



EUROPEAN  
COMMISSION

Brussels, 11.9.2014  
SWD(2014) 278 final

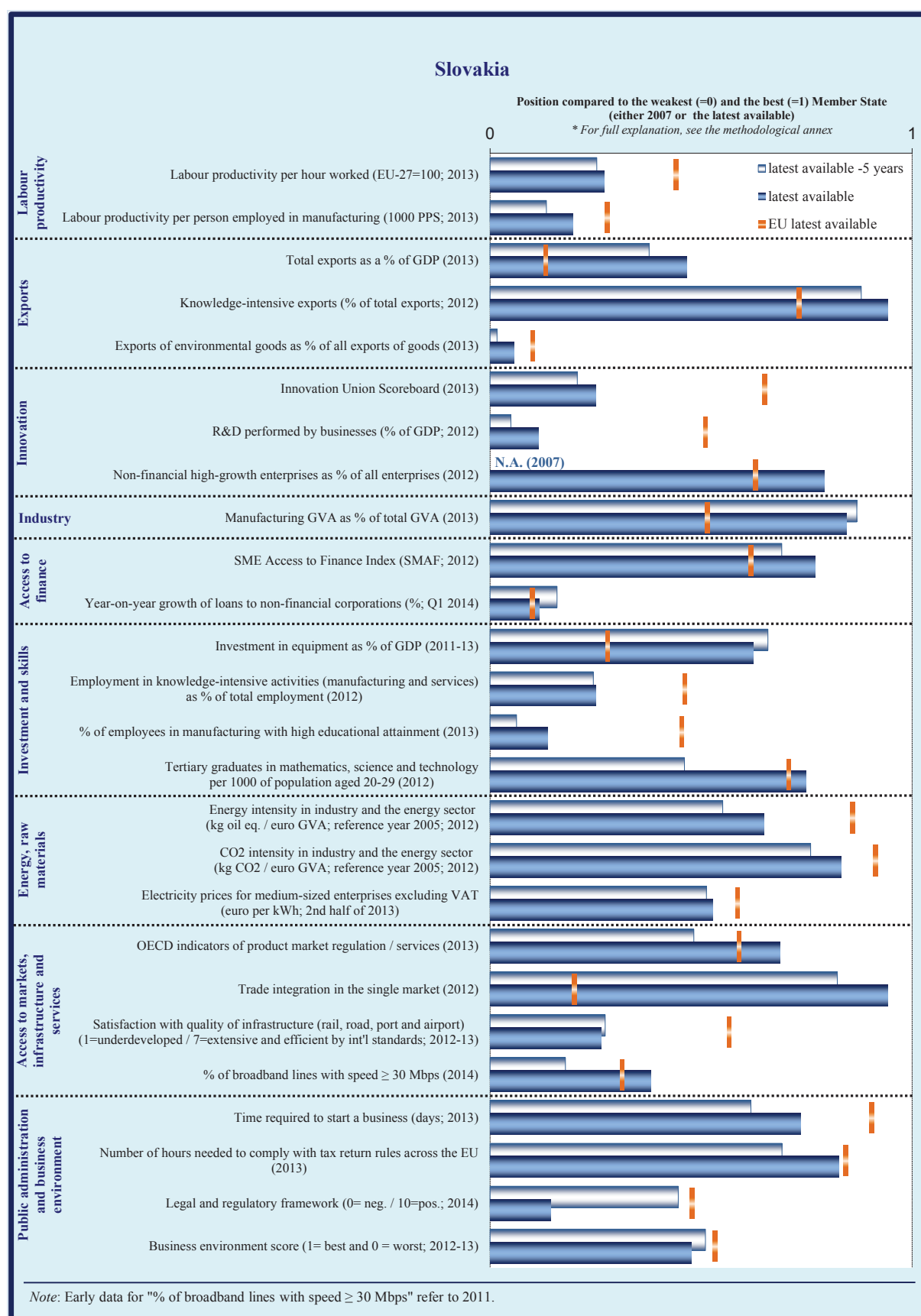
PART 8/8

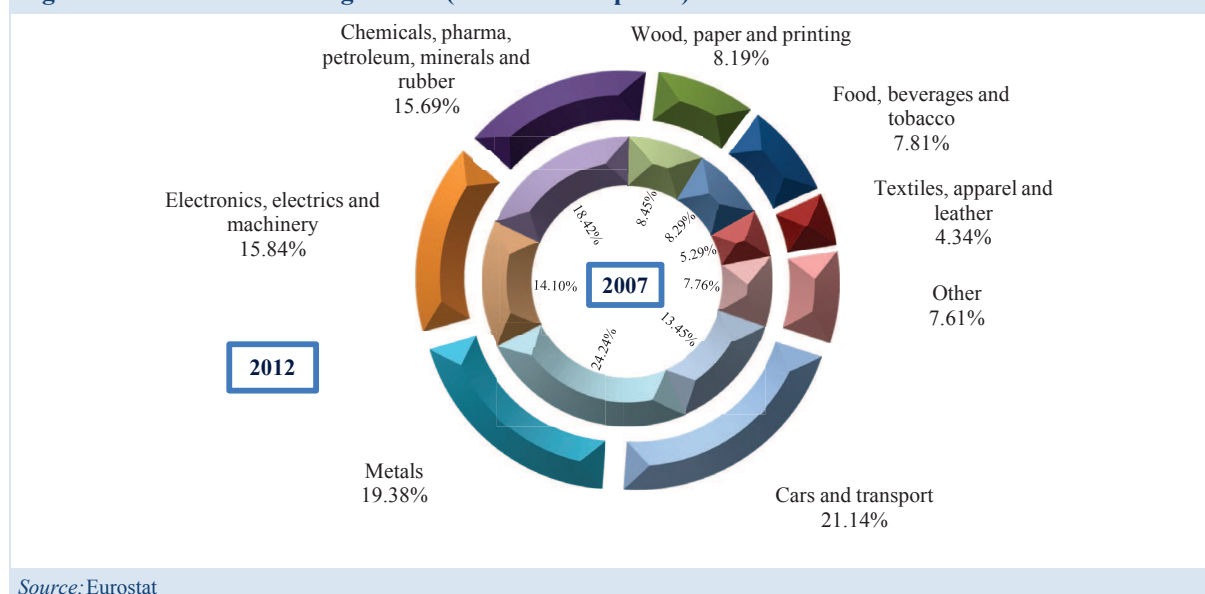
**COMMISSION STAFF WORKING DOCUMENT**

**Reindustrialising Europe**

**Member States' Competitiveness Report 2014**

## 3.25 Slovakia



**Figure 3.25.1: Manufacturing sectors (GVA at basic prices) - Slovakia**

Source: Eurostat

### 3.25.1 Introduction and performance

Slovakia is a small, open economy, well integrated into the global economy and the single market. Based on unit labour costs, its industry is among the most competitive in the ‘catching-up’ group of Member States. It has a significant export market share in cars and car components, consumer electronics, and machinery and metal products. Slovakia has a competitive advantage in terms of FDI and technology transfer, production process sophistication and extent of marketing. However, the short-term potential for further leaps seems limited. Good external competitiveness and lower imports brought the current account into balance in 2012, and the production of some export-driven manufacturing sectors reached record levels. Services constitute a relatively small part of the economy and their productivity gains are lower than those in the manufacturing sector. Relatively high electricity prices, in particular for SMEs, continue to hamper the competitiveness of Slovak industry.

Manufacturing continues to play a prominent role in the economy. Capital-intensive and technology-driven industrial sectors such as electronics and machinery, automotive and transport, and chemicals and pharmaceuticals, have increased their share in total EU manufacturing from 0.63 % in 2007 to 0.82 % in 2012. Foreign direct investment has primarily gone to export-oriented manufacturing and has significantly contributed to restructuring the

economy. Trade surplus was over 6 % of GDP in 2013, and Slovakia's share in total EU exports of goods and services went up from 0.98 % in 2007 to 1.18 % in 2012, with some stagnation at 1.2 % in 2013. The growth of the export market share increased from 0.9 % in 2012 to 3.9 % in 2013. Main exports include cars and car components, consumer electronics, and machinery and metal products. The proportion of high-tech goods in total exports increased slightly to 6.6 % in 2011. In comparison to similar-sized economies in the EU, the domestic value-added content of exports is relatively low, as imports are essential for sustaining export capacity.

### 3.25.2 Access to finance and investment

Slovakia has improved SMEs' access to finance, but has made limited progress in moving towards a financing model based less on grants and more on financial instruments. According to the World Economic Forum Global Competitiveness Report 2013-2014, Slovakia has a competitive advantage in terms of availability and affordability of financial services, and ease of access to loans, but is considerably lagging behind in terms of financing through the local equity market and venture capital availability. Despite the decrease in lending rates, the year on year growth of loans to non-financial corporations turned negative in both 2012 and 2013. However, the share of loan applications rejected by banks is still higher than the EU average. There is limited growth in venture capital financing: of the

three JEREMIE <sup>(495)</sup> instruments available in the 2007-2013 financing period, only the First Loss Portfolio Guarantee has become fully operational, and its effectiveness has yet to be seen. In order to see a sizeable effect on company investment, given Slovakia's market size limitation, more ambitious and effective measures are needed for improving access to finance, including encouraging cross-border investment.

### 3.25.3 Innovation and skills

While Slovakia has made little progress in encouraging innovation, its smart specialisation strategy nevertheless identifies the knowledge-intensive sectors that could push the country up on the value chain. However, the smart specialisation strategy is only the first step in putting in place a system that encourages innovation and more cooperation between academia and the business sector; its proper implementation is critical for boosting these sectors and thus leading to economic growth. The implementation plans are currently being discussed, but cooperation between ministries is not smooth and business stakeholders have not been invited to take part in these deliberations. In addition, there is a high risk that implementation will attract only a low level of private investment, while the incentives for research and development activities continue to be limited.

Slovakia is well below the EU average in terms of innovation performance (Innovation Union Scoreboard) and company spending on R&D (0.25 % of GDP in 2011). According to the WEF Global Competitiveness Report 2013-2014, Slovakia has a competitive advantage in terms of FDI and technology transfer, production process sophistication and extent of marketing, but it is considerably lagging behind in terms of capacity for innovation, firm-level technology absorption, cluster development, business-academia collaboration in R&D and government procurement of advanced technology. Fragmented R&D measures have had a limited effect on encouraging companies to use the research facilities of universities and have reportedly increased the administrative burden on companies. The

<sup>(495)</sup> Joint European Resources for Micro to Medium Enterprises was an initiative of the European Commission for 2007-13, developed together with the European Investment Fund; it promoted the use of financial engineering instruments to improve access to finance for SMEs.

incomplete legal framework on intellectual property protection and the university financing system do not motivate universities to create spin-offs and increase the number of contracts with companies. The innovation vouchers programme has finally been initiated, but its ambition has so far been limited: the small contracts are just a first step towards fully fledged R&D activities. The existing competence centres have made limited progress in encouraging business-academia cooperation, and the effectiveness of the incubators programme and the revolving Innovation Fund has been modest. There has been no progress in creating an agency for applied research. The recent creation of business-academia collaborative research centres is a more appropriate and ambitious initiative that has the potential to become an important tool for encouraging innovation.

There has been limited progress in terms of adapting the skills base of the workforce to market needs. Slovakia does not produce an adequate supply of employable graduates either in science, technical, engineering and mathematics, or in vocational education and training. The university financing system based on headcount puts technical universities at a disadvantage and does not generate appropriate incentives for attracting students in science, technical, engineering and mathematics. ICT, entrepreneurship and transversal skills, especially management and marketing, are in high demand but severely lacking. Although industry needs have not been clearly quantified, some stakeholders<sup>(496)</sup> report that some 300 000 technical jobs cannot be filled. Most initiatives have been ad-hoc and thus not very ambitious or effective. The existing re-training courses seem to have targeted neither the right categories of people nor the right skills. Given that the public availability of training is limited, multinational companies have designed and implemented their own training programmes and have only recently started to cooperate with universities on creating some training centres.

### 3.25.4 Energy, raw materials and sustainability

Slovakia is one of the most energy-intensive Member States, due partly to its high share of industry. In terms of the market functioning of the energy sector,

<sup>(496)</sup> The Automotive Industry Association of the Slovak Republic (ENTR mission to Slovakia, Jan 2014).

a non-transparent tariff-setting mechanism and the low accountability of the regulator remain weak points, despite recent efforts to liberalise the energy market. Relatively high electricity prices, due to high network charges, are hampering the competitiveness of companies, in particular SMEs. The 2014 attempt to correct the unfair practices of some distribution companies by introducing price regulation for SMEs did not address the problem, as the obligations were applied to both new entrants and operators with a significant degree of market power. The transport sector comes second in terms of energy consumption, and is characterized by an insufficiently developed public network. The tax on motor vehicles introduced in 2012 has the potential to improve the energy efficiency of cars.

Slovakia has made some improvements in cross-border energy connections with Poland and Hungary, which alleviates some of the upward pressure on energy prices. However, further measures are needed in terms of greater transparency and accountability of regulatory decisions, improving the security of supply and setting more ambitious targets for energy efficiency. For geopolitical reasons, a North-South gas connection in Central Europe is being considered, which has the potential to considerably improve energy security in the EU. Even though alternative funding should be considered, the EU funds for 2014-2020 remain critical, as measures proposed for EU financing include: energy audits in enterprises, renovation of buildings, reducing energy losses in heat distribution networks etc. In spite of the 2013 amendments of the waste law targeting increases in the landfill tax, considerable measures are still to be taken with a view to reach the country's 2020 targets to significantly decrease landfilling of municipal waste.

### 3.25.5 Access to markets, infrastructure and services

The quality of transport infrastructure remains critical for the export-oriented manufacturing. The rail and road transport infrastructure are relatively underdeveloped. The unit costs of new and/or renovated infrastructure are high, reflecting poor planning and inefficient public procurement. Infrastructure charges for rail transport have been decreased recently, thus encouraging competition, but there are still considerable obstacles for new market entrants, including administrative burden. EU

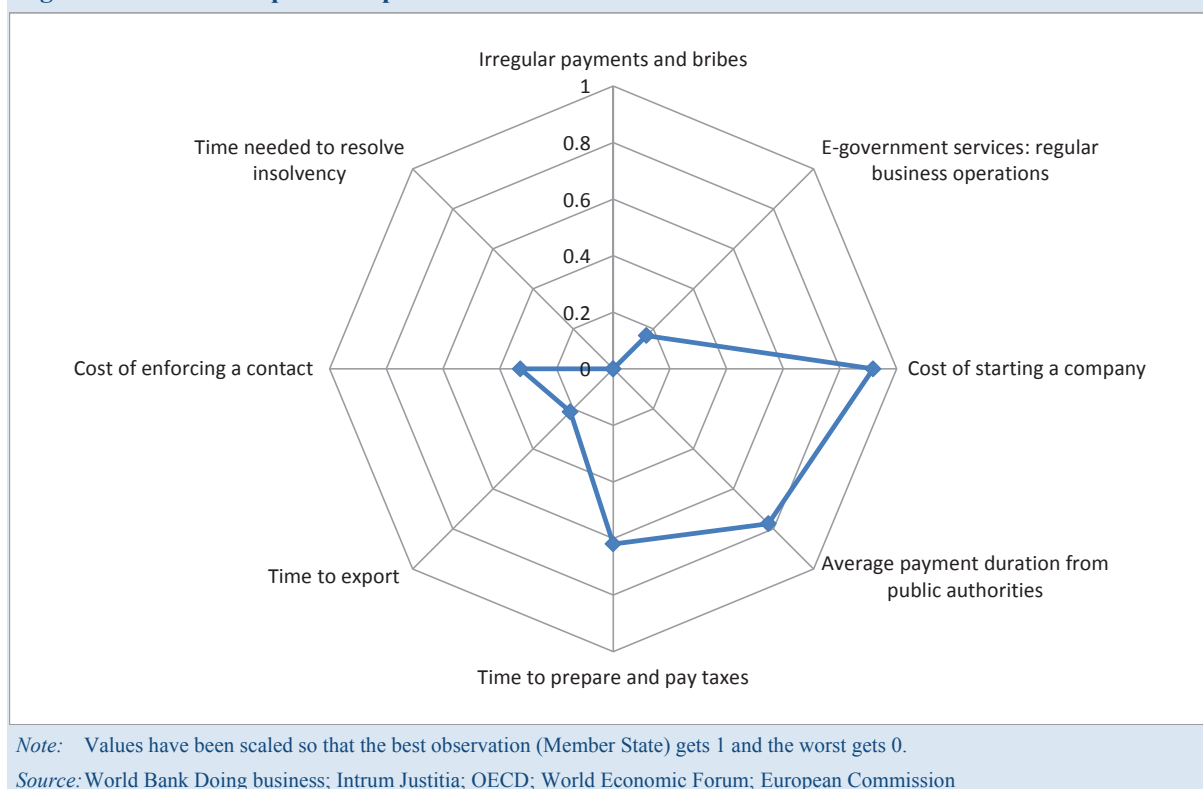
structural funding remains the main source of financing. A transport master plan is being drafted, aiming at identifying key priorities, in line with the Trans-European Transport Network.

### 3.25.6 Public administration and business environment

The business environment has been deteriorating, in part due to the introduction of measures increasing tax compliance. At the same time, Slovakia has made only limited progress towards supporting fast-growing firms. According to the World Bank Doing Business 2014 Report, Slovakia's ease of doing business ranking and business environment score have worsened; the tax burden on SMEs has increased, including through the VAT pre-payment obligation, and starting a business has become more difficult – a new procedure involving a financial guarantee has been added for establishing a limited liability company. A 2013 SME Survey by the American Chamber of Commerce in Slovakia emphasises that recent legislative changes have led to a sizeable increase in companies' negative opinion on the business environment, especially concerning SMEs.

E-government services for companies and one-stop-shops (KAMO) are not yet fully operational, and there are no plans to integrate them with the tax administration. There is no SME test yet and the impact assessment for new regulatory and legislative initiatives is not conducted systematically according to a unified, thorough methodology. The number of SMEs accessing e-commerce and foreign markets continues to be low. In terms of companies' access to justice, insolvency cases remain lengthy, and alternative dispute resolution mechanisms are barely used. No data is collected on the number of cases of mediation or arbitration. Some of the measures taken have been appropriate and effective. Setting fixed transfer fees has made it easier to register property. Since November 2013, companies' communication with the authorities has become electronic-only and registers have been unified, so that companies are not asked to provide the same information twice. The protection of investors has been improved by allowing access to all corporate documents during trials. Initiatives such as 'helping hand for the young', organized by the Slovak Business Agency and 'start-up weekends' and 'start-up awards' have been effective in supporting innovative companies with

Figure 3.25.2: Overall profile of public administration - Slovakia



high growth potential. However, the measures supporting start-ups and entrepreneurship have been fragmented and not very ambitious, thus failing to create real eco-systems for companies.

Public administration continues to suffer from governance weaknesses in terms of both quality and efficiency. Evidence-based policy-making is impaired by high staff turnover linked to the political cycle, weak human resource management and underperforming analytical capacities. Transparency and effectiveness in both public procurement and judiciary proceedings remain serious challenges.

There has been some progress in terms of public administration reform. The Government acknowledged the Framework Strategy for Public Administration Reform in December 2013. The reform aims at modernising human resources management, strengthening analytical capacities in ministries, improving tax management and public procurement and implementing user-friendly e-government applications for businesses and citizens. However, the framework strategy lacks an action plan with concrete measures accompanied by a timetable and a budget, and it does not envisage revamping the Civil Service Act in 2014. Given that reforming public administration requires serious political

commitment from all parties involved, implementation remains critical, with a high degree of risk. The government has tentatively committed to adopting an Action Plan for Public Administration Reform by July 2014.

Slovakia ranks bottom of the EU in terms of the WEF Global Competitiveness Report indicator 'irregular payments and bribes', and the situation has worsened in 2013-2014 compared to 2012-2013. According to the EU Anti-Corruption Report, 90 % of Slovaks perceive corruption to be widespread and 21 % have personally experienced it in the past year. A highly sensitive and thus difficult point is making the civil service less vulnerable to the political cycle, especially in terms of limiting widespread staff changes. Equally challenging is smooth cooperation between ministries, for which there is political willingness, but which is much more difficult to put into practice. As for the newly-created analytical capacities, they are not operational in all ministries, and where they exist, there is as yet no evidence that they function well and are able to permeate the policy cycle at all levels. In addition, ministries still have very weak or non-existent impact assessment and *smart regulation* capacities.

In terms of improving the efficiency of the judicial system, limited progress has been made towards reducing the length of proceedings. The planned introduction of electronic communication between courts and parties could lead to fewer delays and thus shorter proceedings. A reform of the Code of Civil Procedure is ongoing, but the amended law is not expected to come into force before 2016. Further, a new act on arbitration, expected to come into force in 2014, separates commercial and consumer arbitration but does not promote alternative dispute resolution mechanisms. Perceived judicial independence has worsened and is the lowest in the EU, and the capacity of judicial authorities to investigate and prosecute corruption offences is weak. Similarly, public confidence in the functioning of the justice system is low: according to a recent Eurobarometer,<sup>(497)</sup> only 25% of the Slovak respondents tend to trust the justice system, the second lowest percentage in the EU.

In terms of public procurement, the effectiveness of the 2013 reform seems to be rather limited, as no significant effect has been observed in increasing transparency of public procurement procedures and reducing the number of complaints against the decisions of contracting authorities. On the contrary, public procurement procedures have become lengthier, savings have decreased and the use of e-procurement has declined. These shortcomings are also observed in the implementation of EU structural funds.

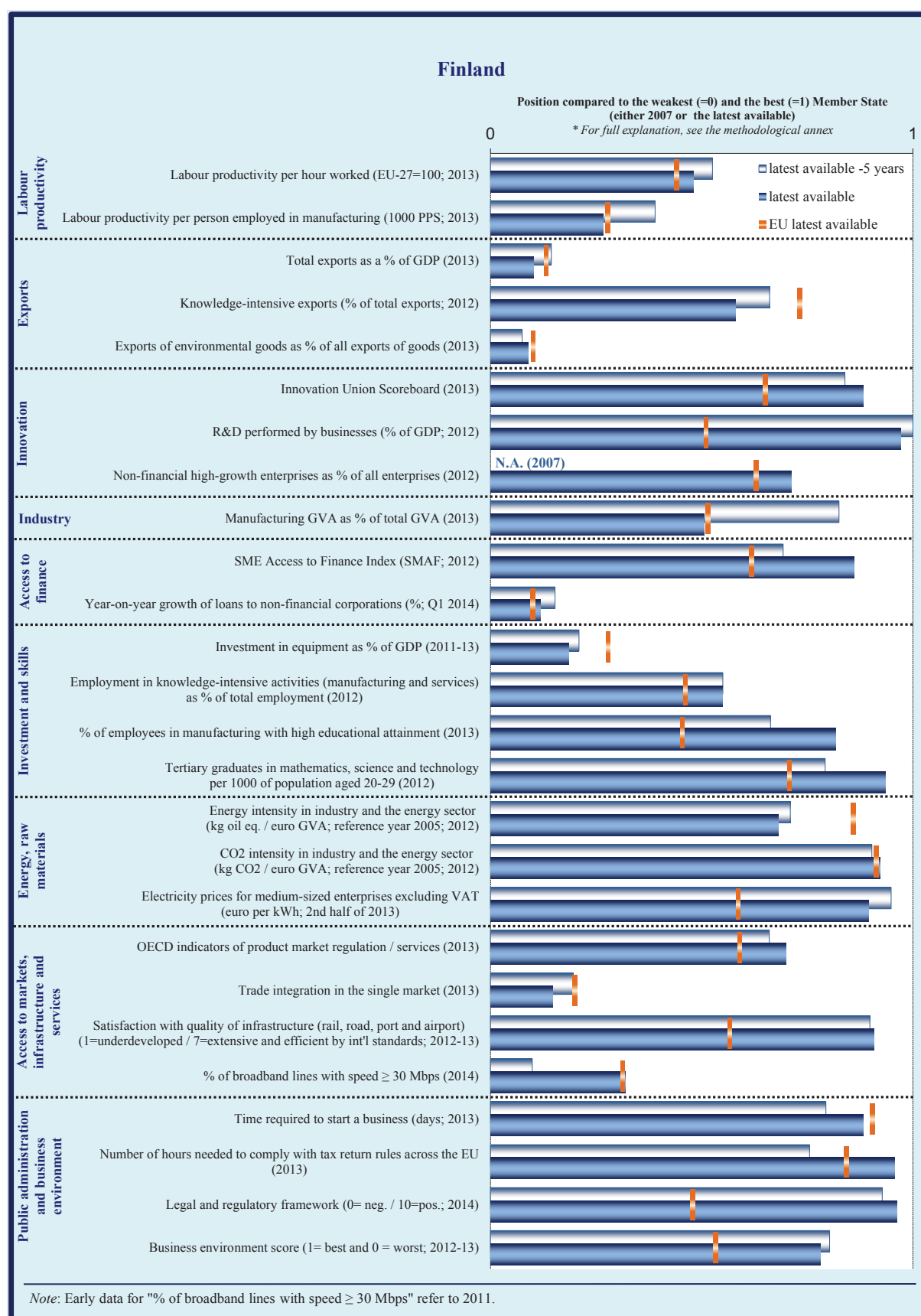
### 3.25.7 Conclusions

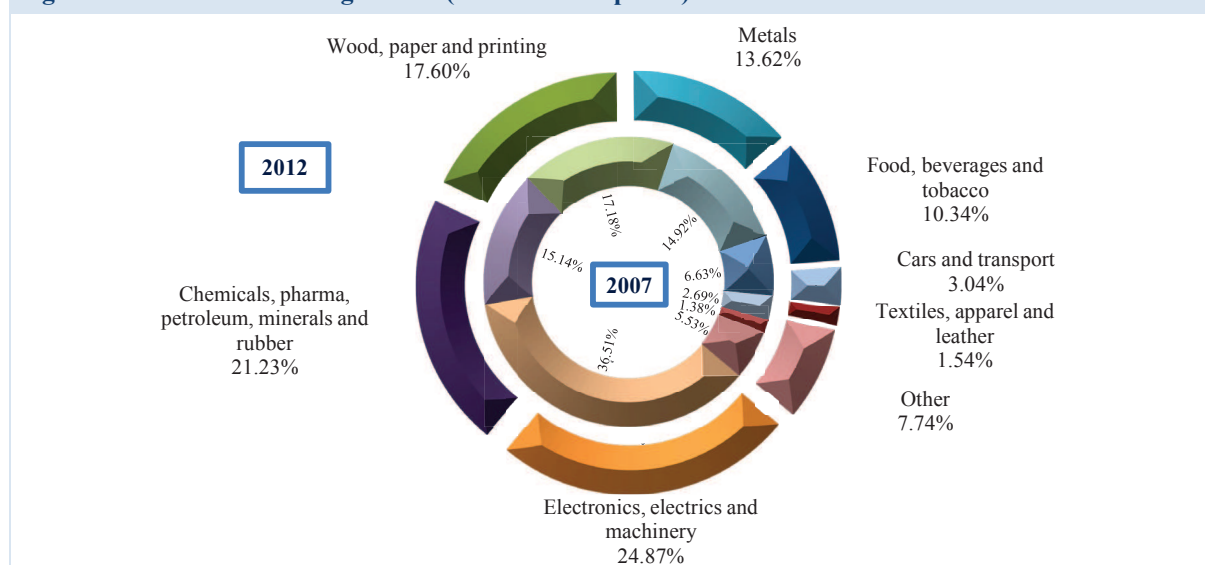
While Slovakia has identified the growth areas that could boost its competitiveness at global level, the current mix of measures is insufficient to ensure the critical mass and the right skills for promoting an innovative, business-friendly economy. Slovakia has to step up its efforts to improve the business environment, especially in terms of alleviating the tax burden on SMEs, starting a business, and introducing a systematic impact assessment and SME test for new legislative initiatives. In terms of the energy market, the opaque regulatory framework and high electricity network charges affect the competitiveness of Slovak companies. Public administration in Slovakia remains a challenge, especially in terms of human resources

management, insulation from the political cycle and analytical capacities. As Slovakia's innovation performance is well below the EU average, it has to take coordinated measures to improve its capacity for innovation, firm-level technology absorption, cluster development, business-academia collaboration in R&D and government procurement of advanced technology.

<sup>(497)</sup> Flash Eurobarometer 385: Justice in the EU: [http://ec.europa.eu/public\\_opinion/archives/flash\\_arch\\_390\\_375\\_en.htm](http://ec.europa.eu/public_opinion/archives/flash_arch_390_375_en.htm)

## 3.26 Finland



**Figure 3.26.1: Manufacturing sectors (GVA at basic prices) - Finland**

Source: Eurostat

### 3.26.1 Introduction and performance

Finnish manufacturing continues to be dominated by the electronics, metals, chemicals and forestry industries. It can be noted that recently the chemicals industry has managed to increase both its production and exports.

The framework conditions for a competitive economy are very good. Finnish research, innovation, education, business environment and public administration are ranked among the best in the world. However, the GDP growth forecast for 2014 is only 0.2 % <sup>(498)</sup> and labour productivity and export performance have been disappointing.

The restructuring and downscaling of the electronics industry has made the gross value added of the economy significantly lower. In addition, unit costs (i.e. all costs per unit of output) increased considerably (60% in 2000-2012) in other industrial sectors, mostly reflecting rising wages. <sup>(499)</sup> As the GDP share of the electronics industry diminished, lower value added and higher unit costs in other sectors have had a detrimental effect on total productivity.

Recent moderate wage agreements are the first steps towards improved cost competitiveness. So far

exports have reacted slowly, which conforms to a historical pattern determined by the product composition. The changed structure of exports resulting from the decline of the electronics industry, with fewer final and more intermediate products, might have contributed to this persistent pattern.

Exports are forecast to grow 2.7 % in 2014, an improvement on 2013. Overall, the small number of large exporters with a limited product range has continued to act as a brake. <sup>(500)</sup> In the longer run, a more diversified and flexible economy should be able to react more quickly, in line with changing demand conditions.

The innovation performance at firm level provides several examples of world-class successes, but there are too few of them. To enhance innovation performance, investments in research and innovation need to be exploited more efficiently to produce new products and services.

In view of the sluggish responsiveness of the economy, there is scope for further structural reforms to boost competitiveness. In 2011-2012, Finland was close to EU average as a reformer. <sup>(501)</sup>

<sup>(500)</sup> European Economy, Occasional Papers 177, March 2014.

<sup>(501)</sup> Economic Policy Reforms: Going for Growth 2013, OECD.

<sup>(498)</sup> All forecast figures are from the Commission 2014 spring forecast. Since then downside risks have increased due to geopolitical tensions.

<sup>(499)</sup> Etlä, Suhdanne 2013:2.

### 3.26.2 Access to finance and investment

#### *Bank lending*

Despite the gradual expansion of venture capital investment, bond issuance, alternative lending sources, and crowdfunding, bank loans continue to be the most important source of external funding. Finnish SMEs have relatively good access to bank lending, although about 40 % of firms making use of external financing have noticed that loan conditions have tightened and about the same number felt that access to loans has become more difficult over the last year. <sup>(502)</sup> The continuing uncertainty about export prospects has kept investments low and external funding has mostly covered working capital needs.

#### *Venture capital and other finance*

To promote the growth of innovative firms, the government has increased the availability of venture capital considerably, in particular through fund-of-fund investments to leverage private equity funding – partly with asymmetric profit sharing. The EUR 230 million of government investment allocated for 2013-2017 is expected to raise more than a billion euro in venture capital investment in total.

Although the tax incentive for business angels (available in 2013-2015) does not seem to have raised the amount invested in 2013, more angels have indicated that they intend to use the facility in 2014. Angel investment totals about EUR 40-50 million; total early-stage investment in 2013 was EUR 280 million. <sup>(503)</sup>

Firm growth is also promoted through a programme <sup>(504)</sup> of ten accelerators comprising about 100 portfolio firms in total. About EUR 220 million of private funding has been raised for these firms in addition to EUR 70 million of public funding. Several of the accelerators have raised their own venture capital funds. The programme also provides competence development in marketing and management.

As equity investment in start-ups increases, better exit opportunities for investors become more important.

These have been identified as an area requiring improvement, including changes in the tax treatment of listed firms.

Moreover, there has been an industry-led initiative to standardise the terms of bond issuance in order to facilitate the access of smaller companies to the fixed-income market. To the same end, a corporate bond marketplace was introduced in 2014.

The venture capital incentives together with other actions aimed at promoting growth finance mean that access to growth funding should be considerably improved.

#### *Investment developments*

Low business confidence and the uncertain outlook have limited investment, with gross fixed capital formation declining since 2012. Investment in equipment is also likely to fall this year as firms tend to invest more abroad than in Finland. This partially reflects the higher cost base, as exporters have been forced to compress their profit margins as domestic costs, including wages and energy, have eaten into their margins. The low level of investment is likely to limit future growth prospects. <sup>(505)</sup>

### 3.26.3 Innovation and skills

#### *Innovation*

Finland continues to be among the innovation leaders in the EU (with Denmark, Germany and Sweden), although ranked the last of these. The problem areas are the commercialisation of research, and internationalisation of the system. <sup>(506)</sup> Pressures on future performance include the recent downward trend in R&D intensity, which requires increased efficiency of the remaining investments. Lower R&D investment by businesses and the limits on public R&D investment mean that the national 2020 target of 4 % is not likely to be achieved.

To speed up the restructuring of the economy, the government is focusing its actions on clean technology and bioeconomy.

<sup>(502)</sup> Suomen Yrittäjät – Finnvera – TEM: Pk-yritysbarmetri 1/2014

<sup>(503)</sup> Finnish Venture Capital Association and Ministry of Employment and the Economy.

<sup>(504)</sup> The ‘VIGO’ programme, [www.vigo.fi](http://www.vigo.fi)

<sup>(505)</sup> European Commission, Macroeconomic Imbalances Finland 2014, European Economy, Occasional Papers 177, March 2014.

<sup>(506)</sup> Innovation Union Scoreboard 2014.

Clean technology actions focus on increasing investment and creating demonstration projects. Before the 2014 strategic update, the cleantech programme had been running for two years with R&D investment reaching EUR 1 billion per year. The programme has brought together firms working in different areas of cleantech, but its achievements have been limited by the difficulty of commercialising innovation, in particular finding the first customers for innovative products and services. <sup>(507)</sup> The intention is to address these issues with new actions from 2014 onwards.

Bioeconomy actions seek to renew and develop forestry industry competences through cross-sectoral innovation, venture capital, experimentation, and training. The demand side is also being addressed through market development and promoting sustainability.

The policy measures to improve innovation and productivity include the ICT 2015 programme, the forestry industry strategy, and the innovative cities programme. Further initiatives address sustainable mining, arctic competencies, health research and innovation, design, and cultural and creative industries. To get full policy benefits out of these programmes, quick feedback and policy adjustment mechanisms should be available.

The government has introduced a new channel for strategic research, where the priority is to contribute to produce new solutions for the challenges Finland faces. This new allocation redistributes some of the existing EUR 2 billion of R&D funding. However, it is unclear how close to market this research will be and to what extent it will facilitate achieving the commercialisation and internationalisation goals.

The six Strategic Centres for Science, Technology and Innovation continue to be essential innovation policy tools that have served existing firms well. <sup>(508)</sup> However, changes are being introduced to improve services for start-ups, and a revision of the number and specialisation of the centres is being carried out.

To increase the internationalisation of the innovation system, the government is using the international connections of Tekes, the Strategic Centres for Science, Technology and Innovation, and the Team

Finland initiative. To increase the attractiveness of Finland for foreign students, researchers, entrepreneurs and managers, the government effectively could increase the effectiveness of the support services in place, and review the administrative burden.

The whole ecosystem promoting growth will be evaluated in about two years' time. Currently, the sectors that seem to generate most new entrepreneurship are ICT (50 %); clean technologies; and various manufacturing sectors. Many of the new successful firms are active in mobile device games and apps, <sup>(509)</sup> where competition is tough and product lifecycles short.

### *Skills gaps*

In general, the excellent education system provides a competitive advantage. Although skills levels are very high, there are skills mismatches aggravated by structural change. The looming labour shortages make it essential that all human potential is fully used, raising participation rates and closing the skills gap between young natives and migrants. The government has announced initiatives to address these problems. <sup>(510)</sup>

## 3.26.4 Energy, raw materials and sustainability

### *Energy use and prices*

The competitive market for electricity has kept prices among the lowest in Europe, but risks arise from the reliance on a single source for gas. Steps towards diversifying the supply of gas have been taken, including building a pipeline between Finland and Estonia, and there is a prospect of a regional liquefied gas terminal.

Policy is guided by the national energy and climate strategy seeking to limit the growth of energy use e.g. in buildings, transport and information technology infrastructure. A new law on energy efficiency is being prepared as part of implementing the Energy Efficiency Directive.

Adaptation to a low-carbon environment entails both costs and opportunities. Many of the costs arise from

<sup>(507)</sup> Ministry of Employment and the Economy data.

<sup>(508)</sup> The evaluation is available at [www.tem.fi/files/35626/TEMap\\_4\\_2013.pdf](http://www.tem.fi/files/35626/TEMap_4_2013.pdf)

<sup>(509)</sup> Estimates based on Tekes funding.

<sup>(510)</sup> Europe 2020, Finnish National Reform Programme 2014

environmental taxes, in particular on transport fuels. In 2012, environmental taxes contributed almost EUR 6 billion (about 7 % of all taxes) to the treasury. Improved energy efficiency is promoted with voluntary agreements, used for both firms and public entities; these could be usefully complemented with stronger feedback and follow-up actions, helping to achieve the targets.

### *Resource efficiency*

Besides the clean technology and bioeconomy initiatives, improving resource efficiency relies on the material efficiency programme, the forestry strategy, the programme for sustainable consumption and production, the strategy and action programme for conservation and sustainable use of biodiversity, and the national strategy for sustainable development.

The programme on material efficiency builds on resource efficiency audits and advice. It has been estimated that a reduction of at least 20 % in the costs related to resource use could be achieved with a systematic process.<sup>(511)</sup> In particular, providing better support to SMEs and a more streamlined regulatory environment could bring tangible results.

### *Other sustainability issues*

The current level of environmentally harmful subsidies is about EUR 4.5 billion per year, of which EUR 2.7 billion is classified as very harmful.<sup>(512)</sup> Reducing these subsidies is part of the government's structural reform programme as it would help in achieving climate and environment policy goals, and providing incentives for econ-innovation.

There is also a programme, published in April 2013, for the sustainability of the mining industry. In view of the environmental risks linked of mining, it would be useful to evaluate the results of this programme as soon as feasible, and adapt policies if required.

## 3.26.5 Access to markets, infrastructure and services

### *Access to markets*

The highly concentrated retail sector lacks competition and businesses face obstacles created by

for example, licencing rules, the regulation of large retail premises, and protection of existing firms. Unfortunately Finland has not made much progress in this area since 1998, unlike key competitors.<sup>(513)</sup> The government's programme on healthy competition seeks to improve the situation, particularly in the retail trade, and its full implementation is an important aspect of enhancing business dynamics.<sup>(514)</sup>

### *Infrastructure*

Productivity-related improvements in infrastructure include investments in improving railway capacity for goods traffic towards Russia.

### *Internationalisation*

Traditionally, Finnish SMEs have been part of international value chains as suppliers to large domestic firms. This strategy has become less feasible than before as value chains have become more global, and as large Finnish firms have expanded abroad. The economy would benefit if more SMEs would expand and join global value chains without the intermediation of large domestic firms. However, this development is hampered by risk aversion, lack of relevant competencies and market knowledge.

To address these deficiencies, promote exports and attract foreign investment, publicly funded activities are being brought under a single umbrella, the Team Finland network. In addition, to boost exports in the short term, the government has proposed to more than double the availability of export credit to EUR 7 billion.

## 3.26.6 Public administration and business environment

### *Entrepreneurship and Small Business Act*

Finland has not integrated the Small Business Act as such into national SME policy. However, the actions taken under the umbrella of industrial policy and competitiveness policy cover the priorities of the Act.

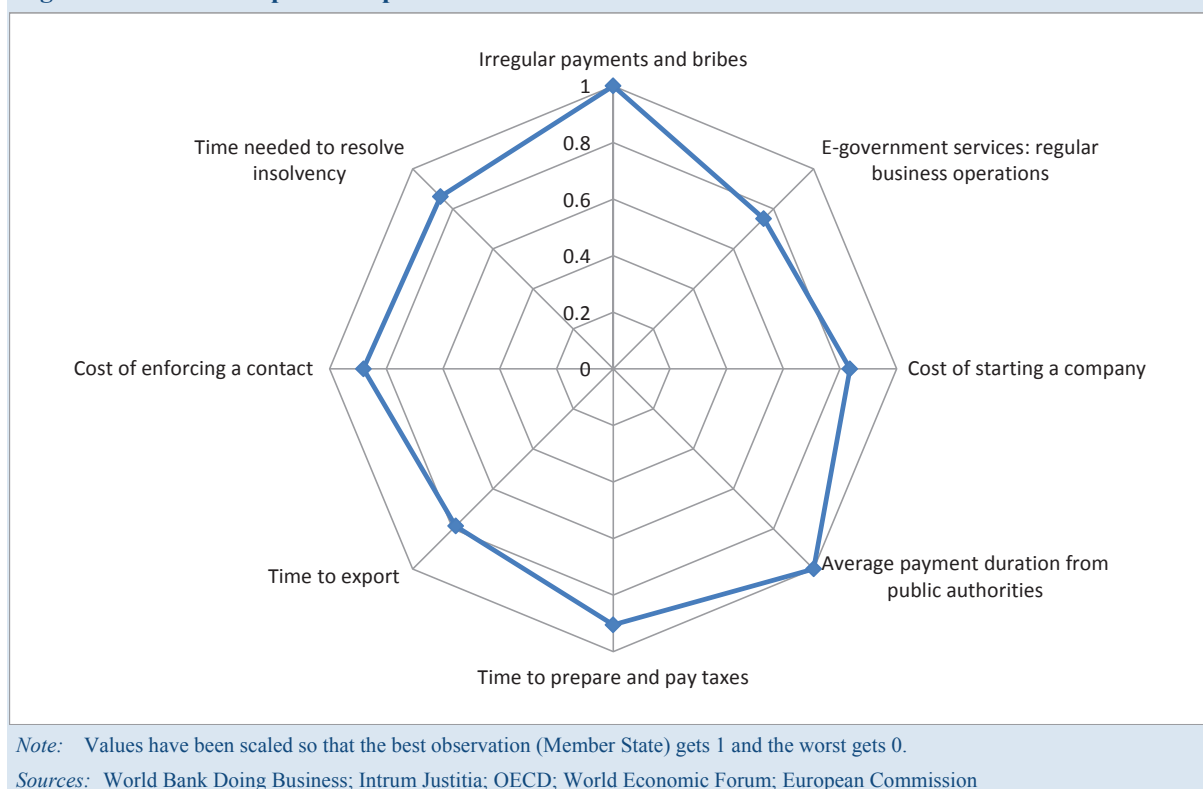
<sup>(513)</sup> OECD (2013), Product Market Regulation Database, [www.oecd.org/economy/pmr](http://www.oecd.org/economy/pmr)

<sup>(514)</sup> See the Council Recommendation on the National Reform Programme 2014 of Finland and delivering a Council opinion on the Stability Programme of Finland, 2014.

<sup>(511)</sup> Kestävää kasvua materiaalitehokkuudella, TEM 33/2013

<sup>(512)</sup> Ministry of the environment, 2013

Figure 3.26.2: Overall profile of public administration - Finland



A national model for business transfers to facilitate the succession process has been developed with the Federation of Finnish Enterprises. Changes have been proposed to legislation on debt settlements to help entrepreneurs with debt problems.

Public procurement legislation will be revised by 2016 to implement the Procurement Directive. To encourage more SMEs to tender, a working group of business organisations is trying to identify the most important issues hindering access to public procurement. A new smart procurement programme seeks to increase innovation in the built-up environment, health and well-being, and energy and environment. The government has also adopted the principles of promoting sustainable environmental and energy solutions in public procurement.

As the 2013 decision to lower the corporate tax rate to 20 % only applies from 2014 onwards, it is too early to estimate its effects on competitiveness.

#### *Administrative modernisation*

To make e-government services more widely available, the government is building a National Digital Services Infrastructure, which will be operational in 2015. It will facilitate the introduction

of a national common digital identification solution, and the provision of better user portals for citizens, businesses and government agencies.

Meanwhile, the Enterprise Finland portal has been extended to include all business services and provide advice on financial problems. An e-service to register a limited liability company was introduced in 2013.

#### *Reducing administrative burden*

The business environment is ranked among the best in Europe, but recently only limited progress has been achieved in improving it. <sup>(515)</sup> To lower the administrative burden of enterprises, the government is seeking to simplify licensing requirements, in particular sector-specific permits and those related to construction and environment. The Environmental Protection Act is being revised with a view to expanding the use of electronic permits and combining various environment-related ones. Regional authorities are encouraged to cooperate in their supervisory and permit policies. Moreover, the government has pledged to avoid increasing the administrative burden for the rest of its term.

<sup>(515)</sup> See 'Business environment score' in graph 3.26.1.

On other efforts to take competitiveness into account in all policies, impact assessments are used to estimate the burden on enterprises created by legislation, but so far impacts are seldom expressed in monetary terms. Although the quality of the impact assessments is evaluated, quality problems are not a reason for stopping legislation from going forward. As ministries become more accustomed to doing assessments, the goal is to raise their quality.

growth in productivity and exports. In addition, effective feedback and adaptation mechanisms would contribute to policy learning.

### 3.26.7 Conclusions

The framework conditions for businesses are good in Finland, including research, innovation, education, and public administration. However, recent growth has been very sluggish, and developments in labour productivity and exports have been disappointing.

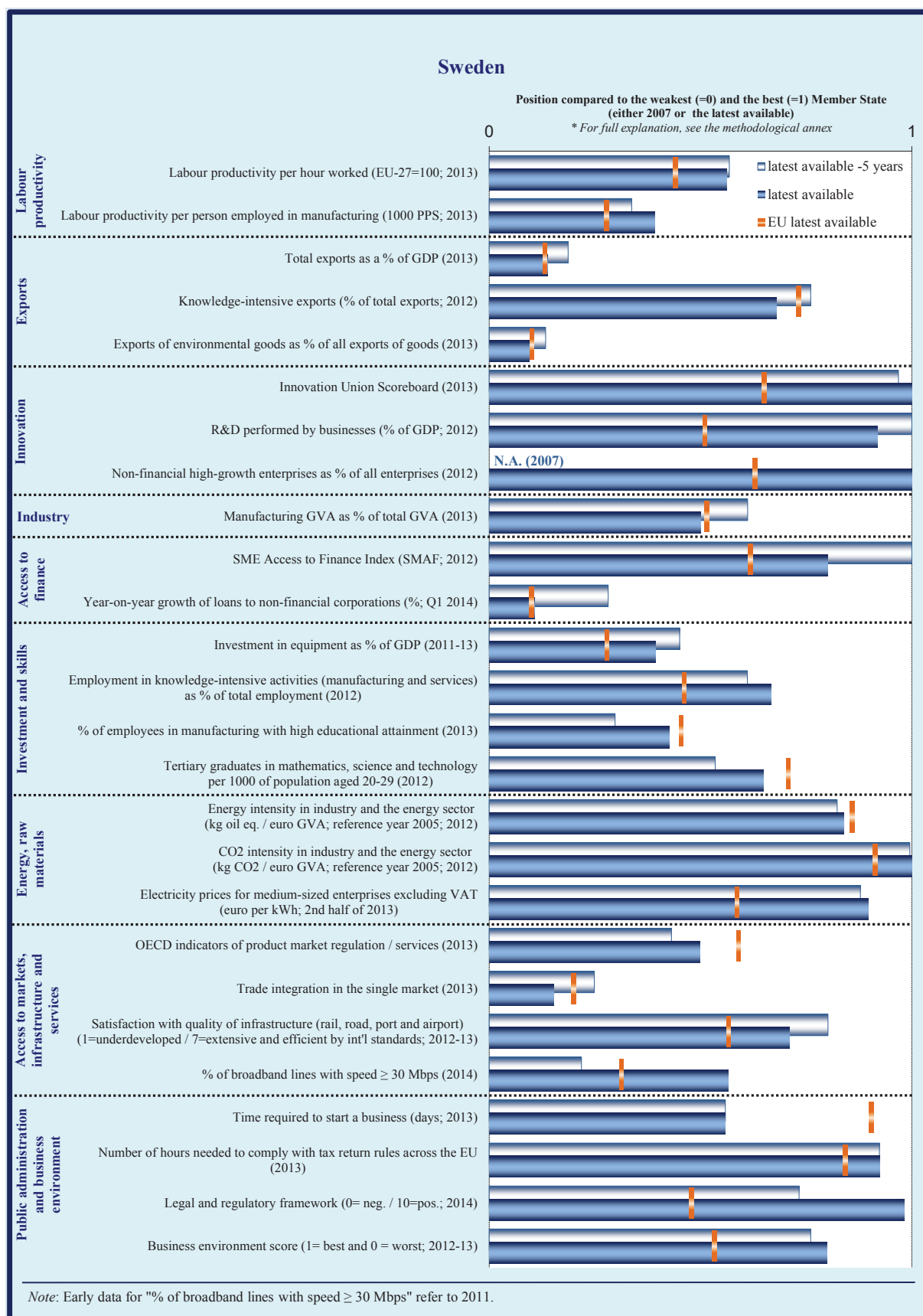
Sustainable, long-term improvements in exports and growth require a structural change towards a more diversified economy, with new high value-added products and services. Such redeployment of resources is slow and difficult, and improvements in capacity utilisation, wage moderation and efficient use of ICT in processes are required to bridge the gap in the short term.

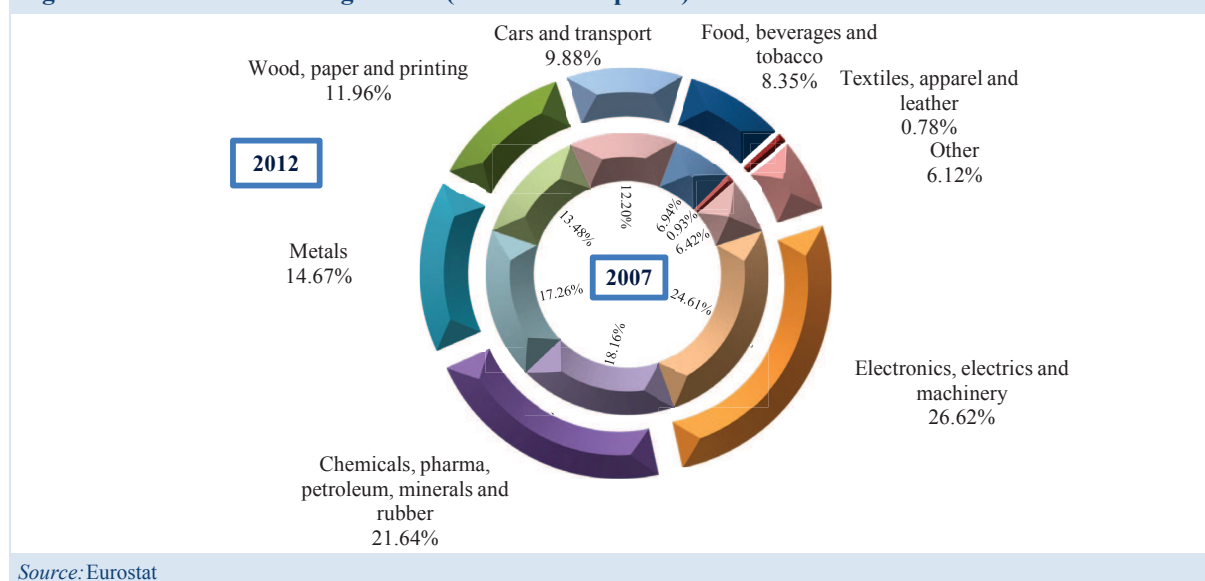
To regain competitiveness, the government is seeking to achieve both the short-term improvements, and long-term structural change. Like many other countries, it is promoting a change towards bioeconomy and clean technologies. The effect of these programmes will depend on how well they can help Finnish firms to become part of competitive global value chains, and appropriate value from them.

Numerous reforms and extensive policy initiatives have been taken, but in some areas progress could be faster. These include the retail sector, where restrictions lower investment and productivity. Reducing environmentally harmful subsidies, and continuing to improve the energy and materials efficiency of the whole economy, would bring tangible short and long-term benefits.

Many of the government initiatives promoting innovation and growth come under its structural reform programme, increasing their consistency. However, the large number of recently introduced programmes means it is too early to judge whether in the long run these initiatives contribute to permanent structural change, leading to a resumption of stronger

## 3.27 Sweden



**Figure 3.27.1: Manufacturing sectors (GVA at basic prices) Sweden**

### 3.27.1 Introduction and performance

Manufacturing remains an important generator of product innovation, export income and prosperity in Sweden but the economy continues to move towards services and greater integration of products and services. The economy has traditionally been based on a strong manufacturing industry. However, the services sector has grown in importance and now accounts for approximately 65 % of growth in value added. Over 60 % of all firms are active in this sector. <sup>(516)</sup>

Swedish manufacturing specialises in capital-intensive industries (e.g. the processing of iron and steel, pulp and paper), in mainstream manufacturing (e.g. insulated wire and cable, general and special-purpose machinery), in technology-driven industries (e.g. TV/radio transmitters and receivers) and in chemicals, pharmaceuticals, cars and transport.

Sweden is one of the most competitive economies in the world with a strong business environment and an efficient public administration. It has a large and diversified export market reaching beyond Europe. The United States is the fourth largest export market. Exports to Asian countries account for a growing share of exports.

<sup>(516)</sup> SCB:s Företagsdatabas

### 3.27.2 Access to finance

SMEs' access to finance remains good. Finding customers is the main problem for Swedish SMEs while access to finance is problematic for only 9 % of them (EU: 15 %). Sweden continues to exceed the EU average in this area. <sup>(517)</sup>

A high proportion of SMEs (70 %) received the financing they sought (EU: 65 %) in 2013 and only 8 % of applicants were rejected (EU: 13 %). Only 17 % of surveyed applicants used their most recent loan for working capital purposes, which shows that the majority of companies have sufficient internal funds and/or are generating enough cash flow to finance their day-to-day business. Banks are generally considered to be more willing to provide finance to SMEs than in previous years (+4 %) and business partners to provide trade credit (+3 %). 12 % of SMEs have used equity financing, which is considerably higher than the EU average (5 %). The situation looks promising as regards future access to finance, SMEs access to bank loans is expected to increase by 5 %, trade credit by 3 % and equity financing by 4 %. <sup>(518)</sup>

Risk capital has been accessible during the past decade but mainly for high-tech investments. It has been more challenging to obtain funding for clean-tech and life-science investments and demand for

<sup>(517)</sup> 2013 SMEs' Access to Finance Survey, Analytical Report, European Commission, 14/11/2013.

<sup>(518)</sup> Ibid.

early-stage venture capital has generally been higher than supply.

ALMI Företagspartner is the main state player in facilitating SMEs' access to finance in Sweden. In 2013 it was merged with InnovationsBron, a specialist in seed capital to innovative companies. ALMI has 40 offices in the country. It offers credit (micro-credit, business credit), venture capital, advisory services and incubation services to SMEs. InnovationsBron's expertise has now been harnessed in their venture capital financing activities.

The ALMI credit fund holds EUR 550 million for SME financing. They deal with approximately 20 % of the start-ups in Sweden. In 2013 new lending to SMEs was EUR 220 million, the commerce sector being the most heavily financed. ALMI offers loans to companies where the risks are judged to be greater. The interest rate is higher than the average bank interest rates to compensate for the higher risk, which reflects the fact that the loans complement the private market. This however allows small companies to get financing they would otherwise not obtain.

Industrifonden, a foundation that was set up by the government in 1979, is another important equity investor in the market. It invests in SMEs in a wide range of sectors (health, pharmaceuticals, medtech, cleantech, materials, etc.), in three main areas: life science, technology and industrial growth. Industrifonden, as a long-term minority investor (15-40 %), operates on commercial terms but always in partnership with entrepreneurs and other investors.

### 3.27.3 Innovation and skills

#### *Innovation*

The latest figures from Statistics Sweden 2011 show that spending on R&D is SEK 118 billion or 3.39 % of GDP. Expenditure on R&D is the fourth highest of the OECD countries after Israel, Finland and South Korea.

The research and innovation bill of October 2012 sets out the priorities for 2012-2016. The overall aim of the bill is to increase the quality of research, and to invest in areas of particular interest to business and to strengthen the links between R&D investments and economic growth. Funding to research and post-graduate education has been increased. Basic funding

to universities is competition-based and awarded on the basis of quality indicators: publications and citations as well as external funding of research. The industrially-oriented research institute sector is further strengthened as a result, contributing to the competitiveness of industry. In addition, strategic innovation areas have been launched, in which groups such as industry, universities, institutes and the public sector develop innovation programmes jointly for competitiveness, thereby putting forward solutions to challenges.

To promote investment in R&D, employer contributions for staff working in R&D have been reduced by 10 % as from 1 January 2014 for staff working in R&D. There is a ceiling of SEK 230.000 per company group and month. In addition, the government has addressed various proposals, e.g. residence permits for foreign students to enable PhD students from abroad to study in Sweden (proposed by a Committee for Circular Migration and Development). To attract internationally prominent researchers, the Swedish Research Council received funding of SEK 150 million in 2013, which will increase to SEK 250 million in 2016.

According to the 2014 Innovation Union Scoreboard, <sup>(519)</sup> Sweden has the best-performing innovation system in the EU, followed by Denmark, Germany and Finland. These countries are the 'innovation leaders' with innovation performance well above the EU average. Sweden performs well in the category 'open, excellent and effective research systems'. The innovation system is open to cooperation with partners from abroad; researchers are therefore well connected at international level and the quality of research output is very high. In the category 'firm investments', Germany and Sweden are the overall leaders. Companies in these countries invest much more in innovation activities than in other Member States.

Innovation performance has improved but at a lower rate than in many other Member States. Sweden's performance lead over other EU countries has declined from almost 50 % in 2006 to 35 % in 2013.

The strength of the Swedish innovation system can be attributed to:

<sup>(519)</sup>

[http://ec.europa.eu/enterprise/policies/innovation/files/ius/ius-2014\\_en.pdf](http://ec.europa.eu/enterprise/policies/innovation/files/ius/ius-2014_en.pdf)

- natural resources
- global companies in many sectors
- early adoption of new technologies
- effective and transparent governance
- system management skills

The key challenges of the innovation system relate to:

- dependence on a few multinationals
- low levels of growth ambitions amongst SMEs
- imbalance between knowledge creation and commercialisation (more incentives are needed)

Up to 70 % of research, development and innovation (RDI) can be attributed to the business sector. Most of the RDI outside of the business sector is carried out by the higher education sector. A small number of large companies are responsible for much of the private expenditure - the top 10 companies contribute 55 % of the total amount spent by companies in Sweden. <sup>(520)</sup>

AstraZeneca announced in 2012 the closure of two of its three research centres in Sweden. To compensate for the closure of the sites, the government has increased state funding for research, and set up a research facility for large-scale protein and gene research, SciLifeLab in Stockholm and Uppsala as well as a research centre in Södertälje. Additional measures are being considered.

### Skills

Basic skills attainments, as shown by international surveys, including OECD's PISA tests, have continuously fallen since 2000. The integration of low-educated young people into the labour market remains one of the main challenges for Sweden. <sup>(521)</sup>

The PISA 2012 survey, published by the OECD in December 2013, tested 15-year-olds in reading, mathematics and science. Around 4.700 pupils from 209 schools did the paper test and 2.500 students took part in the digital test. Results for Swedish 15-year-olds have worsened in all three topics: reading, mathematics and science, compared to PISA 2009.

<sup>(520)</sup> New paths to innovation — Vinnova.

<sup>(521)</sup> Commission Staff Working Document Assessment of the 2014 national reform programme and convergence programme for Sweden.

Student performance is now below both the OECD and EU average.

In response to the PISA results, the Swedish government asked the OECD to conduct a review providing a deeper analysis of the Swedish education system. The report will be presented in 2015. The government has taken several measures, including establishing a Scientific Council on Education consisting of experts from various disciplines such as pedagogy, economics and medicine and decided to set up a school research institute in 2014. Further initiatives were introduced in 2011 and beyond and their full impact is yet to be realised. The government has also announced a number of reforms and initiatives in its 2014 Spring Fiscal Policy Bill in a further attempt to raise the achievement level.

The government has emphasised the importance of higher education and higher vocational education by providing additional resources and places. The number of places in higher vocational education will be increased by more than 3000 full-time equivalents during the period 2013–2016. In addition, continued expansion is provided for medical, dental and nursing programmes as well as MSc and BSc engineering programmes.

The 2014 budget bill provides provisions on youth unemployment and the transition from school to work. The job guarantee scheme for young people offers support which includes career guidance, coaching and work experience. In addition, there are incentives for companies to take on apprentices as well as the introduction of the compensation for expenses. The new apprenticeship reform provides for financial compensation to apprentices.

### 3.27.4 Energy, raw materials and sustainability

#### Energy

The three largest retail suppliers of electricity produce about 80 % of the power generated. The major hydroelectric power plants are mainly located in the north of the country whilst most of the demand is in the centre and the south. Good integration of the system and the hydropower keep electricity relatively cheap in Sweden. Increases in network costs and

taxes and levies have led to a small net increase in electricity prices in recent years.

To create favourable conditions for the development of renewable energy sources, SEK 210 million has been allocated for solar cell installations up to 2016 and SEK 10 million per year for an in-depth evaluation of the effects of wind power on the environment.

The 2013 budget bill includes additional reform measures which stress the importance of a vehicle stock that is independent of fossil fuels and power systems able to cope with renewable electricity generation. It also includes several measures to improve energy efficiency.

#### *Raw materials*

Sweden is the leading iron ore producer in the EU. The overall objective of the Swedish Minerals Strategy, adopted by the government in 2012, was to increase the competitiveness of the Swedish mining and minerals industry in a long-term, sustainable way. A key impact of the strategy is the involvement of a range of governmental bodies, industry and other stakeholders in coordinating issues of strategic importance to the sector.

There have been a number of initiatives to reach out to the communities with which the industry has to interact. Both the authorities and industry have made efforts to engage local communities in the planning process, in cases where the reconciliation of differing interests presents particular difficulties. As an example, the Norrbotten County Administrative Board in North Sweden has started to develop a manual for consultation and communication between the reindeer husbandry and the mining industries during the permitting process for mineral exploration and exploitation. <sup>(522)</sup>

#### *Sustainability*

Sweden, Ireland and France have the lowest CO<sub>2</sub> intensity in the EU. It is expected that Sweden will reach the target of an emission reduction of 40 % by 2020 compared with 1990, thus further strengthening its position as a Member State with one of the lowest carbon emissions per capita.

In 2012 12.6 % of energy used in the transport sector was renewable. However, emissions from the transport sector are high, making up 25 % of national emissions. The government has carried out a study on the transport sector's emissions and dependency on fossil fuels with a view to developing 'green' solutions. The super-green car rebate, introduced in 2011, encourages purchases of environmentally-friendly cars. A super-green car is a passenger car that meets the latest EU exhaust requirements and emits a maximum of 50 grams of carbon dioxide per kilometre.

### **3.27.5 Access to markets, infrastructure and services**

#### *Access to markets*

Business Sweden was created by a merger between the Swedish Trade Council and Invest Sweden. The aim of the organisation is to strengthen the image of Sweden as an attractive business partner, and to make it easier for Swedish companies to reach international markets, creating opportunities for small businesses to grow internationally. A new programme was set up in 2013 to support companies wanting to go abroad. SEK 100 million is available in the form of vouchers to buy consulting services and legal assistance. The support is available to companies which fulfil the following criteria:

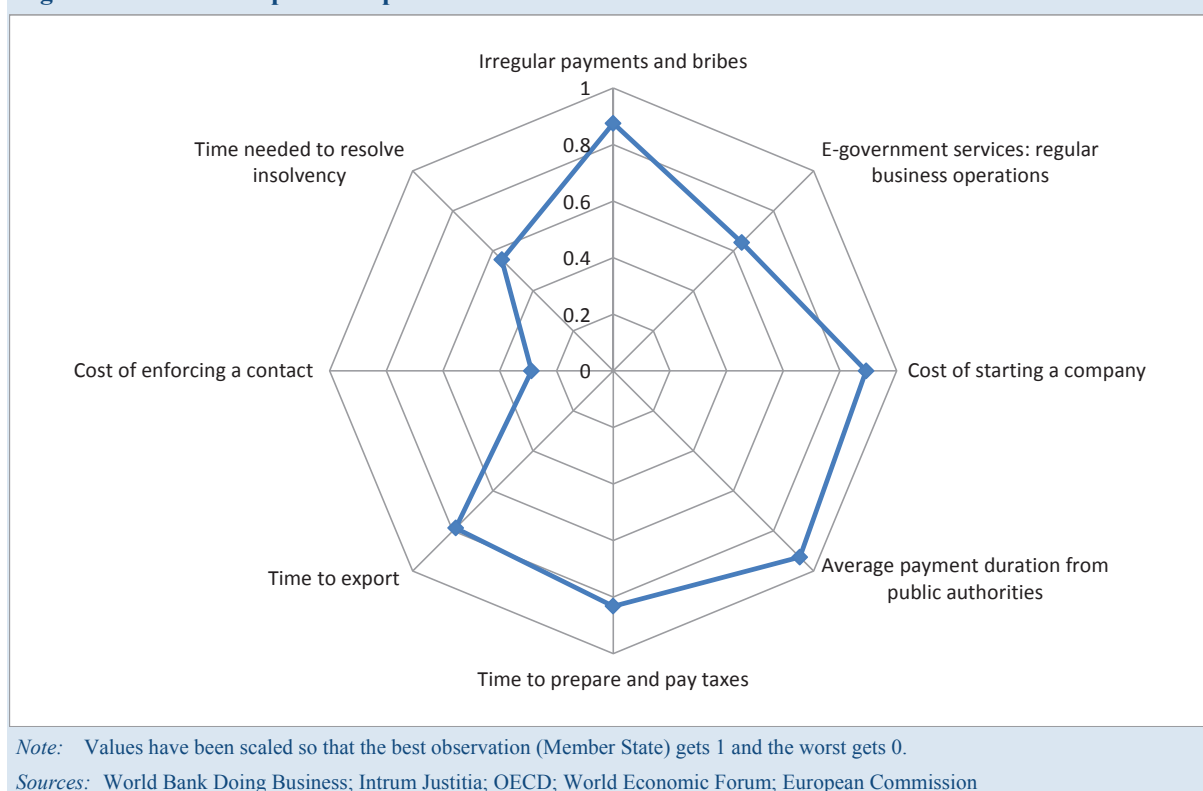
- 2-49 employees
- sales of less than SEK 1 million
- co-finance of 50 %

#### *Infrastructure*

Funding for infrastructure is being increased. SEK 522 billion will be spent on infrastructure for the period 2014 – 2025, an increase of 20 % on the previous period. Almost half of the funding will be used to maintain existing infrastructure. SEK 281 billion will be spent to upgrade and develop infrastructure. Significant resources have been allocated to the railway system and the construction of high-speed railway infrastructure. Some parts of the Swedish rail network are upgraded to a standard exceeding that of most other rail networks in the EU with regard to loading gauge and axle-loads. The heaviest regular freight trains in the EU are operating

<sup>(522)</sup> Evaluation and exchange of good practice for the sustainable supply of raw materials within the EU, March 2014, CSES

Figure 3.27.2: Overall profile of public administration - Sweden



in Sweden. In addition, it is envisioned that the Stockholm underground will be extended.

### 3.27.6 Public administration and business environment

#### Public administration

Sweden's public administration is deemed to be efficient and performs well on government effectiveness.<sup>(523)</sup> One of the objectives of the Swedish simplification programme for companies is to decrease and simplify reporting requirements. The 'once only' and 'easy submitting' principles aim to ensure that businesses need only supply information once because the public agencies share data. The submission of data should also be as easy as possible. The Swedish government wants to change the day-to-day conditions for businesses for the better. By 2020 businesses should only be required to submit information once, and to one place, in most cases.

The strategy to improve the business environment has five focus areas:

1. lower costs for companies;
2. simpler procedures for contacting authorities at regional and local level;
3. action on proposals for better regulation from the business sector;
4. better impact assessments;
5. reduced and simplified reporting requirements.

A number of innovative programmes have been launched to simplify the administrative burden:

*The better regulation hunt* covers four sectors where businesses feel that legislation prevents them from growing: hospitality, transport, trade and manufacturing.

*The better regulation forum* allows different municipalities to engage in dialogue and exchange experiences. The forum enables municipalities to learn from each other about the effects different pieces of legislation have on companies.

*The simplify programme* gives training to municipal employees on how municipalities can make life simpler for companies.

<sup>(523)</sup> European Commission (2012), 'Excellence in public administration for competitiveness in EU Member States'.

### Business environment

According to the Global Competitiveness Index of the World Economic Forum, Sweden is one of the most competitive economies in the world. <sup>(524)</sup> It ranks sixth after Switzerland, Singapore, Finland, Germany and the United States.

The current lead time to start up a business is 16 days according to the SBA Fact Sheet and 14 days according to the World Bank's Doing Business Report. Electronic filing reduces the administrative lead time by two days on average. A main cause of delays is the checking of company names. Most companies send in three suggestions for business names. The next step is the development of an IT tool which can check company names before submission of the request, thus reducing start-up times.

In 2011, Sweden set up a committee to review its corporate tax system. The committee tabled its final report in June 2014. Proposed changes include more limits to interest deductions and the introduction of a financing allowance for companies.

The corporate tax rate was reduced in 2013 to 22 % (slightly below the EU average) from 26.3 % previously (above the EU average). In January 2013, new legislation reduced the interest deductibility for intra-group loans, with the aim of reducing corporate debt that is driven by tax avoidance. In addition, an investor's deductibility scheme was introduced in December 2013, allowing individuals who acquire shares in a new or expanding SME to deduct half of the purchase price (up to SEK 650.000 per person and year) in their tax returns.

An initial preliminary review of the decreased VAT rate in 2012 for restaurant and catering services shows that 4.000 new jobs have been created. It is estimated that each new job costs SEK 1–1.5 million. It is also understood that prices have gone down and demand for restaurant has services increased. Furthermore, the Tax Agency reports that tax evasion has decreased by SEK 700 million as a result of the VAT reduction. A fuller evaluation of the VAT reduction is expected in 2016.

### 3.27.7 Conclusions

Sweden is one of the most competitive economies in the world with a strong business environment and an efficient public administration. Sweden has a large and diversified export market reaching beyond Europe. However, Sweden's export market shares are declining and companies are facing problems of weaker demand from traditional export markets. The economy has traditionally been based on a strong manufacturing industry. However, the service sector has grown in importance and now accounts for approximately 65 % of growth in value added.

SMEs' access to finance remains good. Access to finance is only for 9 % of SMEs the most pressing problem (EU: 15 %).

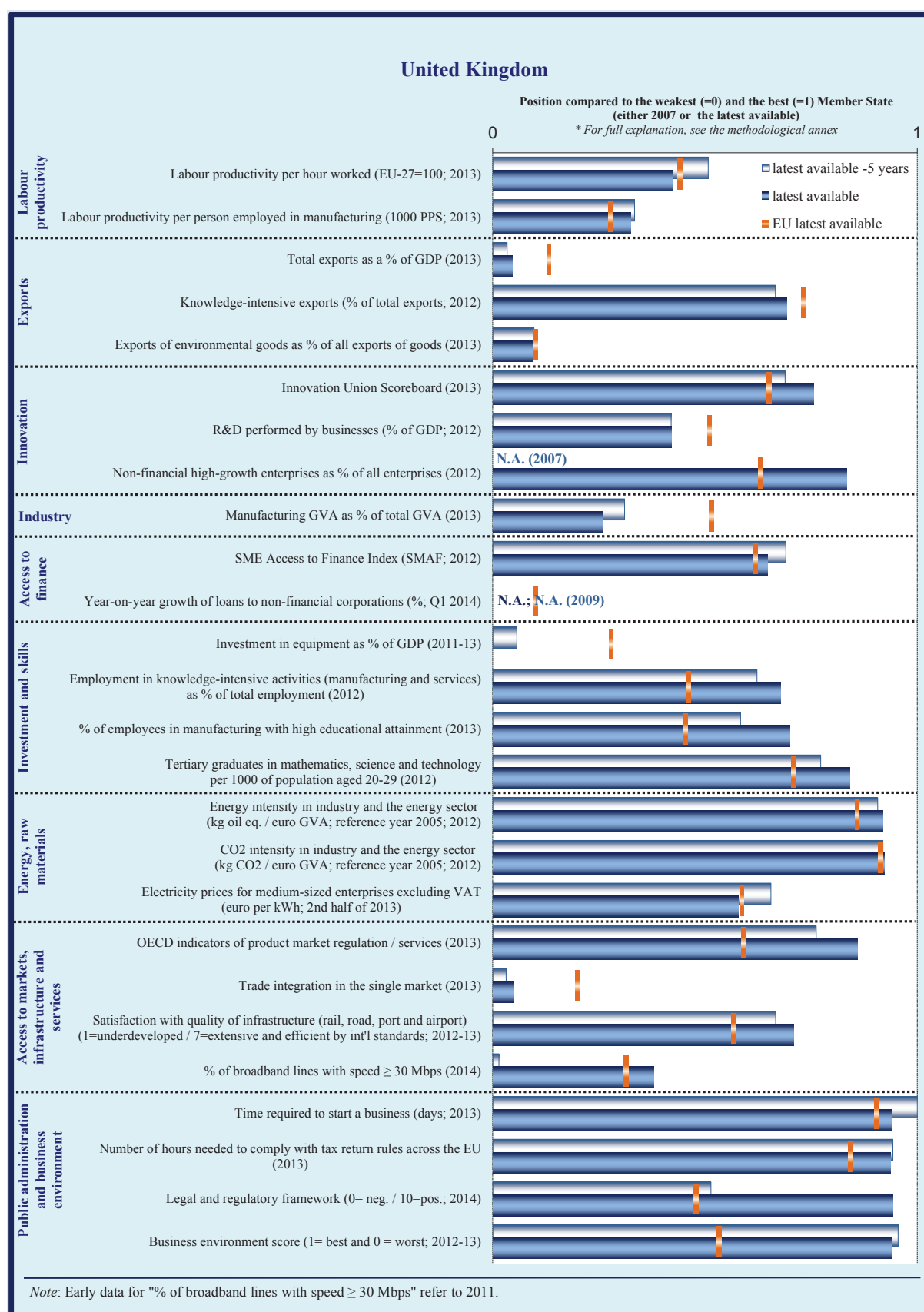
According to the 2014 Innovation Union Scoreboard, Sweden has the best performing innovation system in the EU. To further enhance investments in R&D, employer contributions have been reduced by 10 % as from 1 January 2014 for staff working in R&D. One challenge to innovation is that just 10 companies account for 55 % of the total amount companies in Sweden spend on R&D.

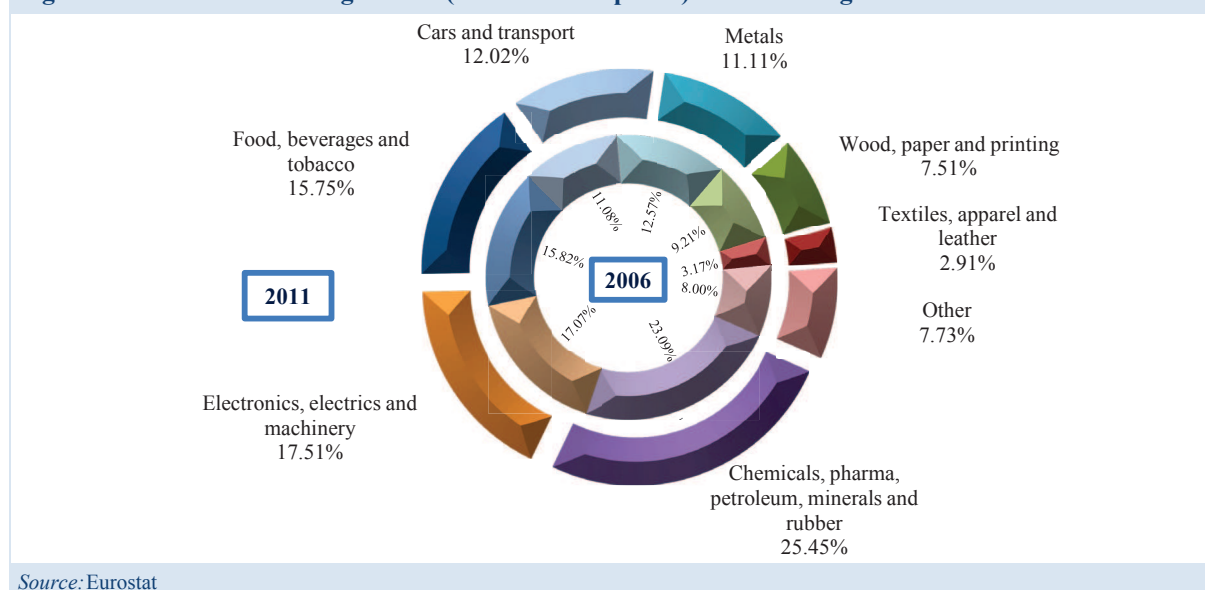
The current lead time to start up a business is 16 days according to the SBA Fact Sheet, which is above the EU average. Electronic filing and a new IT tool, which can check company names before submission of a request, should help to reduce start-up times.

---

<sup>(524)</sup> World Economic Forum, Global Competitiveness Report 2013-2014

## 3.28 United Kingdom



**Figure 3.28.1: Manufacturing sectors (GVA at basic prices) - United Kingdom**

### 3.28.1 Introduction and performance

The UK maintained and consolidated its growth in 2013 with real GDP growing by 1.7 %. UK productivity has fallen short of that of other large EU Member States in recent years. Exports accounted for 31.5 % of GDP and 10.2 % of total EU exports in 2013. The UK is considered to be an innovation follower as regards innovation.

### 3.28.2 Access to finance and investment

#### *Access to finance*

While progress has been made, access to finance is still a concern for UK businesses, in particular for SMEs. <sup>(525)</sup> The government has responded to this in two main ways, namely the setting up of the Funding for Lending Scheme (FLS) and the British Business Bank.

<sup>(525)</sup> The World Economic Forum Global Competitiveness Report 2013-2014 rates access to finance as the most problematic factor for doing businesses in the UK while access to finance is considered the third most pressing problem for UK businesses according to the 2013 SMEs' Access to Finance survey, 14 November 2013 (ECB/European Commission). The Bank of England Trends in Lending Report April 2014 (p8) also states the growth rate in the stock of lending to SMEs has been negative for the past four years but has contracted by less since the start of 2013.

#### *Bank lending*

The FLS was introduced in July 2012 and is aimed at providing government-backed guarantees for lending to UK households and businesses. In April 2013, the Bank of England and the government announced that the scheme would be extended to January 2015. Incentives were targeted more towards SMEs and the scope was widened to include non-bank credit providers. In November 2013, the Bank of England and the government announced that the FLS extension would focus solely on businesses. It is estimated that the scheme has increase net lending by GBP 10.3 billion since it was launched. <sup>(526)</sup>

In an effort to improve legislation on the ability of other smaller banks and alternative finance provides to provide loans to SMEs, the government recently launched a consultation on the sharing of information of SME customers with other lenders through credit reference agencies. The Bank of England is also considering whether the UK should develop a national database of credit information. Moreover, the Financial Services Authority (FSA) and the Prudential Regulation Authority (PRA) are taking measures to make the banking sector more competitive.

UK businesses noted that it was easier in 2013 to obtain bank loans in full and an improvement in SMEs' perception of access to bank lending in 2013

<sup>(526)</sup> UK National Reform Programme 2014, p38

compared to 2011. <sup>(527)</sup> Nonetheless, there are still concerns about SME lending. An updated report by the Office of Fair Trading <sup>(528)</sup> points out that SMEs are finding it hard to source alternative finance or differentiate between the current providers. Moreover, smaller and newer finance providers to SMEs were finding it difficult to penetrate the banking market. A decision on whether to undertake a detailed investigation of the retail banking market will be made in the autumn 2014.

#### *Venture capital and other finance*

The government set up the British Business Bank in December 2012, and one year later it increased the amount pledged for the Bank to GBP 1.25 billion. The Bank's aim is to increase the supply of finance for small businesses in areas where the market does not work well and to provide greater diversity of financing options for businesses.

The Bank is currently operating in shadow form within the UK Department of Business Innovation and Skills (BIS) pending State aid approval, which will allow the Bank to become fully operation. It is expected to become fully operational in autumn 2014. The Bank will act as a one-stop-shop for non-bank financing and will bring together the existing schemes. The main programmes include the Enterprise Capital Funds, the Investment Programme, the Venture Capital Catalyst Fund and the Enterprise Finance Guarantee. The government estimates that GBP 660 million reached SMEs in 2013 and that 25 000 businesses were benefiting from British Business Bank programmes at the end of 2013. <sup>(529)</sup>

The UK has also had positive experience in the establishment of Financial Engineering Instruments (FEIs), which are SME investment funds which is partly financed by EU funds.

Moreover, the devolved administrations in Northern Ireland, Scotland and Wales operate a number of their own access to finance schemes for businesses which complement those operated by the UK government and the British Business Bank.

<sup>(527)</sup> Increase ability to obtain loans in full from 48 % in 2011 to 65 % in 2013 according to SMEs' Access to Finance survey, 14 November 2013 (ECB/European Commission)

<sup>(528)</sup> 'OFT update on SME banking market study' Office of Fair Trading, March 2014. The Office of Fair Trading and the Competition Commission merged into the Competition and Market Authority, as of 1 April 2014.

<sup>(529)</sup> UK National Reform Programme 2014, p36

#### *Investment*

The UK has experienced the lowest level of investment relative to GDP compared to other major economies with gross capital formation stabilising at 12 % of nominal GDP in 2012. <sup>(530)</sup>

Some measures have been announced to try to enhance business investment, such as doubling the annual investment allowance granted to businesses for plant and machinery to GBP 500 000 from April 2014 until the end of 2015. This is expected to help businesses in the agricultural and manufacturing sectors. Business surveys have indicated improved conditions for investment growth since the end of 2012 with business investment measuring 8.5% in 2013. <sup>(531)</sup>

### 3.28.3 Innovation and skills

#### *Innovation*

The UK is classified as an innovation follower meaning that its innovation performance is slightly above the EU average. Its strengths relate to international scientific co-publications, innovative SMEs collaborating with others and new doctorate graduates. Relative weaknesses are in the sales share of new innovations and the proportion of SMEs with product or process innovations. <sup>(532)</sup>

Business expenditure as a percentage of GDP measured 1.09 % in 2012, a moderate decline from the previous year and below the EU average of 1.3 %. Driving business innovation in various sectors of the economy is in fact one of the UK government's goals in its innovation strategy.

Tax incentives in R&D are the major form of support for innovation in the UK. An R&D tax relief for early stage companies and start-ups has recently been increased from a rate of 11 % to 14.5 %. In addition to tax credits, the government encourages R&D through programmes by the Technology Strategy Board. Programmes include SME smart and innovation vouchers; knowledge transfer partners; a small business research initiative; and a network of catapult centres. There are currently seven catapult centres open and another two are due to open in 2015.

<sup>(530)</sup> An International Perspective on the UK, ONS April 2014

<sup>(531)</sup> UK Budget Report March 2014

<sup>(532)</sup> Innovation Union Scoreboard 2014, p70

An evaluation of the innovation voucher scheme will be undertaken by the government.

The government will also produce a science and innovation strategy in autumn 2014. This will provide a roadmap on how to deliver the government's long term commitment to delivering the research and innovation infrastructure needed to maintain the UK's position as a leading player in this field.

### *Skills*

Despite continuous reforms to the supply side over the last three decades, the UK still finds itself falling behind various international league tables on basic skills and qualification achievement. According to the recent OECD survey of adult skills, <sup>(533)</sup> the young adult population (16-24 year olds) scores significantly below the OECD average.

Economic growth in the UK may be constrained by the presence of skills shortages and a mismatch between skills supply and employer demand. In January 2014, the UK Commission for Employment and Skills published its employers' skills survey which found that around three in ten vacancies are 'hard-to-fill'. The main reason being shortages in suitably skilled or qualified workers. 'Skills-shortage vacancies' account for one in five vacancies.

While larger companies tend to provide training or education, this is not always the case for smaller companies. It is estimated that just 15 % of employers offer apprenticeships, many of which are low level and for over 25 year olds. <sup>(534)</sup>

The government responded by implementing several initiatives to try to better link the education system with the needs of the workplace. For example through more relevant qualifications (technical awards for 14-16 year olds and technical levels for 16-19 year olds), greater emphasis on learning useful skills, and greater employer influence over the content of courses. Traineeships for 16-24 year olds were also introduced in 2013 which will focus on basic English and mathematics and better work preparation.

Another initiative is the employer ownership pilot, a GBP 340 million fund to help employers invest directly in the skills of their workforce by allowing

them to co-invest and design their own skills solutions. A number of projects have been implemented in the first round and successful bids in the second round are due to be announced.

The UK is also emphasising apprenticeship schemes. These were reformed in 2012 and the government has invested further in them to improve their quality. The 'trailblazers' scheme, made up of employers, was launched to establish new apprenticeship standards for key sectors of the economy. Apprenticeship grants will be increased by GBP 85 million in 2014-2015 and 2015-2016 while the Apprenticeship Grant for Employers (AGE) scheme for SMEs scheme has been extended to December 2014. This will fund over 100,000 additional incentive payments for small employers to take on young apprentices. The Welsh Government has also invested an additional GBP 40 million into the Welsh apprenticeship programme as part of the 2013-2014 budget agreement. Wales has been aiming at improving the apprenticeship system in various ways following the inquiry into apprenticeships in 2012.

However, better career advice in public schools and a shift towards advanced apprenticeships, along with a better perception of such schemes to place them at par with degrees, would be considered a useful step.

### **3.28.4 Energy, raw materials and sustainability**

#### *Energy use and prices and resource efficiency*

The government is committed to a carbon price floor in an effort to stimulate investment in low carbon infrastructure. This, however, means that the price of electricity is relatively higher due to the carbon tax being paid by electricity generators.

Energy prices are an issue of concern for businesses. Surveys have shown that the biggest threat to manufacturing growth is rising input costs, particularly the cost of energy. <sup>(535)</sup>

<sup>(533)</sup> OECD Skills Outlook 2013

<sup>(534)</sup> State of the Nation 2013: Social mobility and child poverty in Great Britain

<sup>(535)</sup> EEF Executive Survey January 2014, p15. According to UK Budget Report March 2014 p31, it is estimated that a typical energy intensive industry in Britain currently pays almost 50 % more for their electricity than they do in France. It is also estimated that the cost to businesses of policies to deliver new low carbon energy infrastructure is likely to increase by around 300 % by 2020.

In an effort to address this, the government announced a cap on the carbon price support rate from 2016-2017 to 2019-2020 to limit the competitive disadvantage British companies may be experiencing compared with their international competitors. The government will also extend to 2019-20 the compensation scheme for energy intensive industries for the indirect costs of the carbon price support mechanism and EU emissions trading system. It will also introduce a new compensation scheme to help these industries with higher electricity costs. The government has also been working with industry to produce three energy sector strategies as part of the Industrial strategy. These strategies cover oil and gas, nuclear power and offshore wind. The first two were launched in March 2013 while the offshore wind strategy was launch in August 2013. <sup>(536)</sup>

The UK has recently adopted an updated energy act that will put in place measures to introduce the electricity market reforms. These reforms aim to attract GBP 110 billion worth of investment to replace the current electricity generation capacity and upgrade the electricity grid by 2020. This will have an impact on the energy mix and will encourage low carbon electricity generation.

#### *Other sustainability issues*

The UK is supporting the development of carbon capture and storage technology. A roadmap sets out a number of measures to ensure that it is amongst the leaders in such technologies. This includes a GBP 125 million co-ordinated RDI programme. In March 2014, an additional GBP 60 million for new low-carbon innovation to support CCS technologies was announced.

### 3.28.5 Access to markets, infrastructure and services

#### *Internationalisation*

In the five years to 2012 the UK lost approximately 20 % of its export market share in goods and services. <sup>(537)</sup> This is likely due to a number of factors, such as

<sup>(536)</sup> UK 2014 National Reform Programme, p77

<sup>(537)</sup> Macroeconomic Imbalances UK 2014, European Economy Occasional Papers 188, March 2014

weak demand in the EU market, the weakness of exports of financial services, difficulty in access to finance for exports and structural weaknesses relating to infrastructure and skills.

Exports of goods and services increased by 2.3 % in 2013, which is an improvement on 2012, but still weak by historical standards. This was underpinned by an increase in the export of goods and services of 1.4 % and 3.5 %, respectively. <sup>(538)</sup> While the euro area still accounts for the majority of UK exports, <sup>(539)</sup> exports to non-EU markets are increasing.

UK Trade and Investment (UKTI) focuses on helping UK businesses to export. It provides various services and programmes, such as a network of trade advisors at regional levels to help businesses to export. The “passport to export” scheme that focuses on assisting companies to internationalise has been quite successful. The 2014 budget announced an overhaul of the UK Export Finance direct lending programme, doubling it to GBP 3 billion and cutting interest rates to help firms expand abroad and obtain foreign contracts. It will also double the finance of UKTI’s Global Entrepreneur Programme. The UK is also trying to ensure that businesses make the most of the preferential treatment resulting from free trade agreements between the EU with third countries.

#### *Business services*

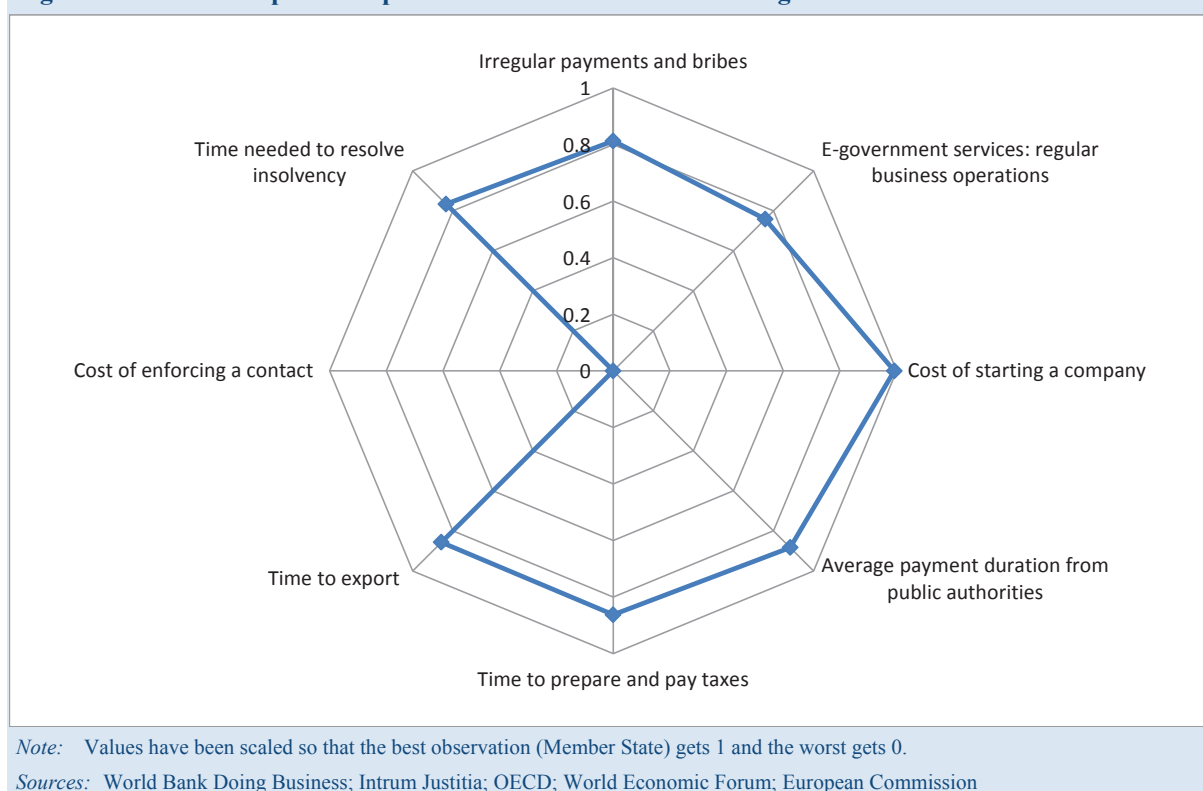
Approximately 78 % of GDP is accounted for by the services sector while it also represents about 83 % of employment. In particular, knowledge intensive services <sup>(540)</sup> account for approximately one-third of output and over a quarter of total employment. However, the UK’s world market share for services decreased from 7.9 % in 2000-2001 to 6.6 % in 2010-2011. There appears to have been a decline in most sectors, particularly, in the UK’s share of the world market for financial and insurance services industries. <sup>(541)</sup> In fact, gross value added from financial and insurances services measured 10.7 % of GDP in 2009 but fell to 7.9 % in 2012.

<sup>(538)</sup> Office for National Statistics, UK Trade, April 2014

<sup>(539)</sup> The Euro Area accounted for 39% of UK goods and services exports in 2013 according to the UK Economic Accounts 2013 Q4

<sup>(540)</sup> This refers to professional services, financial services, education, information economy, publishing and broadcasting.

<sup>(541)</sup> Macroeconomic Imbalances UK 2014, European Economy Occasional Papers 188, March 2014

**Figure 3.28.2: Overall profile of public administration - United Kingdom**

### *Infrastructure and network industries*

One of the main bottlenecks identified in the economy is the shortcomings in energy and transport infrastructure. In December 2013, the government published its national infrastructure plan which identifies the top 40 priority investments. Capital investment of GBP 375 billion is planned up to 2020 and beyond. Due to fiscal constraints, the government aims to attract private investment infrastructure for the majority of the funds. The government is also investing in a rail project, High Speed 2, which will better connect London and northern cities. With respect to energy, the energy act aims to maintain a stable electricity supply as coal-fired power stations are retired as highlighted above. The UK is considered one of the best performing EU Member State for the uptake of broadband communications.

### **3.28.6 Public administration and business environment**

#### *Entrepreneurship and SBA*

The UK is considered to have a favourable business environment. This is reflected in its ranking as one of the most business friendly countries in a number of

business surveys. <sup>(542)</sup> It performs particularly well in protecting investors, paying taxes, trading across borders and resolving insolvency but obtaining electricity and registering property are more of a challenge. In 2013, the government announced measures to help the business environment, such as capping the retail price index increases on business rates, and abolishing employers national insurance contribution for under 21 year olds on certain earnings.

According to the Small Business Act (SBA), the UK has one of the most competitive business environments in Europe. Performance is in line with the EU average in two areas, namely think small first and single market, and above the EU average in a number of other areas such as second chance, responsive administration and internationalisation. The area in which the UK performs worse than the EU average is in relation to “entrepreneurship”. This is mainly due to the perception that a school education does not provide students with an entrepreneurial attitude.

<sup>(542)</sup> World Bank Doing Business Report 2014 and the Global Competitiveness Report 2013-2014 both rank the UK in 10<sup>th</sup> place in their studies

### *Administrative modernisation*

The UK performs well on public administration which is reflected in good scores for indicators such as the time to resolve insolvency and judicial independence. It also performs quite well on perception indexes on corruption. The EU's 2014 anti-corruption report highlights the fact that 15 % of businesses believe that corruption is a problem for their company, compared to the EU average of 43 % while only 8 % believe that patronage and nepotism is a problem for companies, compared to the EU average of 41 %.

However, the UK tends to suffer from a low take up of public procurement bids by SMEs. While the proportion of procurement expenditure going to SMEs measured 10.5 % in 2012-2013 the government has set itself an ambitious target of 25 % by 2015. It is interesting to note that in March 2013 the government significantly increased the budget of the Small Business Research Initiative (SBRI). The SBRI assists the government in coming up with innovative solutions. The increased funding is expected to increase the value of contracts available to SMEs from GBP 40 million in 2012-2013 to GBP 100 million in 2013-2014.

### *Reducing administrative burden*

The Government's one-in-two-out rule is estimated to provide savings of GBP 2 for every GBP 1 in regulatory cost imposed on business. It is monitored through published biannual progress updates. Between January 2011 and December 2013 it has been estimated that GBP 1.19 billion total annual savings for business was achieved. The Government's Red Tape Challenge programme has reviewed the stock of UK legislation in an effort to eliminate unnecessary rules or make them less burdensome. So far 3,000 regulations are being repealed or improved. In June 2013 the government announced a small and micro business assessment to reduce disproportionate burdens of regulation on smaller businesses, which came into force at the beginning of 2014. <sup>(543)</sup>

With respect to tax payments, the UK ranks well in international surveys with respect to paying taxes

<sup>(544)</sup> with online filing possible for a number of taxes, such as corporate income tax.

### 3.28.7 Conclusions

The UK provides a good business environment which includes a reliable judiciary, relative ease in paying taxes and a generally reliable public administration which is trying to reduce unnecessary administrative burdens. The government is devoted to achieving a low carbon emission economy, but it also needs to address relatively high energy prices for businesses. The government has introduced initiatives to address access to finance issues, such as the British Business Bank and Funding for Lending Scheme. However, SMEs in particular are still finding access to finance a challenge. The other main challenges concern addressing skills gaps and deficiencies in infrastructure that hinder the business environment. A number of programmes and policies are being undertaken to try to address this.

---

<sup>(544)</sup> World Bank Doing Business 2014 ranks the UK in 14<sup>th</sup> place on paying taxes with 8 payments per year taking 110 hours.

---

<sup>(543)</sup> Seventh Statement of New Regulation, Department for Business, Innovation and Skills (December 2013)

## 4 Annex: Methodology and indicators used

### 4.1 Definitions of the indicators

Name of Indicator	Definition
<b>Output indicators</b>	
<b>Labour productivity and labour costs</b>	
Gross Value Added and Gross Domestic Product	<p>Gross Value Added (GVA) (ESA95, 8.11) is the net result of output valued at basic prices less intermediate consumption valued at purchasers' prices. Output (ESA95, 3.14) consists of the products created during the accounting period. Intermediate consumption (ESA95, 3.69) consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process. GVA is also available broken down by industries according to NACE Rev. 1.1 in the breakdowns collection. GVA is calculated before consumption of fixed capital.</p> <p>Gross Domestic Product (GDP) is the sum of GVAs of industries, plus taxes minus subsidies.</p> <p>Private industry is the part of a country's economy that consists of privately owned enterprises and is not state controlled, and is run by individuals and companies for profit. The private sector encompasses all for-profit businesses that are not owned or operated by the government. Companies and corporations that are government run are part of what is known as the public sector.</p> <p>Constant prices are obtained by directly factoring changes over time in the values of flows or stocks of goods and services into two components reflecting changes in the prices of the goods and services concerned and changes in their volumes (i.e. changes in 'constant price terms'); the term 'at constant prices' commonly refers to series which use a fixed-base Laspeyres formula.</p> <p>Current price refers to the most recent period for which an indicator has been computed or is being computed. However, the term is widely used to refer to any period that is compared with the price reference or indicator reference period.</p> <p><i>Source: Eurostat</i></p>
Labour productivity per hour worked	<p>Gross Domestic Product in Purchasing Power Standards per hour worked relative to EU-27 (EU-27=100)</p> <p><i>Source: Eurostat</i></p>

Labour productivity per person employed (in manufacturing)	<p>Gross Domestic Product in Purchasing Power Standards per person employed relative to EU-27 (EU-27=100)</p> <p><i>Source: Eurostat</i></p>
Real effective exchange rate	<p>Nominal effective exchange rate deflated by nominal unit labour costs (total economy) relative to a panel of 36 countries (EU-27 + 9 other industrial countries: Australia, Canada, United States, Japan, Norway, New Zealand, Mexico, Switzerland, and Turkey). 1999=100 for all countries. A rise in the index suggests deterioration in competitiveness. The figure for each country is calculated against the rest of the countries belonging to the panel. The EU aggregate figure is calculated against the non-EU-27 countries belonging to the panel.</p> <p><i>Source: European Commission (DG ECFIN)</i></p>
Real unit labour cost	<p>Real unit labour cost is the ratio of compensation per employee to nominal GDP per person employed.</p> <p><i>Source: European Commission (AMECO)</i></p>
Unit labour cost	<p>Unit labour costs (ULC) measure the average cost of labour per unit of output and are calculated as the ratio of total labour costs to real output.</p> <p>In broad terms, unit labour costs show how much output an economy receives relative to wages, or labour cost per unit of output. ULCs can be calculated as the ratio of labour compensation to real GDP. It is also the equivalent of the ratio between labour compensation per labour input (per hour or per employee) worked and labour productivity.</p> <p><i>Source: OECD</i></p>
Unit labour costs in manufacturing	<p>Development (2000=100) of the following ratio: Total compensation of employees in manufacturing (in nominal values) divided by total valued added in manufacturing (in constant prices).</p> <p><i>Source: OECD</i></p>
<b>Exports and trade</b>	
Country share of total EU goods and services exports	<p>International trade in goods and services covers both extra- and intra-EU trade. Extra-EU trade statistics cover the trading of goods between Member States and non-member countries. Intra-EU trade statistics cover the trading of goods between Member States. 'Goods' means all movable property including electricity.</p> <p><i>Source: Eurostat</i></p>
Current account adjustment (% GDP)	<p>Current account adjustment is expressed as the ratio between net balance of payments and Gross Domestic Product main components at current prices.</p> <p>The balance of payments (BoP) is a statistical statement that systematically summarises, over a given period of time, all the</p>

	<p>transactions of an economy with the rest of the world. The balance of payments records all economic transactions undertaken between the residents and non-residents of a country during a given period. A transaction is defined in the BPM5 as an economic flow that reflects the creation, transformation, exchange, transfer, or extinction of economic value and involves changes in ownership of goods and/or financial assets, the provision of services, or the provision of labour and capital.</p> <p>Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.</p> <p><i>Source: Eurostat</i></p>
Domestic value added of exports	<p>Value Added Export Ratio - Total domestic value added share of gross exports, %.</p> <p><i>Source: OECD – WTO; TiVA (Trade in Value Added)</i></p>
EU unit price of exports	<p>Unit value is the expenditure or value of production of an item divided by the quantity.</p> <p>Foreign trade unit value indices are indicators describing price dynamics of exported and imported goods. The export/import unit value index characterises changes in the price level of exported and imported goods within the reporting period against the base period. The unit value index is a 'price' index that measures average value changes in a heterogeneous cluster of units. Therefore, it may be influenced by changes both in the composition of this cluster and in individual prices.</p> <p>Indices are calculated by Eurostat, using a common methodology and computer programs: monthly raw data are processed at the most detailed level in order to calculate elementary unit-values defined by trade value/quantity. These unit-values are divided by the average unit-value of the previous year to obtain elementary unit-value indices, from which outliers are detected and removed. Elementary unit-value indices are then aggregated over countries and commodities, by using the Laspeyres, Paasche and Fisher formulae. Finally, the Fisher unit-value indices are chained back to the reference year (2000=100) and are used to approximate the import and export price movements. Value-indices are calculated as the percentage change between the trade value of the current month and the average monthly trade value of the previous year. These value indices are used to derive volume indices as follows: value index = unit-value index x volume index. The growth rates of unit-value and volume indices enable the user to break down value changes into price and volume components.</p> <p><i>Source: Eurostat</i></p>
Exports of goods and services	<p>Exports of goods and services consist of transactions in goods and services (sales, barter, gifts or grants) from residents to non-residents</p>

	<p>(ESA95, 3.128). Exports of goods are to be valued free on board (f.o.b.) at the border of the exporting country. Exports of services are valued at basic prices.</p> <p><a href="http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/nama_esms.htm">http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/EN/nama_esms.htm</a></p> <p><i>Source: Eurostat</i></p>
Export revenue / operating average ratio of SMEs	<p>Export revenue divided by the operating average ratio of SMEs</p> <p>Revenue is calculated by multiplying the price at which goods or services are sold by the number of units or amount sold. It is the 'top line' or 'gross income' figure from which costs are subtracted to determine net income.</p> <p>Operating ratio shows the efficiency of a company's management by comparing operating expenses to net sales or revenue. The smaller the ratio, the greater the organisation's ability to generate profit if revenues decrease.</p> <p>Operating expenses refer to the ongoing cost of running a product, business or system and is a category of expenditure that a company incurs as a result of performing its normal business operations.</p> <p><i>Source: AMADEUS, own calculations</i></p>
Extra-EU and intra-EU trade	<p>International trade in goods statistics cover both extra- and intra-EU trade: Extra-EU trade statistics cover the trading of goods between Member States and a non-member countries. Intra-EU trade statistics cover the trading of goods between Member States. 'Goods' means all movable property including electricity measured in volume indices (2000=100).</p> <p><i>Source: Eurostat, CPB World Trade Monitor</i></p>
Share of high-tech exports	<p>Share (in %) of intra-EU and extra-EU-27 exports of all high technology products in total intra- and extra-EU-27 exports.</p> <p>High technology products comprise: Aerospace, Computers office machines, Electronics-telecommunications, Pharmacy, Scientific instruments, Electrical machinery, Chemistry, Non-electrical machinery, Armament.</p> <p><i>Source: Eurostat</i></p>
Total Exports (% GDP)	<p>Value of Intra-EU and Extra-EU exports by Member State as % of GDP.</p> <p><i>Source: Eurostat</i></p>
Trade integration in the single market	<p>Average value of imports and exports of goods in the calendar year divided by GDP (%).</p> <p><i>Source: Eurostat</i></p>

Knowledge-intensive exports	<p>This indicator (I) is calculated as:</p> $I = s1e1 + s2e2$ <p>where <math>s1</math> = export values of non-financial knowledge intensive services divided by total exports of services, <math>s2</math> = export values of medium and hi-tech goods divided by total exports of goods (see below),</p> <p>and where <math>e1</math> (resp. <math>e2</math>) are values of service (or goods) exports (<i>Source: Eurostat</i>).</p> <p><b><i>Non-financial knowledge intensive services (s1)</i></b></p> <p>Following the same definition as that used in the Innovation Union Scoreboard, Non-financial knowledge intensive services (NFKIS) include the following: passenger and freight services for air and sea transport, space transport, communications services, insurance services, computer services, operational leasing services, legal, accounting, management consulting and public relations, advertising, market research and public opinion polling, research and development, architectural, engineering, and other technical business services.</p> <p><i>Source: data are calculated from the United Nations Balance of Payments (exports of services)</i></p> <p><b><i>Medium and Hi-Tech goods (s2)</i></b></p> <p>Following the same definition as that used in the Innovation Union Scoreboard, Medium and Hi-Tech goods (MHT) include (SITC rev 3 code in brackets): Synthetic and other man-made fibres suitable for spinning (266-267), Alcohols, phenols, Carboxylic acids and their derivatives (512-513), Radioactive and associated materials (525), Pigments, paints, varnishes and related materials (533), Medicinal and pharmaceutical products (54), Perfumery, cosmetic or toilet preparations (553-554), fertilisers (562), plastics (57-58), Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products (591), Explosives and pyrotechnic products (593), Prepared additives for mineral oils and the like; prepared liquids for hydraulic transmission; anti-freezing preparations and prepared de-icing fluids; lubricating preparations (597), miscellaneous chemical products n.e.s. (598), articles of rubber, n.e.s. (629), fabrics, woven, of man-made textile materials (not including narrow or special fabrics) (653), Pig-iron and the like, ingots and other primary forms, tubes, pipes, hollow profiles, pipe fittings of iron or steel (671-672-679), power-generating machinery and equipment and machinery specialised for particular industries (71-72), machine tools except parts (731-733-737), general industrial machinery and equipment, n.e.s. (74), office machines and automatic data-processing machines (75), telecommunications and sound-recording and reproducing apparatus and equipment (76), electrical machinery, apparatus and appliances, n.e.s., and electrical parts (77), road vehicles (including air-cushion vehicles) (78), other transport equipment (79), sanitary, plumbing and heating fixtures and fittings, n.e.s. (812),</p>
-----------------------------	--

	<p>professional, scientific and controlling instruments and apparatus, n.e.s. (87), photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks (88) and miscellaneous manufactured articles, n.e.s. (89).</p> <p><i>Source: data are compiled from the UN database Comtrade (exports of goods).</i></p>
Exports of environmental goods as % of all exports of goods	<p>Intra- and extra-EU-27 exports of goods from ‘eco-industries’ divided by total intra- and extra-EU-27 exports of goods (in nominal values).</p> <p>The notion of ‘eco-industry’ refers to sectors whose products measure, prevent, limit, minimise or correct environmental damage. The trade codes considered to cover eco-industry goods are those identified in the Ecorys study on the ‘Competitiveness of the EU eco-industry’ (pages 190/191) of 22 October 2009, carried out for DG Enterprise and Industry.</p> <p><i>Source: European Commission (DG Enterprise and Industry) calculations on the basis of Eurostat/COMEXT data</i></p>
<b>Innovation</b>	
Innovation Union Scoreboard	<p>Composite indicator built on the basis of 24 indicators (0=lowest possible performance, 1=maximum possible performance).</p> <p><i>Source: Innovation Union Scoreboard 2013; European Commission</i></p>
Key enabling technologies (KETs)	<p>KETs are composed of six core technologies: micro-/nanoelectronics, nanotechnology, photonics, advanced materials, industrial biotechnology and advanced manufacturing technologies.</p> <p><i>Source: Calculations by European Commission/ZEW/NIW based on Patstat and UN Comtrade data</i></p>
Public R&D expenditure	<p>The indicator covers all R&amp;D expenditures in the government sector (GOVERD) and the higher education sector (HERD).</p> <p><i>Source: Eurostat</i></p>
R&D performed by businesses (% GDP)	<p>The indicator covers all expenditures for R&amp;D performed within the business enterprise sector (BERD) on the national territory during a given period, regardless of the source of funds.</p> <p>The data on this indicator are gathered by Eurostat which applies the guidelines laid out in the Frascati Manual, the ‘Proposed standard practice for surveys of research and experimental development’ (OECD, 2002).</p> <p>Note: Gross domestic expenditure on R&amp;D is composed of Business enterprise expenditure on R&amp;D, Higher education expenditure on R&amp;D, Government expenditure on R&amp;D and Private non-profit expenditure on R&amp;D.</p>

	<i>Source: Eurostat</i>
Share of non-financial high-growth enterprises	<p>Number of enterprises with average annual growth in employment of 10% or more in the last three years (N, N-1 and N-2), divided by the number of active enterprises of more than 10 employees in year N. Data exclude finance and insurance activities (NACE section K).</p> <p><i>Source : Eurostat; European Commission</i></p>
<b>Industry</b>	
Country share in EU manufacturing	<p>Share of manufacturing value added by Member State in total EU manufacturing value added.</p> <p><i>Source: Eurostat</i></p>
Gross operating surplus in manufacturing as a % of value added	<p>Gross operating surplus equals value added at basic prices minus: compensation of employees, mixed income; and other taxes on Production (net of subsidies on production).</p> <p>(<a href="http://www.oecd-ilibrary.org/sites/9789264067981-en/04/01/index.html?itemId=/content/chapter/9789264075108-16-en">http://www.oecd-ilibrary.org/sites/9789264067981-en/04/01/index.html?itemId=/content/chapter/9789264075108-16-en</a>)</p> <p><i>Source: Eurostat</i></p>
Manufacturing and Construction (as % of GDP at factor costs)	<p>Share of manufacturing and construction in Member States' total value added (based on Gross value added at basic prices).</p> <p><i>Source: Eurostat</i></p>
Manufacturing production indices	<p>The objective of the production index is to measure changes in the volume of output at close and regular intervals, normally monthly. It provides a measure of the volume trend in value added over a given reference period. The production index is a theoretical measure that must be approximated by practical measures.</p> <p>Value added at basic prices can be calculated from turnover (excluding VAT and other similar deductible taxes directly linked to turnover), plus capitalised production, plus other operating income plus or minus the changes in stocks, minus the purchases of goods and services, minus taxes on products which are linked to turnover but not deductible plus any subsidies on products received. The division of production in construction between building construction and civil engineering is based on the classification of types of construction (CC).</p> <p>The reference period is year 2010 and the unit is index or percentage change (%).</p> <p><i>Source: Eurostat, Bureau of Economic Analysis (BEA), Ministry of Economy, Trade and Industry Japan</i></p>
<b>Member States clustering</b>	

Methodology	Member states are classified in clusters with similar performance and trends. The classification is made in three steps:												
	1) Selection of the key output indicators.												
	Coherently with the identified headline output indicators, Member States are evaluated according to six dimensions, two for each of the three output indicators (labour productivity, export and innovation). Two indicators are associated with absolute performance, namely absolute labour productivity and innovation intensity as calculated by the Innovation Union Scoreboard. Four indicators are used to evaluate the trend in Member States performance, on the basis of the evolution of their performance in a five years period, namely variation of: labour productivity, value of export, share of export over GVA, performance in the innovation union scoreboard.												
	2) Evaluation of the performance. Each Member State receive either a positive, a neutral or a negative score for each indicator, calculated as follows:												
	<table><tr><td>Absolute performance indicators:</td><td>Positive score (+1)</td><td>Neutral score (0)</td><td>Negative score (-1)</td></tr><tr><td>Labour productivity</td><td>&gt;120%*EU-28 average</td><td>&lt;120%*EU-28 average but &gt;80%*EU-28 average</td><td>&lt;80%*EU-28 average</td></tr><tr><td>Innovation intensity</td><td>&gt;110%*EU-28 average</td><td>&lt;110%*EU-28 average but &gt;80%*EU-28 average</td><td>&lt;80%*EU-28 average</td></tr></table>	Absolute performance indicators:	Positive score (+1)	Neutral score (0)	Negative score (-1)	Labour productivity	>120%*EU-28 average	<120%*EU-28 average but >80%*EU-28 average	<80%*EU-28 average	Innovation intensity	>110%*EU-28 average	<110%*EU-28 average but >80%*EU-28 average	<80%*EU-28 average
	Absolute performance indicators:	Positive score (+1)	Neutral score (0)	Negative score (-1)									
	Labour productivity	>120%*EU-28 average	<120%*EU-28 average but >80%*EU-28 average	<80%*EU-28 average									
	Innovation intensity	>110%*EU-28 average	<110%*EU-28 average but >80%*EU-28 average	<80%*EU-28 average									
	<table><tr><td>Trend indicators (improving performance):</td><td>Positive score (+1)</td><td>Neutral score (0)</td><td>Negative score (-1)</td></tr><tr><td>All trend indicators</td><td>&gt;0 and &gt;EU-28 average growth</td><td>&gt;0 but &lt;EU-28 average growth</td><td>&lt;0 (negative growth)</td></tr></table>	Trend indicators (improving performance):	Positive score (+1)	Neutral score (0)	Negative score (-1)	All trend indicators	>0 and >EU-28 average growth	>0 but <EU-28 average growth	<0 (negative growth)				
	Trend indicators (improving performance):	Positive score (+1)	Neutral score (0)	Negative score (-1)									
All trend indicators	>0 and >EU-28 average growth	>0 but <EU-28 average growth	<0 (negative growth)										
3) Clustering.													
Member States are classified according to the above scoring and the following methodology:													
<table><tr><td>Cluster</td><td>Performance indicators</td><td>Trend indicators</td></tr><tr><td>“with high and improving competitiveness”</td><td>Sum &gt;0</td><td>Sum &gt;0</td></tr><tr><td>“with modest but improving competitiveness.”</td><td>Sum ≥0</td><td>Sum ≤0</td></tr></table>	Cluster	Performance indicators	Trend indicators	“with high and improving competitiveness”	Sum >0	Sum >0	“with modest but improving competitiveness.”	Sum ≥0	Sum ≤0				
Cluster	Performance indicators	Trend indicators											
“with high and improving competitiveness”	Sum >0	Sum >0											
“with modest but improving competitiveness.”	Sum ≥0	Sum ≤0											

	“with modest but improving competitiveness.”	Sum $\leq 0$	Sum $> 0$ and a positive score for at least two of the three headlines output
	“with modest and stagnating or declining competitiveness”	Sum $< 0$	Sum $\leq 0$ or a positive score for less than two headlines output
<i>Source: Eurostat, WTO</i>			
<b>Input indicators</b>			
<b>Access to finance</b>			
Access to bank lending for SMEs	Score calculated from the Eurobarometer survey data with six indicators expressed as the percentage of respondents to the following questions: Net increase in the need for bank loans in the past six months; Not applying for a loan in the past six months for fear of rejection; Applying for a loan in the past six months but being rejected, or rejecting the offer because of too high costs; Net improvement in the availability of loans in the past six months; Net increase in the size of bank loans in the past six months; Net improved willingness of banks to provide a loan in the past six months. 0 indicates the worst possible situation and 1 the best possible one.  <i>Source: Flash Eurobarometer</i>		
Euro Area interest rate for non-financial corporations	Starting from reference month January 2003, euro area countries report harmonised MFI interest rate (MIR) statistics to the ECB. The aggregated cost of borrowing indicators for non-financial corporations is calculated as a weighted average of rates on short-term and long-term loans, the short-term weights again including also overdrafts.  <i>Source: ECB;</i>  <a href="http://www.ecb.europa.eu/stats/pdf/MIR-Costofborrowingindicators-methodologicalnote.pdf?8728f90f2d44cb441a687bfb1b29a0eb">http://www.ecb.europa.eu/stats/pdf/MIR-Costofborrowingindicators-methodologicalnote.pdf?8728f90f2d44cb441a687bfb1b29a0eb</a>		
Marginal lending facility	Credit facility of the banking Eurosystem which counterparties may use to receive overnight credit from a national central bank at a pre-specified interest rate against eligible assets.  <i>Source: European Central Bank</i>		
Net lending (+) / Borrowing (-) requirement	The ECB defines difference between savings plus net capital transfers on the one hand and gross capital formation on the other hand.  <i>Source: European Central Bank</i>		
SME Access to Finance Index (SMAF)	The SME Access to Finance (SMAF) index provides an indication of the changing conditions of SMEs' access to finance over time for the EU and its Member States. The index is calculated using a baseline of		

	<p>EU 2007=100, and so allows comparison between countries and across time. The base reference of 2007 deliberately provides a baseline before the onset of the financial downturn. The index comprises two main elements or sub-indices, access to debt finance and access to equity finance. These sub-indices are calculated using data from the following sources: European Central Bank (ECB) for debt; European Venture Capital Association (EVCA) and European Business Angel Network (EBAN) for equity; and the EC and ECB's Survey on the Access to Finance of SMEs (SAFE), for both sub-indices. The index is a weighted mean of the sub-indices. The sub-indices themselves are weighted means of the indicators that comprise them, with the indicators 'normalised' to 1. Appropriate values for the weights are defined based on actual volumes, and on the nature and coverage of indicators. In general the index largely reflects the importance of debt finance in the area of access to finance: the debt finance sub-index was set to represent 85% of the SMAF weighting and the equity finance sub-index was set to represent 15% of the SMAF weighting.</p> <p><i>Source: European Commission; SME Access to Finance Index (SMAF)</i></p>
Year-to-year growth of loans to non-financial corporations	<p>Year-to-year growth rate of loans to non-financial corporations is annual growth of the balance sheet item: loans to non-financial corporations where the balance sheet is a financial statement that summarises a company's assets, liabilities and shareholders' equity at a specific point in time. The balance sheet must follow the following formula: Assets = Liabilities + Shareholders' Equity.</p> <p>The sector non-financial corporations consists of institutional units whose distributive and financial transactions are distinct from those of their owners and which are market producers, whose principal activity is the production of goods and non-financial services.</p> <p>The growth rate computations refer to the change of loans in the period (quarter; year) divided by the total stock of loans at the beginning of the period.</p> <p>Data collections are based on a census rather than a sample.</p> <p><i>Source: ECB, Federal Reserve, Bank of Japan</i></p>
<b>Investment, innovation and skills</b>	
Availability of high-speed broadband infrastructure	<p>Percentage of broadband lines with speed above 10 Mbps</p> <p><i>Source: European Commission, DG INFSO Communications Committee Working Document</i></p>
Changes in the annual growth rate of GDP compared to the share of gross fixed capital formation in total GDP	<p>Comparison of the annual growth rate of GDP with the share of gross fixed capital formation (GFCF) in the total GDP (the ratio between GFCF and total GDP). Observed data between 2010 and 2013 have also been compared with the economic forecast produced by DG ECFIN (European Commission). GDP and GFCF have been measured at current</p>

	<p>prices, EUR in the EU-27).</p> <p>Gross domestic product (GDP) is the sum of final uses of goods and services by resident institutional units (final consumption expenditure and gross capital formation), plus exports and minus imports of goods and services. At regional level the expenditure approach is not used in the EU, because there is no data on regional exports and imports.</p> <p>Gross fixed capital formation (GFCF) consists of resident producers' investments, deducting disposals, in fixed assets during a given period. It also includes certain additions to the value of non-produced assets realized by producers or institutional units. Fixed assets are tangible or intangible assets produced as outputs from production processes that are used repeatedly, or continuously, for more than one year.</p> <p>Source: AMECO, ECFIN economic forecast</p>
Evolution of investment components in the EU (index)	<p>Evolution of investment components in the EU is measured by the evolutions of the gross fixed capital formation (GFCF) where GFCF consists of resident producers' investments, deducting disposals, in fixed assets during a given period. It also includes certain additions to the value of non-produced assets realised by producers or institutional units. Fixed assets are tangible or intangible assets produced as outputs from production processes that are used repeatedly, or continuously, for more than one year. Data have been seasonally adjusted and adjusted by working days in millions of national currency, chain-linked volumes; reference year 2005.</p> <p>Source: Eurostat</p>
Gross capital formation except dwellings	<p>Gross fixed capital formation consists of resident producers' acquisitions, less disposals, of fixed tangible or intangible assets. This covers in particular machinery and equipment, vehicles, dwellings and other buildings.</p> <p>Source: Eurostat</p>
Investment	<p>The IHS World Industry Service database defines investment as Capital Expenditure (CapEx). CapEx includes investments made by establishments operating in that sector during the reference year, net of fixed assets sold. The investments covered are those (whether new or used) with a productive life of one year or more. These assets are intended for the use of the establishments' own labour force. Major additions alterations and improvements to existing assets that extend their normal economic life or raise their productivity are also included. This does not correspond exactly to other indicators of investment such as gross fixed capital formation.</p> <p>Source: IHS World Industry Service</p>
Investment in equipment as % of GDP	<p>Gross fixed capital formation at current prices - equipment (UIGEQ; 3 years aggregate) divided by Gross domestic product at current market</p>

	<p>prices (UVGD; 3 years aggregate).</p> <p><i>Source: AMECO, Eurostat</i></p>
Employment in knowledge-intensive activities (manufacturing and services) as % of total employment	<p>Employment in knowledge-intensive activities (manufacturing and services) as a % of total employment where knowledge-intensive activities have been classified by Eurostat:</p> <p>Knowledge-Intensive Activities (KIAs) are defined as economic sectors in which more than 33 % of the employed labour force has completed academic-oriented tertiary education (i.e. at International Standard Classification of Education or ISCED 5 and 6 levels). They cover all sectors in the economy, including manufacturing and services sectors, and can be defined at two and three-digit levels of the statistical classification of economic activities.</p> <p><i>Source: Eurostat, Innovation Union Scoreboard</i></p>
Infrastructure expenditures per inhabitant	<p>Sum of investment and maintenance expenditures on rail, road, inland waterways, maritime ports and airports infrastructure.</p> <p><i>Source: OECD International Transport Forum Statistics</i></p>
Manufacturing employment	<p>Manufacturing employment measures employment expressed in person in private industry subsection manufacturing. Population and employment are auxiliary indicators in the national accounts (macroeconomic indicators, which provide an overall picture of the economic situation and are largely used for economic analysis and forecasting).</p> <p><i>Source: Eurostat, Bureau of Labour (BEA), Ministry of Economy, Trade and Industry Japan</i></p>
Percentage of employees in manufacturing with high educational attainment	<p>Data are calculated from the annual labour force survey using the International Standard Classification of Education (ISCED), levels 5 and 6, i.e. employees in manufacturing with first and second stages of tertiary education.</p> <p><i>Source: Eurostat</i></p>
Difficulties in finding employees with the right skills	<p>Percentage of establishments replying affirmatively to the question 'Does the management encounter any of the following problems at this establishment currently: (i) Difficulties in finding employees with the required skills'.</p> <p><i>Source: Eurofund, 'European Company Survey' 2013</i></p>
Tertiary graduates in mathematics, science and technology per 1000 of population aged 20-29	<p>Number of new science and technology graduates (levels 5 and 6 of the International Standard Classification of Education-ISCED97) divided by 20-29 years old population and then multiplying by 1000.</p> <p>The term 'science' includes the following fields of education (ISCED): life sciences, physical sciences, mathematics, statistics and computing,</p>

	<p>while technology refers to graduates in engineering, manufacturing and construction.</p> <p>The indicator includes new tertiary graduates in a calendar year from both public and private institutions completing graduate and postgraduate studies compared to the age group of 20-29 years old population that corresponds to the typical graduation age in most countries.</p> <p><i>Source: Eurostat</i></p>
<b>Energy and raw materials</b>	
CO2 intensity in industry (including construction) and the energy sector	<p>CO2 emissions in kg per euro of gross value-added (chain-linked volumes, reference year 2005, at 2005 exchange rates).</p> <p>The carbon intensity indicator refers to CO2 emissions in industry (including construction), from industrial processes and from solvent and other product use in industry, and CO2 emissions from energy industries.</p> <p>The relevant categories are: 1.A.1. (Energy Industries) +1.A.2 (Manufacturing Industries and Construction) + 2. (Industrial Processes) + 3 (Solvent and Other Product Use).</p> <p>GVA refers to NACE sections: C (Mining and Quarrying), D (Manufacturing), E (Electricity, Gas and Water Supply) and F (Construction).</p> <p><i>Source: European Environmental Agency for the figures on the CO2 emissions. Eurostat for the figures regarding GVA.</i></p>
Electricity prices for medium size enterprises excluding VAT (euro per kWh)	<p>Average half-yearly electricity national price in euro per kWh excluding taxes, applicable for medium-sized industrial consumers (annual consumption between 500 and 2000 MWh). The indicator does not cover small enterprises for reasons of data availability, nor large enterprises, since the latter often have individual contracts with energy providers. Prices refer to the second half of the year.</p> <p><i>Source: Eurostat</i></p>
Electricity intensity in industrial sectors of the EU	<p>Electricity intensity is the ratio between the gross inland consumption of electricity (in MWh) by industries, and Gross Domestic Product (GDP) calculated for a calendar year.</p> <p><i>Source:</i></p>
Energy intensity in industry (including construction) and the energy sector	<p>Energy consumption in kg of oil equivalent per euro of gross value-added (chain-linked volumes, reference year 2005, at 2005 exchange rates).</p> <p>Due to data availability and to the structure of the Eurostat database on energy and national accounts and of European Economic Area greenhouse gas inventories, the indicators of energy and carbon intensity</p>

	<p>include a broader, consistent definition of industry and provide information for all Member States (with the exception of Malta) for the most recent available year. Both aggregates (energy consumption and emissions) are related to the consistent gross value added data at constant prices (2005 as the reference year).</p> <p>For ease of comparability between sectors and countries, energy intensity is measured as the ratio between consumption and total gross value added in the energy sector and industry (including construction and the non-energy sector). In particular, energy intensity calculations refer to final energy consumption in industry (including construction), final non-energy consumption (i.e. for chemical reduction activities) and consumption in the energy sector.</p> <p>Energy consumption refers to: B_101800 Final energy consumption in industry (including construction) + B_101600 Final Non-energy consumption + B_101300 Consumption in Energy Sector.</p> <p>GVA refers to NACE sections C: Mining and Quarrying, D: Manufacturing, E: Electricity, Gas and Water Supply and F: Construction.</p> <p><i>Source: Eurostat ('environment and energy' and 'national accounts')</i></p>
Environment Protection Expenditures in industry (% of GDP)	<p>The Classification of Environmental Protection Activities (CEPA 2000) distinguishes nine environmental domains: protection of ambient air and climate; wastewater management; waste management; protection and remediation of soil, groundwater and surface water; noise and vibration abatement; protection of biodiversity and landscape; protection against radiation; research and development and other environmental protection activities. Industry excludes recycling.</p> <p><i>Source: Eurostat</i></p>
Licence and patent revenues from abroad as % of GDP	<p>The export part of international transactions in royalties and licence fees.</p> <p><i>Source: Eurostat, Innovation Union Scoreboard</i></p>
<b>Access to markets, infrastructure and services</b>	
OECD indicators of product market regulation / services	<p>The OECD Indicators of Product Market Regulation measure the degree to which policies promote or inhibit competition in selected markets. The database includes both economy-wide indicators as well as indicators on regulation in key network and services sectors. The values range from 0 (least restrictive) to 6 (most restrictive). Data is available for 1998, 2003, 2008 and 2013, but not all years are available for all countries.</p> <p>Source: OECD; Product Market Regulation Database; <a href="http://www.oecd.org/economy/pmr">www.oecd.org/economy/pmr</a></p>
Satisfaction with quality of	Average mark given by business executives in a World Economic

infrastructure	<p>Forum survey to the quality of rail, roads, ports and airports (1 = underdeveloped; 7 = extensive and efficient by international standards).</p> <p><i>Source: Global Competitiveness Report 2013-14 of the World Economic Forum.</i></p>
Services in the overall economy	<p>Share of economic sectors in total gross value added (at basic prices) belonging to the NACE categories: A+B; C+D+E; F; G+H+I; J; K; L+M+N+O+P+Q</p> <p><i>Source: Eurostat, National Accounts</i></p>
<b>Public administration and business environment</b>	
Business environment score	<p>Score calculated from World Bank Doing Business data with seven indicators: Starting a business, Dealing with construction permits, Registering property, Getting credit, Protecting investors, Enforcing contracts and Resolving insolvency. Each indicator is normalised to a figure between 0 and 1, where 0 is the worst possible Member State performance and 1 the best one. The country score for a given year is a simple average of the seven figures.</p> <p><i>Source: World Bank Doing Business</i></p>
Legal and regulatory framework	<p>Average evaluation (0 = negative; 10 = positive) of the statement ‘The legal and regulatory framework encourages the competitiveness of enterprises’ in an IMD survey of businesspeople.</p> <p><i>Source: IMD (International Institute for Management Development)</i></p>
Licenses	<p>The indicator measures the time (in days) required to obtain licenses following the Commission’s methodology and models, i.e.: the licences required for 5 ‘benchmark’ model companies: Hotel with a restaurant, Plumbing company, Wholesale or retail distributor, Manufacturer of steel products, Manufacturer of small IT devices.</p> <p><i>Sources: Graph adapted by the European Commission based on the study ‘Business Dynamics: Start-ups, Business Transfers and Bankruptcy’, Final Report, January 2011</i></p>
Number of hours needed to comply with tax return rules across the EU	<p>Time is recorded in hours per year. The indicator measures the time taken to prepare, file and pay three major types of taxes and contributions: the corporate income tax, value added or sales tax, and labour taxes, including payroll taxes and social contributions.</p> <p><i>Source: PWC Paying Taxes 2014</i></p>
Performance in business environment indicators	<p>Calculation made on the basis of World Bank Doing Business data with seven indicators: Starting a business, Dealing with construction permits, Registering property, Getting credit, Protecting investors, Enforcing contracts and Resolving insolvency.</p> <p><i>Source: World Bank Doing Business 2013</i></p>

Time and cost to start up a company	<p><b>Time:</b></p> <p>The measure of time for start-up procedures includes all steps necessary from the entrepreneur's submission of the official application to start the registration procedure until the company is in possession of all the legal permits, certifications and documentation to be fully operational. Advice, training and support in for drafting business plans or any other support service that may be provided is not to be considered part of the administrative procedure unless it is an integral part of the registration process.</p> <p><b>Cost:</b></p> <p>The cost of setting up a company must include all the fees and costs associated with the procedures referred to in the previous point plus any certificates from third parties that are required for the registration process. It will not include any form of capital that the company may be required to set aside as long as these funds remain in the possession of the future firm.</p> <p><i>Source: European Commission;  <a href="http://ec.europa.eu/enterprise/policies/sme/files/support_measures/start-ups/sec_2007_129_en.pdf">http://ec.europa.eu/enterprise/policies/sme/files/support_measures/start-ups/sec_2007_129_en.pdf</a></i></p>
Time taken for payments by public authorities	<p>Effective payment duration in days.</p> <p><i>Source: European Payment Index by Intrum Justitia</i></p>
<b>Public administration scoreboard</b>	
<i>Governance, rule of law and corruption</i>	
Government effectiveness	<p>The Worldwide Governance Indicators summarise information from 30 existing data sources on views and experiences of citizens, businesspeople and experts in the public, private and NGO sectors. Government effectiveness captures perceptions of the quality of the public service, its degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (scale 0 to 100, 100 = best).</p> <p><i>Source: World Bank Worldwide Governance Indicators (2013; 2009)</i></p>
Corruption	<p><b><i>Diversion of public funds</i></b></p> <p>The indicator is based on the weighted average score of the following Executive Opinion Survey question: 'In your country, how common is diversion of public funds to companies, individuals, or groups due to corruption? (1 = very common; 7 = never occurs)'.</p> <p><i>Source: World Economic Forum, Global Competitiveness Report (2013-2014; 2008-2009)</i></p>

	<p><b><i>Irregular payments and bribes</i></b></p> <p>The indicator is based on the weighted average score across the five components of the following Executive Opinion Survey question: ‘In your country, how common is it for firms to make undocumented extra payments or bribes connected with (a) imports and exports; (b) public utilities; (c) annual tax payments; (d) awarding of public contracts and licences; (e) obtaining favourable judicial decisions. In each case, the answer ranges from 1 (very common) to 7 (never occurs)’.</p> <p><i>Source: World Economic Forum, Global Competitiveness Reports</i></p>
<b><i>Capacity</i></b>	
Public finances	<p><b><i>Quality of medium-term budgetary frameworks</i></b></p> <p>The index on the quality of medium-term budgetary frameworks takes into account both the existence and properties of national medium-term budgetary frameworks and the preparation and status of Stability and Convergence Programmes. The index captures the quality of the medium-term budgetary framework through five criteria: (i) existence of a domestic medium-term framework, (ii) connectedness between the multi-annual budgetary targets and the preparation of the annual budget, (iii) involvement of national parliaments in the preparation of the medium-term budgetary plans, (iv) existence of coordination mechanisms between general government layers prior to setting the medium-term budgetary targets for all government tiers, and (v) monitoring and enforcement mechanisms of multi annual budgetary targets.</p> <p><i>Source: European Commission</i></p> <p><b><i>Government investment as a share of total government expenditures</i></b></p> <p>Total general government expenditure is defined in ESA-95 §8.99 by reference to a list of categories: intermediate consumption, gross capital formation, compensation of employees, other taxes on production, subsidies, payable property income, current taxes on income, wealth, etc., social benefits, some social transfers, other current transfers, some adjustments, capital transfers and transactions on non-produced assets. General government investment comprises: (i) gross fixed capital formation; and (ii) capital transfers. General government gross fixed capital formation (ESA95 code P.51) consists of resident producers' acquisitions, less disposals of fixed assets during a given period plus certain additions to the value of non-produced assets realised by the productive activity of government producer or units. Fixed assets are tangible or intangible assets produced as outputs from processes of production that are themselves used repeatedly, or continuously, in processes of production for more than one year. Capital transfers (D.9) involve the acquisition or disposal of an asset, or assets, by at least one of the parties to the transaction. Whether made in cash or in kind, they should result in a commensurate change in the financial, or non-financial, assets shown in the balance sheets of one or both parties to the</p>

	<p>transaction. Adjustments for taxes assessed but never collected are recorded as negative revenue (D.995).</p> <p><i>Source: Eurostat</i></p>
Strategic thinking and implementation capacity	<p><b><i>Strategic capacity</i></b></p> <p>The ‘strategic capacity’ indicator is based on qualitative assessment by country experts based on a standardised survey in which the two aspects — influence of strategic planning and scholarly advice — are weighted on a unified scale between 10 (applicable) and 1 (not applicable).</p> <p><i>Source: Bertelsmann Stiftung, Sustainable Governance Indicators</i></p> <p><b><i>Effective implementation</i></b></p> <p>The indicator is based on qualitative assessment by country experts based on a standardised survey in which the sophistication of the seven aspects is weighted on a unified scale between 10 (applicable) and 1 (not applicable). The seven aspects are government efficiency, ministerial compliance, monitoring of line ministries, monitoring of agencies and administrations, task funding, constitutional discretion and the existence of standards of public services.</p> <p>Survey questions:</p> <ul style="list-style-type: none"> <li>– To what extent can the government achieve its own policy objectives?</li> <li>– To what extent does the organisation of government provide incentives to ensure that ministers implement the government’s programme?</li> <li>– How effectively does the government office/prime minister’s office monitor line ministry activities with regard to implementation?</li> <li>– How effectively do federal and subnational ministries monitor the activities of bureaucracies/executive agencies with regard to implementation?</li> <li>– To what extent does the central government ensure that tasks delegated to subnational self-governments are adequately funded?</li> <li>– To what extent does central government ensure that subnational self-governments may use their constitutional scope of discretion with regard to implementation?</li> <li>– To what extent does central government ensure that subnational self-governments realise national standards of public services?</li> </ul>

	<i>Source: Bertelsmann Stiftung, Sustainable Governance Indicators</i>
Quality of the regulatory framework	<p><b><i>Utilisation of evidence-based instruments</i></b></p> <p>The indicator is based on qualitative assessment by country experts based on a standardised survey in which the sophistication of the three aspects is weighted on a unified scale between 10 (applicable) and 1 (not applicable). The three aspects are: the application of the regulatory impact assessment (RIA) in general; the quality of the RIA process, which should respect a number of criteria such as participation of relevant stakeholders, transparent communication of RIA results to the public, and evaluation of the RIA process by an independent body on a regular basis; and the conduct of effective sustainability checks within the framework of the RIA.</p> <p><i>Source: Bertelsmann Stiftung, Sustainable Governance Indicators</i></p>
<b><i>Enterprise -friendly design in key areas</i></b>	
The use of information and communication technology: from document-centric to data-centric administrations	<p><b><i>User-centricity of e-government services to start a company</i></b></p> <p>The user-centric e-government indicator (ranging from 0 to 100) measures the availability of e-government services, their connectedness and their user-friendliness through a user journey approach using the concept of life event (well defined user need).</p> <p><i>Source: European Commission</i></p> <p><b><i>User-centricity of e-government services for regular business operations</i></b></p> <p>The user-centric e-government indicator (ranging from 0 to 100) measures the availability of e-government services, their connectedness and their user-friendliness through a user journey approach using the concept of life event (well defined user need).</p> <p><i>Source: European Commission</i></p>
Starting a business and obtaining licences	<p><b><i>Time required to start a company (in days)</i></b></p> <p>Calculation methods can be found in document in SEC (2007) 129.</p> <p><i>Source: European Commission, based on information provided by Member States.</i></p> <p><b><i>Cost required to start a company (in EUR)</i></b></p> <p><i>Source: European Commission, based on information provided by Member States. Calculation methods in SEC (2007) 129.</i></p> <p><b><i>Average number of days it takes to obtain licences in Europe</i></b></p> <p>This indicator is based on aggregated data concerning licences required to open five different activities: manufacture of steel products;</p>

	<p>manufacture of small IT devices; a hotel with a restaurant; a plumbing company; and wholesale or retail distributor. From the pilot survey 'Business Dynamics: Start-ups, Business Transfers and bankruptcy', January 2011. The survey was carried out in 2010 with a limited number of respondents (two in the case of Malta), which may have skewed the results. An extended survey is being carried out in 2014.</p> <p><i>Source: European Commission</i></p>
Public procurement	<p><b><i>Government procurement as a driver of business innovation</i></b></p> <p>Based on the replies to the question: 'Has your company been involved in the public procurement of innovative solutions since January 2011?'</p> <p><i>Source: Flash Eurobarometer 394.</i></p> <p><b><i>Payment times for public authorities</i></b></p> <p>Average time taken in payments from public authorities (in days)</p> <p><i>Source: Intrum Justitia</i></p>
Tax compliance	<p><b><i>Number of hours needed to comply with tax return rules across the European Union</i></b></p> <p>Time is recorded in hours per year. The indicator measures the time taken to prepare, file and pay three major taxes and contributions: the corporate income tax, value added or sales tax, and labour taxes, including payroll taxes and social contributions.</p> <p><i>Source: World Bank Doing Business</i></p>
Trade facilitation and customs administration	<p><b><i>Time it takes to export (in days)</i></b></p> <p>The time needed for export is measured in calendar days. The time calculation for a procedure starts from the moment it is initiated and runs until it is completed. If a procedure can be accelerated for an additional cost and is available to all trading companies, the fastest legal procedure is chosen.</p> <p><i>Source: World Bank Doing Business</i></p>
	<p><b><i>Cost of exporting</i></b></p> <p>Cost measures the fees levied on a 20-foot container in U.S. dollars. All the costs associated with completing the procedures required to export goods are taken into account. These include the costs for documents, administrative fees for customs clearance and technical checks, customs broker fees, terminal handling charges and inland transport.</p> <p><i>Source: World Bank Doing Business Report</i></p>
Efficiency of civil justice	<p><b><i>Time needed to enforce a contract (days)</i></b></p>

	<p>Time is recorded in calendar days, counted from the moment the plaintiff decides to file the lawsuit in court until payment. This includes both the days when actions take place and the waiting periods between.</p> <p><i>Source: World Bank Doing Business</i></p>
	<p><b><i>Cost of enforcing a contract (% of claim)</i></b></p> <p>Cost is recorded as a percentage of the claim, assumed to be equivalent to 200% of income per capita. No bribes are recorded. Three types of costs are recorded: court costs, enforcement costs and average attorney fees. Court costs include all court costs that Seller (plaintiff) must advance to the court, regardless of the final cost to Seller. Enforcement costs are all costs that Seller (plaintiff) must advance to enforce the judgment through a public sale of Buyer's movable assets, regardless of the final cost to Seller. Average attorney fees are the fees that Seller (plaintiff) must advance to a local attorney to represent Seller in the standardized case</p> <p><i>Source: World Bank Doing Business</i></p>
	<p><b><i>Time to resolve insolvency (years)</i></b></p> <p>Information is collected on the sequence of procedures and on whether any procedures can be carried out simultaneously. The period of time is measured from the company's default until the payment of some or all of the money owed to the bank. Potential delay tactics by the parties, such as the filing of dilatory appeals or requests for extension, are taken into consideration.</p> <p><i>Source: World Bank Doing Business</i></p>

## 4.2 Methodological note on the graphs in the country chapters

---

### *Introductory graph*

The graphs combining data for each country  $C$  are intended to show all the chosen competitiveness indicators so that for a given indicator  $I$ , the least performing country  $C1$  receives a score of zero and the best performing country  $C2$  receives a score of 1. Hence the country graphs will show a normalised indicator:

$$I'(C) = \frac{(I(C) - I(C1))}{(I(C2) - I(C1))}$$

For example, take  $I$ = labour productivity per hour worked and  $C$ = Germany. Then  $I(C)$ = 123.9 in 2012,  $I(C1)$ = 46.2 and  $I(C2)$ = 183.9 thus  $I'(C)$ =0.6.

The calculation is generally presented for 2008 and 2013 or the nearest available dates.

### *The graph on the overall profile of public administration*

The same method as above is used for each variable in this graph, although only for one year (the latest available).