performance in high-skilled services coupled with relatively low inequalities. First, education from early childhood to tertiary has long delivered good results, although PISA scores indicate a marked deterioration over the past decade. Second, policy settings encourage labour market participation. High quality free or cheap childcare and old age care contribute to women's high employment rate, and active labour market policies (ALMPs) support return to employment. Third, the co-operation between labour and employer unions (the "social contract") delivers a flexible labour market. The government's role in the social contract is to help unemployed members back into work and to provide them with income support. These three sets of factors are interconnected and mutually reinforcing. They depend on public funding but also on strong work incentives and business-friendly regulations (Bassanini and Duval, 2006 and 2009).

A compressed wage distribution, especially in combination with high skills, can drive up productivity while limiting inequality. Wage compression is closely associated with a high degree of co-ordination in wage setting, which pushes up wages in low-productivity firms, forcing them to improve, scale down and shed workers or go out of business. Central wage setting also keeps down wages in high-productivity firms, enhancing their incentives to invest in human capital and technology, as firm-level productivity gains do not directly translate into higher wages (Moene and Wallerstein, 2006). Sweden has a strong ability to

Figure 2.2. **Sweden's income inequality map**

Percentage deviation from median disposable income, in 2012



Source: Inkomstfördelningsundersökningen (The Income Distribution Survey), Statistics Sweden (accessed 12 March 2014).

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reallocate resources towards the most productive sectors and businesses (Adalet McGowan and Andrews, 2015). However, the compressed wage distribution also comes with disadvantages (discussed later in the chapter), as private payoffs do not always provide sufficient incentives for individuals to make the educational and career choices that would benefit society the most, and low-skilled individuals struggle to integrate into the labour market.

Much of the relatively strong labour market performance of Sweden and the other Nordics can be explained by the high degree of trust between workers and firms, which allows the system to adapt to changing economic conditions. Trust is reinforced by kept promises, solid and fair institutions fostering dialogue and negotiation between representative social partners (Blanchard et al., 2013), and low inequalities (Barth and Moene, 2012). The OECD Survey of Adult Skills (PIAAC) also shows that individuals with higher skills show higher levels of trust (OECD, 2013a).

Declining PISA results are worrisome, since Swedish prosperity depends heavily on high skills. If adult skills were to grow more slowly or even decline in the future, productivity growth and competitiveness of skill-intensive industries would be at risk. Besides, it would make it more difficult for many to join or stay in the labour market. Over the long term, combined with higher dependency ratios as the population ages, this could harm living standards and endanger the funding of the welfare state.

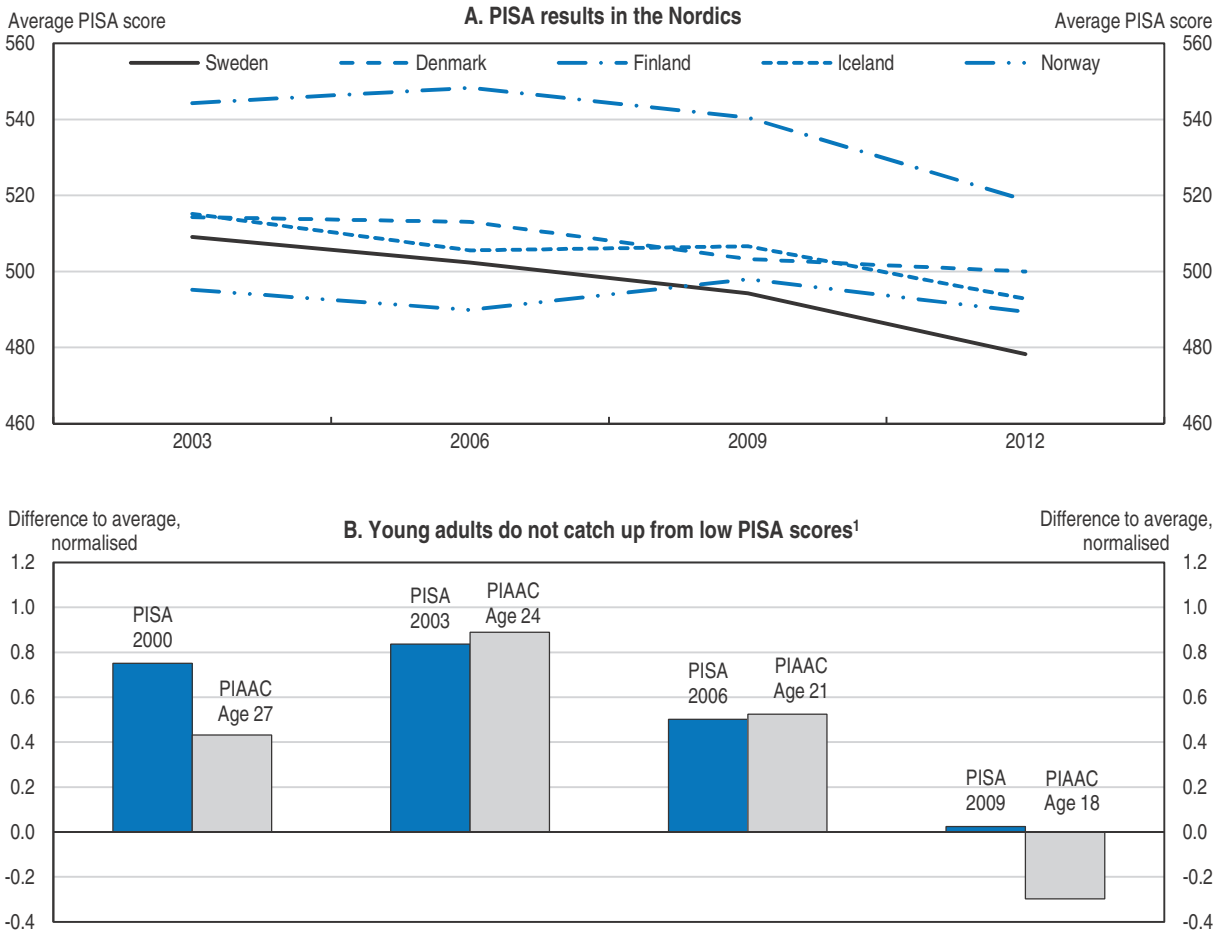
A broad and rapid decline in PISA results

Over the past decade Sweden experienced the most rapid decline of all OECD countries in the performance of 15-year olds, as measured in the PISA survey. From a position well above average in all subjects in 2000 and 2003, Sweden was for the first time below average in all subjects in 2012, ranking 25th of 34 in both mathematics and science and 19th in reading. This worrying trend is confirmed by the results of the Progress in International Reading Literacy Study (PIRLS) and the Trends in International Mathematics and Science Study (TIMSS), notwithstanding maintained good performance in English and democracy, civic and citizenship issues – as measured by the International Civic and Citizenship Study (ICCS) and the European Survey on Language Competences (ESLC) (SNAE, 2010 and 2012). The evolution of PISA scores is consistent with the weaker results of the younger cohorts of Swedish adults in the PIAAC survey (OECD, 2013a). In the 2012 PISA survey Sweden performed slightly worse than Iceland. Norway and Denmark performed better and slightly better than the OECD average, while Finland was a top performer along with Japan and Korea. The relative position of all the Nordics except Denmark has declined since 2000 (Figure 2.3, Panel A). Across the OECD countries which participated in both surveys, those that performed well in PISA generally also display high scores in literacy for the corresponding cohorts in PIAAC. Moreover, while a number of countries have had above-average results in PISA and below-average scores in PIAAC, none have scored below-average in PISA and significantly above-average in PIAAC. This suggests that it is very difficult to make up for poor performance at the early stages of education. Hence, low performance among 15-year olds in Sweden is likely to translate into declining performance among adults in the future (Figure 2.3, Panel B).

Equity of educational achievement in Sweden is above average in mathematics and has improved slightly since 2003, as scores declined less for low than for high performers (OECD, 2014b). In literacy, inequality is at the OECD average and has widened over time (SNAE, 2013a). The socio-economic background of pupils influences their results in mathematics somewhat less than the OECD average, but there is room for improvement, exemplified by Finland and Estonia, who achieve both higher results and greater equity. Variations between schools in PISA results are limited in all the Nordics. In Sweden they are slightly narrower than in Denmark and similar to Estonia and Iceland, but considerably wider than in Finland and Norway.

The socio-economic composition of schools generally affects results less in the Nordics than the OECD average. Nonetheless, this effect is about twice as high in Sweden as in Finland, the OECD country where composition affects results the least. A more favourable socio-economic background is also associated with higher levels of interest, motivation and self-confidence. The 9% of foreign background pupils perform much worse than their native peers, and first-generation immigrants are particularly disadvantaged. Second-generation immigrants also do significantly worse than the OECD average. However, immigrants in Sweden tend to have lower socio-economic backgrounds than the average immigrant to OECD countries. Taking this into account reduces the difference considerably for both groups, bringing the gap between natives and second-generation immigrants' results just slightly below the OECD average, while first-generation immigrants still do worse (SNAE, 2013a).

Figure 2.3. **Declining skills among youth**



1. The figure compares mean reading scores in PISA with literacy scores in PIAAC for the corresponding cohorts. The test score averages are normalised by the cross-country PISA and PIAAC averages and standard deviations for comparison. A three-year band is used in the Survey of Adult Skills to increase size and reliability of estimates, i.e. the group "adults 24" consists of the age groups from 23 to 25. The mix of countries contributing to the average in PISA and the Survey of Adult Skills differs, which may contribute to differences in countries' average scores relative to the overall averages in either study.

Source: Survey of Adult Skills (2012); OECD, *PISA 2009 Database*; and OECD, *PISA 2012 Database*.

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A poor learning environment with frequent late arrivals, missed classes and noise in the classroom is more frequent in schools with a less advantaged socio-economic mix, and the correlation with results in mathematics is strong. The learning environment is also closely related to teacher quality, as reported by principals (SNAE, 2013a). Although causality could go both ways, recent research indicates that classes consisting of lower-performing students (measured by grades at admission) increase the likelihood that a teacher will move to a different school (Karbownik, 2014b).

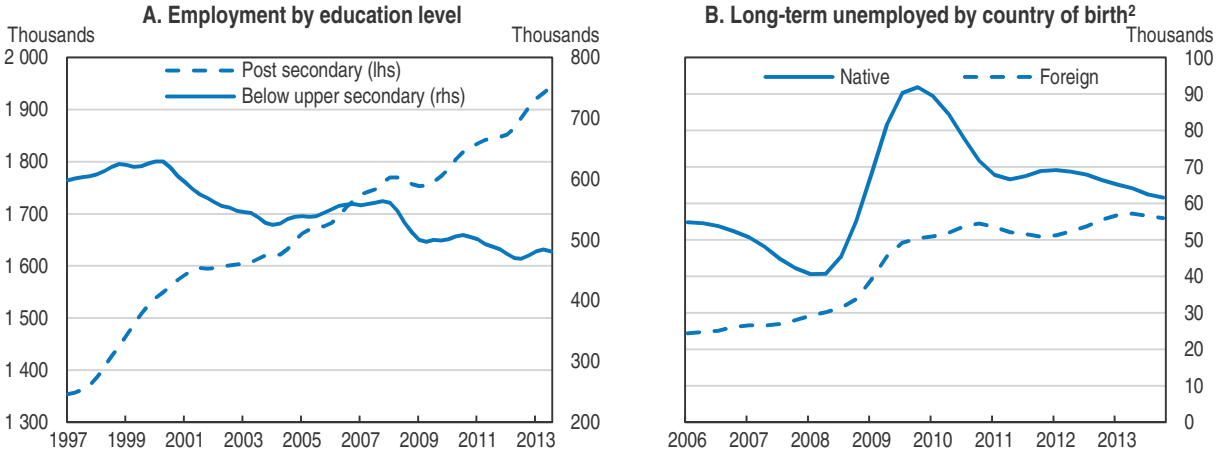
Adult skills are high overall, but the low-skilled face exclusion

Supply of highly educated labour has increased, and 45% of young adults had obtained a tertiary education degree in 2013, compared to a European average of 36%. The share of young adults (25-34) with tertiary education increased by 12 percentage points over the past 13 years, while the share with less than upper secondary education remained stable at 13%. The situation in Sweden contrasts with Denmark, where there are clearer signs of

polarisation of educational attainment across youth, with an increasing share of both tertiary graduates and low achievers and a declining share of intermediate-level graduates. In Finland the share of intermediate-level graduates has increased, partly thanks to a successful vocational education scheme. Demand for lowly qualified labour has also steadily declined over the past decade in Sweden, contrasting with the strong growth in demand for highly qualified labour (Figure 2.4, Panel A). Foreign born are especially vulnerable, and they now make up almost half of the long-term unemployed (Figure 2.4, Panel B).

Figure 2.4. **Education and origin in the labour market**

Trend[1]



1. Seasonally-adjusted moving average.
2. Unemployed for six months or more.

Source: Public Employment Service (2014a), *Labour Market Outlook Spring 2014*, Stockholm.

How to read: Panel B shows that immigrants make up almost half the stock of long-term unemployed today, while they made up only about a third in 2006. Furthermore, long-term unemployment among natives is more cyclical, while immigrants see a steady increase.

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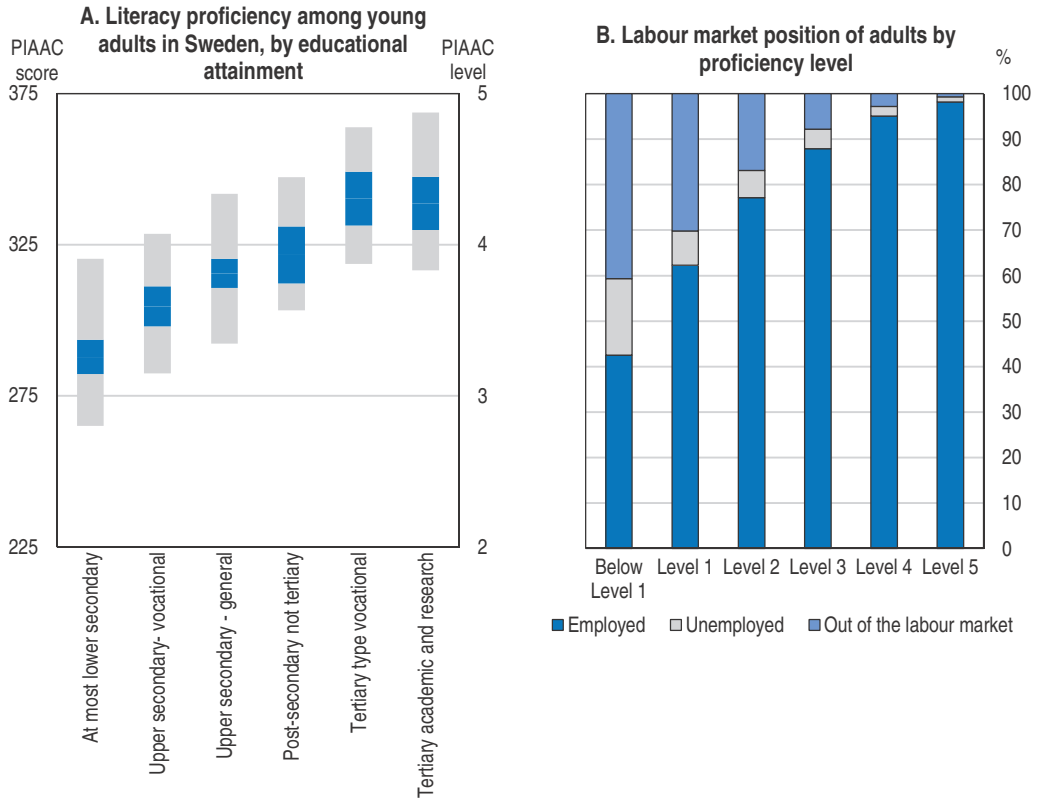
Both skills and formal qualifications matter

Formal qualifications can correspond to very different skill levels. The PIAAC Survey measures what people know and can do within three cognitive skills, namely literacy, numeracy and problem solving in technology-rich environments. Literacy proficiency is measured on a six-level scale ranging from "Below Level 1" up to "Level 5". Individuals scoring 5 and above are highly skilled and able to search, integrate and utilise complex information on unfamiliar subjects to make high-level inferences, while those scoring at or below Level 1 can at best understand short texts on familiar topics and solve simple assignments (OECD, 2013a).

PIAAC results show large variations in skills for similar educational attainments. This is partly because work experience increases skills and because underutilised skills deteriorate over time. However, this is not the full explanation. Looking at the youngest PIAAC cohorts, holding little work experience, literacy skills vary significantly within educational levels. Twenty-five per cent of young adults with a tertiary education show lower skills than the 25% best performing with only compulsory school degrees (Figure 2.5, Panel A).

The Swedish labour market is able to absorb most of the middle and highly skilled, but those who lack basic skills find it more difficult to gain employment. The low skilled are thus in danger of entering a vicious circle where they get further from the labour market as

Figure 2.5. **Education, literacy and labour market outcomes**



Note: Pane A: Age group 16-29. Immigrants are included. For each educational level, the graph shows the level range of literacy proficiency between the 25th (lower end) and the 75th (upper end) percentile for foreign-born and native-born young adults as well as the mean score and its confidence interval at 95%. Estimates are not adjusted for other background variables. Panel B: Students are excluded as well as those who are in education and unemployed and aged under 25.
Source: OECD Survey on Adult Skills (PIAAC) 2012.

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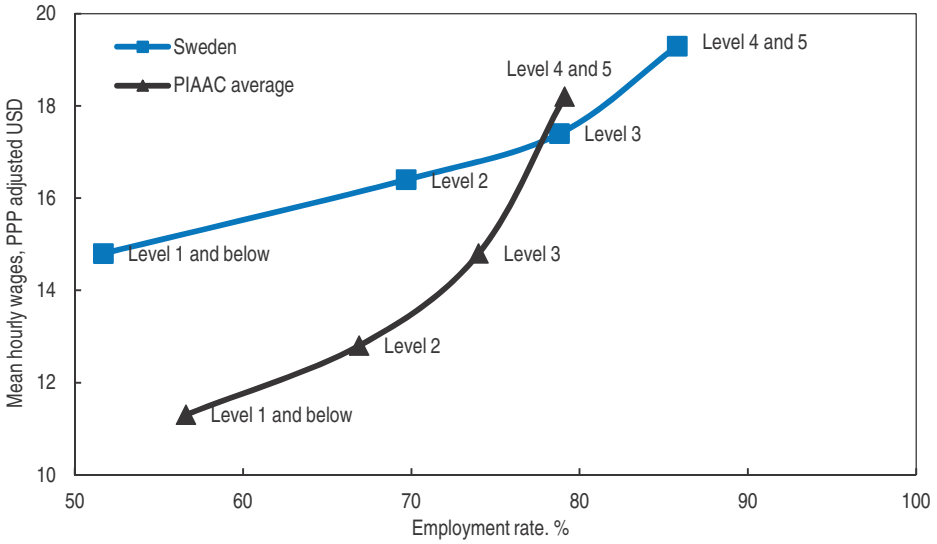
time goes by. Just above half of adults scoring Level 1 or lower are employed. In contrast employment rates are higher than the OECD average for higher proficiency levels. In the group with the highest literacy proficiency (Level 5) the share of adults not in the labour force and the share of unemployed are each around 1% (Figure 2.5, Panel B).

Why low skills hamper access to jobs

High minimum wages create a wedge between the remuneration low-productivity workers are entitled to and the value they add to their employer. The impact of this wedge is compounded by regulations which reduce the flexibility for employers to adjust their labour force as a consequence of a changing external environment or to dismiss inefficient workers (Blanchard et al., 2013). In Sweden, the probability of employment increases drastically and hourly wages increase only moderately as skills increase. On average across countries covered by PIAAC, wage progression with skills is steeper and differences in employment rates for different skills levels are less pronounced (Figure 2.6). As discussed below, reducing employment protection and entry-level wages could make it easier to hire the low-skilled. Nevertheless, to increase employment while maintaining high living standards and low inequalities, the main challenge is to raise skills in the lower part of the skills distribution.

Figure 2.6. **Skills and labour market outcomes**

Mean hourly wages and employment rates by PIAAC skill levels



Source: OECD (2013a), *OECD Skills Outlook 2013: First Results from the Survey of Adult Skills*, Tables A6.3 and A6.4, OECD Publishing, Paris, *http://dx.doi.org/10.1787/9789264204256-en*.

How to read this figure: Sweden shows high employment rates for middle- and high-skilled individuals, but low employment for the low-skilled (Level 1 and below). At the same time wages are high for those low-skilled individuals who are employed and wages increase less with skills than for the PIAAC average, indicating that high minimum wages reduce employment prospects for the low-skilled in Sweden.

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Adult education is well developed

Most of the public provision of adult education is focused on upgrading lower skills (basic courses) and allowing the completion of upper secondary education (Box 2.1). For 25-30% of the adults without upper secondary education, second-chance education plays an important role. Thirty per cent of adults who took part in municipal adult education in 2000 continued to higher education as their main activity later on. Adult education is not only a way of upgrading basic skills in the short run, but also a long-term investment, particularly for school leavers aged between 18 and 24, among whom almost half went on to higher education after participating in municipal education (Nordlund et al., 2013).

PIAAC data show that two thirds of the adult population participated in formal or non-formal adult education and training (AET) in the past 12 months. This includes any type of organised learning activity in which the person has participated, work related or not, which might still be ongoing and that lasted at least one hour. Half of the adult population participated for job-related reasons and 14% for other reasons. Similar shares of the adult population take part in AET in the other Nordic countries, which among OECD countries involve their workforce most in AET. Across the OECD, the probability of participating in adult education and training increases with literacy and the skill requirements of an individual's profession. This is also the case in Sweden, but less so than in other countries. Sweden has the OECD's second largest share of low-achievers (literacy score below Level 1) taking part in AET (OECD, 2013b).

Box 2.1. **Life-long learning in Sweden**

Municipal education and training for adults consists of:

- Municipal adult education (Komvux) leading to the same curriculum and same qualification as compulsory school (*grundskolan*) and upper secondary education (*gymnasieskolan*). Komvux is free of charge. It has no programmes, as course provision is adapted on an individual basis. In 2012, 115 895 persons (of whom 65% were women) participated in Komvux education.
- Special education for adults (Särvux) for adults with special needs.
- Swedish Tuition for Immigrants (SFI). Courses are open to immigrants who move to Sweden and are registered in the municipality. Courses should be available at the latest three months after registration.

Post-secondary and tertiary education:

- Tertiary education (*universitet och högskolor*) plays an important role in life-long learning in Sweden. Higher education is to a large degree course-based rather than programme-based. This allows higher education institutions to better shape their courses based on local needs, and adults to enrol in specific courses.
- Higher vocational education (*yrkeshögskolan*) is financed by the state and organised by private and public actors. Programmes last from six months to three years, with part of the time usually spent at a workplace. The Swedish National Agency for Higher Vocational Education is tasked with ensuring quality and relevance of the education.

Liberal and supplementary adult education receiving public support:

- Folk high schools (*folkhögskolor*) are financially supported by the government, but are free to choose their organisation of programmes. Courses last from a few days to three years. Some folk high schools teach Swedish to immigrants and provide classes to obtain compulsory school and upper secondary school qualifications.
- Study associations (*studieförbund*) arrange study circles, projects, meeting series and events to increase the knowledge of participants. They usually spring out of organisations such as unions and political parties, religious groups and the green movement.

Supplementary education programmes (*kompletterande utbildningar*) complement upper secondary education or can be post-secondary, mostly in specific occupational fields or traditional craft. They are independently set up by private organisers but financially supported by the state.

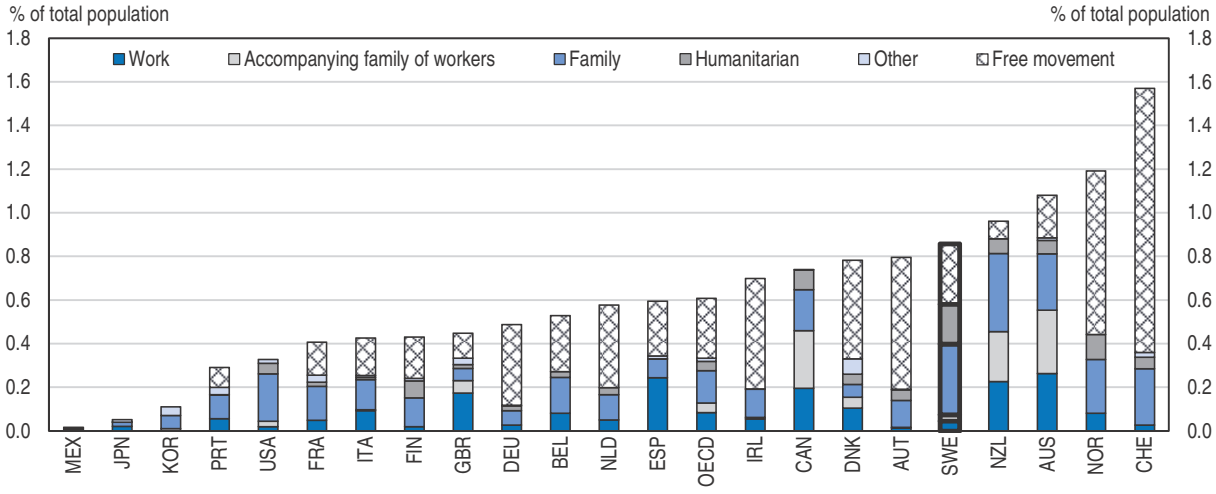
Source: Bussi and Pareliussen (2015).

Immigrants fare worse than natives partly because of lower skills

By the end of 2013, 16% of the Swedish population was born abroad, up from 11% in 2000. In 2012, 8.7 new immigrants arrived per thousand persons in the population, with family and humanitarian permanent immigration accounting for 63% of the total (Figure 2.7). The migrant population is set to increase further in the coming years, with a substantial share of immigrants being asylum seekers, family reunions and refugees, who are harder to integrate than work migrants. Even though the 2008 labour migration reform eased access for non-EU work-related entry in order to attract skilled workers, the share of work immigrants only increased by 1.5% in 2008-11 compared to 2003-07 (Bevelander and Irastorza, 2014). The share of work and free movement migration fell from 2011 to 2012 (OECD, 2014b).

Figure 2.7. **Permanent immigration by category of entry**

2012



Note: The values are based on standardised data. The OECD average is the unweighted average of the countries presented in the figure. The European Union values refer to the European Union countries included in the figure.

Source: OECD (2014c), *International Migration Outlook 2014*, OECD Publishing, Paris, *http://dx.doi.org/10.1787/migr_outlook-2014-en*.

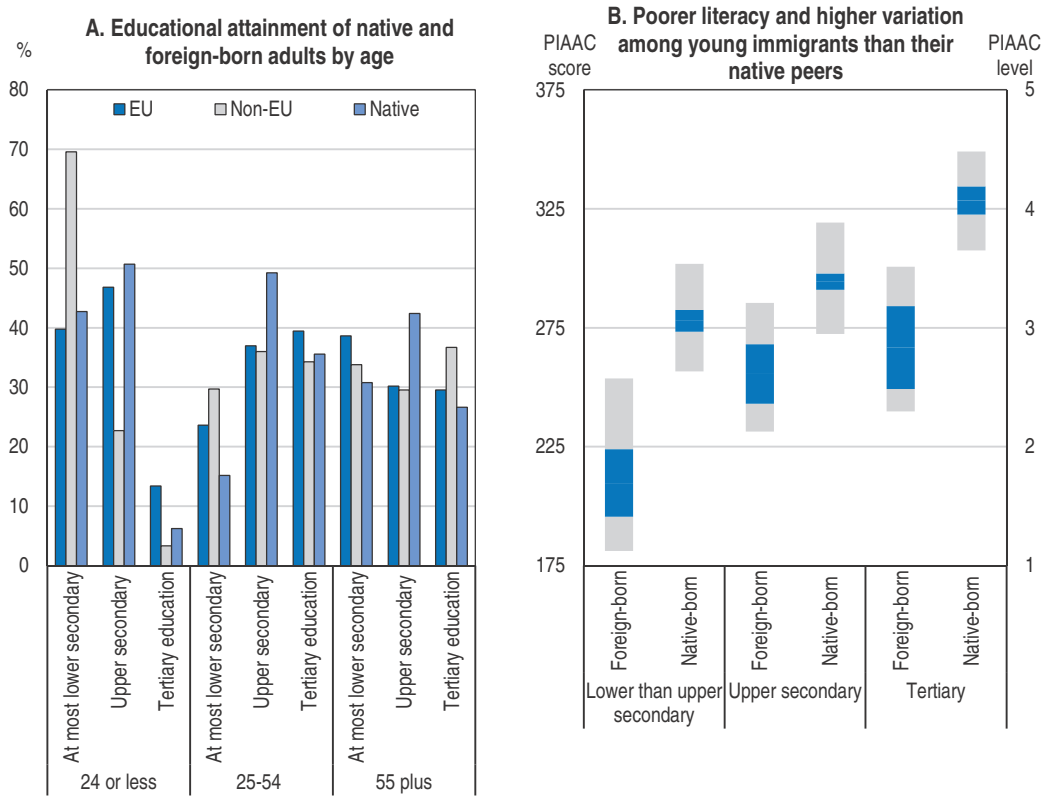
StatLink *http://dx.doi.org/10.1787/888933199327*

Adults that are both foreign-born and speak a foreign language as their mother tongue ("foreign-born and foreign-speaking") have lower literacy proficiency compared to native-born and native-speaking adults. Since PIAAC skills are tested in the language of the host country, a part of this shortfall is likely due to language difficulties. But this is not the full explanation, as illustrated by the fact that foreign-born Swedish-speakers also do worse than natives, and by the marked differences in socio-economic background of immigrants compared to natives. Similar differences are also found both in numeracy and in digital problem solving (OECD, 2013a).

Educational attainments of foreign-born adults depend on both their country of birth and reason for migration (Böhlmark, 2008). Differences are high especially for the younger cohorts, where non-EU immigrants are much less likely to hold an upper secondary or a tertiary degree than both native Swedes and EU immigrants. Non-EU immigrants in older cohorts are more likely to hold a tertiary degree than natives, reflecting different waves of migration (Figure 2.8, Panel A). Higher education attainment is associated with higher literacy proficiency, but education is a poorer predictor of literacy proficiency among immigrants than among natives (Figure 2.8, Panel B). At any educational attainment level, non-EU foreign-born adults have a distribution of literacy proficiency that is skewed towards the lower levels, compared to natives. EU-foreign born adults hold an intermediate position between the native and non-EU born adults (Bussi and Pareliussen, 2015).

New OECD research on the determinants of literacy proficiency shows that Western European immigrants to Sweden and those immigrating from advanced North American and Pacific countries have higher literacy scores than the average foreign-born foreign-speaking immigrant, while Arab, Asian and Central and Eastern European immigrants have lower scores (Bussi and Pareliussen, 2015). Parents' educational attainments also affect skills. Foreign-born adults who have spent less than five years in Sweden have the second lowest average level of literacy in PIAAC, reflecting the high share of humanitarian and family reunion immigrants (OECD, 2014b). Although the literacy proficiency of

Figure 2.8. **Immigrants' education and literacy**



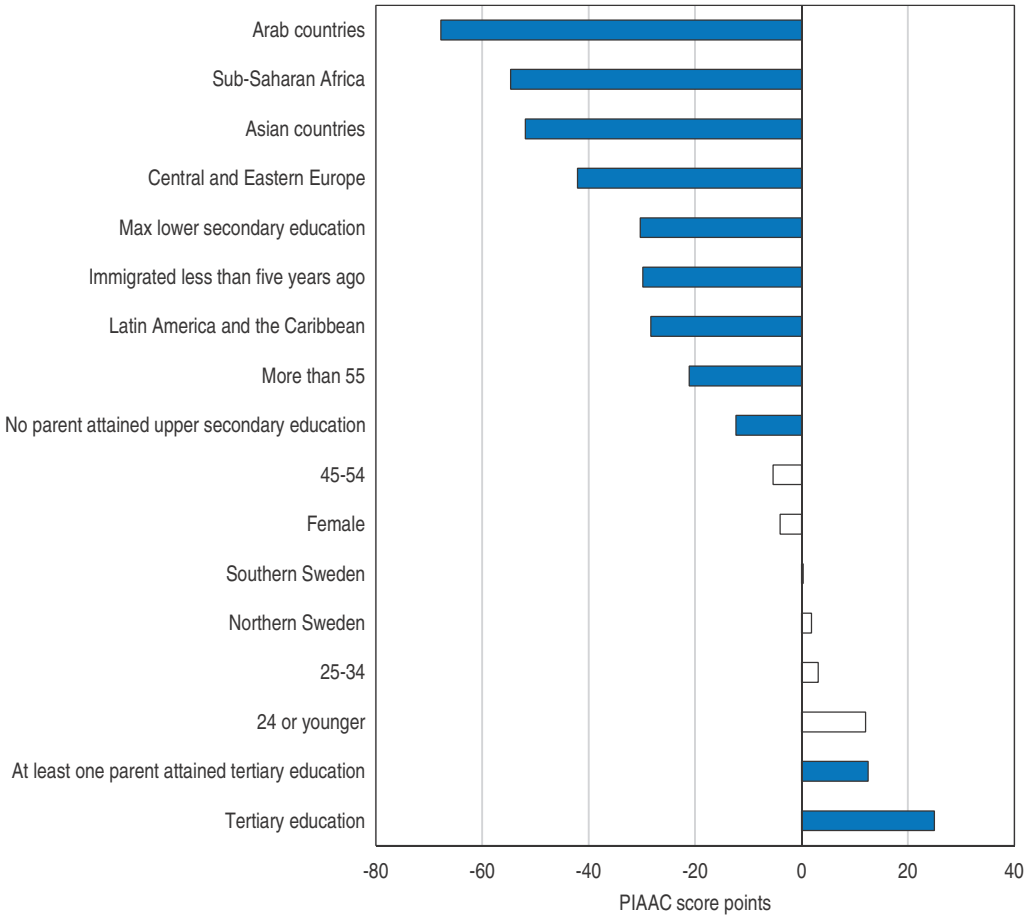
Note: Panel A: The EU category also includes Norway. Lower than upper secondary education includes ISCED 1.2, 3C short or less; Upper secondary includes ISCED 3A-B, C long and post-secondary non tertiary ISCED 4A-B-C; Tertiary includes ISCED 5A-B/6. Panel B: Literacy proficiency among young adults in Sweden (aged 16-29) by educational attainment and country of birth. For each educational level, the graph shows the level range of literacy proficiency between the 25th (lower end) and the 75th (upper end) percentile for foreign-born and native-born young adults, in the middle the mean score and its confidence interval at 95%. Estimates are not adjusted for other background variables. Confidence intervals for the foreign-born young adults are quite large because of small sample sizes.
Source: OECD Survey of Adult Skills (2012).

StatLink http://dx.doi.org/10.1787/888933199336

newly-arrived immigrants is low, the mean score level of foreign-born adults who have lived more than five years in the host country is only slightly lower than the average for Sweden. This improvement over time can be due to several institutional factors. Access to language courses and to adult education more generally is important in this respect (Statistics Sweden, 2014a). The importance of time spent in Sweden does not change much when controlling for country of origin, indicating that although the changing composition of immigration over time plays a role, it does not drive the results (Figure 2.9).

The employment rate of natives was 13 percentage points higher than that of immigrants in 2012, as against a 2.5 percentage points OECD average difference. The gap between non-EU foreign-born and natives was 18.2 percentage points, while it was only 2.5 percentage points for EU-born adults. Unemployment of non-EU foreign born was also three times as high as for natives (OECD, 2013c). Immigrants to Sweden fare worse in the labour market than natives partly because of their lower literacy proficiency. An increase of one standard deviation in the PIAAC literacy score more than doubles the odds of being employed. Holding an upper secondary diploma increases employment prospects independently of its contribution to skills. Neither time spent in the country, holding a

Figure 2.9. **Determinants of immigrant literacy scores**



Note: The graph shows adjusted literacy scores (i.e. keeping all the others categories constant) for each of the different categories. Dark blue bars are significant at least at 1% or 5%. White bars show the scores that are not statistically different from the reference category. The reference category is a male with upper secondary education living in Eastern Sweden aged between 34 and 44. He is born in a European country (except Central Eastern European country) or in an advanced economy (North America or Pacific country). One of his parents has attained at least upper secondary education and he has been living in the country for over five years. His score on literacy is 257.6. Students in full-time education (any age) are excluded from the regression. The regression is run for 473 observations, all of them foreign-born and foreign-speaking.

Source: Bussi, M. and J.K. Pareliussen (2015), "Skills and the Labour Market in Sweden", *OECD Economics Department Working Papers*, OECD Publishing, Paris, forthcoming.

StatLink http://dx.doi.org/10.1787/888933199342

tertiary degree nor region of origin and language background explain employment once literacy skills are controlled for. Hence, these variables influence the probability of employment mainly through their impact on literacy. Even so, both older immigrants and immigrant women have significantly lower odds of employment compared to younger male immigrants with similar backgrounds and skills, highlighting the importance of improving gender equality among the foreign-born population. Those working in, or having worked in, a low-skilled occupation also do significantly worse than those in skilled and semi-skilled occupations (Bussi and Pareliussen, 2015). Other factors that hamper labour market integration include for instance discrimination and lack of relevant networks, which also affect literacy proficiency. Matching skilled immigrants to accordingly skilled jobs is important to avoid skills erosion. Validation of formal and informal competences, recognition for those who have not finished or who have no proof

of their degrees as well as bridging courses are underdeveloped and should hence be strengthened (OECD, 2014c). The most common activity among refugees and family reunion immigrants who recently arrived in Sweden is studying. This up-skilling leads to a higher share in employment later on, albeit still lower than among Swedish-born persons after ten years in the country (Statistics Sweden, 2014a).

Enhancing skills

Learning outcomes depend on a range of factors, such as teachers' skills, working methods, curriculum and classroom discipline, as well as school leadership, resource allocation and governance and how these factors fit together within the wider education policy framework. The broad and lasting decline in scores in PISA and other international surveys indicates that its causes are systemic. Student performance started to fall already in the 1980s, but it seems likely that extensive reforms undertaken in the 1990s added to the decline (Holmlund et al., 2014; SOU, 2014). Decentralisation from 1991-93 (Box 2.2) devolved the responsibility for primary and secondary schools from the central government to municipalities. Poor organisation, lack of expertise and unclear responsibilities are still major issues at the municipal level, two decades after the reform (SNAE, 2011), and suboptimal allocation of resources means that weaker schools are not sufficiently supported. Furthermore, the legal obligation to give each pupil the necessary help to obtain passing grades is in many municipalities seen as an aspirational level (SNAE, 2009; Schools Inspectorate, 2014). Ambitions need to be raised and responsibilities need to be clearly allocated across the educational system, in particular within municipal administrations (OECD, 2015). Decentralisation coincided with the introduction of a new curriculum which was much less concrete than the old one. More responsibility for learning was given to the pupil at the expense of teacher-led instruction, with negative effects on student outcomes, in particular for weak students (Schwerdt and Wuppermann, 2011).

Decentralisation coincided with the two school choice reforms in 1992, one allowing for publicly-funded private schools ("independent schools") and the other giving pupils the right to choose between schools. Even though independent schools led to more variation of performance between schools (SNAE, 2013a), the reforms are estimated to have resulted in a small improvement in average performance at the end of compulsory school, and in tertiary education. Long-term effects, positive or negative, on later educational choices, employment, criminal activity and health seem to be limited. Early assessments concluded that school choice increased inequalities, benefiting independent-school students only. More recent studies tend to argue that it spurred competition and improved results slightly across the school system. The overall effect on results from students' socio-economic backgrounds has not changed (Holmlund et al., 2014; Wondratschek et al., 2013; Böhlmark and Lindahl, 2015).

The impact of the school-choice reforms on overall education costs remains unclear. Böhlmark and Lindahl (2015) find that more private schools within municipalities are associated with reduced overall education expenditure, while other studies reach the opposite conclusion (Antelius, 2007).

Policies to halt the slide in skills and help struggling students

Good teachers and principals have a sizeable effect on student outcomes, but Sweden currently struggles to attract the best students into teaching. Only 5% of Swedish teachers report that their profession is valued in society, as against 60% in Finland. The

Box 2.2. **The school decentralisation reforms of the 1990s**

The 1990s school decentralisation reforms devolved the responsibility of primary and secondary schools from the central government to municipalities. Decentralisation, reduced regulation and management by objectives and results were meant to make the school system more adapted to local circumstances and more cost-effective. The original decentralisation reform of 1991 was followed by the abolition of earmarked grants in 1993, leaving the municipalities the discretion to prioritise between schools and other municipal tasks. The reforms left municipalities with the full responsibility for schools, including adult education, organisational development and control, and teacher training.

Several other changes coincided with the decentralisation. In 1992 two school choice reforms were implemented, allowing the opening of private independent schools and also giving pupils the right to choose between private and public schools. Rules for teacher qualification assessments were abolished in 1993, and a new curriculum and a new grading system were implemented in 1994.

The main goals of decentralisation were to contain spending and at the same time improve quality. It was thought that if decisions were taken locally, schools would more easily adapt to the individual needs of pupils. Furthermore it was envisaged that schools would be better adapted to their local context when school staff were given increased discretion and that communication and influence of parents and other local stakeholders would improve when decisions were taken locally.

The reforms were successful on some counts. The cost per pupil dropped as a consequence of a higher number of pupils per teacher. Pupils and parents saw their influence increase through more dialogue with local representatives, teachers and headmasters. Despite these accomplishments, the reforms failed in their main task, as pupil performance has been declining steadily since the reforms. Some of the main reasons are:

- Decentralisation and the transition to a hands-off approach to management were too abrupt and went further than originally planned. Both the centrally articulated objectives and the new curriculum were too vague, with too much emphasis on students' responsibility for their own learning.
- The different stakeholders lacked a clear understanding of their tasks and responsibilities following the implementation of the reform. Teachers were against the reform from the beginning and showed little enthusiasm for implementing it, and municipalities lacked administrative capacity and expertise.
- The reform coincided with the 1990s economic crisis. Savings triggered by the crisis and the reform were in many cases the wrong ones, and over time they led to a decline in quality. Declining resources led to more students per teacher, fewer resources went to teacher training and teacher salaries lost ground. Resources have since been increased, but teacher salaries remain lower, also compared to other municipal employees.
- At the same time, core working hours increased and teachers' working conditions deteriorated with extensive documentation and other administrative requirements, as the state and municipalities increased management and control when the falling results became obvious. Headmasters were also left with more administrative tasks and less time for pedagogical leadership. Administrative complexity also increased due to the parallel school choice reforms and subsequent changes to school structure and content.
- Over time the attractiveness of the teacher profession declined and teacher education lost popularity. Declining teacher skills and an increasing share of teaching staff without adequate qualifications followed.
- Strategy and planning as well as management and control systems were poor in many municipalities. Responsibilities are still not clear between state, municipalities, headmasters and teachers, and resources and responsibilities are often poorly aligned.

Source: SOU (2014), *Staten får inte abdikera – om kommunaliseringen av den svenska skolan*, No. 2014:5, Statens Offentliga Utredningar.

attractiveness of the profession and motivation of teachers could be raised through more wage progression and clearer career paths. While the starting salary for a Swedish teacher is around the OECD average, the wage progression, and thus the possibility to make an attractive career out of teaching, is very limited. The highest teacher wages are only 33% higher than starting wages, compared to the OECD average of 58% (OECD, 2014d).

Although important, wages alone do not attract the best students into teaching. More flexibility on working hours outside the classroom, increasing autonomy on ways to reach learning targets, enhancing coaching and feedback and increasing influence on issues concerning pupils and workplace are all factors which have the potential to raise teacher satisfaction and the attractiveness of the profession. Three in ten Swedish teachers have never received feedback, even though there is a positive association between mentoring, peer observation and coaching, and teachers' sense of self-efficacy and job satisfaction in Sweden. Those teachers who do get feedback, get it mostly from the principal, but the principals tend to spend most of their working time on administrative tasks, leaving insufficient room for pedagogical leadership (OECD, 2014d).

Municipalities are responsible for the allocation of resources to schools, but some allocate insufficient resources to schools with a disadvantaged socio-economic mix of pupils. Most municipalities distribute more than 80% of resources to primary schools based on the number of pupils and 87% of municipalities distribute less than 12% of the total primary school appropriations to pupils based on socio-economic factors (SNAE, 2009). This share has stayed constant since the 1990s, while immigration and rising income inequalities has led to higher shares of students with disadvantaged backgrounds (Holmlund et al., 2014). Only 74% of Swedish teachers report that their school provides extra assistance to students in need, the second lowest percentage in the OECD behind Mexico (OECD, 2014d). Despite a recent easing of procedures to provide support, decisions are often taken at the principals' level without sufficient analysis and oversight of what happens in classrooms. Poor co-ordination with municipalities and unclear responsibility allocation further reduce chances that the necessary resources reach those students who need it most (Schools Inspectorate, 2014). Furthermore, when the mix of pupils in individual schools changes, this has no effect on school resources and hiring policies (Karbownik, 2014a, b). Teachers in schools with more advantaged students are on average better paid than colleagues in more disadvantaged schools (Holmlund et al., 2014). These issues should be addressed, if necessary by more centralised control of school financing. Increasing support for disadvantaged schools, as proposed in the budget for 2015, is a step in the right direction.

Better aligning resources with needs would make it possible to reward teachers and principals who work in challenging areas, as disadvantaged students gain most from good teachers and principals (Böhlmark et al., 2012). Furthermore, Sweden has lessons to learn from Finnish teacher education, especially their training in detecting learning difficulties and adapting instruction accordingly, the level of excellence demanded in school subjects and the length and quality of supervised work practice (Box 2.3). Those who want to become special teachers for struggling students in Sweden face one and a half years of extra studies that are not sufficiently compensated by improved wages and career paths.

In response to disappointing student performance, the central government has intervened in recent years with several reforms, including more and earlier national tests, clearer learning goals and more stringent qualification requirements. As a side-effect of

Box 2.3. **Lessons from Finland**

The school systems in Sweden and Finland have largely evolved in parallel since the 1970s, with similar reforms inspired by the same values. However, some important differences, notably related to the design and implementation of decentralisation, can help explain the divergent fortunes of the two systems:

- Teacher autonomy was increased only gradually in Finland. Today the curriculum is very general and objective based – resembling the vision that once guided the Swedish reforms.
- Autonomy was accompanied by moving the teacher education to universities and making it substantially more rigorous, with a mandatory research-based dissertation, specialisation subjects being taught by the academic subject faculty and rigorous training in detecting and handling students with learning difficulties. Teacher students also participate in research-based and state-of-the-art supervised teaching for at least one year in schools associated with the university.
- In Finland funding was only gradually transferred to the municipalities, and the central government still controls more than half of school funding. More funds are channelled towards schools with a high share of students from challenging socio-economic backgrounds.
- The goal in Finnish education is to help all students become successful learners. Because individual teachers and schools are given a lot of freedom and resources to a larger extent follow needs, teachers are also made responsible to reach this goal. This responsibility is reinforced by peer pressure within schools.
- Each school has at least one special teacher, trained to help struggling students. The special teacher is tasked with early identification and intervention, helped by a multi-professional care group consisting of the principal, the special teacher, the school nurse, the school psychologist, a social worker and the class teacher.
- Despite teachers' heavy administrative duties, administrative overheads in the Finnish education system are low. This is because the central organisation of the education system is lean, and there are few nationally imposed administrative tasks.

Source: OECD (2011b), *Lessons from PISA for the United States, Strong Performers and Successful Reformers in Education.*

these and other interventions over the past two decades, Swedish teachers and principals now face heavy administrative burdens from the central and municipal levels. Freeing up teacher resources by reducing administrative burdens would give more time for teachers to teach and prepare for teaching and for principals to engage in pedagogical leadership. Steps to improve career paths and reduce the administrative burden have been progressively implemented since 2012, and these efforts should continue.

The government intends to reduce class sizes. Even if Sweden's class sizes are well below the OECD average, this can to a large extent be explained by very small classes in the sparsely populated areas, while classes are bigger in the cities. Class size matters mainly when reducing the number of pupils per teacher in classes that are big at the outset (Fredriksson et al., 2013). Additional teacher resources should therefore be used to increase teaching hours rather than to reduce class sizes, as the latter may be a costly way of improving results. Education spending as a share of GDP is also above the OECD average, suggesting that there is scope to improve outcomes through reprioritising without large spending increases. Pre-school classes for six-year-olds are already well attended, but

making this first year compulsory, as signalled in the 2015 budget, would ensure the participation of children from disadvantaged socio-economic backgrounds who would benefit the most.

The 1990s reforms in Sweden probably drove decentralisation, management by objectives and responsibility for own learning too far too fast. Going forward, Sweden should ensure that education policy reforms are evidence-based, consistent, accepted by relevant stakeholders and implemented in a measured pace. One way of achieving this would be to consolidate existing institutions in charge of advising on and monitoring education policies, such as the School Research Institute, the Institute for Evaluation of Labour Market and Education Policy, and the School Commission into a council of experts, tasked with evaluating the appropriateness and consistency of education policies. Such a permanent council, with a secretariat consisting of academics and council members representing expertise from academia, teacher unions, municipalities and other central stakeholders, could also advise on long-term reforms.

Early school leavers and the Individual Programme

After a steady fall since 2006, the share of compulsory school graduates who qualified for at least upper secondary VET inched up in 2013: 77% passed all subjects, while 12% failed to qualify (SALAR, 2014). Students who have not fulfilled the minimum requirements to enter the standard national programmes can still enter upper secondary school through five Introductory Programmes (IP), which replaced the Individual Programme (IV) in 2011. Of those who enter upper secondary education, including the IP, 31% fail to complete their studies within the three-year norm, and 23% within four years (SALAR, 2013). Among those who enter one of the national upper secondary programmes, 80% finish within the three-year norm. Very few students graduate after the fourth year. Drop-out rates differ across programmes, and male students drop out more frequently. Within the academic programme the drop-out rate after four years is 14%, while for VET it is 21%. IV, which is now replaced by IP, used to push up the average considerably. About 75% of students entering IV dropped out, and half of those completing it failed to get the necessary passing grades to qualify for further studies (SNAE, 2013b), showing that pupils who fall behind early on have a hard time catching up. Although it is too early to judge the merits of the reformed IP, its programmes hold the potential to help students who lack passing grades in a few subjects get a diploma, and fill knowledge gaps among immigrant students. Given the mixed performance of the abolished IV programme, IP ought to be monitored closely with respect to learning and labour market outcomes. Equipping students with the right skills to benefit from further education or find jobs should have priority over expanding their stay in school (OECD, 2011).

Labour market outcomes of Swedes without an upper secondary diploma are poor. Upper secondary participation is already 98%, but many drop out. A reform of VET in 2011 increased co-operation with employers and aimed at aligning education better with labour market demand. Better academic content and high-quality work placements would improve learning outcomes and could increase completion rates (OECD, 2012a).

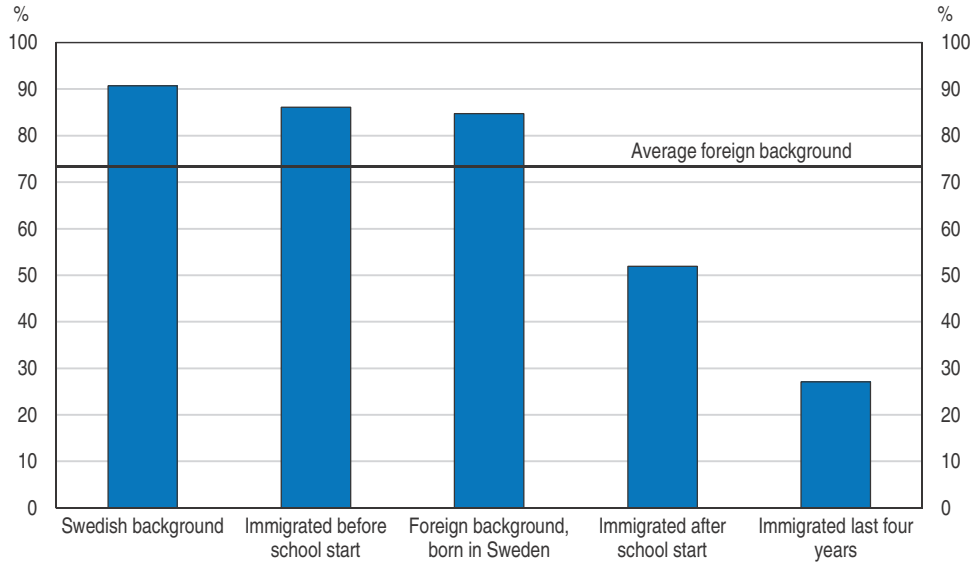
Around 70% of early leavers from the non-IP academic and vocational tracks leave in the third year, which may be due to more restrictive access to adult education for those with an upper secondary diploma. A student who wants to pass a previously failed subject in upper secondary school can do so within the municipal adult education or the folk high school. Both options offer teacher-led education, are free of charge, and students are

eligible for public grants and loans. Options for those who have obtained qualifications are more restricted as there are now fewer places available and priority is given to students without an upper secondary diploma.

Youth born outside the EU27 are more likely to be early school leavers (12.9%) compared to the native-born (6.3%) or youth coming from the EU27 (7.5%). Both children born in Sweden from two non-native parents and children who immigrated before school starts do almost as well as native Swedes. In contrast 74% of children immigrating less than five years before the end of compulsory school and 48% of those immigrating after school starts fail to qualify for the national upper secondary programmes (Figure 2.10).

Figure 2.10. **9th graders qualification rates to upper secondary school**

2014



Source: SNAE (2014), *Betyg i grundskolan årskurs 9 läsår 2013/14*, Table 1C, Behörighet till gymnasieskolans nationella program för elever som avslutat årskurs 9 läsåret 2013/14.

StatLink *http://dx.doi.org/10.1787/888933199350*

The reception of immigrant children and how they catch up, especially in the Swedish language but also in other subjects, is crucial. Currently, 74% of foreign-born students fail in one or more subjects and 9% fail in all subjects. Immigrant pupils who struggle with the Swedish language should study Swedish as a Second Language (SSL) instead of regular Swedish classes. In 2013, 9% of 9th grade students were enrolled in SSL. Of these, 26% failed and therefore failed automatically to qualify for the upper secondary standard national programmes. The average grade in SSL was 9.2 in 2013, while the lowest passing grade is 10. This result is far lower than in other subjects, where averages range between 12.4 and 16.3 (Statistics Sweden, 2014b). These failure rates raise concerns about the quality of SSL, and a lack of qualified teachers in combination with lower requirements for teachers in SSL is a concern. The availability and quality of reception classes, provision of extra help to immigrant children in ordinary classes and the quality of SSL should be thoroughly reviewed to increase success rates.

Strengthening Swedish among adult immigrants

The strong predictive power of literacy proficiency on employment underlines the importance to immigrants of learning the host-country language. Integration programmes for newly arrived immigrants were the prerogative of the municipalities until 2010, when co-ordination of introduction activities was taken over by the Public Employment Service (PES). Municipalities are still in charge of relevant issues such as housing, schooling and education (Wiesbrok, 2011). Swedish Tuition for Immigrants (SFI) classes are provided under the umbrella of municipal adult education, and quality varies across municipalities. SFI is accessible free of charge to all immigrants above compulsory school age, except Norwegians and Danes, whose languages are very close to Swedish. An assessment of the long-term impact of SFI attendance on young migrants' employment and earnings prospects shows that it increases the likelihood of finding a job and of reaching a certain minimum income (Bonfanti and Nordlund, 2012).

"Work first" policies can slow down the language learning of immigrants, especially for those who speak neither Swedish nor English, hurting their long-term labour market integration prospects. But for immigrants without much formal education, learning Swedish may be well as effective in the workplace as in a classroom. Newly arrived immigrants have strong incentives to participate in SFI since non-participation may lead to the loss of benefits. "New Start Jobs" (NSJ), a scheme of subsidised employment, creates incentives to go straight into work without necessarily continuing SFI. NSJ gives a wage subsidy equal to double the amount of the employer social security contribution, or 62.8% for a period equal to the time the person has been unemployed. A separate subsidised work scheme, "Step in Jobs" (SIJ), tailor-made for immigrants, is conditional on continued participation in SFI. The SIJ subsidy is slightly higher than NSJ, but capped around the 10th earnings percentile. Since immigrants entering a NSJ have less time and no direct economic incentives to continue Swedish classes, the short-term success of integrating a NSJ can come at the cost of developing the language skills which would improve the chances of successful integration in society and the labour market in the long term (SNAO, 2013). Overly generous subsidies in the NSJ scheme may also contribute to reducing the uptake in apprenticeships and the Vocational Introduction Contract (VOC), all designed to build important skills among vulnerable groups. Hence, the implementation of the cap on the NSJ subsidy from 2015 is welcome.

Making better use of skills

Better matching in the labour market can lower unemployment by increasing the efficiency with which the supply of labour is allocated to employers' labour demand. In aggregate, matching can be measured by comparing unemployment to job vacancies. There are several reasons why vacancies and unemployment exist at the same time, including lack of information and qualification, skill or geographical mismatch. Improved matching means both lower unemployment, since time spent in unemployment falls, and higher quality of employment, as people obtain positions that correspond better to their skills and aspirations. When individuals obtain positions which are not in line with their skills it reduces their wage growth, job satisfaction and productivity (Quintini, 2011). PIAAC data show that skills of Swedes are well matched to their jobs. Most importantly, the incidence of over-skilled workers is low, and reallocation of skills and resources to the most productive sectors and businesses functions well (OECD, 2013a; Adalet McGowan and Andrews, 2015).

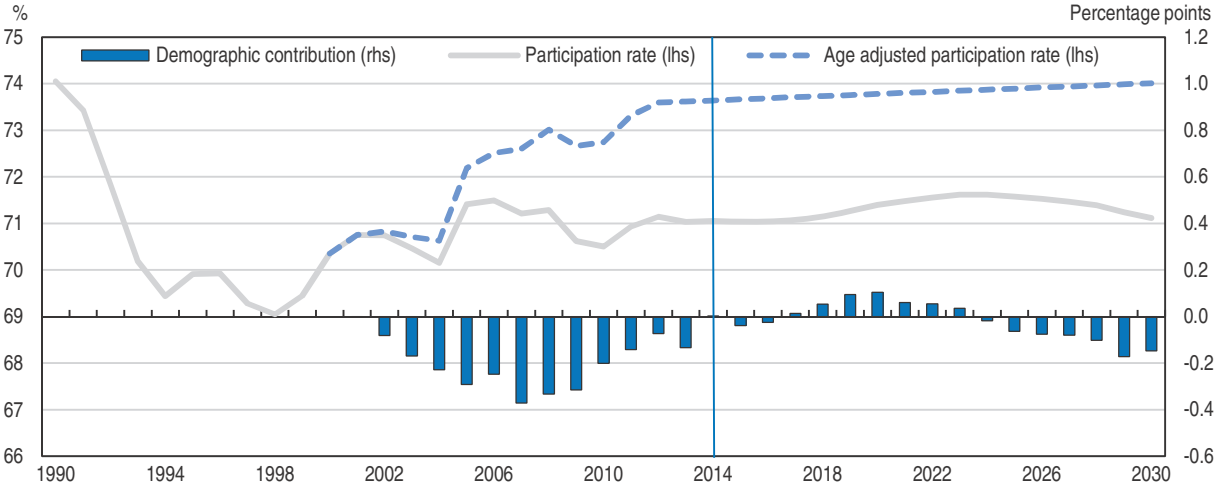
This suggests that educational mismatch is less of a concern than found in previous research (for example Karlson and Skanberg, 2012), and that the main matching challenge in Sweden may be to match the unemployed and inactive with suitable jobs.

Reforms to increase labour participation inevitably pushed up structural unemployment

Labour participation has increased recently, despite demographic headwinds. In the decade to come, the contribution of demographics to participation will be slightly more favourable (Figure 2.11). The effective retirement age is creeping up from an already high level, partly because of strong incentives to stay in work. Recent labour market developments differ from those following the deep recession in the 1990s, when the initial slowdown in vacancies led to a sharp fall in labour force participation that limited the rise in unemployment. Policies in the 1990s pushed some workers into passive benefits. In contrast, recent policies have been geared towards activation. The number of people on disability benefits is still high in Sweden, but it has declined progressively as access conditions have been tightened. Official unemployment has increased by about 2 percentage points since the financial crisis in 2008, but an alternative measure which takes into account unemployment hidden in early pensions and long-term sickness has dropped by approximately one percentage point during the same period (Spector, 2014).

Figure 2.11. **Demographic headwinds ease for the decade to come**

Actual and age-adjusted labour force participation rates, base year = 2000[1]



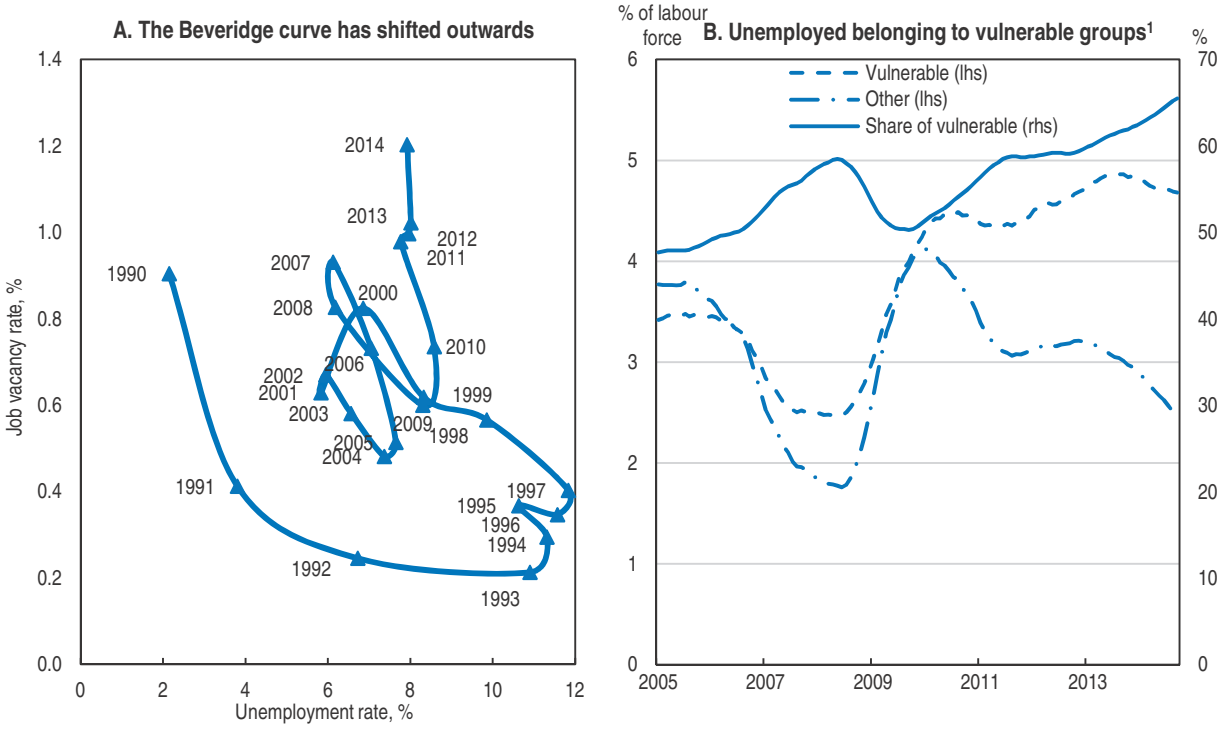
1. The age-adjusted labour force participation rate is calculated with unchanged demographic structure from the base year, and thereby removing the change in participation that stems from changing age composition. The demographic contribution measures the percentage point contribution of changing age to labour force participation.

Source: OECD (2011), "Labour Force Statistics: Population Projections", *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/data-00538-en* (accessed on 27 February 2014); OECD (2010), "Labour Market Statistics: Labour force statistics by sex and age: indicators", *OECD Employment and Labour Market Statistics* (database), *http://dx.doi.org/10.1787/data-00310-en* (accessed on 27 February 2014); OECD calculations.

StatLink *http://dx.doi.org/10.1787/888933199365*

Recent reforms provide incentives for newly arrived refugees, other people in need of protection and their close relatives as well as people on long-term sickness leave to register with the Public Employment Service. These reforms, together with high and increasing net immigration of non-Europeans (mostly family reunions and asylum seekers) with a high proportion in working age, have pushed up participation rates. As a result, the Beveridge

Figure 2.12. **Unemployment composition reduces matching efficiency**



1. Vulnerable groups are defined as those with less than upper secondary education, those aged between 55 and 64, those born outside Europe and persons with disabilities.

Source: *OECD Labour Force Statistics database* and Public Employment Service.

StatLink http://dx.doi.org/10.1787/888933199371

curve has shifted out (Figure 2.12, Panel A), as people with poorer employment prospects become jobseekers rather than passive benefits recipients (Figure 2.12, Panel B). Such policies are welcome even though they increase unemployment in the short term.

Reducing hiring costs without increasing inequalities

The tradition in Sweden is to lift the skills of workers so that as many as possible have a productivity that justifies the relatively high wages at the lower end of the distribution, rather than to reduce wages to fit the skill level of the most disadvantaged. As a result, sectors that would absorb individuals with the lowest skills in many other countries, such as domestic help, are close to non-existent in Sweden, and other low-skill services are small in scale compared to other countries.

Although this tradition has contributed to high employment and equity, some individuals lose out, especially in the lower part of the skills distribution. In labour-intensive sectors with low productivity that typically employ low-skilled workers, minimum wages were as high as 76% (retail) and 85% (hotels and restaurants) of the sectoral average wage in 2010 (OECD, 2012a). Recent studies show that in industries where the minimum wage is binding, workers with low skills and a weaker position in the labour market are squeezed out when minimum wages rise further (Forslund et al., 2014; Eliasson and Skans, 2014). High entry-level wages hindering the hiring of low-skilled individuals also deprive them of valuable work experience.

Entry barriers should be reduced without compromising equity, bearing in mind that high employment is a strong driver of equity in Sweden. Entry labour costs are reduced in Sweden via subsidised employment and via the vocational introduction employment, but more could be done. First, there should be more room to reward individuals according to the skills they acquire through work experience, through a steeper wage profile over each individual's working life, and there should be lower entry-level wages to facilitate employment. Second, within the framework set by collective bargaining, there should be more room for employers to differentiate wages locally to take into account company performance and reward skills, efforts and experience (NIER, 2014). Wages are set in collective agreements between employer and workers unions.

Much has already been done to cut the wage bill through tax policies and wage subsidies. The 31.4% standard rate of employer social security contributions is reduced by about half for youth (below 27) and by two-thirds for older workers above 65 years. The basic allowance in the income tax incentivises work for low-wage earners, and the Earned Income Tax Credit (EITC) has considerably strengthened this incentive. Older workers also enjoy a higher EITC. Work incentives for individuals below average earnings are hence fairly strong (OECD, 2014e). Furthermore, the VAT rate in restaurants and hotels is reduced to 12% to offset wage costs (the normal rate is 25%). However, tax breaks and subsidies are expensive and their impact should be evaluated carefully. These policies can lead to hiring one group of workers instead of another with limited aggregate effect, and generate high deadweight costs as many beneficiaries would be employed even without the tax break. This is especially the case for reduced social security contributions for youth and reduced VAT in restaurants (Fiscal Policy Council, 2014). The EITC is estimated to increase labour market participation by approximately 2.4 percentage points at a cost of approximately 2.3% of GDP in lost revenues.

Protect workers, not jobs

Employment protection legislation (EPL) is the strictest in the Nordics. EPL includes heavy notification procedures in case of dismissal, stringent regulation of the order of layoffs in case of redundancy, a relatively broad definition of unfair dismissals and sizeable compensation following such dismissals. When cases go to court, the procedures are long. By contrast, employers can use temporary contracts with few constraints. This adds flexibility for Swedish employers, but can disadvantage vulnerable groups such as the low-skilled and immigrants.

The gap in the strictness of employment protection legislation between permanent and temporary contracts is among the highest in the OECD, which risks creating duality in the labour market (OECD, 2012a). The transition from temporary to permanent work is frequent in Sweden, so temporary contracts have worked as a springboard rather than as a trap for many. However, relatively successful outcomes from current arrangements in the past may not continue in the future, as temporary jobs have tended to become more concentrated on vulnerable groups, especially immigrants and the low skilled, and transitions from temporary jobs to inactivity are fairly common (OECD, 2012a). In order to reduce the gap between permanent and temporary contracts, the government intends to amend the employment protection legislation to reduce the possibilities of stacking several temporary contracts. EPL and unemployment insurance are to some extent substitutes, as they both protect workers from the adverse consequences of unemployment. The current

government intends to raise the ceiling of the unemployment insurance. This improved protection of the unemployed can be an opportunity to loosen up EPL, making it easier for vulnerable groups to get a solid foothold in the labour market

Gender differences in the labour market

Sweden ranks fourth in both the Global Gender Gap Index (WEF, 2014) and the Gender Inequality Index (UNDP, 2014). Women have enrolment rates similar to men in secondary education and higher in tertiary, representation in Parliament is almost equal and women's health outcomes are high. As noted, female labour force participation is also high, largely because early childhood education and care as well as old-age care are universal and affordable. However, the gender wage gap amounts to 14%, partly reflecting the high concentration of women in the public and service sectors, and more women than men working part time to care for children. Inequalities persist in educational choices, board representation and company ownership. The low number of female managers in the private sector also suggests that there is potential to make even better use of women's talents (OECD, 2012b).

Strengthened job search and accountability in ALMPs

Active Labour Market Policies (ALMPs) can improve matching and reduce adverse incentive effects of unemployment benefits. ALMPs are well developed in Sweden, and of the OECD countries, only Denmark spends a higher percentage of GDP on them. A strong, employment-focused activation system which assists with job search, matching and reducing barriers is the cornerstone of activation policies for countries with well-developed systems of income support. To be effective, the activation apparatus must have the necessary staff, systems and mandates to enforce job-search conditionality, mandatory referrals to available jobs and activation policies with benefit sanctions (Pareliussen, 2014). Active labour market policies have become more robust in Sweden in recent years. Activity reporting has been introduced along with a more gradual sanction regime. Activation policies for the long-term unemployed and those assigned to early interventions have gradually shifted towards intensified matching measures such as coaching, guidance and specialist assessments, while programme interventions including job practice, training and rehabilitation – that are helpful for some, but more costly and less effective for most job seekers – have lost in relative importance (Public Employment Service, 2014a).

The Public Employment Service (PES) is required to propose Individual Action Plans (IAP) within 30 days from registration. Although 80% of the unemployed are presented such a plan already the first day, 13% do not get their plan within the 30-day limit. The IAP documents the rights and duties of the unemployed and the PES, for example geographical and professional search areas, the PES activities the unemployed shall participate in, and how and when the IAP will be followed up.

Individuals at risk of long-term unemployment should be spotted at this stage and put on the track for early interventions, taking part in more intensive ALMPs normally reserved for the long-term unemployed. A statistical profiling tool is used as decision support for PES case workers in assigning workers to the early intervention group. Even though it spots individuals at risk more precisely than staff judgement (Public Employment Service, 2014b), its use is not consistent, with staff skipping questions and more experienced PES staff being less likely to use it at all (Assadi and Lundin, 2014). Improving the profiling tool, both in user-friendliness and accuracy, would increase use among PES staff and result in better-targeted activation

policies. Given the strong predictive power of literacy skills on labour market outcomes, a literacy test could be integrated in the tool. The PES should also better assist skilled immigrant job seekers in obtaining recognition and validation of competences and bridging courses to meet Swedish requirements when needed (OECD, 2014c).

As from September 2013, activities laid out in the IAP are followed up by monthly activity reports. At the time of introducing mandatory activity reports, a new sanctions regime was also put in place (Table 2.1). The severity of sanctions now increases gradually with the severity of the infringement and repeated breaches are sanctioned with loss of benefit eligibility. In contrast, the most common sanction in the previous regime was the withdrawal of benefits for 45 days, pushing case workers to side with clients and be unwilling to sanction negligence (OECD, 2012a; Public Employment Service, 2014a). The unemployment insurance funds are responsible for sanctioning unemployment insurance recipients and the social insurance agency for sanctioning jobseekers on activity support. Good communication between the PES, the funds and the agency is thus crucial to ensure the effectiveness of sanctions.

Table 2.1. **The new sanctions regime**

Term broken:	1st infringement	2nd infringement	3rd infringement	4th infringement	5th infringement
Neglects jobseeking	Warning	1 day	5 days	10 days	Requalify
Extends time in unemployment	5 days	10 days	45 days	Requalify	
Causes own unemployment	20 or 45 days	20 or 45 days	Requalify		

Source: Public Employment Service (2014c), *A-kassornas åtgärder (Unemployment Insurance Sanctions)*, *www.arbetsformedlingen.se/For-arbetssokande/Stod-och-service/Ersattning-vid-arbetsloshet/Sanktioner.html* (accessed 7 August).

Policy recommendations for skills and inclusive growth

- Raise the attractiveness of teaching profession by increasing monetary incentives, offering clearer career paths, and improving teacher education.
- Increase support for struggling students, including immigrants, through early intervention and targeting resources based on socio-economic background.
- Enhance support and incentives for immigrants to learn Swedish.
- Consider consolidating existing institutions in charge of advising on and supervising education policies into an education policy council.
- Reduce the gap in employment protection between permanent and temporary contracts and increase flexibility in entry level wages.

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