COUNCIL OF THE EUROPEAN UNION

Brussels, 18 October 2012

15168/12
ADD 2

IND 164
COMPET 634
RECH 379
ESPACE 45
TRANS 344
ENER 415
REGIO 110
ECOFIN 859
MI 643
EDUC 304

COVER NOTE

from:	Secretary-General of the European Commission, signed by Mr Jordi AYET PUIGARNAU, Director
date of receipt:	11 October 2012
to:	Mr Uwe CORSEPIUS, Secretary-General of the Council of the European Union
No Cion doc.:	SWD(2012) 298 final Part 1/4
Subject:	Commission Staff Working Document "Industrial Performance Scoreboard and Report on Member States' Competitiveness Perfomance and Policies - Part 1" accompanying the document "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - A Stronger European Industry for Growth and Economic Recovery - Industrial Policy Communication Update"

Delegations will find attached Commission document SWD(2012) 298 final Part 1/4.

Encl.: SWD(2012) 298 final Part 1/4

EUROPEAN
COMMISSION

Brussels, 10.10.2012
SWD(2012) 298 final

COMMISSION STAFF WORKING DOCUMENT

Industrial Performance Scoreboard and Report on Member States' Competitiveness Performance and Policies - Part 1 -

Accompanying the document

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions

A Stronger European Industry for Growth and Economic Recovery
Industrial Policy Communication Update

{COM(2012) 582 final}
{SWD(2012) 297 final}
{SWD(2012) 299 final}

CONTENTS

1. Industrial performance scoreboard 3
   1.1. Introduction 3
   1.2. Overall performance 5
   1.3. Productivity and skills 7
   1.4. Export performance 9
   1.5. Innovation and sustainability 12
   1.6. Business environment and infrastructure 16
   1.7. Finance and investment 20
   1.8. Annex: Performance of Member States 23
2. Overview of progress by broad policy area 28
   2.1. Introduction 28
   2.2. Innovative industrial policy 28
   2.3. Sustainable industry 36
   2.4. Business environment 41
   2.5. Improving the quality of public administration 50
3. Country chapters 63
   3.1. Belgium 63
   3.2. Bulgaria 71
   3.3. Czech Republic 77
   3.4. Denmark 84
   3.5. Germany 90

1. INDUSTRIAL PERFORMANCE SCOREBOARD

1.1. Introduction

A diversified economy that combines well-performing industries and services sector with a favourable business environment is the best basis for sustainable growth and the creation of jobs. Although the share of industry in the EU economy has declined in the last decade, the importance of manufacturing has not diminished, owing to its growing interdependence with the services sectors. While services have become vital inputs in manufacturing processes, many services sectors depend on industries that produce the equipment and hardware they use. Increasingly complex value chains that combine products and services, and changing production methods that emphasise mass customisation and closeness to the market are creating new opportunities for European industry and services. European industry should be able to quickly seize these opportunities to achieve the Europe 2020 goal of smart, sustainable and inclusive growth.

However, the business environments of Member States need to be flexible and ready for change to benefit from these developments. Looking at the Member States through a series of indicators illustrates the variation in their industrial performance, and makes it clear that there is scope for improvement through structural reform at national level. To facilitate reform and policy learning, this scoreboard focuses on five areas: productivity in manufacturing; export performance; innovation and sustainability; business environment and infrastructure; and finance and investment.

Productivity and skills. Whilst total productivity is the function of different production inputs, the quality of human resources and the skill levels of the workforce have been a strong comparative advantage of the European economy relative to the rest of the world. A well-qualified and skilled workforce leads to high labour productivity, which in turn has been the key transmission mechanism for growth throughout industrialised countries. Hence increasing the level of skills is the key to increased labour productivity and the continued success of European industry. This holds especially true for the most advanced economies at the productivity frontiers. At the same time, in particular the catching-up countries can boost their productivity by the use of advanced technology based on foreign direct investment.

Export performance. Exports are a key source of growth and serve as an indicator of an economy's performance in price, technological or structural competitiveness. Some Member States are successful global exporters of manufactured goods, some are more specialised in intra-EU trade and others have economies dominated by services. The European value chains that have evolved due to the Single Market and enlargement have contributed to the success of EU exports.[1] The EU remains the largest exporter of goods and services in the world and has broadly managed to hold a share of 20% of global exports (excluding energy) – despite the rise of China. Some Member States are performing better than others. Price competitiveness and ongoing industrial restructuring help boost exports of the catching-up Member States. Mature economies tend to benefit from technological competitiveness and structural shifts toward knowledge-intensive sectors.

Innovation and sustainability. In the long run, innovation capacity is a key driver of growth. Successful investment in research and innovation can boost productivity and the competitiveness of European businesses. At the same time, improved innovation performance facilitates structural change in Member States' economies towards economic activity with high added value.

A transition towards a sustainable, resource-efficient economy is instrumental for maintaining the long-term competitiveness of Member States. Energy efficiency can reduce the impact on industrial competitiveness of volatile energy prices on the world market. Over the last decade, many Member States have significantly improved their energy efficiency and have been able to grow without consuming more energy. However, wide differences in energy intensity persist, indicating potential for improvement. Investment in the development, production and purchase of goods and services needed for the greening of the economy indicates how extensive such investments are in an economy.

Business environment and infrastructure. The business environment influences the decisions taken by enterprises. Lack of red tape, an efficient public administration and judicial system, transparent legislation, and good physical and digital infrastructure contribute to the productivity and growth of enterprises by allowing them to seize opportunities and by reducing costs. New business activity benefits from an easy start-up environment, competition-promoting regulation, easy access to finance, and open trade. Overall, a business-friendly environment helps to create growth and jobs by increasing firms' chances of success and by improving Member States' attractiveness for investment. Competitive energy markets facilitate

[1] Commission Staff Working Document 'External Sources of Growth: Progress Report on EU Trade and Investment Relationships with key Economic Partners', SWD(2012)219 final, 18.7.2012.

cost-efficient production, as energy is an essential input for all firms. However, the internal market in electricity is still incomplete. A well-performing transport infrastructure is also crucial to run any business efficiently.

Finance and investment. A crucial ingredient in allowing businesses to grow and create new jobs is easy access to finance. Whilst macroeconomic and banking sector stability plays a crucial role in the supply of credit, the viability and growth prospects of businesses affect their capability to attract venture capital and other investors. European enterprises tend to be under-capitalised and have traditionally been heavily dependent on bank loans. The recession and the turmoil in the banking sector have affected business investment in equipment.

The scoreboard indicators

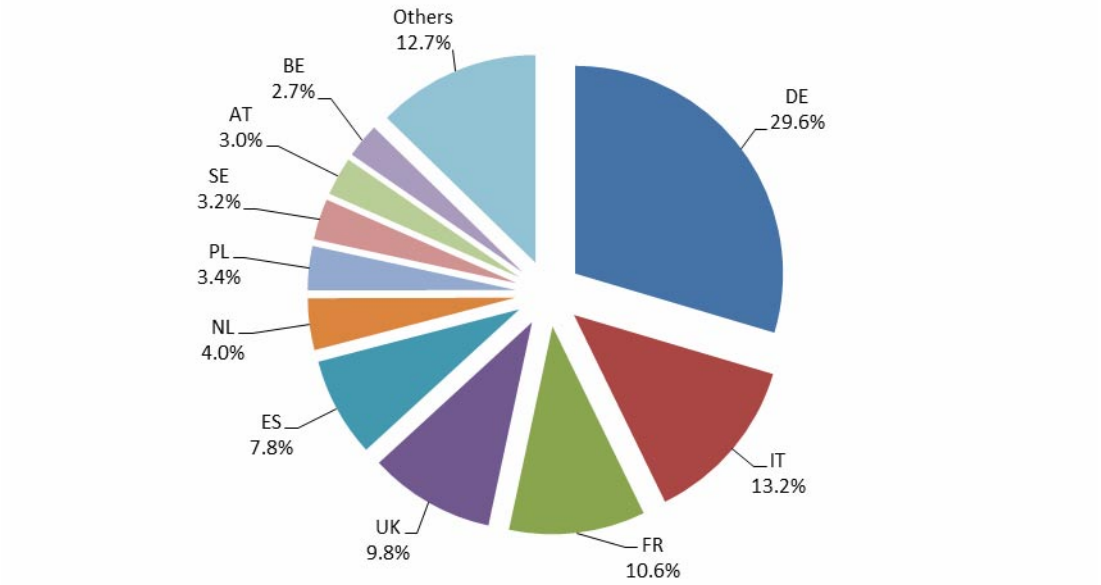
The industrial performance scoreboard has indicators in five areas: productivity and skills; export performance; innovation and sustainability; business environment and infrastructure; and finance and investment. Taking into account these areas, the basis for the scoreboard were the 30 or so indicators that are monitored in the report *Member States' Competitiveness Performance and Policies*, out of which **a representative set** of ten individual policy indicators was selected. The selection was based on the following criteria: (i) they are closely related to policy instruments and the economic reform agenda; (ii) they are available on a reasonably timely basis; (iii) there is (almost) full country coverage; (iv) there is a time series available for the last five or so years, so that a country can be compared with its own past performance.

1. Overall industry performance can be gauged through **manufacturing productivity.**
2. The quality of the workforce in the manufacturing sector is assessed by **educational attainment**.
3. The **share of exports** in GDP published by Eurostat is an indication of the openness of the economy, with high-tech exports and eco-innovation exports reflecting specific aspects of export performance.
4. For **innovation performance**, the main indicator is the innovation index published annually in the Innovation Union Scoreboard (IUS), drawing together the overall innovation performance.
5. For sustainability, **energy intensity** in industry and the energy sector is used.
6. For **business environment** and infrastructure, the goal is to measure improvements in the business environment and efforts towards better regulation. An overall business environment score has been calculated by the Commission, based on the annual survey data of the World Bank.
7. **Electricity prices** (excluding VAT) for small and medium-sized enterprises, published by Eurostat, represent one of the most significant costs of inputs and therefore directly affect industry competitiveness.
8. Enterprises need modern and efficient transport networks to operate. Business **satisfaction with infrastructure** (rail, road, port and airport) is recorded by an annual indicator published in the Global Competitiveness Report.
9. **Bank lending** is still by far the main source of access to finance for SMEs and, therefore, a score for access to bank lending has been calculated by the Commission.
10. Business **investment in equipment** is an indicator of how well businesses can keep up their manufacturing capability over a period of time.

1.2. Overall performance

As industrial structures vary considerably across the EU, the Member States have been following different paths towards a more knowledge-intensive economy. Accounting for more than 70% of total manufacturing output, the five biggest economies markedly affect the EU's overall industrial performance (see figure 1.1).

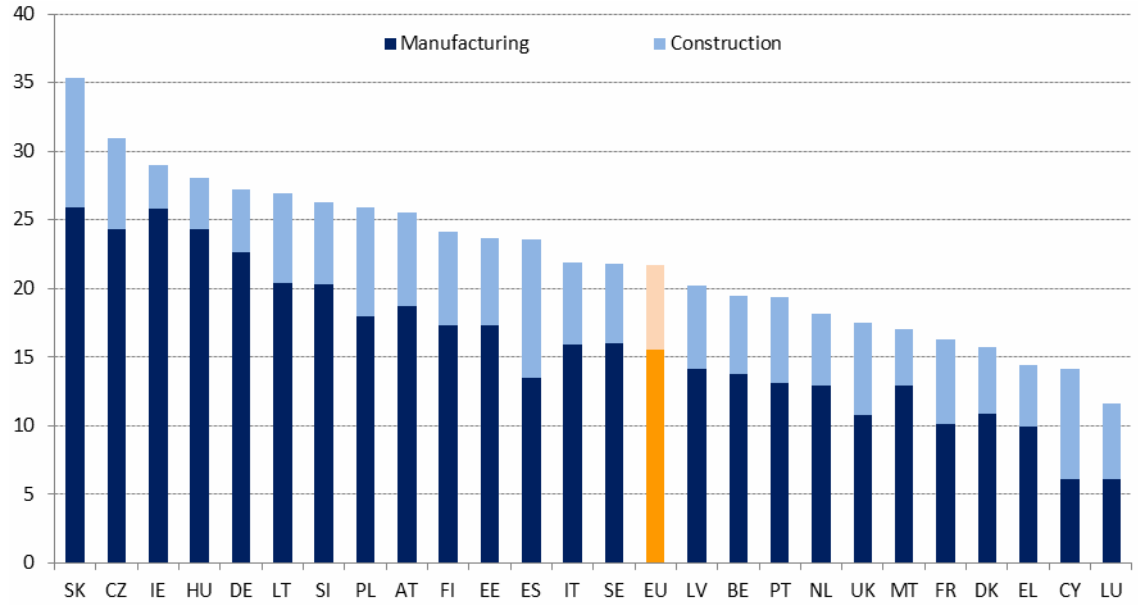
Figure 1.1: Country share in EU manufacturing (2011)



Source: Eurostat

Manufacturing is an important part of the Member State economies (see figure 1.2). It should be noted that in addition to manufacturing, mining and energy activities contribute more to value added in some Member States than in others. In Poland, Slovakia and the Czech Republic mining and energy account for over 6% of total value added, whereas in Malta, Ireland, France and Italy this contribution is between 1% and 2.5%.

Figure 1.2: Manufacturing and construction in Member State economies (as % of GDP at factor cost; 2011)



Note: LU (2010)
Source: Eurostat; LU (STATEC)

Over one third of the inputs in manufacturing production are business-related services, which are therefore an important contributor to the competitiveness of industry. About one sixth of total output of the business-related service sector goes directly to manufacturing. Business services include network industries (energy, telecommunication, transport), distributive trade and others (including consulting, engineering, research and development, and information technology services).

Looking at the overall performance of the Member States, it is clear that policy decisions over long periods of time have created business environments that are specific to each country. Nevertheless, based on clustering the key characteristics of the Member States as identified by the indicators of the scoreboard, three main groups emerge.

The '*consistent performers*' are: Germany, Denmark, Finland, Sweden, Austria, Ireland, the Netherlands, the United Kingdom, Belgium and France. Their industries are dominated by technologically advanced firms and their workforces are highly skilled. Their research and innovation systems perform well over a number of indicators. For example, strong public-private collaboration helps the commercialisation of technological knowledge. Their innovation capacity, high labour productivity and moderate wage increases make high-value exports competitive in third-country markets. A mostly friendly business environment, access to finance and good infrastructure further enhance the productivity of enterprises. Moves towards high-value production have helped many of these countries to reduce their energy intensity and benefit from the opportunities presented by the greening of industries. Performing very well against all these competitiveness criteria, in particular Germany, Denmark, Finland, and Sweden appear to have the most competitive industrial economies in the EU. With a growing competitiveness gap, France appears at the lower end. Nevertheless, variations in their relative performance show that all economies in this group still have room for improvement.

The group of '*uneven performers*' comprises Estonia, Slovenia, Spain, Italy, Portugal and Greece, along with Malta, Cyprus and Luxembourg. These countries tend to show uneven performance, good against some criteria, but below the average on others. Manufacturing sectors in Spain, Italy and Greece benefit from relatively good levels of labour productivity. Italy's industry belongs among the most energy-efficient. In several aspects, for xample Portugal has a friendly business environment. On the other hand, difficulties in accessing finance, further aggravated by bad payment behaviour of public authorities, pose a serious challenge for SMEs in these countries. Malta, Cyprus and Luxembourg are strong in exports of high-tech and environmental goods, have good domestic infrastructure, but businesses in particular in the first two are dragged down by high electricity prices. Most countries in this group also have in common weaker research and innovation systems and some severe constraints related to the business environment, although in each country there are examples of innovative internationally successful companies or even clusters. This uneven performance does not, however, enable the synergy of the essential competitiveness ingredients to be reaped, and as a result, hinders to lesser or greater extent the modernisation and growth prospects of their economies. Particularly worrying in this respect has been the continuous stagnation or deterioration in some measures of competitiveness in Spain, Italy, Portugal and Greece.

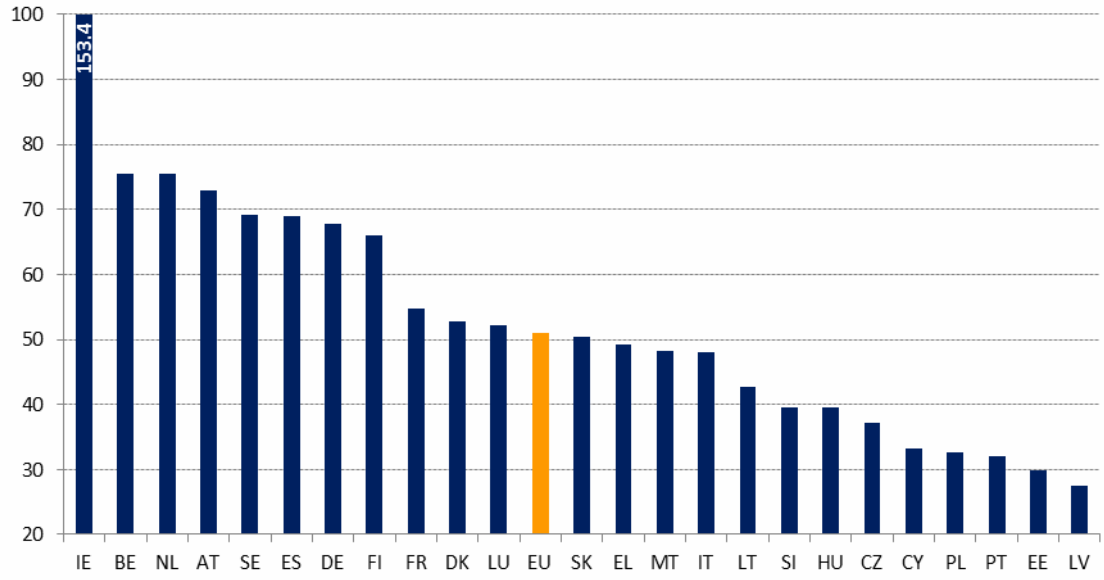
The '*catching-up*' group consists of Bulgaria, Romania, the Czech Republic, Poland, Hungary, Slovakia, Latvia and Lithuania. These countries face significant challenges, as their move towards more knowledge- and skills-oriented industries is hampered by weak innovation capacity and knowledge transfer. In spite of improvement, their resource efficiency is still low, in particular in the case of Bulgaria and Romania. The business environment is particularly difficult, with clear problems related to the transparency and efficiency of public administration, for instance when setting up a business, registering property, protecting investors, and dealing with insolvency. Businesses in these countries are also particularly unsatisfied with domestic infrastructure. Only Polish enterprises do not have significant problems in accessing finance. Although they have substantial relative strengths in several areas, each economy in this group has considerable scope for improvement. However, there are clear signs that the catch-up process in these countries has been fairly brisk on many competitiveness criteria, enabling them to further narrow down their gap with the most advanced economies.

1.3. Productivity and skills

1.3.1. Labour productivity

Total output depends on the quantity and quality of production factors and how efficiently they are combined. Almost all of the average growth in real output per capita in the past four decades has been determined by labour productivity growth. Productivity growth depends on innovation, research and development spending, and technology dynamism and diffusion, which in turn are influenced by institutional factors, such as regulations and preferences. Ultimately labour productivity captures the improvements in all the dimensions of competitiveness. However, for countries to fully benefit from investment in innovation and technological progress, structural reforms have to provide a fertile environment that allows firms to profit from these investments.

Figure 1.3: Labour productivity in manufacturing



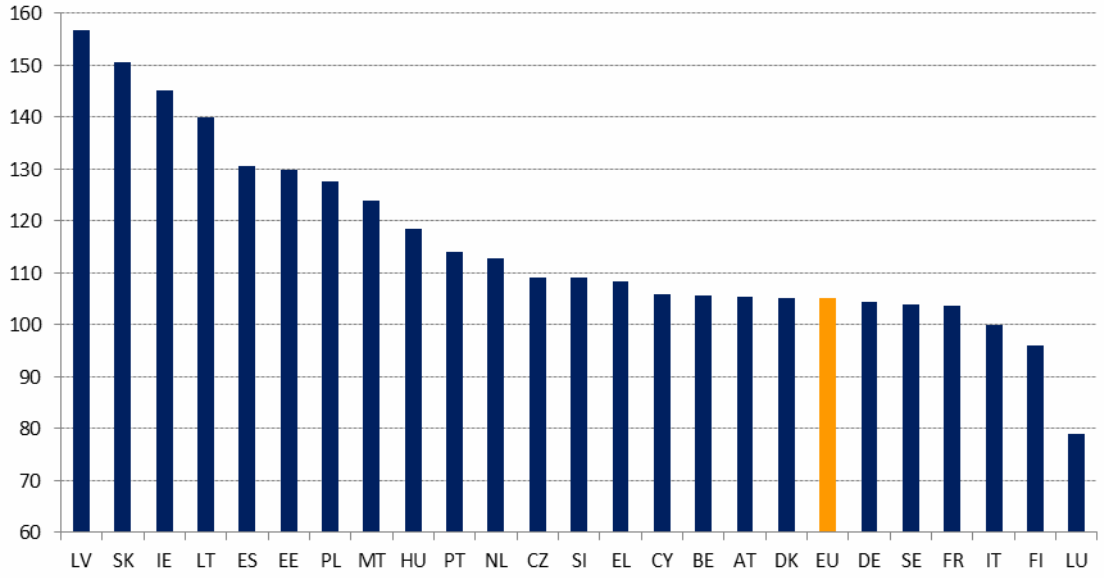
Note: Luxembourg, Ireland and EU average are for 2010; data for Bulgaria, Romania and the UK is not available.
Source: Eurostat (except for LU STATEC); expressed as gross value added, in 1 000 PPS/employee, 2011.

Labour productivity in manufacturing is very high in Belgium, the Netherlands, Austria, Sweden, Spain, Germany and Finland, reflecting their relative specialisation in highly knowledge-intensive manufacturing and their production systems equipped with modern technology (see figure 1.3). The high productivity of Ireland[2] is also affected by the operations of foreign multinationals and their activities undertaken outside the country. Manufacturing plays a smaller role in France's economy and its productivity is slightly lower than the best performers, reflecting an industrial structure that is less specialised in high innovation sectors. Italy has a large manufacturing sector, although with productivity only around the EU average, mainly due to its specialisation in less technology-intensive sectors, small firm size, and a backlog in implementing structural reforms in education systems, competition and product market regulations. This also holds for the Greek economy, which is dominated by services, and whose manufacturing is strongly specialised in food processing.

Between 2006 and 2011, labour productivity in manufacturing improved in most Member States (see figure 1.4). In contrast, Finland experienced an unprecedented drop in productivity, mainly due to the contraction in production and R&D activity of its large ICT sector. Overall, advanced economies tend to record smaller increases in productivity in line with long-term improvements in total-factor productivity. On the other hand, for countries that are more distant from the technology and productivity frontier, there is potential for major leaps forward. For instance Slovakia, with the highest productivity among the catching-up economies, had experienced major productivity gains that were driven by large FDI inflows and the related technology imports.

[2] Ireland's productivity level is to a significant extent inflated by the operations of foreign multinationals, in particular in the chemicals and pharmaceuticals sectors. The very high values are likely to be affected by R&D and marketing activities undertaken mainly outside Ireland, and by transfer pricing activities.

Figure 1.4: Change in manufacturing productivity (2011, 2006=100)

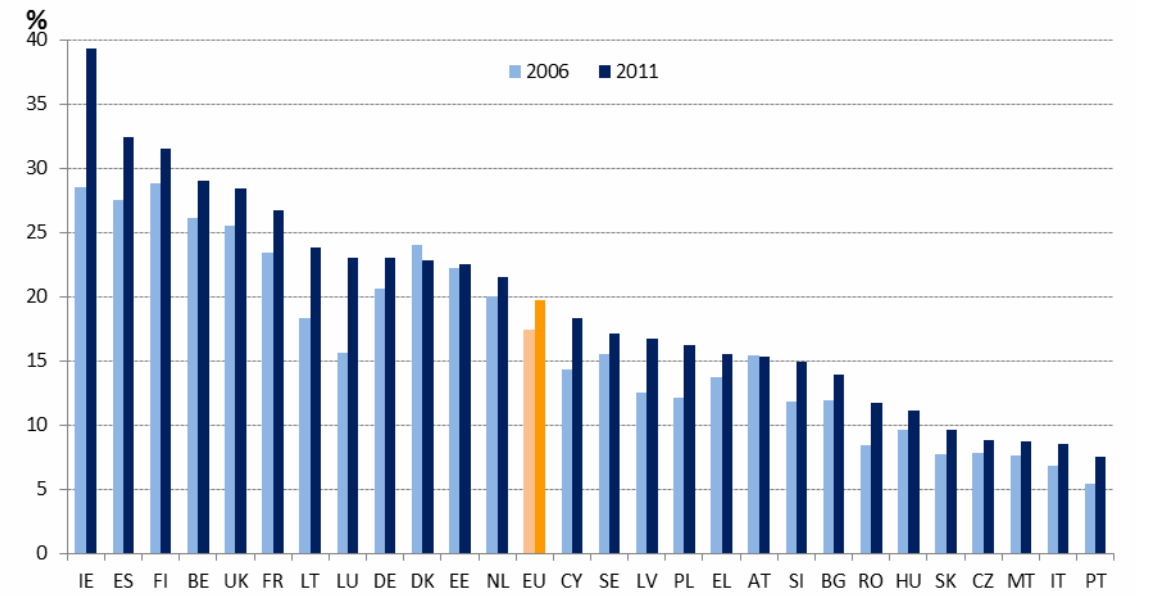


Note: Luxembourg, Ireland and EU average are for 2010; data for Bulgaria, Romania and the UK is not available.
Source: Eurostat (except for LU STATEC); using Nace Rev 1

1.3.2. Educational attainment

A structural shift towards a knowledge-based economy is possible only with simultaneous improvements in the level, quality and relevance of skills of the workforce. In developing new cutting-edge technologies, transforming them into advanced products and services, and commercialising them, companies need a workforce with appropriate educational background, training and skills that is capable of occupying high value-added jobs.

Figure 1.5: Percentage of people employed in manufacturing with high qualifications



Note: 'High qualifications' consists of employees with at least first or second stages of tertiary education.
Source: Eurostat, Labour Force Survey

The share of highly qualified labour force in Ireland, Spain, Finland and Belgium highlight the role of this production factor in overall labour productivity performance, as well as the importance of education and skills-related investments (figure 1.5). On the other hand, the examples of the Netherlands, Germany or Sweden show that investments in advanced technology and top-notch manufacturing equipment matter equally. This is confirmed by Slovakia and Lithuania, both catching-up economies with relatively high labour productivity, albeit each relying on different

comparative advantages. The former benefited from FDI-induced imports of modern technologies, whereas the latter benefited from the higher educational profile of people employed in manufacturing. The low share of highly-qualified employment in manufacturing in Portugal reflects the prevalence of low-skill, labour-intensive industries (e.g. textiles).

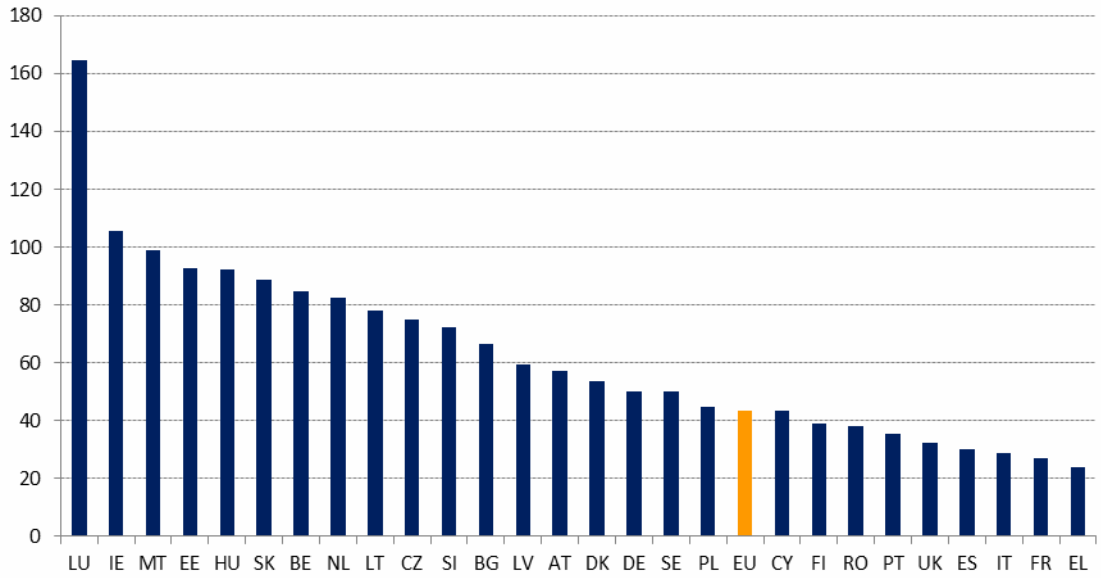
With all but two Member States showing an increasing share of highly-skilled labour force, the overall trend since 2006 has been encouraging, suggesting a continued shift to a more knowledge-based economy and the accompanying increase in medium and highly-qualified labour at the expense of low-skilled jobs. In particular Ireland seems to have experienced further structural changes towards high value-added sectors, such as pharmaceuticals and electronics. On the other hand, the apparent progress of Luxembourg is likely due to the effect of the partial closure of its iron and steel plants. Denmark's minor decline can be explained by its dual export specialisation in both highly innovative and less education-intensive sectors (e.g. food products).

1.4. Export performance

1.4.1. Total exports

Smaller economies naturally tend to be more open than large ones. Nevertheless, there are significant relative differences in how similarly sized economies benefit from international trade. Of the large economies, Germany stands out as the strongest exporter of manufactured goods, whereas Spain, Italy and France show considerably lower export orientation (see figure 1.6). When considering exports of both goods and commercial services, the United Kingdom was the second-largest exporter after Germany, reflecting the importance of services for some economies in the EU. The position of Greece at the lower end is due to its accumulated competitiveness losses, the fact that it is closed to FDI and the large share of services in GDP.

Figure 1.6: Total exports as a percentage of GDP (2011)



Source: Eurostat

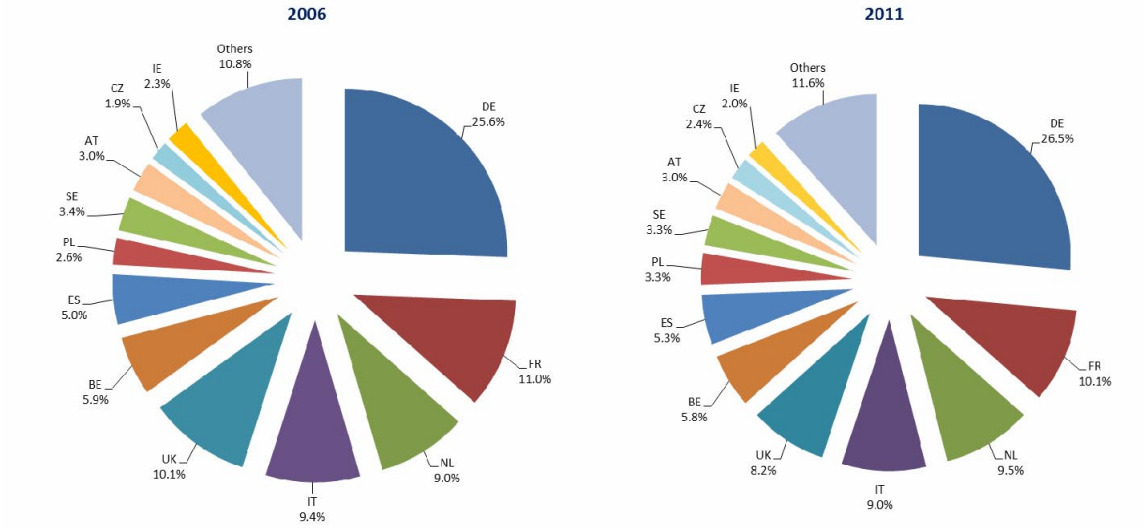
Despite the rise of emerging economies in Asia and elsewhere, the EU has broadly held to a 20% share of global exports (excluding energy)[3]. The relative share of individual Member States in total EU exports of goods reveals, however, that some economies are coping with global developments better than others. Overall, the mature economies tend to benefit from technological competitiveness and favourable structural developments toward knowledge-intensive sectors. On the other hand, price competitiveness and ongoing industrial restructuring induced by FDI help boost the export performance of the catching-up Member States.

Looking at the share of Member States of the total EU exports of goods (figure 1.7), it is clear that their fortunes have diverged since 2006. Germany,

[3] Commission Staff Working Document,'External Sources of Growth: Progress Report on EU Trade and Investment Relationbships with Key Economic Partners', SWD (2012) 219 final, 18.7.2012.

the Netherlands, Poland and Spain have been able to expand their share of EU goods exports, indicating an improvement in industrial competitiveness. Belgium, Sweden and Austria have largely maintained their relative positions. The shares of France, Italy, the United Kingdom and Ireland have declined. This development can be due to loss in price and technological competitiveness, but can also reflect a continued shift towards an economy dominated by services.

Figure 1.7: Country share of EU exports of goods

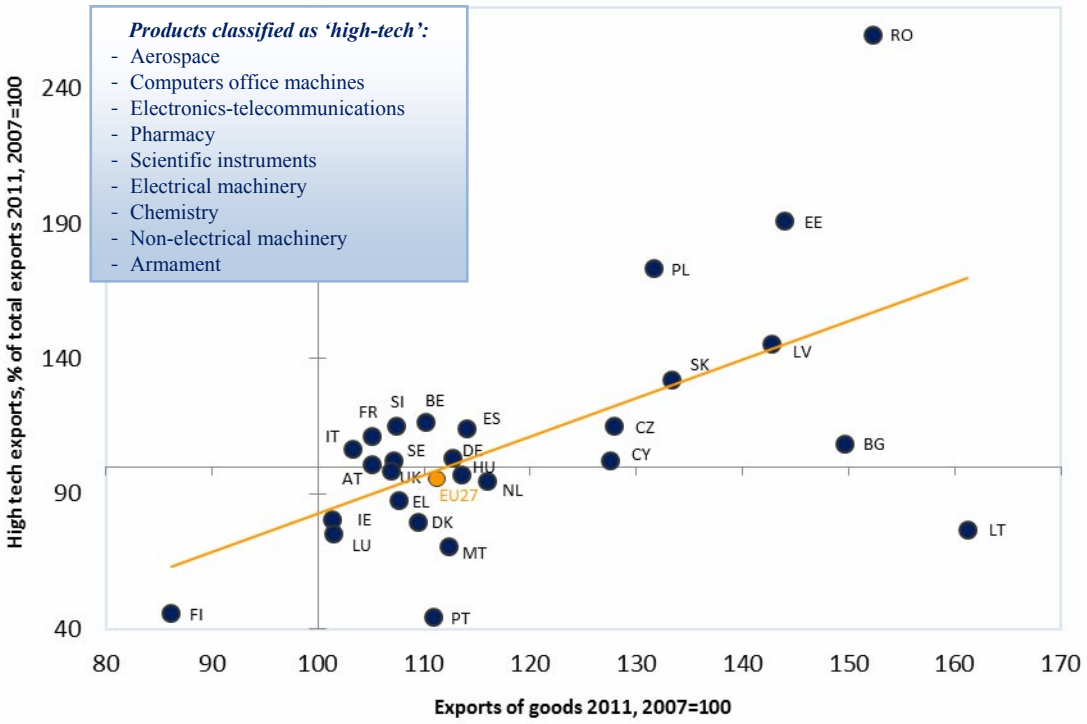


Note: The exports cover both intra-EU and extra-EU exports. The EU's export share in world trade in goods declined in 2006-2010 from 17.3% to 16.0%.
Source: Eurostat

1.4.2. High-tech exports

The share of high-tech products in total exports varies considerably between the Member States, ranging from 3.7% in Portugal, 5.7% in Poland, around 14% in Germany, Sweden and Finland, and 19.7% in France to 43.8% in Malta. As small countries tend to be more open, some economies are specialised in intra-EU trade whereas others are global exporters; these figures need to be read with care and alongside the change in total exports.

Figure 1.8: Change in high-tech exports and exports of goods



Note: The figure shows the change in the share of high-tech exports against the change in exports of goods, 2007 to 2011.

Source: Eurostat

A large share of high-tech exports normally reflects a shift in the industrial structure towards knowledge-intensive sectors that use advanced materials and technologies to produce internationally tradable goods with high added value.

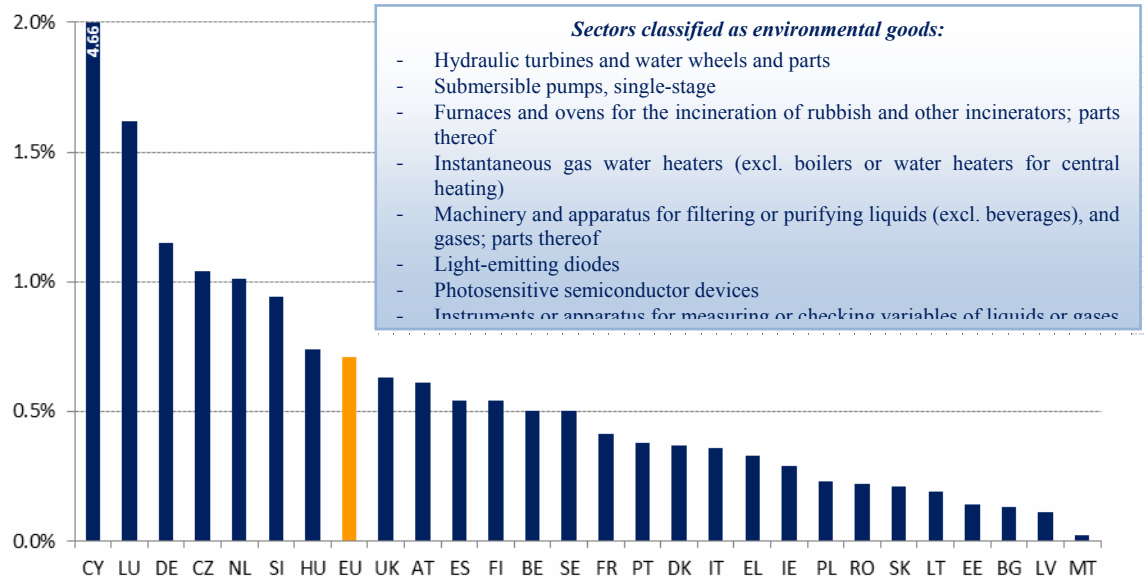
Comparing export performance in goods and the performance in high-tech exports over the crisis years gives a picture that is skewed by the recession (see figure 1.8). It is clear that many Member States have faced a difficult exporting environment during the years in question. In particular, in Finland both high-tech exports and total exports fell. In many Member States (those in the lower right-hand quarter), high-tech exports have not yet recovered to the relative level of 2007, even though their goods exports have grown. Many of the catching-up countries in the upper right hand quarter have improved their exports of goods, as well as their exports of high-tech goods (albeit from a relatively low level).

In many of the Member States that are catching up, in particular Poland, Estonia and Romania, both exports and the share of high-tech exports increased. This development seems to reflect the positive effects of large foreign direct investment inflows and the related imports of advanced investment goods that upgraded domestic production structures in these countries.

1.4.3. Exports of environmental goods

Thriving eco-industries can make a key contribution towards reaching EU climate change and environmental objectives. Development and production of the goods and services needed for greening the economy also fosters innovation capacity and sustains job creation within the EU. Cyprus, Luxembourg, Germany, the Czech Republic and the Netherlands have been most successful at seizing opportunities arising from the greening of economies, as they are the only Member States where the share of environmental goods exports exceeded 1 % of total exports (see figure 1.9).

Figure 1.9: Exports of environmental goods as % of all exports of goods (2011)



Note: The outlying performance of Cyprus reflects the relative strength of its photovoltaic production.
Source: Eurostat, Commission calculations

Germany performs strongly in all sectors and is the largest supplier of environmental products and services in the EU. Although its exports account for a small proportion of its total production, it is the second largest global exporter (after the US), with a significant share of world trade in this sector. On the other hand, the eco-industry in the Netherlands is very export-oriented, exporting almost half of its production. Sweden and the UK are specialised in indoor air pollution control and cleaning technologies. France and Denmark are successful exporters of water processing and waste management technologies, whereas the latter in particular has ambitious policies targeting green technologies.

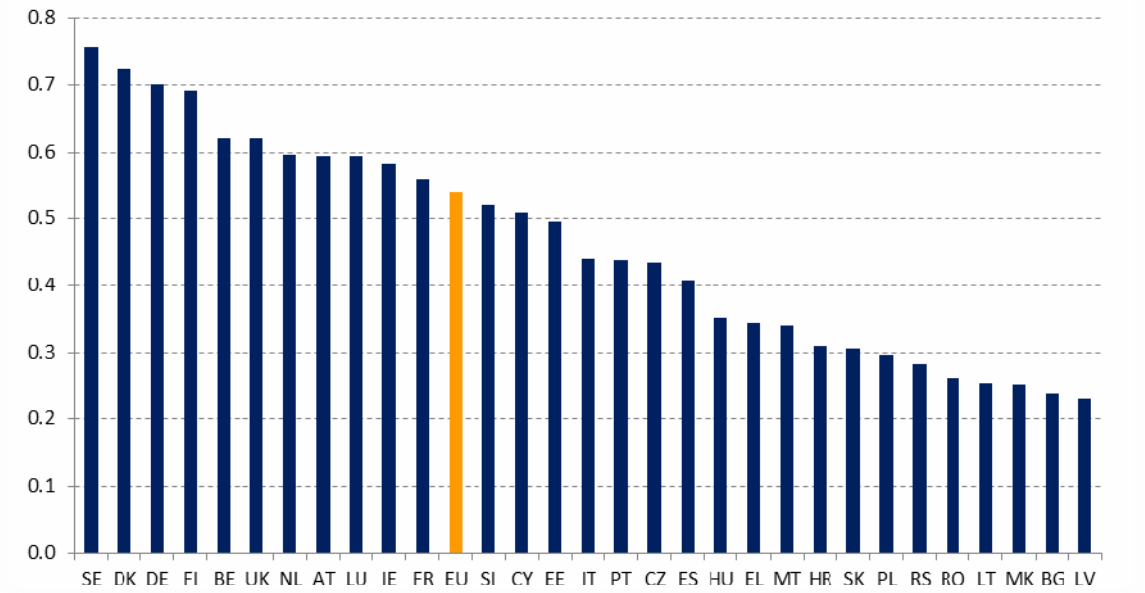
Although total trade in eco-goods still represents only a small percentage of GDP, it is encouraging that it increased in most Member States from 2006 to 2011.

1.5. Innovation and sustainability

1.5.1. Innovation performance

Based on the Innovation Union Scoreboard, the innovation leaders are Sweden, Denmark, Finland and Germany (see figure 1.10). The national research and innovation systems of these countries perform well on all innovation indicators, including human resources, excellence in research, intellectual assets, entrepreneurship, finance and firms' R&D investments. The performance of these systems is improved by close cooperation between research institutions and businesses.

Figure 1.10: Innovation Union Scoreboard (0=worst possible performance / 1=best possible performance)



Components of the Innovation Union Scoreboard	*Components of the Innovation Union Scoreboard*
Human resources - New doctoral graduates - Population aged 30-34 with tertiary education - Youth with at least upper secondary education **Open research systems** - International scientific co-publications - Top 10% most cited scientific publications - Non-EU doctoral students **Finance and support** - Public sector R&D expenditure - Venture capital **Firm investments** - Business sector R&D expenditure - Non-R&D innovation expenditure **Linkages and entrepreneurship** - SMEs innovating in-house - Innovative SMEs collaborating with others - Public-private co-publications	**Intellectual assets** - PCT patent applications - PCT patent applications in societal challenges - Community trademarks - Community designs **Innovators** - SMEs with product or process innovations - SMEs with marketing or organisational innovations - High-growth innovative firms **Economic effects** - Employment in knowledge-intensive activities - Medium- and high-tech product exports - Knowledge-intensive services exports - Licence and patent revenues from abroad

Source: Innovation Union Scoreboard 2011[4]

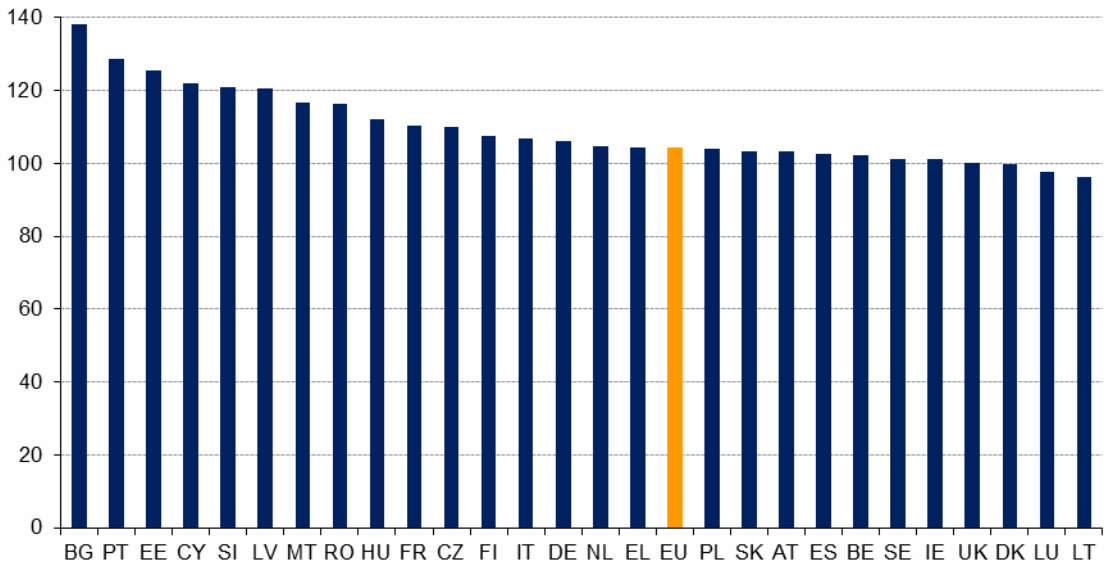
[4] The Innovation Union Scoreboard 2011 is based on three types of measures: 'enablers', or inputs to the innovation process (human resources, research systems, finance and support), 'firm activities' (investments, linkages and entrepreneurship, intellectual assets) and 'outputs' (SMEs introducing product, process, marketing or organisational innovations, and high-growth innovative firms). Data for 2011 reflect performance in 2009/2010 due to a lag in data availability. On a scale ranging from 0 (worst possible performance) to 1 (best possible performance), the score of Member States varies between 0.2 for Latvia and 0.8 for Sweden. For details of the calculation method, see 'Innovation Union Scoreboard 2011', http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index_en.htm

Moderate innovators, such as Spain, Greece, Hungary, Poland, Bulgaria and Latvia, are characterised by uneven research and innovation systems. An example would be the very low share of SMEs introducing product, process or organisation innovations in these countries.

Whilst innovation performance varies significantly among Member States, almost all have improved their performance since 2007. There has also been convergence as less innovative Member States have improved faster than the already more innovative ones. In particular, Bulgaria and Portugal have achieved considerable improvement due to increased private R&D investment. Slovenia and Estonia also have significantly improved their performance, mainly by boosting the creation of intellectual assets (patent applications and trademarks). The differences separating the innovation leaders have also narrowed down, with Germany and Finland moving closer to Sweden at the top. On the other hand, Lithuania appears to have lost ground and progress in Poland and Slovakia has been slow.

With an EU average innovation score higher than in 2007, the overall picture is one of improvement (see figure 1.11). However, the convergence process appears to have been slowing down in recent years. Moreover, the innovation gap between Member States risks widening again due to the diverging way in which countries have responded to the economic crisis. The leading Member States have responded with proactive innovation policies, recognising innovation capacity as a key driver of future growth. On the other hand, the innovation followers and the less innovative countries are reducing their funding and support for R&D. A positive sign, however, is that with political will governments can embark on ambitious policies and improve the innovation performance of their economies.

Figure 1.11: Innovation performance — Change (2007=100)

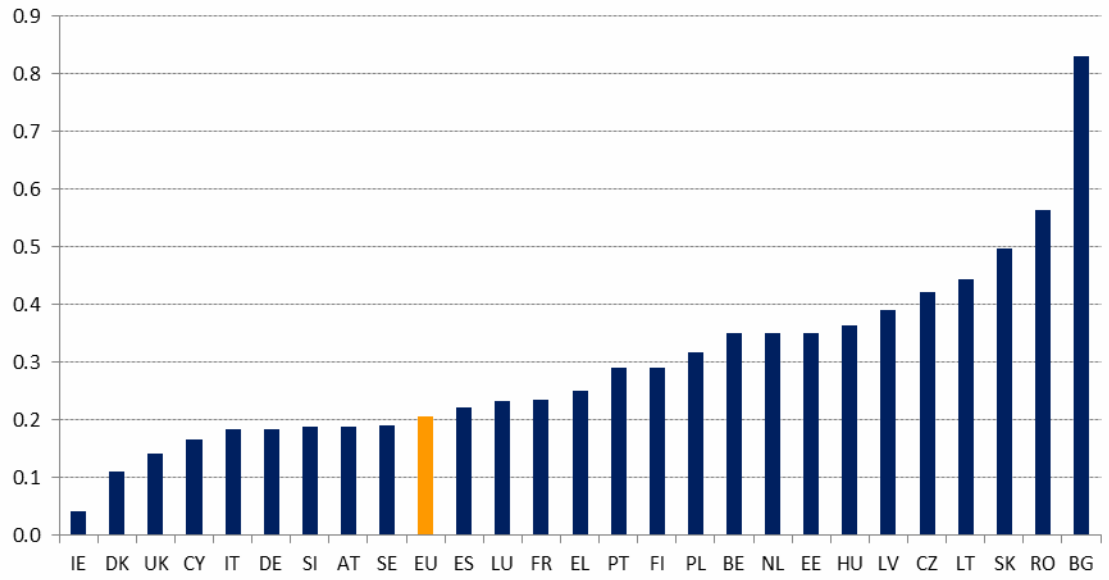


Note: Progress in innovation performance in the Member States in 2011 compared to 2007. The data is further analysed in the Innovation Union Scoreboard report.
Source: Own calculations based on the Innovation Union Scoreboard 2007 and 2011

1.5.2. Energy intensity

The least efficient Member State consumes nearly 20 times more energy to produce the same value of output as the most efficient one (see figure 1.12). Ireland, the best performer in 2009, has substantially improved its energy intensity due to a structural shift from traditional manufacturing industries to high value-added sectors such as pharmaceuticals and electronics.

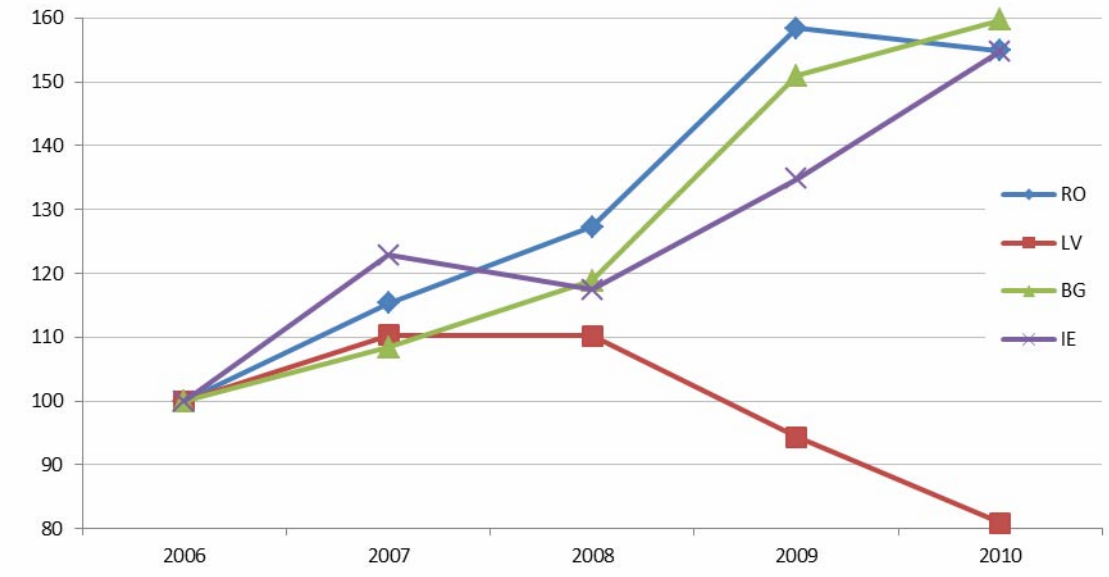
Figure 1.12: Energy intensity in industry and the energy sector



Note: No data for Malta.
Source: Eurostat, expressed as kg oil equivalent/euro GVA; ref. year 2000, 2010

A number of Member States, where energy intensity was still relatively high in 2009 have, however, improved their efficiency significantly from 2006 to 2009 as can be seen from figure 1.13. This was evident in particular in those Member States that have been catching up, as they have benefited not only from improved efficiency but also from structural change towards less energy-intensive sectors. Energy efficiency also deteriorated in several Member States, most likely because the economic crisis caused a drop in industrial production while energy consumption did not decrease proportionally. This effect was particularly pronounced in Latvia, which saw its GDP fall by 25 % between 2008 and 2010. In any event, many Member States have considerable potential to further reduce their energy intensity by facilitating structural change towards high-value industrial activities.

Figure 1.13: Changes in energy intensity (countries with the biggest change, 2006=100)



Note: Values above 100 indicate improvement.
Source: Eurostat

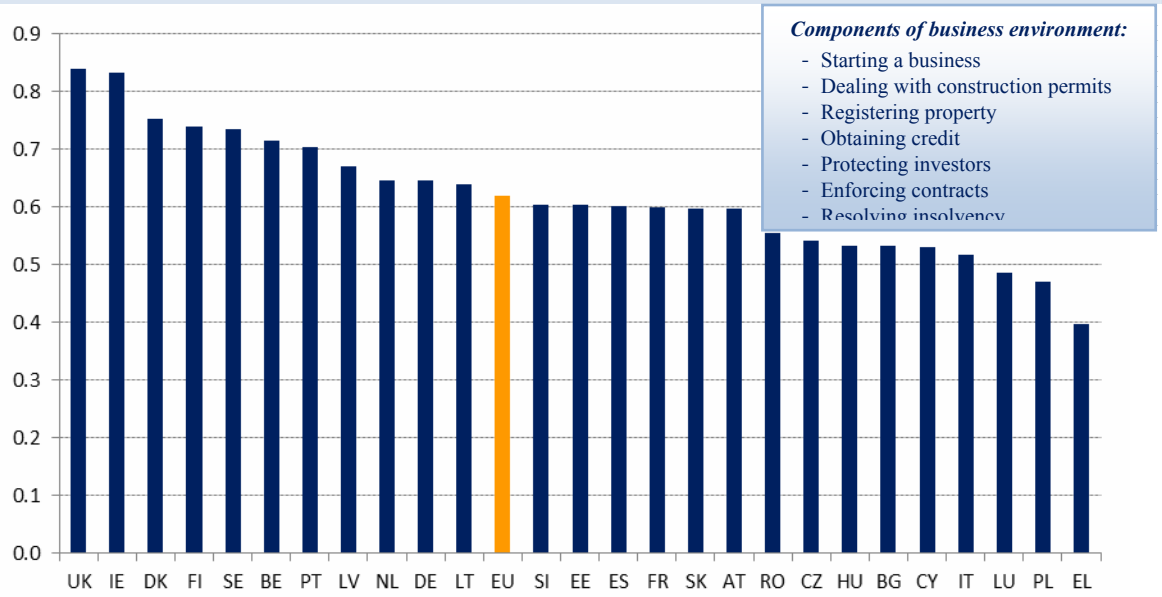
1.6. Business environment and infrastructure

1.6.1. Business environment

The World Bank composite indicator on the business environment puts the United Kingdom and Ireland at the top in the EU, followed by the Nordic countries (figure 1.14). These countries rank well in most of the component indicators.

The business environment scores are much lower in most of the new Member States. In Italy, very slow legal procedures drag down the overall score. The business environments in Poland and Greece are ranked as the most difficult, with severe problems when starting a business, registering property, protecting investors, and dealing with insolvency.

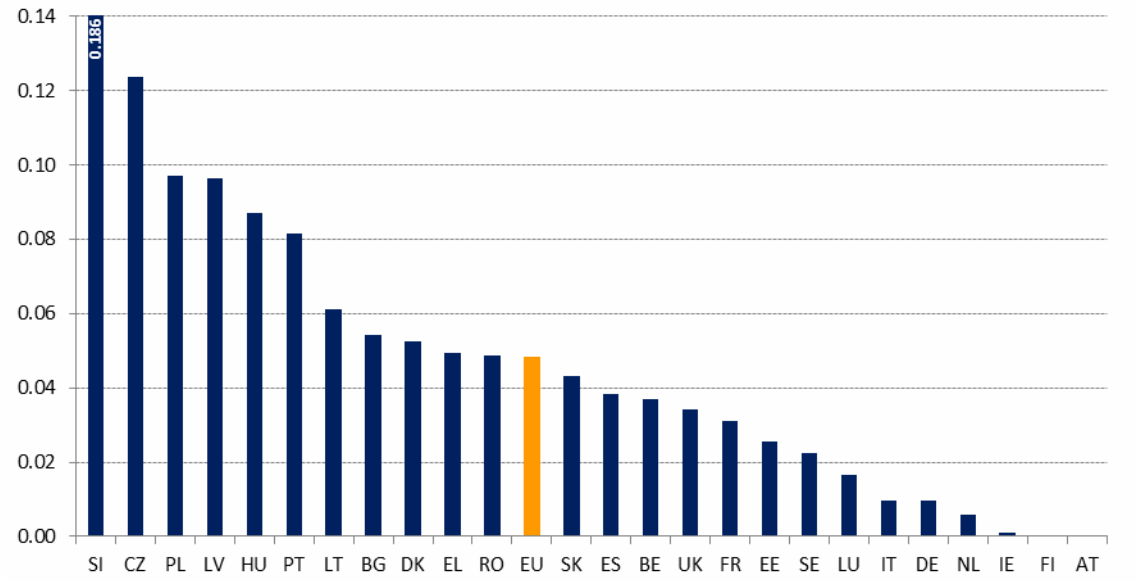
Figure 1.14: Business environment (0=least attractive / 1=most attractive, 2011)



Note: No data for Malta.
Each of the seven components of the indicator has been normalised to values between 1 (best) and 0 (worst). These components are then averaged for each Member State and for each year to obtain a score which reflects the position of the Member State with regard to the best and worst practices measured over 2011. Best practice can be defined in the same way but normalising values to 1 for the best performance over 2006-2011 and zero for the worst performance.
Source: World Bank Doing Business, Commission calculations

However, many Member States have improved their business environment noticeably in recent years (figure 1.15). The UK has shown that even the best can improve further. The biggest improvements have been achieved by the Member States with a low starting point in 2006, in particular Slovenia, the Czech Republic, Poland and Hungary. Slovenia has significantly streamlined the conditions for starting a business and registering property; the Czech Republic has considerably simplified insolvency procedures and the payment of taxes. In spite of the overall progress achieved, all Member States have continuing weaknesses in some components, leaving substantial room for further improvement. Figure 1.16 ranks Member States by progress towards best practice.

Figure 1.15: Business environment, improvement 2006-2011

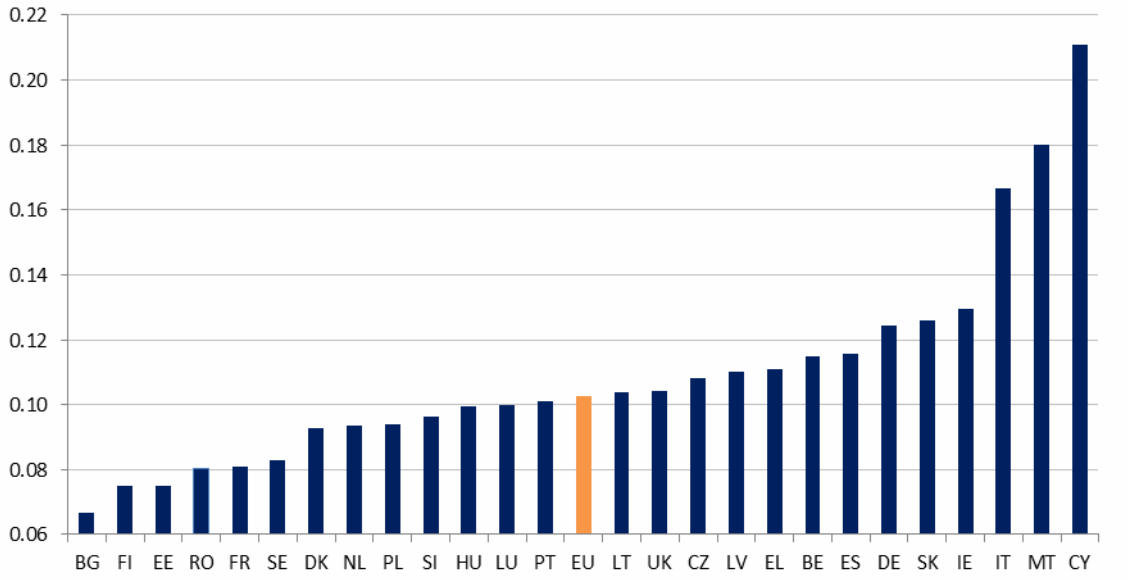


Note: Data for Malta and for Cyprus are missing.
Source: World Bank Doing Business, Commission calculations

1.6.2. Electricity prices

Electricity prices for medium-sized enterprises vary considerably across the EU (see figure 1.16). The prices in France are relatively low due to the country's reliance on cost-competitive nuclear energy. In Sweden, Finland and Denmark, enterprises also enjoy affordable electricity, benefiting from the competition on the common Nordic electricity market, which shows how countries can liberalise markets across national borders.

Figure 1.16: Electricity prices for medium-sized enterprises, 2011

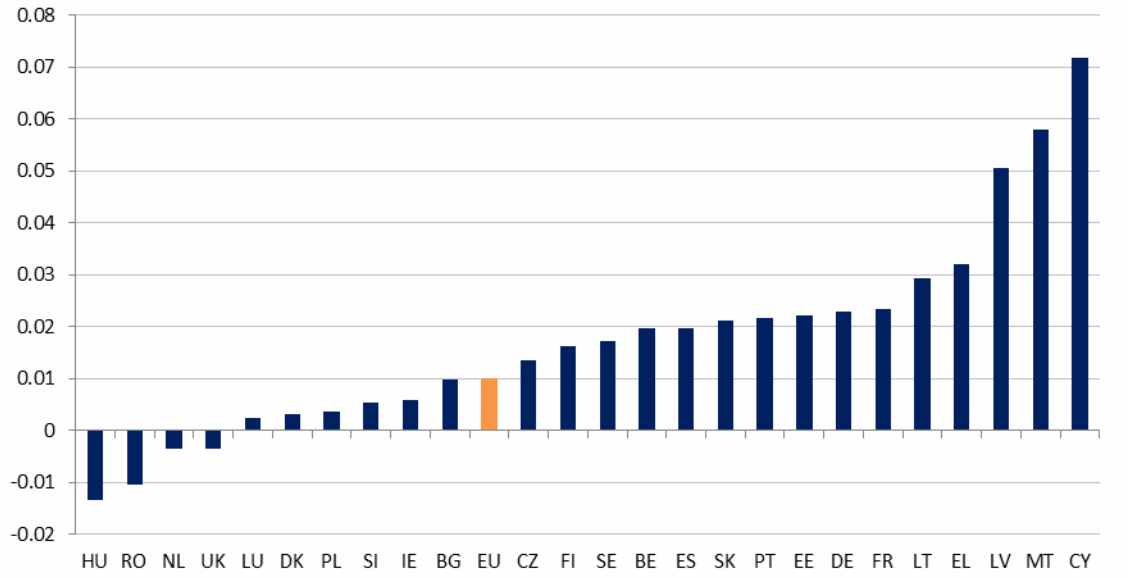


Note: No data for Austria.
Source: Eurostat, data refer to prices in the second half-year; including tax, except VAT; expressed in euro/KWh

The energy market functions efficiently also in the Netherlands, where unbundling has worked well, changing suppliers is relatively easy, concentration in electricity production is relatively low, and transmission networks are well connected to neighbouring countries. In Germany, competition in the electricity sector has increased due to initiatives launched in recent years, including transposition of the Third Energy Package in 2011, although better interconnections and higher cross-border transmission capacity would enable it to function even better. Estonia has direct access to the Russian gas network; the future of its low electricity prices depend on price agreements and increases are anticipated from 2013 onwards.

Most Member States have seen their electricity prices go up between 2007 and 2011 as can be seen from figure 1.17. Whilst the high prices in Malta and Cyprus reflect the dominance of incumbent energy providers and the costs of importing energy to a small island economy, in Slovakia they reveal high transmission and distribution fees. In Italy, the high prices reflect a concentrated market structure, dependency on energy imports (mainly gas) and an energy mix that makes it more difficult to produce electricity at competitive prices. On the other hand, relatively high prices in Italy, Germany, Cyprus and Ireland show that they act also as a major incentive for improving the energy efficiency of industrial processes.

Figure 1.17: Change in electricity prices for medium-sized enterprises, 2011-2007

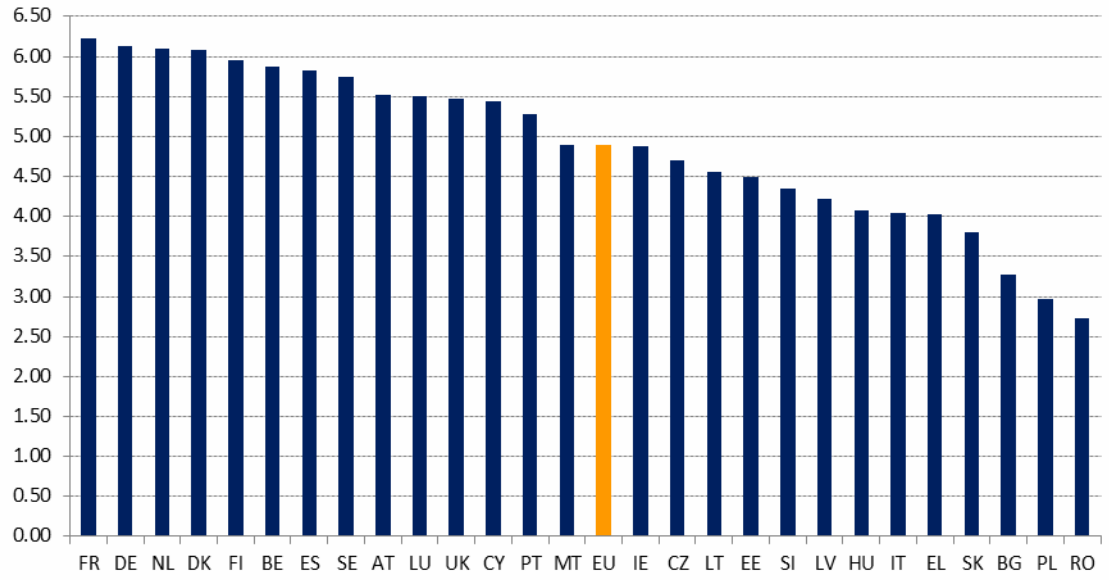


Note: No data for AT, IT.
Figures for Cyprus also reflect the explosion at the Vassiliko power station in July 2011, which forced it to use its old and less efficient generators to avoid power shortages.
Source: Eurostat

1.6.3. Satisfaction with the quality of infrastructure

The Global Competitiveness Report surveys the satisfaction of users of physical infrastructure. The replies differ among the Member States, but improvements have been seen in most of them. Satisfaction is highest in France, closely followed by Germany, the Netherlands and Denmark (figure 1.18).

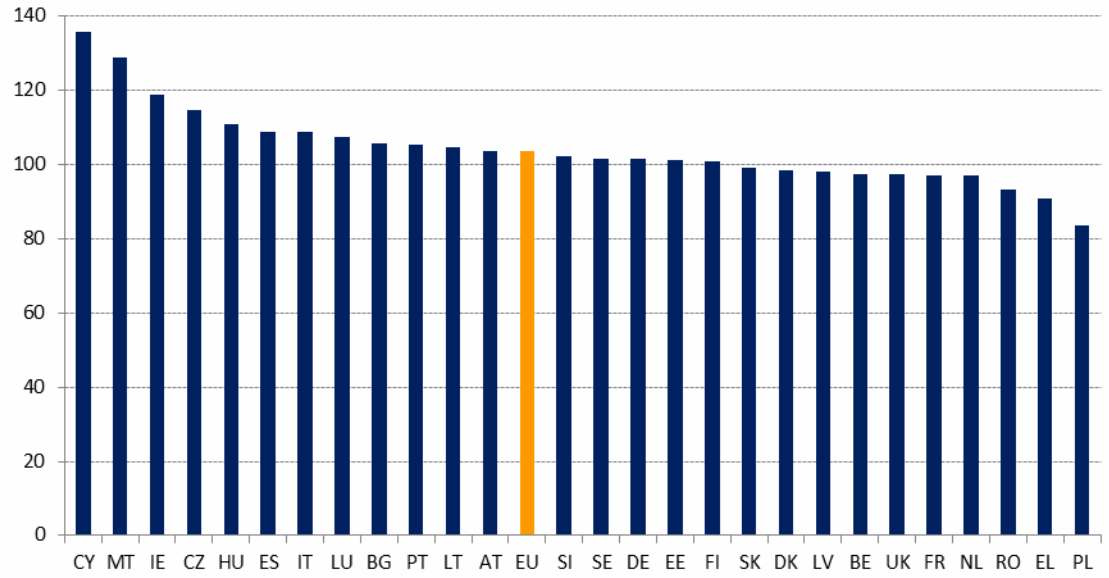
Figure 1.18: Satisfaction with the quality of infrastructure, 2011



Source: Global Competitiveness Report 2012-2013, World Economic Forum, Commission calculations; refers to rail, road, port and airport infrastructure, 1=underdeveloped / 7=extensive and efficient by international standards.
http://reports.weforum.org/global-competitiveness-report-2012-2013/#

Since 2006, Italy, Spain and Ireland appear to have enhanced their infrastructure to the satisfaction of their citizens (figure 1.19). Improvements have been noted likewise in Cyprus, Malta, Hungary and the Czech Republic, no doubt partially as a result of the use of EU Structural Funds for investments in transport infrastructure. Progress has been slower in Poland and Romania, which suffer from underdeveloped road infrastructure and delays in construction projects. Among the mature economies, satisfaction seems lowest in Italy and Greece, also partially due to the complexities of preparing and implementing infrastructure investments.

Figure 1.19: Change in satisfaction with the quality of infrastructure, 2006-2011



Source: Global Competitiveness Report, Commission calculations; 2006=100

1.7. Finance and investment

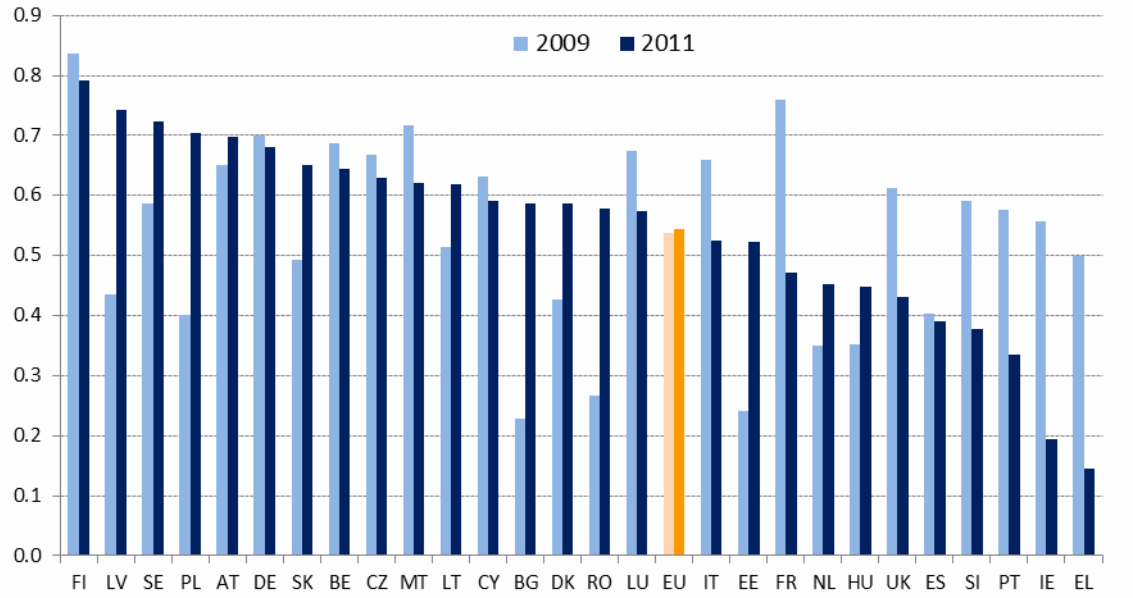
1.7.1. Access to bank loans

The ongoing stresses in the financial markets continue to be reflected in access to bank loans. Since 2009, the situation has deteriorated in more than half of the Member States. This deterioration has been caused mainly by the general tightening of credit standards due to the greater risk aversion of banks, as well as by problems in financial sector stability. The supply of credit has been further restricted by the deleveraging process that has started or continued in some Member States where the private sector had accumulated large levels of debt during previous credit expansions and where financial institutions have been unwinding their excessively leveraged positions.

Alongside supply-side effects, however, the impact of falling demand for loans has been equally important for some countries. Credit condition surveys have revealed that the demand for loans has fallen in particular among small businesses. As their profit situation has deteriorated, many businesses have postponed investments and stepped up efforts to find alternative sources of financing, including longer commercial credit and stronger internal cash reserves. While there were few quarterly improvements coinciding with the revival of industrial output in 2010 and the first half of 2011, the rejection rate when applying for a loan has remained historically high. Falling returns and prospects of further uncertainty have adversely affected SMEs' capability to attract venture capital and other risk investors.

Access to bank lending remained easiest in Finland, followed by Latvia, Sweden, Poland and Austria (figure 1.20). Since 2009, access to bank loans in Denmark, Romania, Bulgaria and Estonia has become easier, the last two countries having seen the largest relative improvement. The situation remained relatively difficult or worsened in Italy, France, Luxembourg, Hungary, the United Kingdom, the Netherlands and Spain. For instance, in the United Kingdom, loan demand from small businesses has dropped significantly — in contrast to large and medium-sized companies — with many small businesses not even approaching their bank about further funding. In the case of Hungary, Ireland and Luxembourg, the supply of credit has been adversely affected by the ongoing deleveraging of bank balance sheets. The stress in the banking sector has also been reflected in the difficulties encountered by firms in Ireland, Slovenia, Spain, Portugal and Greece.

Figure 1.20: SME access to bank lending



Note: Responses to six key questions in the above ECB-Commission survey have been used to construct the composite indicator 'SME access to bank lending'. Data are based on the percentage of respondents who experienced one of the following situations, whereas the normalised values range from zero (worst) to 1 (best possible situation).

Source: ECB/Commission, Commission calculations; (0=worst possible / 1=best possible)

See also: http://ec.europa.eu/enterprise/policies/finance/data/enterprise-finance-index/access-to-finance-indicators/loans/index_en.htm

Components of access to bank lending

- 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 the costs were too high
- 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

In Spain, Portugal and Greece businesses are also disadvantaged by the very long waiting times for payments by public authorities, which further deteriorated in 2011. On the other hand, Ireland has been able to shorten public sector payment times, demonstrating that this is possible even in a country undergoing intensive fiscal consolidation.

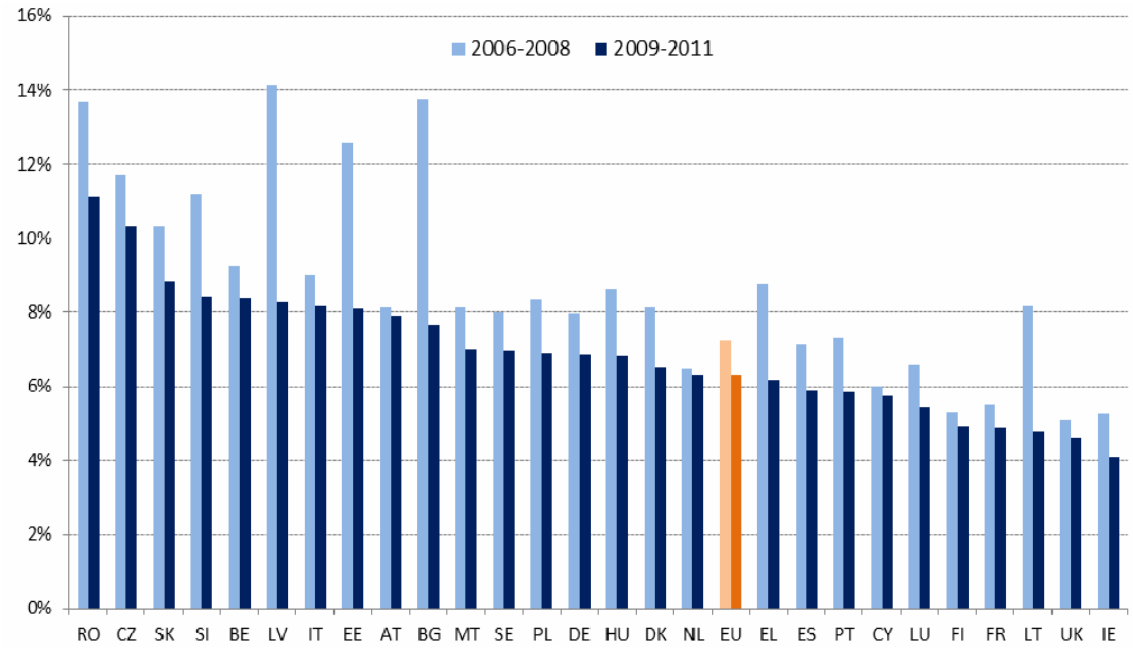
Although under normal circumstances most businesses consider that access to loans is more important than their interest rate, the turmoil in the banking sector has led to considerable interest rate differentials between countries. For the first quarter of 2012, the average interest rates for business loans up to EUR 1 million were highest in Hungary, Bulgaria, Romania, Portugal, Cyprus and Greece, averaging over 9%, well above the EU average of 5.3%. Austria, Belgium Luxembourg, France and Finland had the lowest average interest rates, ranging between 2% and 3.5%.

1.7.2. Investment in equipment

Weak business investment holds back economic recovery. Despite structural reforms that have improved the business environment, uncertainty and balance sheet cleaning mean that firms are keeping investment low and hoarding cash. The difficulties in accessing loans and working capital from banks are contributing to this by forcing firms to build up their cash reserves. Firms will only invest when they are confident about the economic outlook and the recovery of consumer demand.

The figures show that business investment in equipment has suffered throughout Europe during the crisis (figure 1.21). Bulgaria, Latvia and Estonia have seen the largest drops from 2006-2008 to 2009-2010/11 averages. Equipment investment continues to be above the EU average in many of the catching-up countries, but investment levels in Belgium, Italy and Austria have also held up well. Investment levels in Finland, France, Lithuania, the UK and Ireland are below the EU average.

Figure 1.21: Investment in equipment, % of GDP, averages

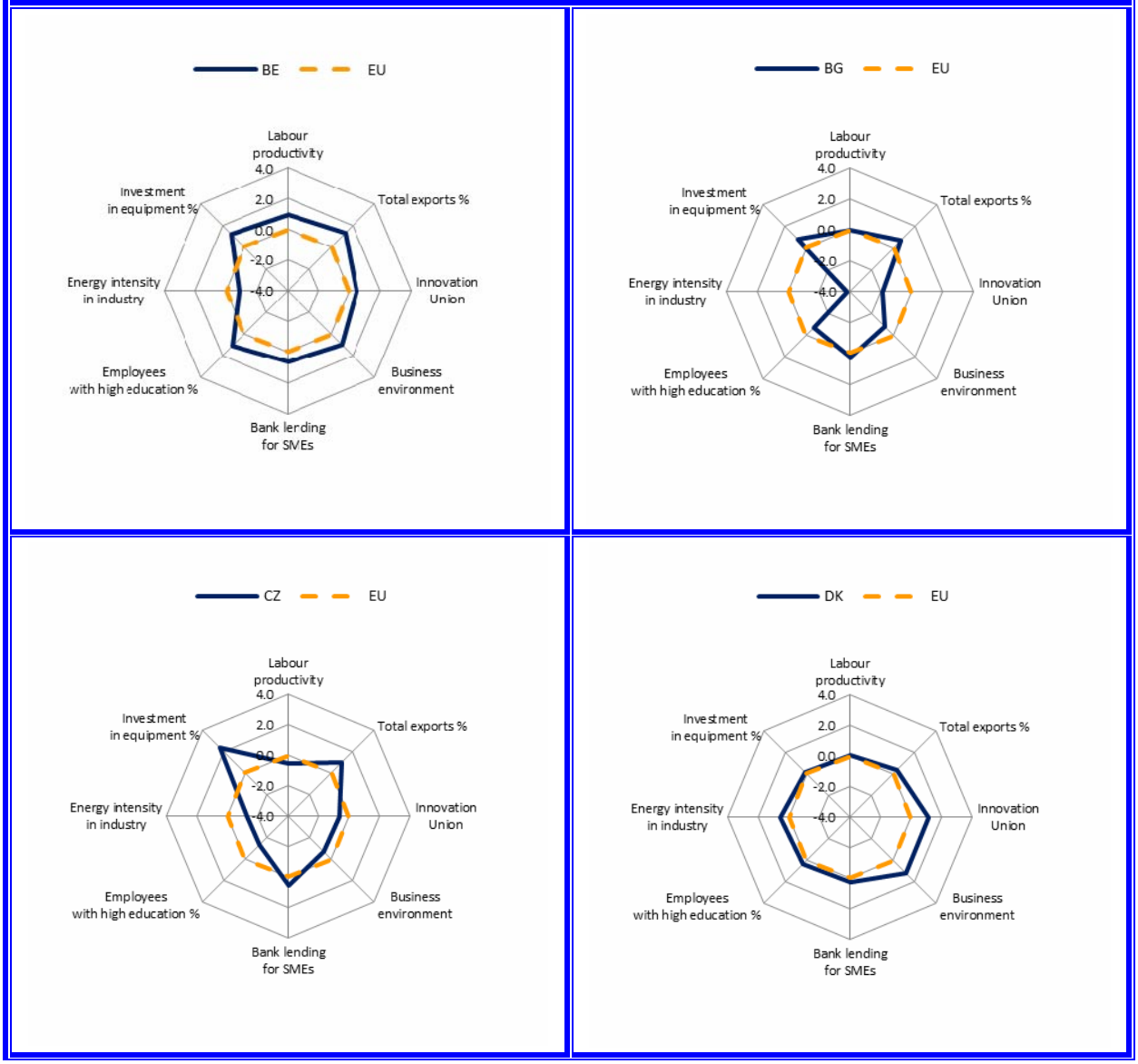


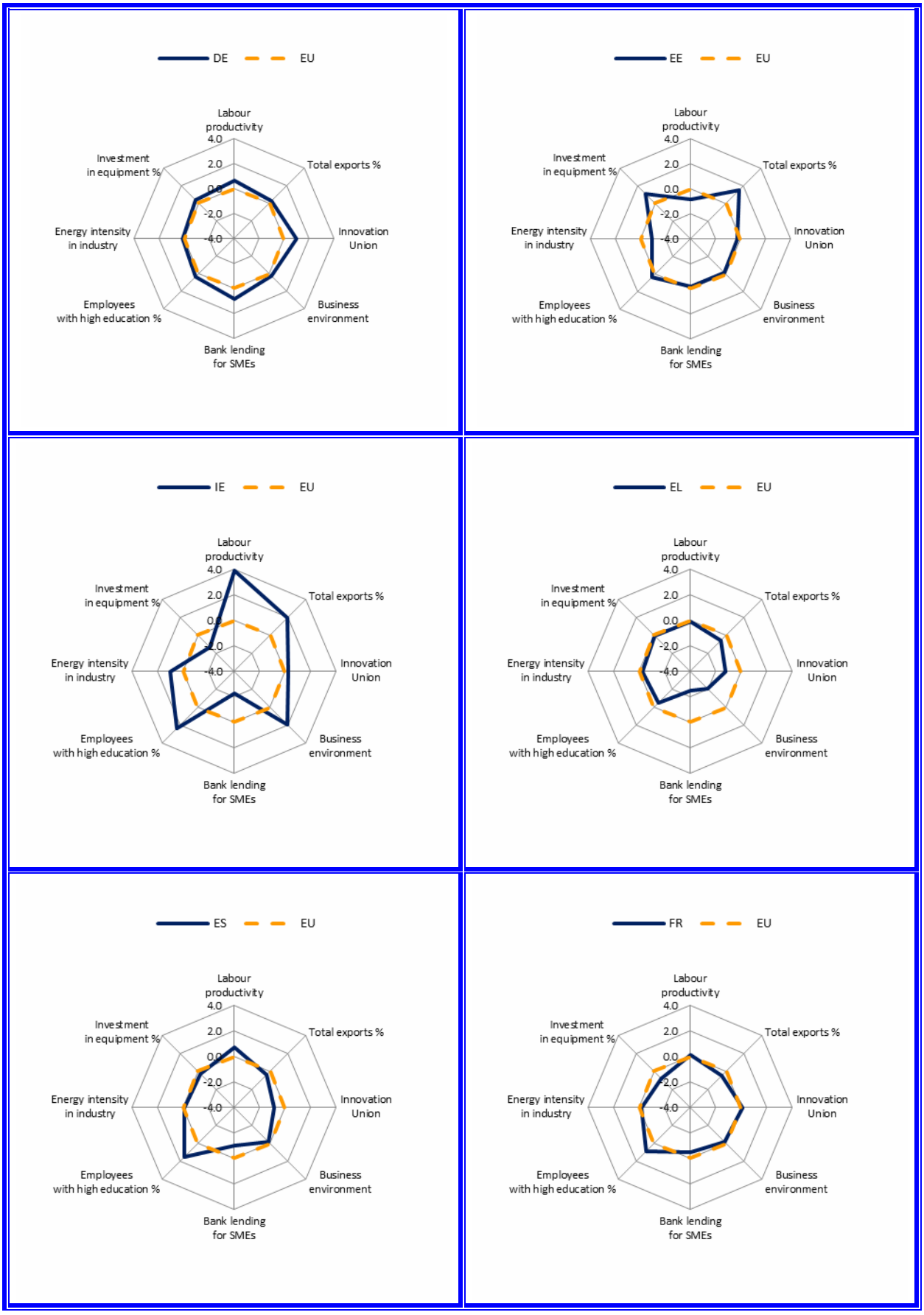
Note: Latest EU and Bulgaria data are for 2009-2010.
Source: Eurostat

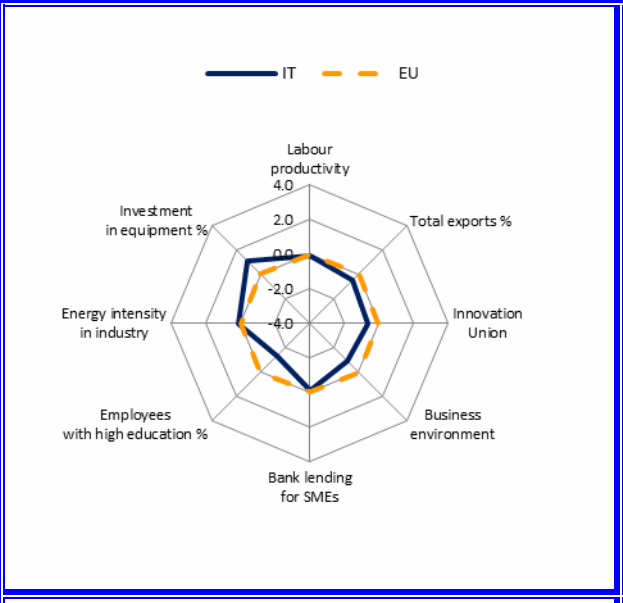
1.8. Annex: Performance of Member States

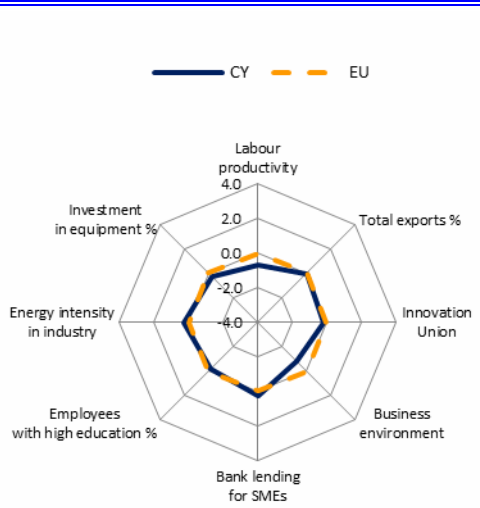
The spider graphs below present, for each indicator, the distance of the respective Member State from the EU average. This distance is expressed in terms of standard deviations, which is a common measure of the spread of observations in a distribution (in this case, a measure of the variation of Member State performance around the EU average). This enhances the comparability of the presentation of indicators with different measurement units and distributions across Member States. The same method is used in the country-specific bar charts of this report.

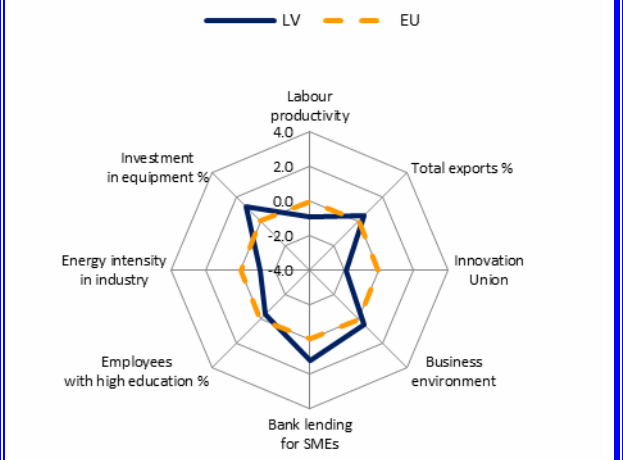
Figure 1.22: Performance of each Member State against the EU average on eight main indicators

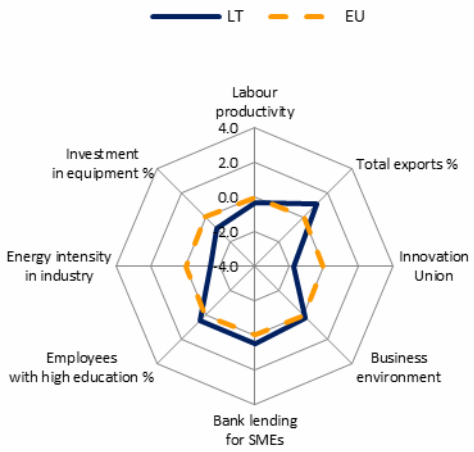


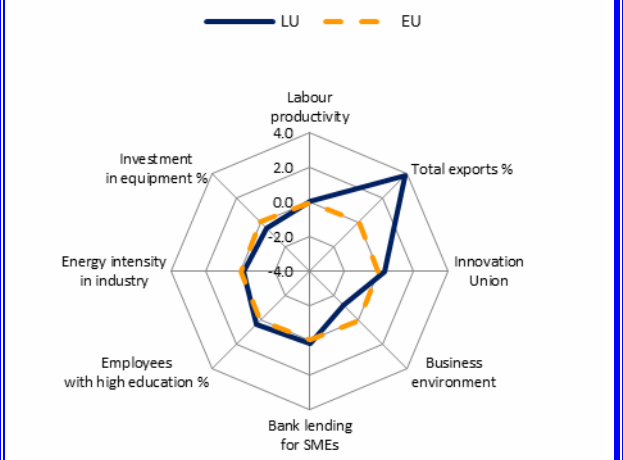

DE
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0
EE
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0
IE
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0
EL
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0
ES
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0
FR
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

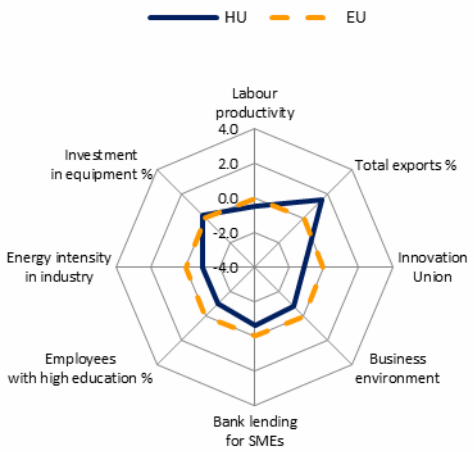

IT
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

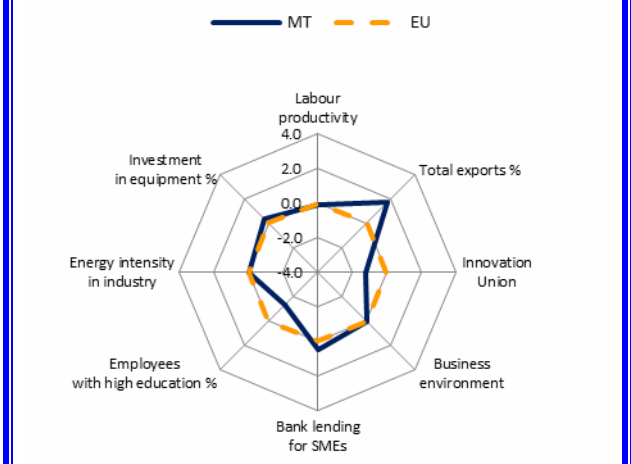

CY
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

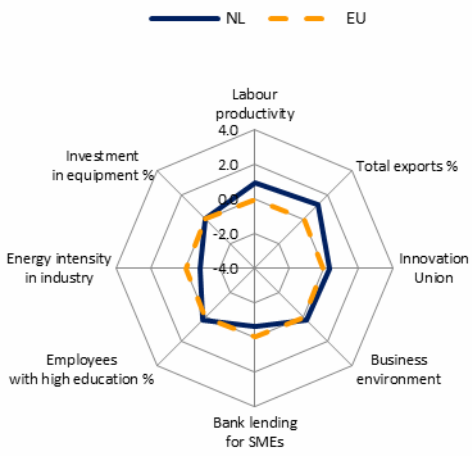

LV
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0


LT
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

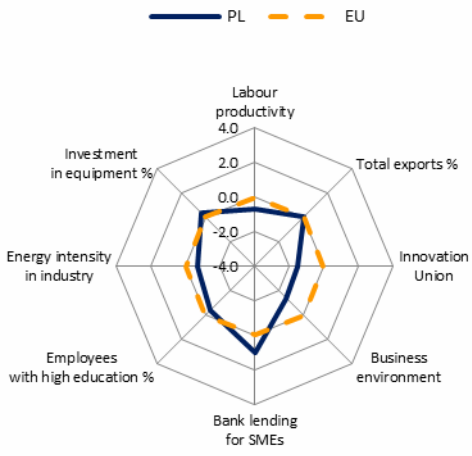

LU
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

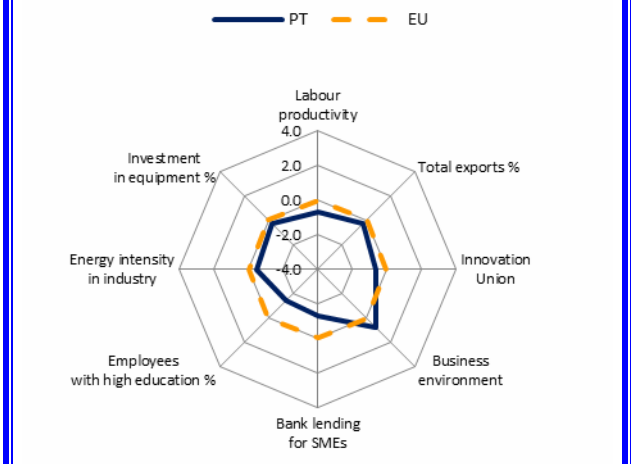

HU
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

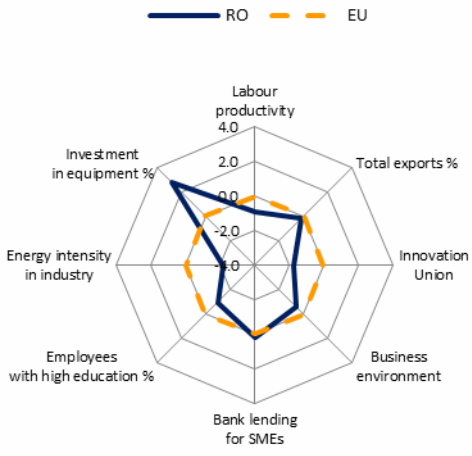

MT
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

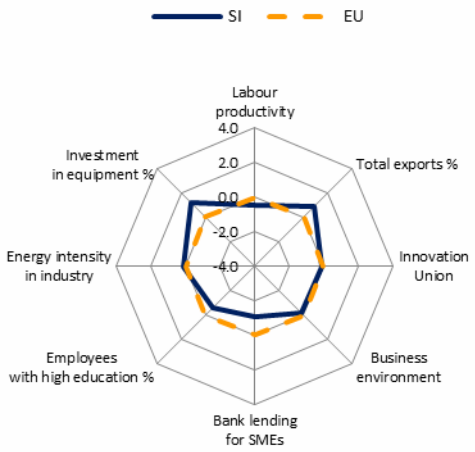

NL
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

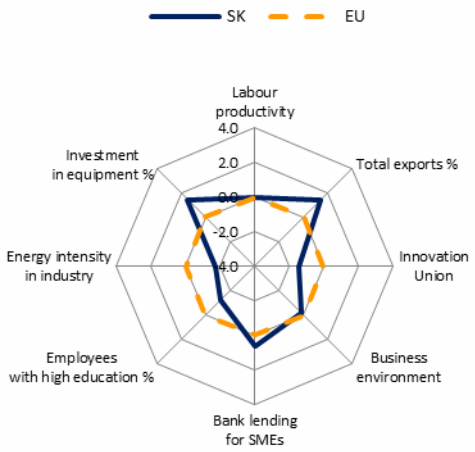

AT
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

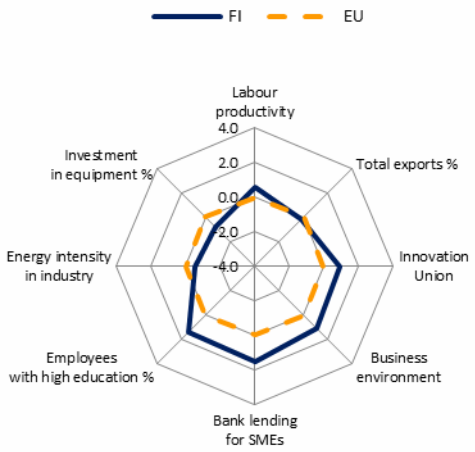

PL
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

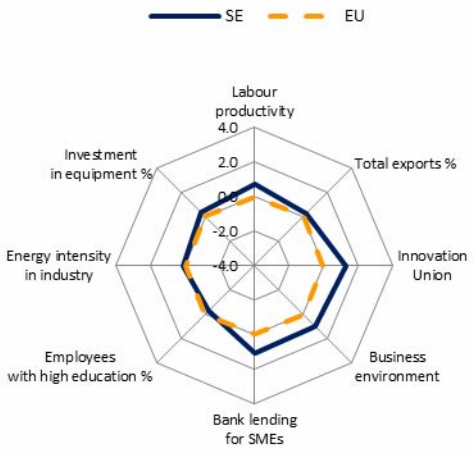

PT
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0

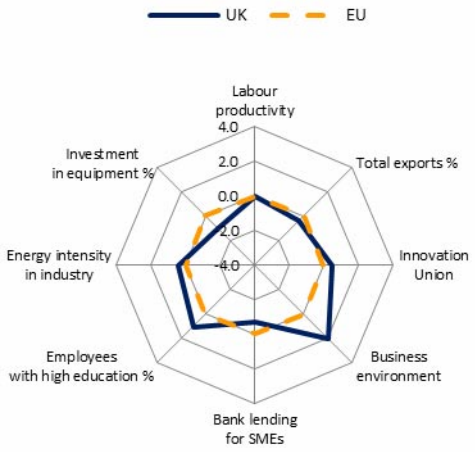

RO
EU
Labour productivity
Total exports %
Innovation Union
Business environment
Bank lending for SMEs
Employees with high education %
Energy intensity in industry
Investment in equipment %
4.0
2.0
0.0
-2.0
-4.0











Note:

1. Labour productivity = Labour productivity per person employed in manufacturing (1000 PPS; 2011)

2. Total exports % = Total Exports as a % of GDP (2011)

3. Innovation Union = Innovation Union Scoreboard (2011)

4. Business environment = Business environment score (1= best 0 = worst; 2010/11)

5. Bank lending for SMEs = Access to bank lending for SMEs (1 = best 0 = worst; 2011)

6. Employees with high education % = % of employees in manufacturing with high educational attainment (2011)

7. Energy intensity in industry = Energy intensity in industry and the energy sector (kg oil eq. / euro GVA; reference year 2000; 2010)

8. Investment in equipment % = Investment in equipment as % of GDP

Source: Eurostat; Ameco

2. OVERVIEW OF PROGRESS BY BROAD POLICY AREA

2.1. Introduction

This report focuses on the measures Member States have taken to improve their competitiveness, and assesses their performance with respect to a number of key framework conditions. The main policy areas covered are innovative industrial policy, sustainability of industry, the business environment, and public administration.

The report is drafted on the basis of Article 173 of the Treaty and comes under the Europe 2020 Strategy, specifically the flagship initiative '*An Industrial Policy for the Globalisation Era*'. The policy areas which are covered in this report are also ingredients in the European Semester process, which calls for Europe to restore its competitiveness, among other things by investing in key technologies and reducing delays in payments by public administrations.

This report looks at competitiveness both horizontally, with an overview of progress by broad policy area, and by country, with chapters presenting national performance and policy developments in the same policy areas. The annex provides details on the indicators and industry classifications adopted and the data used in the preparation of the various graphs.

2.2. Innovative industrial policy

2.2.1. Global competition

Research and development (R&D) and innovation are key sources of economic and productivity growth in the medium term and the EU has confirmed its objective of spending 3% of its GDP on research and development by 2020. Successful investment in research and innovation can boost productivity and the competitiveness of European businesses. At the same time, improved innovation performance facilitates structural changes in Member States' economies towards economic activity with high added value.

Meanwhile, our competitors too are pursuing very ambitious innovation policies.[5] Japan has set itself the target of increasing its R&D expenditure to 4% of its GDP by 2020. South Korea is aiming at an R&D intensity of 5%, Singapore 3.5%, and China 2.5% which means that it is likely to overtake the EU by 2014 in terms of R&D intensity.[6]

For R&D expenditure in the business sector, the US, Japan and South Korea outperform the EU, with the US and South Korea increasing their lead in this field. This is in particular due to the lesser ability of the EU to translating knowledge into advanced and commercially successful goods and services. In particular in the US, young innovative firms can grow rapidly into world leaders[7]. Finally, the skills base in the EU is eroding due to the decline in the working population and the lack of highly qualified immigrant workers.

Under the current economic conditions, public R&D expenditure is under pressure and measures are needed to promote private R&D expenditure. These include facilitating access to capital, encouraging closer cooperation between academia and enterprises and creating a business environment conducive to private investment. The trend whereby multinationals are shifting R&D across borders within their global value chain offers new opportunities for Member States to attract foreign direct investment (FDI) and enlarge their knowledge base.

To reap the benefits of technological progress, a stronger focus is needed on promoting the diffusion of technological development into marketable products and services. An effective strategy is needed to ensure that the necessary skills are available to consolidate a technology-driven competitive advantage. National systems for evaluating innovation policy can foster good governance, including the administration of public R&D budgets, which should aim for maximum

[5] Innovation Policy Trends in the EU and Beyond, December 2011, available at http://www.proinno-europe.eu/inno-policy-trendchart/page/innovation-policy-trends.

[6] *Innovation Union Competitiveness Report 2011*, http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/iuc2011-full-report.pdf.

[7] See e.g. Veugelers R. and Cincera M (2010) 'Europe's Missing Yollies', Bruegel Policy Brief.

impact. This chapter focuses on recent innovation policy developments in the Member States, paying particular attention to the business sector.[8]

2.2.2. *Fostering private research*

Many Member States have enacted measures to promote business sector research, in particular tax incentives, grants and tax credits. France is providing a Research Tax Credit that reduces the cost of R&D expenditure for businesses, focusing on technological innovation. Finland has also recently introduced R&D tax incentives. The Netherlands has cut subsidies and transformed them into generic tax deductions; especially for R&D wages and R&D-based profits, with the goal of making it easier to apply for these instruments. Belgium allows similar tax deductions to be combined with a generic allowance for corporate equity and R&D grants. Greece has recently shifted its R&D support from grants to loans, guarantees and tax incentives.

However, tax incentives can be expensive instruments and need to be well targeted. Several Member States have therefore revised their systems to make them more suitable for SMEs. For instance, the Czech Republic has redesigned its previous tax incentive for in-house research so that smaller companies which outsource research to external institutes or enterprises can also benefit from it. Measures in Portugal follow a similar line. Austria has turned its tax allowance into a tax credit that will better suit SMEs which may make few profits; and France has a scheme targeting young innovative firms with tax advantages. The United Kingdom is slightly adapting its R&D tax credit scheme based on a recent evaluation.[9]

Some countries are not convinced about the value of tax allowances in promoting R&D. In Germany, it is assumed that large enterprises would benefit from such a system more than SMEs. For SMEs, the system of direct grants and project-related support is still perceived as being more efficient.

Another avenue to enhance growth based on research and innovation is to increase the availability of venture capital, an area where Europe lags considerably behind the United States. Recent developments include initiatives in the Netherlands, Poland and France to set up new venture capital schemes. Many of these initiatives focus on fund-of-fund schemes, investing public funds in venture capital funds, aiming to attract more private institutional investors to the field.

All Member States are encouraging closer cooperation between academia and enterprises. Estonia has set up further competence centres to bridge the gap between firms and academic research. In Slovenia, one selection criterion for public research grants is whether the researcher cooperates with businesses.

Innovation vouchers for enterprises to buy services from R&D providers remain a popular policy measure. For example, Estonia, Latvia and Lithuania all have such schemes and Slovakia is considering a similar system.

Policy example: Slovenia's call to strengthen companies' research departments

As part of the Research and Innovation Strategy of Slovenia 2011-2020, the former Ministry of Higher Education, Science and Technology and the Ministry of Economic Affairs launched, in July 2011, a call for proposals aimed at 'strengthening companies' research departments'. Its objectives are to ensure effective interinstitutional mobility of researchers, to support the employment of researchers or developers in the economy, to increase the number of PhDs and 'young researchers' in companies and to increase the number of interdisciplinary research departments in the business sector. The funding available for the call amounts to EUR 20 million. More than 60 companies and more than 500 researchers (100 PhD students) will be financed until mid-2014.

Knowledge transfer has also been a focus of policy measures, including measures such as *Knowledge Transfer Partnerships* (UK) for using effective intermediaries; *INNCORPORA* (Spain), providing support for hiring highly qualified workers; and *Sociétés d'acceleration de transfert de technologies* (France) providing wide support for technology transfer.

Policy example: the UK's Knowledge Transfer Partnerships (KTPs)

This programme is led by the *Technology Strategy Board*, and includes three-way partnerships between a business (the company partner), one or more recent graduates (associates) and a senior

[8] The country reports of the *Innovation Trendchart* available at http://www.proinno-europe.eu/inno-policy-trendchart/repository/country-specific-trends provide detailed information about the Member States' innovation policies. Analysis based on performance indicators regarding innovation and research per Member State can be found in the *Innovation Union Scoreboard 2011*, http://ec.europa.eu/enterprise/policies/innovation/files/ius-2011_en.pdf, and the *Innovation Union Competitiveness Report 2011*, http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/iuc2011-full-report.pdf.

[9] http://www.hmrc.gov.uk/research/report107.pdf.

academic acting as a supervisor (knowledge base partner). The aim of these partnerships is to increase interactions between the knowledge base (a university or research organisation) and companies through the mediation of the associate who during the period he or she stays in the company will work on a project developed in collaboration with the partners for a year or more.

2.2.3. *Internationalisation of R&D*

A large share of business R&D in the world is performed by a small group of multinational firms. Some of them have begun shifting R&D investments outside their home base, which may present some risks, but also provides new opportunities for Member States trying to catch up with innovation leaders in Europe.[10] R&D activities abroad help firms to enter new markets and expand and are not a substitute for R&D in the home country.[11]

In some Member States (Ireland, Belgium, Hungary, Czech Republic, Austria) the majority of business R&D is performed by foreign-owned firms. Ireland benefits from considerable process innovation in multinationals as they aim to preserve their cost competitiveness. In the Czech Republic, the public investment agency 'Czech Invest' continues to make a significant effort to attract foreign companies and has set up a web portal trying to link businesses with partners all over the world such as in the US and China. In Austria, German firms are prominent in the research and innovation system. While some American and Chinese enterprises have bought successful Austrian companies, their manufacturing and R&D activities are usually kept in Austria as long as the productivity stays high. The strategy of Malta for attracting FDI targets life sciences. In Finland too, attracting FDI is seen as an increasingly important topic since tangible investments in manufacturing have contracted more than in other EU countries.

Policy example: Finland's R&D internationalisation strategy

The strategy focuses on broad-based innovation policy, and the changes and reforms necessary for its implementation. It focuses on global competence and value networks; demand and user orientation; innovative individuals and communities; and a systemic approach. In practical terms foreign companies are eligible for funding by the Agency for Technology and Innovation (Tekes); a strategy for the internationalisation of education, research and innovation has been adopted by the national Research and Innovation Council; the Finland Distinguished Programme (FiDiPro) enables international researchers to work with the best in Finnish academic researchers; and the legal status of universities has been changed to encourage them to internationalise.

2.2.4. *Promoting key enabling technologies*

The capacity of European industry to deploy key enabling technologies (KETs[12]) is vital for preserving its global competitiveness.[13] KETs are a key source of innovation, providing indispensable technology building blocks that enable a wide range of product applications. Due to their cross-cutting nature and systemic relevance, KETs are instrumental in modernising Europe's industrial base and in driving the development of entirely new industries.

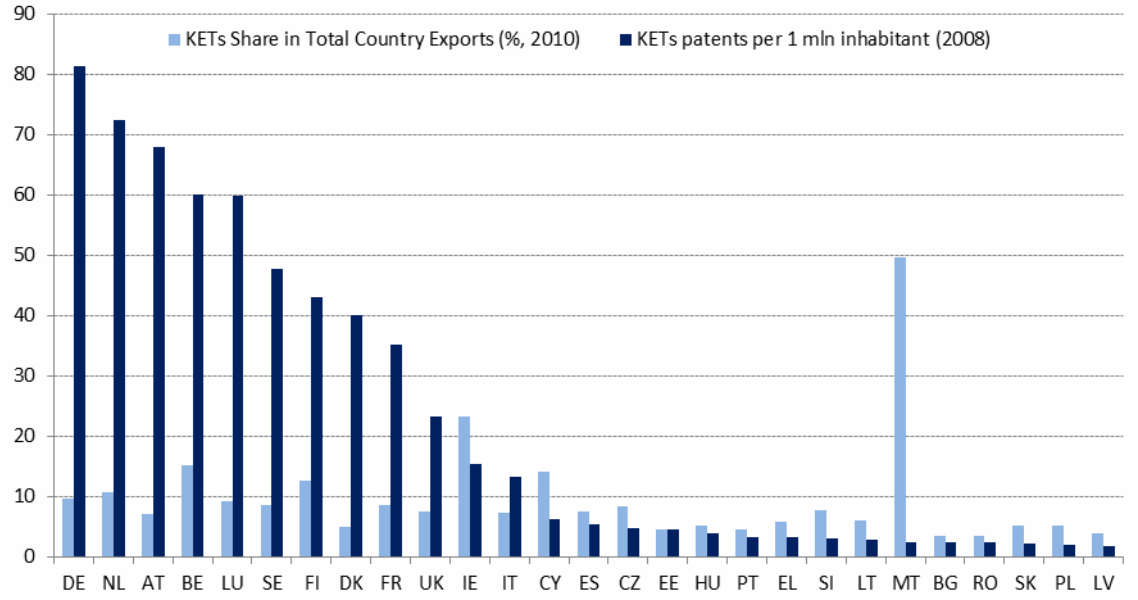
[10] See *Innovation Union Competitiveness Report 2011*, pages 116-117, available at: http://ec.europa.eu/research/innovation-union/pdf/competitiveness-report/2011/iuc2011-full-report.pdf.

[11] 'Internationalisation of Business Investments and an Analysis of their Economic Impact', European Commission (2012). http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=other-studies

[12] KETs are composed of six core technologies: micro-/nanoelectronics, nanotechnology, photonics, advanced materials, industrial biotechnology and advanced manufacturing technologies.

[13] See the report of the High Level Expert Group on Key Enabling Technologies and its policy recommendations at http://ec.europa.eu/enterprise/sectors/ict/files/kets/hlg_report_final_en.pdf.

Figure 2.1: Competitiveness in KETs



Note: Figure for Malta reflects exports by a single large microelectronics company.
Source: Calculations by Commission/ZEW/NIW based on Patstat and UN Comtrade data

A recent study[14] found that most Member States have policy initiatives supporting basic and technological research on key enabling technologies. However, in many of them there are no specific measures covering the later stages of technology and product development and commercialisation.

Policy example: Innovation Alliances in Germany

Innovation Alliances are created around specific application areas or future markets. They combine several stages of technology, aiming at ground-breaking industrial innovation and comprise several strands that are mutually reinforcing in bringing new technologies to the market. The scheme provides funding for strategic cooperation between industry and public research in key technology areas that demand a large amount of resources and a long time horizon, but promise considerable innovation and economic impact. The funding premise is that every euro of Federal money should be matched by five euros from industry. This investment policy is also important for small and medium-sized enterprises since knowledge of future technological developments together with the commitment from large companies enables SMEs to remove some of the uncertainty from the high level of risk involved in R&D investment decisions.

In order to successfully deploy key enabling technologies, it is important to combine several actors across the value chain. In larger Member States programmes can fund projects that focus on the complete value chain, but smaller Member States often do not cover the whole of it.

SMEs are important for the deployment of key enabling technologies but they are often too small to make a difference in a particular industry. To make an impact on a global scale, large firms are needed. Hence, programmes that promote collaboration with international partners can be valuable. For instance, the Functional Materials programme in Finland emphasises the whole value chain and international collaboration.

There have been two essential constraints to enhanced collaboration between academia and business: the low capacity of enterprises to absorb research, and the lack of applied research capability that enterprises can access. To correct this, Ireland has tried to close the gap by requiring that research programmes involve industry collaboration. Investments in key enabling technologies, such as nanotechnology, advanced materials, microelectronics and biotechnology, made by the *Science Foundation Ireland* are aligned with the interests of industrial partners interested in deploying these technologies in areas such as semiconductors, medical devices or food processing.

[14] Idea Consult et al.: Exchange of good policy practices promoting the industrial uptake and deployment of Key Enabling Technologies — Final report July 2012, not yet publicly available.

Policy example: The French patent fund

France Brevets is a EUR 100 million investment fund dedicated to promoting the use of patents. Its task is to enable universities and other public research bodies, as well as private firms, to better exploit their patents, also internationally. This should happen through creating patent clusters for licencing purposes, and through combined management and pooling of public and private patents.

Smaller Member States tend to have a less comprehensive research base on key enabling technologies. To achieve a critical mass, some countries are making specific choices on research themes to support, and on the scale of intervention. They concentrate often on close coordination between infrastructure and project investments. In Denmark, policy-makers have focused on new climate technologies and the objective of *Green Labs DK* is to become a leader in developing new technologies for the purpose of supporting energy-policy objectives on security of supply, independence from fossil fuels, a cleaner environment and cost-efficiency.

Several Member States are promoting key enabling technologies explicitly, while others use more general programmes targeting industrial innovation. Larger Member States tend to focus on top-down thematic programmes, whereas smaller Member States favour a bottom-up approach that is driven by industry demand. Further, many countries are pursuing active cluster policies to promote regional links between academia, enterprises, banks and policy-makers, benefiting also key enabling technologies.

But more could be done[15] and policy learning can provide a springboard for action. The United Kingdom is developing a network of technology and innovation centres — termed 'catapults' — based on the German Fraunhofer Institutes[16], with a focus on developing pilot and demonstration projects. The development of clusters and networks can be supported with the assistance of the EU structural funds.[17] And several Member States have set up ambitious programmes to improve the use of public procurement as a tool to promote innovation.

[15] http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=intro.

[16] The German Fraunhofer is Europe's largest application-oriented research organisation focusing on technological innovation and new systems solutions for customers, and helping to reinforce the competitive strength of the economy.

[17] 'smart Specialisation Platform': http://ipts.jrc.ec.europa.eu/activities/research-and-innovation/s3platform.cfm.

Policy example: The Dutch Small Business Innovation Research programme

This programme allows public authorities to publish calls for tender to procure an innovative product that still needs to be developed. In a first step, companies hand in their proposals for product development and several companies are then funded to perform feasibility studies. In the light of these studies, three companies are asked in a second step to develop their idea into a marketable product and are subsidised with up to EUR 450 000 each. In a third step, the procuring authority is free to buy one of these three products. The advantages of this scheme are: it is quick, result-oriented and tailored to SME needs, with 100 % funding and little red tape. The programme has been positively evaluated. More than a dozen marketable innovations (e.g. traffic guiding, dyke monitoring, bio-based catalysis) have been developed through this tool since 2004.

2.2.5. Using structural funds for innovation

In some countries, structural funds are the main source of financing for R&D and innovation policy budgets (e.g. Greece, Poland, the Czech Republic, Hungary, Estonia, Slovakia, Bulgaria, and Romania). The key question for them is how to spend the available funds well and how to increase the absorptive capacity.[18]

Structural funds are widely used to develop a research and innovation infrastructure. Bulgaria has created the Sofia Technology Park specialising in ICT and pharmaceuticals; and Lithuania has created five higher education, research and business oriented science and technology valleys.

To leverage public funding, Poland's *Operational Programme Innovative Economy* and Hungary's policy measure *Support for Market-oriented R&D Activities* show how EU structural funds can be employed to support industrial innovation. Another option is to trigger investment through the use of public-private partnerships, as is the case in the Christian Doppler Laboratories, where every private euro invested in applied basic research is doubled by a matching public investment. Grants by innovation agencies are sometimes linked to a requirement that companies and research institutions pay return fees based on the utilisation of research infrastructure. The French *Key Technologies for the Digital Economy* programme

[18] Funding Innovation in the EU and Beyond, December 2011, page 6, available at http://www.proinno-europe.eu/inno-policy-trendchart/page/innovation-policy-funding.

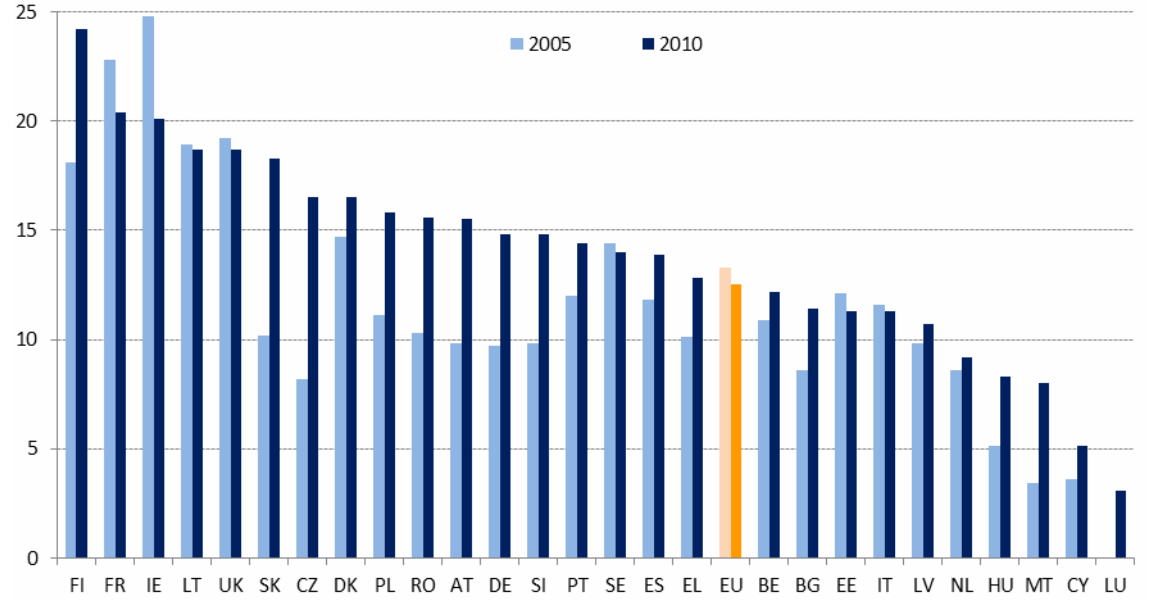
provides 100% funding for pilot installations involving nanoelectronics. Industrial partners gain access to the equipment and laboratories by paying an access fee, and if the project is an economic success they have to pay a return fee.

Policy example: The CzechAccelerator

The CzechAccelerator 2011-2014 programme is part of the Operational Programme Enterprise and Innovation. Since 2011, the programme has offered companies doing business in ICT, clean technologies, biotechnology, life sciences, new materials or nanotechnology a stay in the US (Silicon Valley, Boston), Israel, Singapore or Switzerland. In addition to an office in one of the business incubators, the participants are provided with consulting services, coaching and training. Companies also participate in various networking events, which makes their search for a strategic partner or investor easier. The programme aims to enhance the managerial skills and capacities needed to successfully commercialise products, implement business plans and gain easier access to venture capital.

2.2.6. Improving skills for innovation

Figure 2.2: Tertiary graduates in science and technology per 1000 of population aged 20-29



Note: Latest available data for France (2009) and Italy (2008).
Source: Eurostat, 2011

Technological and industrial changes are increasing the demand for employees with high and intermediate levels of skills.[19] Thus in a knowledge-intensive economy, excellence in research, engineering and science needs to be backed by further skills, in particular in management, team work, creativity and design. Attracting top talent from abroad can be an effective strategy to build up excellence quickly and gain a more immediate competitive advantage.[20]

Skills gaps have started to emerge in some Member States, partly related to a decline in the working-age population due to decreasing birth rates over the last decades and emigration of well-qualified people. This issue is likely to become more important in the future. Most Member States have a relatively low share of graduates in science, technology and engineering (Figure 2.2), but not many have taken ambitious action to improve this. However, some have specific actions; for example, Germany has adopted a strategy to ensure a sufficient skills base;[21] Austria will fund more study places in applied natural sciences and engineering; and Estonia has an 'industrial PhD scheme' and a web portal to attract Estonian talent from abroad.

2.2.7. Good governance and evaluation in the area of innovation policy

Many Member States are improving the governance of their innovation system, in particular by extending the use of evaluations. Austria and Finland have evaluated their innovation system recently.

Others are evaluating partially: the Czech Republic embarked on an audit in 2012 and Estonia is evaluating its current policies. Germany has commissioned an evaluation of its major SME innovation programme which supports the findings of stakeholders and the government that the programme is very successful. The United Kingdom Innovation Agency NESTA has performed a preliminary evaluation[22] of its SBRI scheme, which aims to encourage innovation via public procurement. France is evaluating its cluster policy. Luxembourg has established annual evaluations of university research activities.

Italy has a new agency for evaluating research and the quality of R&D in universities. In Ireland, a number of partial evaluation reports have recently

[19] Cedefop (2011), 'What next for skills on the European labour market?', Briefing note.

[20] Innovation Policy Trends in the EU and Beyond, December 2011, available at http://www.proinno-europe.eu/inno-policy-trendchart/page/innovation-policy-trends, page ii.

[21] The 'Konzept zur Fachkräftesicherung', including initiatives to better activate the domestic supply of workers (e.g. women, workers aged 60+, reducing school drop-out rates and improving the education system), but also measures to better attract employees from other EU and non-EU countries.

[22] http://www.nesta.org.uk/publications/reports/assets/features/buying_power. See also Mini Country Report UK of the innovation Policy Trendchart, December 2011, page 17.

been published, but there are no plans to conduct an overall evaluation of the national innovation system.

Policy example: Germany's SME innovation programme

The evaluation of the *Zentrales Innovationsprogramm Mittelstand (ZIM)*[23] notes its easy and quick application procedures, high approval rates (about 75 %), sufficient amounts (up to EUR 350 000 per application), high flexibility (applications can be made by all sectors and industries and equally by individuals and groups of enterprises) and relatively low administrative costs.

Policy fragmentation due to overlapping programmes, unclear competences of public bodies and the lack of an overall strategy to promote innovation has been identified as a challenge in many Member States over the last few years. However, many Member States have recognised this challenge and are taking steps to address it. Evaluations of existing policies are a natural first step, upon which new strategies can be built.

Some Member States are developing new comprehensive strategies. The United Kingdom published a new R&D and Science Strategy in December 2011 and France will review its National Research and Inovation Strategy 2009-2012. Austria has adopted a new comprehensive innovation strategy with the vision to become an innovation leader and Finland is likely to streamline its governmental R&D institutions. Slovenia has adopted a new Research and Innovation Strategy for the next 10 years and simplified its governance structures. Ireland is planning to reform its innovation strategies on the basis of evaluations.

Romania adopted a reform action plan concerning the innovation system in 2011, as a result of the functional review performed in the context of the previous loan received from the EU. In Slovakia, an ambitious new strategy still awaits implementation.

Stakeholder involvement has been recognised as an important success factor in public and private innovation governance systems.[24] A fairly new development is that the internationalisation of the R&D and innovation system has become an important issue in many countries.

A question that will become more prominent in the future is to what extent increased R&D and innovation spending is translated into successful enterprises, growth and jobs. One factor that has an effect on this is the business environment, including improving the business environment for start-ups, reducing the administrative burden, and pursuing active SME and entrepreneurship policies. Such measures are essential for fostering innovation and commercialisation of research, and form an essential complement to policies promoting research.[25]

[23] http://www.zim-bmwi.de/download/studien-berichte-expertisen/zim-endbericht-kurz_08-2010.pdf

[24] Innovation Policy Trends in the EU and Beyond, December 2011.

[25] See Raffaello Bronzini/Eleonora Iachini: Are incentives for R&D effective? Evidence from a regression discontinuity approach, Banca d'Italia Working Papers, Number 791, February 2011.

2.3. Sustainable industry

2.3.1. Introduction

Sustainable competitiveness refers to the promotion of economic growth and development while at the same time improving resource efficiency, minimising waste and strengthening energy security. The Annual Growth Survey 2012[26] highlighted the importance of unleashing the potential of green growth through enhancing structural reforms to create a new policy mix of regulatory, market and voluntary measures to promote investment in greening the European economy.

Businesses are becoming increasingly aware of the importance of sustainable industry. A recent Eurobarometer survey[27] highlighted that 93% of European SMEs are taking at least one action to be more resource-efficient, most notably in order to save energy, minimise waste and recycle. However, the survey also reveals that in comparison with large companies, SMEs less frequently undertake some form of sustainable activity, less frequently bid for a public procurement contract which includes environmental requirements, and less frequently offer green products and services. Although the concept of sustainable industry is gaining ground, the survey seems to indicate that there is significant growth potential to further enhance the role of sustainable industry in the EU.

2.3.2. Energy consumption, energy intensity and carbon intensity

Within the National Reform Programmes of the Europe 2020 Strategy, Member States have agreed to a number of targets, including energy efficiency and renewable energy targets. They have also been required to submit their second National Energy Efficiency Action Plan in June 2011[28] and to publish their National Renewable Energy Action Plans in 2010.

Between 2000 and 2010, final energy consumption in industry[29] in the EU fell by approximately 12%. This declining trend in energy consumption in industry compares to an increase in energy consumption of 7% for transport, 32% for services and 5.2% for residential sectors over the same 10-year period. As a result, the share of industry in total final energy consumption decreased from 29.4% in 2000 to 25.3% in 2010. With respect to energy intensity, for the same period 2000 to 2010, energy intensity in industry and energy[30] in the EU declined by 10.6%.

Looking at the figures at country level, most Member States have seen a decline in energy intensity over the past decade, 2000-2010. In particular, Member States with relatively high energy intensity have seen improved efficiency over the past decade. Particularly large declines in energy intensity were experienced in Bulgaria, Romania, Ireland, Cyprus and Poland. This has been due to a combination of both a decline in energy consumption by industry and an increase in its gross value added over the period. Other Member States have seen an increase in energy intensity between 2000 and 2010, such as Austria, Luxembourg and the Netherlands. In the case of Luxembourg, the increase in energy consumption can be explained by an increase in energy consumption by industry and a decline in gross value added. However, in the case of Austria and the Netherlands, the increase in energy

[26] COM(2011) 815, http://ec.europa.eu/europe2020/pdf/annual_growth_survey_en.pdf.

[27] Eurobarometer Report 'sMEs, Resource Efficiency and Green Markets' March 2012. The report focuses on three core themes — resource efficiency, green markets and green jobs, with a particular focus on SMEs: http://ec.europa.eu/public_opinion/flash/fl_342_en.pdf.

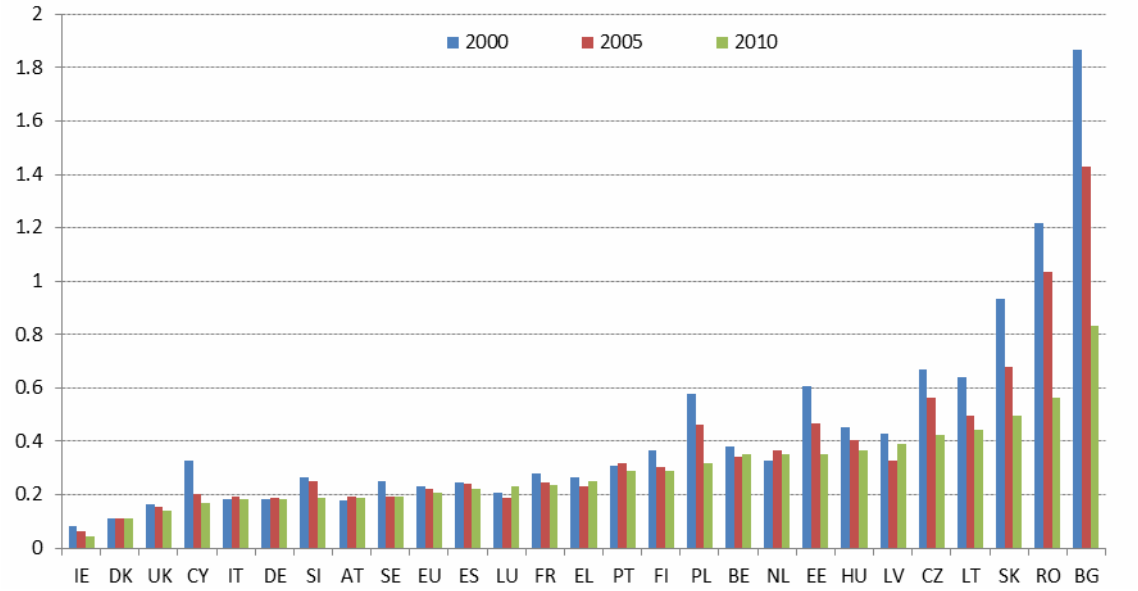
[28] Submitted under the Energy Services Directive 2006/32/EC and the forthcoming Energy Efficiency Directive, NEEAPs require Member States to describe how they intend to reach the 9% indicate energy savings target by 2016.

[29] Final energy consumption by industry covers all industrial sectors, e.g. the iron and steel industry, the chemical industry, the food, drink and tobacco industry, the textile, leather and clothing industry, and the paper and printing industry, with the exception of transformation and/or own use of the energy-producing industries.

[30] 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) and is measured as kg of oil equivalent per unit. Due to data availability considerations and to the specific structure of the Eurostat databases on energy and national accounts and of European Economic Area greenhouse gas inventories, the indicators of energy and carbon intensity calculated in the report have been built in order to include a broader, still consistent definition of industry and provide information for all Member States (with the exception of Malta) in the most recent available year. 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. On the other hand, the carbon intensity indicator refers to CO_2 emissions in industry (including construction), from industrial processes and from solvent and other product use in industry and CO_2 emissions from energy industries. Both aggregates (energy consumption and emissions) have then been put into relation with consistent gross value added data at constant prices (2000 as the reference year).

consumption was greater than the accompanying increase in gross value added in that category.

Figure 2.3: Energy intensity in industry and the energy sector



Note: Includes construction and final non-energy consumption. Measured in kilograms of oil equivalent per euro gross value added (reference year 2000). The latest data for France is for 2009. No data were available for Malta.
Source: Calculations based on Eurostat data

The policy response of the Member States to help industries improve energy performance varies according to their specificities. For example, Belgium and the Netherlands provide tax deductions for investment in energy efficiency. The Netherlands also provides a subsidy scheme to support catching-up with the cheapest available technology in industry for renewables. Various forms of financial incentives are also provided across Member States. For example, in Malta grants are provided towards the initial capital investment in renewables and in Cyprus grants are awarded for energy-efficient investments. In Finland, funding is granted for environmental technologies. In Germany, interest-rate subsidies are granted to projects aimed at increasing the energy efficiency of SMEs. Measures have also targeted improving energy efficiency in buildings, including in industrial buildings. Furthermore, initiatives such as the Ecodesign Directive[31] are driving change and helping to deliver more sustainable products, production and consumption.

The recent Eurobarometer survey highlighted further measures that can be undertaken to assist industry. It underlined that more information on energy service contracts and options to save energy would help around a quarter of SMEs to reduce their energy bills. Moreover, 25 % of SMEs stated that simplifying administrative procedures for creating co-generation capacity, such as installing solar panels, would be effective in boosting energy efficiency.

The carbon intensity of European industry[32] declined by 12.1 % from 2000 to 2009. Almost all Member States were part of this, with the most significant reductions being measured in Romania, Slovakia, Ireland, Bulgaria and the Czech Republic. In all these Member States this was due to significant declines in carbon emissions accompanied by an increase in gross value added of industry and energy over this period.

2.3.3. Resource efficiency

Resource efficiency is one of the main challenges for the EU, but at the same time it offers significant potential for European firms. Enhancing resource efficiency can potentially reduce costs for businesses. There are good opportunities to improve further in this field, e.g. by adopting cleaner technologies, improving the use of by-products and waste, and adopting eco-design solutions. As part of the Europe 2020 Strategy, the Commission has launched the Industry Policy and

[31] The Eco-design Directive provides consistent EU-wide rules for improving the environmental performance of energy-related products (ERPs) through eco-design. It prevents disparate national legislations on the environmental performance of these products from hindering intra-EU trade. This should benefit both businesses and consumers, by enhancing product quality and environmental protection and by facilitating the free movement of goods across the EU.

[32] Carbon intensity is measured as the ratio between CO_2 emissions in the energy sector, manufacturing (including construction), process emissions and solvents, on the one hand, and GVA in the energy sector and industry (including construction) on the other.

Resource Efficiency flagships under the sustainable growth priority. More recently, the Commission launched a Resource Efficiency Roadmap[33] in 2011.

The recent Eurobarometer survey highlights a number of trends in resource efficiency. For example, a third of European SMEs are striving to improve their resource efficiency. Around a fifth say that they are taking these measures because of financial or tax incentives or other forms of public support. Over a third indicate that measures to improve resource efficiency have reduced their production costs while about a quarter report that their production costs have increased.

A 2009 study[34] suggested that European companies are taking action to increase their resource efficiency. The most prominent actions were first-order measures, i.e. incremental changes in production through short-term investments, e.g. recycling of materials, use of green and intelligent information technology, and the use of green business models. Second-order measures, i.e. fundamental changes to business operations involving longer-term investments, were present to a lesser extent. In both these cases, the lack of access to finance and lack of knowledge were identified as major barriers.

When looking at resource efficiency in the context of waste disposal, waste from production processes is no longer being seen as just a burden, but is being recognised as an important re-usable resource for industries. Figures from 2004 and 2008[35] show that the total amount of waste generated by EU industry fell by 8.6%, whereas for the whole economy this decline was 8.1%, thus indicating that industry reduced its waste faster than the wider economy. Country-specific data for 2008 indicate that enterprises generate the highest amount of waste (in tonnes per capita) in Bulgaria, Luxembourg, Finland and Estonia, while enterprises in Latvia, Hungary and Cyprus produce the lowest amount.

Policy example: Thermal insulation of buildings in Austria

A EUR 100 million package for the thermal restoration of existing premises up to 2014 was introduced in Austria in 2009. Owners of both private and company premises are granted special grants for insulating exterior walls of buildings and replacing old heating systems and windows with new ones. In 2011, more than 18 000 projects (approximately 17 500 for residential and 800 for industrial buildings) were funded which triggered a total investment value of EUR 860 million.

Policy example: The Green Start programme in Ireland

The *Green Start* programme (Ireland) helps companies to put a simple environmental management system in place. The programme is designed to boost the level of environmental awareness concerning regulatory compliance and developments in green markets in companies that have no in-house expertise or exposure to environmental issues. An increase in environmental performance can help companies reach a level where they will achieve competitive advantage through greater resource efficiency (energy/water/waste costs) and greater market share through enhanced credentials.

2.3.4. Development of environmental industries

Eco-industry refers to the production of goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil and problems related to waste, noise and eco-systems. The global market for environmental goods and services represents an opportunity for European firms. The global market for eco-industries is estimated at roughly EUR 1.15 trillion a year, with the European Union seen as capturing around one third of it. In the future the global market could almost double, with the average estimate for 2020 being around EUR 2 trillion a year.[36]

According to a recent study,[37] European companies are performing well on the global market, in particular in photovoltaics, air pollution control and waste disposal where the EU seems to have a comparative advantage. However, the study also shows that many environmental goods and services included in the study are sold on local or national markets and not traded extensively.

[33] The roadmap aims to transform Europe into a sustainable economy by 2050 and outlines how the EU can achieve resource-efficient growth. The roadmap identifies the economic sectors that consume the most resources, and suggests tools and indicators to help guide action in Europe and internationally. It is an agenda for competitiveness and growth based on using fewer resources when producing and consuming goods and creating business and job opportunities from activities such as recycling, better product design, materials substitution and eco-engineering: http://ec.europa.eu/environment/resource_efficiency/pdf/com2011_571.pdf.

[34] 'study on the Competitiveness of the European Companies and Resource Efficiency', ECORYS study carried out for DG Enterprise and Industry, 2009.

[35] 'sustainable Industry: Going for Growth & Resource Efficiency', 2011.

[36] 'The number of Jobs dependent on the Environment and Resource Efficiency Improvements', ECORYS study, 2012.

[37] Ibid.

When looking at the situation from an SME point of view, the Eurobarometer results suggest that one quarter of SMEs in the EU, approximately 26%, offer green products or services.[38] This would tend to suggest that SMEs still have significant potential to enter the eco-industry. Furthermore, the results show that 87% of SMEs in the EU that sell green products or services only do so in national markets and that it is large companies that are more likely to sell their green products or services in foreign markets. Therefore, there is significant potential for European SMEs to exploit the green market to a greater extent.

Innovation plays an important role in helping to decouple growth from environmental pressures and it is essential to have a framework conducive to innovation, including competitive markets and openness to trade and investment. Green innovation is also influenced by other factors such as the environmental policy framework. For example, in Slovenia, the Slovenian Development and Export Bank (SID) has earmarked EUR 44 million from June 2012 for SMEs to finance green technology solutions such as waste or water treatment or reducing air pollution. In Germany, the ongoing Energy Research Programme has allocated EUR 3.5 billion to energy research between 2011 and 2014. The SDE+ subsidy incentive scheme in the Netherlands is also promoting the use of cost-effective technologies, including renewable sources of heat. In Italy, as part of initiatives to favour the environmental restoration and industrial reconversion of local areas in difficulty, such as Porto Marghera in Veneto and Porto Torres in Sardinia, there is an attempt to favour the emergence of a more sustainable industry (e.g. through the promotion of 'green chemicals'), stressing that restructuring processes can also provide opportunities. Also, Finland has a green mining programme aimed at making Finland a global leader in the sustainable mineral industry by 2020.

The size of the eco-industry can be measured by its turnover, an approximation of which is the level of environmental protection expenditure. In 2009, the estimated environmental protection expenditure by industry as a percentage of GDP was 0.43%.[39] This figure has remained relatively stable since 2001.

In 2011 approximately 0.71% of the value of EU exports corresponded to environmental goods.[40] The percentage varies between Member States. The largest share of environmental goods in total exports was in Cyprus, Luxembourg and Germany. At the other end of the spectrum, Malta, Latvia and Bulgaria had the lowest level of exports of environmental goods. The large export share of Cyprus is due to the assembly and export of photovoltaic panels from imported parts.

The figure 2.4 shows that the bulk of exports of environmental goods belong to the group of photosensitive semiconductor devices, including photovoltaic cells which account for approximately 44% of EU exports of environmental goods. This concentration has perhaps contributed to the difficulties the sector has experienced. Other major exports were devices for filtering and purifying liquids and gases, accounting for approximately 24% of exports in 2011.

Several initiatives have been taken by Member States to promote green industries. Germany has an initiative on 'electro-mobility' which aims to establish it as a leading market for electric vehicles. A similar project has been launched in Finland, known as the Electric Vehicles Systems (EVE) programme. This programme is aimed at companies and research institutions whose goal is to increase the amount of business related to electric vehicles and machinery. Germany is also working on a programme aimed at developing hydrogen and fuel cell technologies. Poland has launched a green technologies accelerator scheme aimed at fostering the development and international transfer of Polish innovative environmental technologies.

Policy example: Green deals in the Netherlands

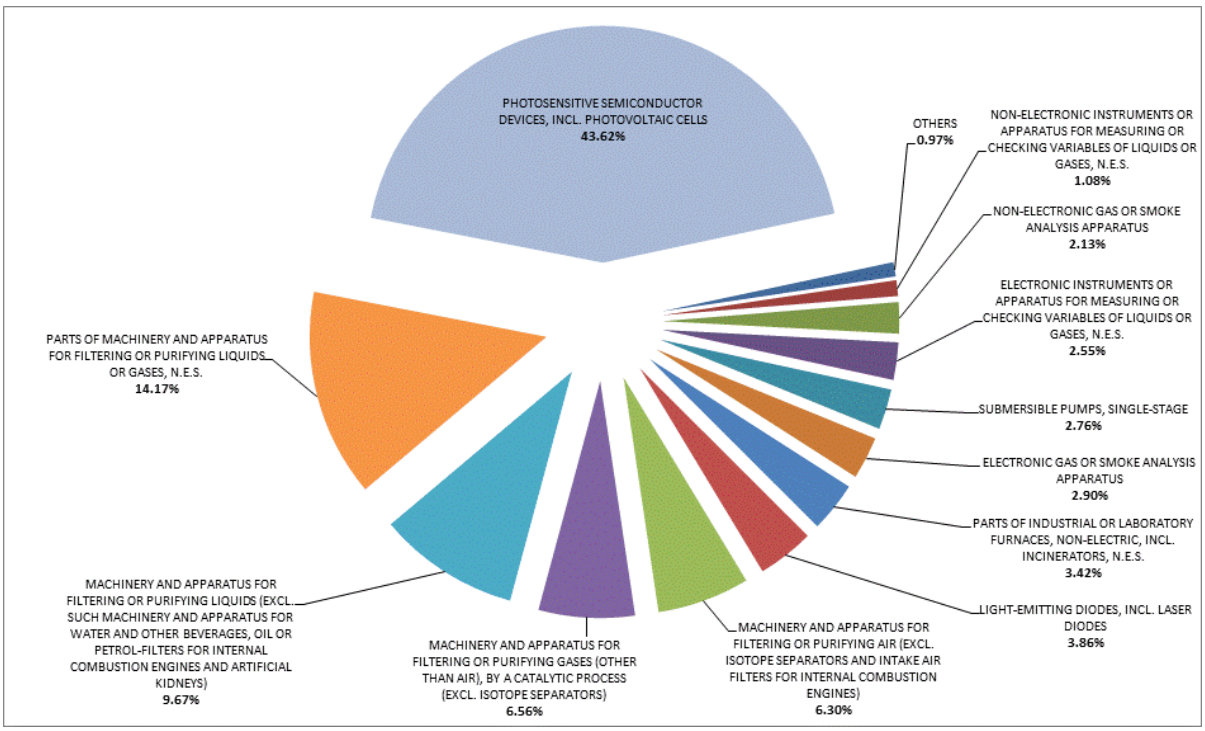
Green Deals are the government's 'deals' with society. The government has asked businesses, citizens, civil society organisations, and local and regional authorities to indicate green projects which they have not managed to launch in an effort to identify how it can help these projects become viable. This can take place through providing advisory capacity, organisational capacity, removing legislative and regulatory obstacles and establishing public-private financing structures. Nearly 60 'Green deals' have been signed since 2011 and an initial analysis by the Dutch Government found that these deals have supported and strengthened the policy to achieve CO2 reduction and renewable energy targets. An example of a green deal includes a pilot project with a greenhouse company to store heat from their greenhouses in the summer for use during the winter.

[38] In the Eurobarometer survey, green products and services are those with a predominant function of reducing environmental risk and minimising pollution and resources. For this survey, products with environmental features (eco-designed, eco-label, organically produced, with a substantial recycled content) were also included.

[39] Eurostat data.

[40] Exports of Environmental Goods refer to 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). '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 on pages 190/191 of the Ecorys study of 22 October 2009 on the 'Competitiveness of the EU eco-industry', carried out for DG Enterprise and Industry.

Figure 2.4: Composition of intra- and extra-EU 27 exports of environmental goods, 2011 (volume)



Source: Eurostat COMEXT

On green public procurement, the Commission set an indicative target that by 2050, 50% of all public tendering procedures should be green.[41] A recent study[42] found that the uptake of green public procurement in the EU has been significant. 26% of the latest contracts signed in 2009-2010 by public authorities in the EU included all the core green criteria, while 55% of these contracts included at least one core criterion. The top performing countries, according to the contracts signed by public authorities, were Belgium, Denmark, the Netherlands and Sweden. The Eurobarometer survey also showed that green public procurement is still a challenge for SMEs, with only 11% of SMEs bidding for a public procurement tender that included environmental requirements compared with 16% of large companies.

***Policy example: ÖkoKauf Wien/EcoBuy Vienna*[43]**

An example of best practice in green and efficient public administration is the green procurement initiative *ÖkoKauf Wien/EcoBuy Vienna*. It is a programme for sustainable public procurement across the entire city administration of Vienna. It has developed about 100 product catalogues and green criteria for supply, construction and other regularly procured services. By changing administrative routines the programme had a significant financial and environmental impact corresponding to about EUR 17 million and 30000 t of CO_2 emissions per year. It demonstrates that green products do not need to cost more and educating suppliers is an important additional result. Ownership of the programme has been broad, with about 180 public procurement practitioners from all parts of the administration involved in 22 working groups.

2.3.5. Conclusion

In an effort to tackle the challenges posed by environmental constraints and ensure sustainable production, Member States are using a variety of demand-side and supply-side policies. The effects of these policies have not always been fully favourable, as the difficulties of the photovoltaics sector show. However, demand-side policies and support, such as green public procurement and labelling, taxation and subsidies seem to have solidly taken root. Supply-side policies, such as better access to finance for environmentally viable solutions, education and information services directed at enterprises, have been identified as bottlenecks and should be strengthened.

[41] 'Public Procurement for a Better Environment', COM(2008) 400. 'Green' means compliant with endorsed common 'core' green public procurement criteria for ten priority product/service groups such as construction, transport, cleaning products and services: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0400:FIN:EN:PDF.

[42] 'Assessment and Comparison of National Green and Sustainable Public Procurement Criteria and Underlying Schemes', 2010.

[43] www.oekokauf.wien.at.

Despite the potential for problems, well-directed, commercially sound and significant investment by European industry is needed to seize opportunities in environmental industries, especially for SMEs. To complement this investment, Member States have to strike the right balance between creating supportive policies, avoiding wasteful spending and avoiding excessive burdens on companies when they design policies aiming at creating incentives for investment required to achieve sustainable growth.

2.4. Business environment

2.4.1. Introduction

The business environment can be described as a set of conditions that affect a company's operations and include customers, competitors, suppliers, legislation and economic and political factors. The World Bank Report 'Doing Business in 2012', confirms that OECD high-income economies, by a large margin, have the world's most business-friendly environment. A good business environment requires rules that are efficient, transparent and provide certainty. The regulatory framework must contribute to achieving growth and jobs, while continuing to take into account social and environmental objectives.

2.4.2. Access to finance

Since the beginning of the financial crisis, SMEs have been particularly affected by tightening credit conditions and face difficulties in accessing financing. As a result of the slowdown, debt financing has become more expensive and difficult to obtain, and alternative financing instruments are often not fully developed in Member States.[44]

According to the SMEs' Access to Finance Survey 2011,[45] access to finance is the second most pressing problem facing EU SMEs after finding customers. Larger and older companies are more likely to obtain external financing whilst younger and smaller companies, and in particular microcompanies, are more likely to be rejected. 77% of large companies that applied for a bank loan were granted the loan. The equivalent figure for SMEs is 63%. For SMEs active for between 2-5 years, 24% received the finance requested and for microcompanies, with less than 10 people, only 16% could obtain access to finance.

The survey results show that access to bank loans has continued to deteriorate; on balance, SMEs reported a worsening in the availability of bank loans (20%, up from 14% in the previous survey round). Along with access to bank loans, SMEs also reported a further deterioration in the availability of bank overdrafts and of trade credit, indicating an overall considerable worsening in the access to finance.

According to the survey, since 2009 the overall situation has deteriorated in more than half of the Member States. This was mainly caused by the overall tightening of credit standards due to banks' greater risk aversion. The results show that just under a fifth (19%) of EU SMEs applied for a bank loan in the last six months of 2011, down from 26% in 2009. Applications for bank loans were most common in France (31%) and Slovenia (30%), while for SMEs in Germany, Italy and Poland there were significant drops in the proportion of firms applying for bank loans from 2009. SMEs in Ireland (12%) and Greece (11%) were most likely not to apply because of the risk of rejection. SMEs in Finland and Sweden were more likely than those in the other Member States to gain access to bank loans. In Greece and Ireland the proportions that were rejected were significantly higher than the EU average.

While the volume of large loans (over a million euros) to the corporate sector in the euro area has stabilised on a year-to-year basis, that of smaller amounts, and especially those below EUR 250 000, which are most likely to be granted to SMEs, has continued to deteriorate. In addition, the interest rate differentials for corporate loans have widened considerably within the euro area, reflecting the sovereign debt problems.

Although the decline reflects the lack of investment demand in a recession, SMEs perceived a further deterioration in the availability of bank loans between October 2011 and March 2012 (20% of SMEs thought so in net terms). In the second half of 2011, euro area SMEs' need for bank loans and overdrafts increased somewhat, although this was not reflected in their financing need for fixed investment or for inventory and working capital. The deteriorating economic environment was responsible for a part of the deteriorating access to loans, but banks' unwillingness has also played a role, as 23% of SMEs (in net terms) pointed to a lower willingness of banks to provide a loan, which

[44] *Industrial policy: Reinforcing competitiveness*, COM(2011) 642 final.

[45] ECB and European Commission, *SMEs' Access to Finance*, Survey 2011, 7 December 2011, http://ec.europa.eu/enterprise/policies/finance/files/2011_safe_analytical_report_en.pdf.

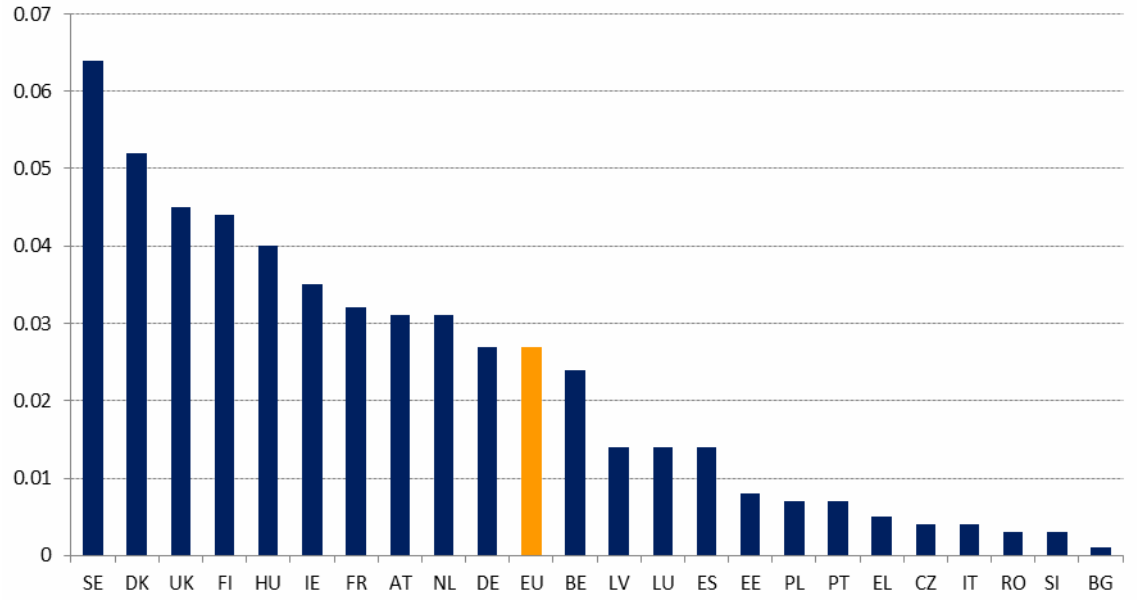
was close to their perception in in the period after the Lehman bankruptcy.[46]

Banks' continuing efforts to strengthen their balance sheets, their risk aversion, and their other difficulties could make it difficult for the European banking sector to continue to fullfill its role as the main provider of finance to the economy that it had before the crisis. Lending to businesses could be hampered even more if the securitisation market for small business loans does not take off in the near future.

However, obtaining financing from alternative sources is difficult for most firms. The issuance of bonds is a viable option only for larger companies with an external rating. The overwhelming majority of SMEs do not have an external rating and in any case look for smaller amounts of financing which is potentially more difficult to place with investors.

[46] ECB, Survey on the access to finance of small and medium-sized enterprises in the euro area. October 2011 to March 2012, April 2012.

Figure 2.5: Venture capital as % of GDP, 2011



Note: No data for Cyprus, Lithuania, Malta or Slovakia.
Source: EVCA

Venture capital funds are operators that provide mostly equity finance to companies with growth potential. Venture capital is essential for innovative firms that have prospects for rapid growth and are willing to take outside equity investors. These firms are a small minority of all firms, but they often have the potential to grow into large ones. The December 2011 Commission survey shows that equity financing was used by less than one in ten SMEs (7%) during the period April-October 2011. Its use was more likely among larger businesses (11% of those with more than 250 employees). Gazelles (firms that are less than five years old and have grown at more than 20% per annum) are also slightly more likely (12%) than SMEs overall to use equity financing. The main challenge concerning this source of financing among SMEs is their lack of investment readiness and limited knowledge of equity financing.[47]

The deteriorating economic outlook and the sovereign debt crisis have taken their toll on the availability of venture capital. Many venture capital funds are nursing their portfolio of companies and are shunning new deals. Venture performance has remained weak, apart from those in the top quartile, emphasising the importance of careful selection by investors.[48] Venture capital markets continue to be seriously underdeveloped in a number of Member States.

Looking at a selection of policy responses from the Member States, a recent evaluation[49] identified good practices in terms of stages in programme development: design, operation and monitoring and evaluation. These practices can be built into any programme, whether a loan, guarantee or equity scheme, and whatever stage of company development is targeted.

The Member States have a variety of programmes over the whole spectrum of funding gaps that firms may encounter. This makes direct comparisons of programmes difficult, especially as the client firms range from start-ups with no employees to well-established growing firms.

In terms of programme design, good practices require the scheme to fit into the financial ecosystem; to provide for linkages with other support schemes; to have clear and specific intervention aims and targets; to avoid crowding out private sources of finance; for investments to specify the target rate of return; and to have flexibility built in from the beginning.

When operating programmes, good practices tended to favour speed in decision-making; awareness-raising among potential customers; collaboration with private sources of finance; direct cooperation with the applicants; and provision of advice in addition to finance.

[47] ECB and European Commission, *SMEs' Access to Finance*, Survey 2011, 7 December 2011.
[48] EIF, *European Small Business Outlook*, 2/2011.
[49] http://ec.europa.eu/enterprise/policies/finance/guide-to-funding/indirect-funding/files/evaluation-of-national-financing-programmes-2012_en.pdf.

On programme evaluation, it is good practice to ensure regular evaluation of the success of any programme, and ongoing public scrutiny.

Policy example: High-tech Gründerfonds in Germany

In Germany the Equity Fund for High-Tech Start-ups provides venture capital for start-ups with large growth potential, which nonetheless often have difficulty in obtaining financing from private venture capital funds, because the investment seems too risky. The fund provides not only financing, but also coaching to the companies in its portfolio. It is a good example of successfully implemented public-private partnerships, as the Federal Government and private companies contribute to the funding.

2.4.3. Support to SMEs and the implementation of the Small Business Act for Europe

In 2010, there were almost 21 million SMEs in the EU. Of these, over 19 million (or 92% of all EU businesses) were microfirms with less than ten employees.[50] The Small Business Act for Europe (SBA) that was adopted in 2008 reflects the Commission's commitment to SMEs as the backbone of the EU economy. The SBA is a policy framework aimed at strengthening SMEs so that they can grow and create employment. Between 2008 and 2010, the Commission and the Member States implemented actions set out in the SBA to lighten the administrative burden, facilitate SMEs' access to finance and support their entry into new markets. Although many of the actions outlined in the SBA have been started, a review of implementation in 2011, and a reassessment of needs in the light of the recent economic crisis, revealed that more must be done to make Europe more entrepreneurial.

In order to remain competitive, to grow and to create employment, SMEs need to be encouraged and supported in their efforts to enter new markets. The SBA and its review encourage Member States to take measures to help SMEs access public procurement, take advantage of the single market, use environmental challenges as a springboard to new business opportunities, and tap into international markets beyond the EU.

2.4.3.1. Entrepreneurship

The SBA Fact Sheets 2011/2012 provide an analysis of the situation of SMEs across Europe. These indicate that several Member States have launched programmes and initiatives aimed at improving the environment for entrepreneurship.

Measures have been taken to encourage people to become entrepreneurs, in particular with projects targeting young people, the unemployed and women. A large majority of member States have introduced entrepreeurship curricula in schools and are increasingly providing entrepreneurship training programmesfor teachers. This should be extended to all levels of education. Many countries have also promoted the entrepreneurial spirit with a series of targeted initiatives. Female entrepreneurship has been fostered through programmes in Ireland, Italy, Luxembourg, Malta, Slovakia and Spain. In Finland child care allowances and social benefits have been increased to support self-employment.

Policy example: Entrepreneur Individuel à Responsabilité Limité in France

In France, the creation of an entrepreneur statute (*Entrepreneur Individuel à Responsabilité Limité* or *EIRL*) allows entrepreneurs to defer the payment of any tax until a turnover has been generated. This reduces the cost of setting up a business and encourages entrepreneurship. This statute also allows entrepreneurs to differentiate between their personal and business capital, thus avoiding situations where a business bankruptcy turns into a personal insolvency.

2.4.3.2. Public procurement

The SBA Fact Sheets indicate that SMEs are impeded from participating in public procurement markets, which account for 17% of EU GDP, often simply because smaller businesses are not aware of opportunities or are discouraged by procedures. For small firms, the costs of participating in tendering procedures can easily be prohibitive if the process is not efficient. Further, public authorities may find it easier to focus on large enterprises.

Many Member States have enacted measures to simplify access to public procurement, using electronic portals and overhauling their legislation. In Belgium, as from January 2012, it is compulsory for both the Flemish and the Walloon administrations to use e-tendering procedures. Further, Estonia, Finland, Ireland, Portugal, Romania and the UK have sought to improve access to information and to facilitate the participation of SMEs in public procurement. To this end they have improved the electronic procurement system, and facilitated the participation of, and the flow of information to SMEs.

[50] Are EU SMEs recovering from the crisis? Annual Report on EU Small and Medium-sized Enterprises 2010/2011, Ecorys.

Many Member States have also simplified existing laws to reduce and limit requirements for SMEs, and to divide larger contracts into smaller lots to facilitate access for SMEs. Austria, the Czech Republic, Italy, Latvia, Romania, Slovenia and Spain are examples of this.

2.4.3.3. Internationalisation

Many Member States have introduced support schemes or implemented plans aimed at fostering internationalisation. According to a study,[51] 25 % of SMEs in the EU export or have exported at some point during the last three years. However, most of the exports are to countries inside the EU and only about 13 % of SMEs export to markets outside the EU.

Support and financial assistance to businesses interested in expanding their markets has been introduced in Austria, Denmark and Malta. In the Netherlands the 'sME Export Accelerator' provides easier access to credit for SMEs that want to increase their exports.

Services and assistance have been offered to businesses to help them find new markets or improve their export potential. Estonia's government is preparing an 'Asia Programme' aimed at helping exporters to enter the Chinese market. Germany has put in place several initiatives to promote exporting. The UK has launched a programme that includes the provision of commercial export finance facilities to SMEs.

Policy example: Made in Italy portal

The *Made in Italy portal* is an interactive platform aimed at helping Italian companies to promote and sell their products around the world. The portal is available in English, Chinese and Russian. The services provided, which are all completely free, include e-commerce services and matching services for Italian partners. The programme addresses a key problem for Italian companies, namely the setting-up of online sales channels.

2.4.4. Reducing administrative burdens

2.4.4.1. Administrative burden

The EU's better regulation policy aims to simplify and improve existing regulations, improve the design of new regulations, and increase the effectiveness of applicable rules and regulations. The better regulation agenda is focused on ensuring that legislation affecting businesses is fit for purpose and that decision-makers fully understand all the costs and impacts associated with it.

One report[52] notes that almost a third of the administrative burden stemming from EU legislation has to do with inefficient national implementation. The report also notes good progress in implementing the action programme to reduce the administrative burden for businesses in the EU by 25 % by 2012. The Commission has proposed measures that reduce administrative burdens by up to 33 % or more than EUR 40 billion. Of these, Council and Parliament have so far adopted measures amounting to a reduction of about 22 %.

According to the report, all Member States have set targets for reducing the administrative burden. Targets vary between -15 % (Luxembourg, Malta) and -30 % (Lithuania, Spain). Member States should further improve their stakeholder consultation, adopt a structured approach to impact assessment and take into account the implications of legislation for SMEs and microcompanies.

Policy example: Bottom-up regulation in Sweden

The comprehensive programme for reducing small businesses' costs includes a 'bottom-up' regulation, first launched in 2007, which states that every regulation proposed by a government agency must be analysed from the businesses' point of view to make sure that it does not cause any additional administrative burden. The impact analyses are then audited by the Swedish Better Regulation Council to ensure that the aim of the policy is fulfilled with the least possible administrative costs for companies. The Better Regulation Council can also intervene at an earlier stage in the legislative process, can assist in the scrutiny of impact assessments produced by the Commission, and must be consulted by government administrative agencies prior to the adoption of regulations with a potential impact on the business environment or business competitiveness.

2.4.4.2. Licence requirements

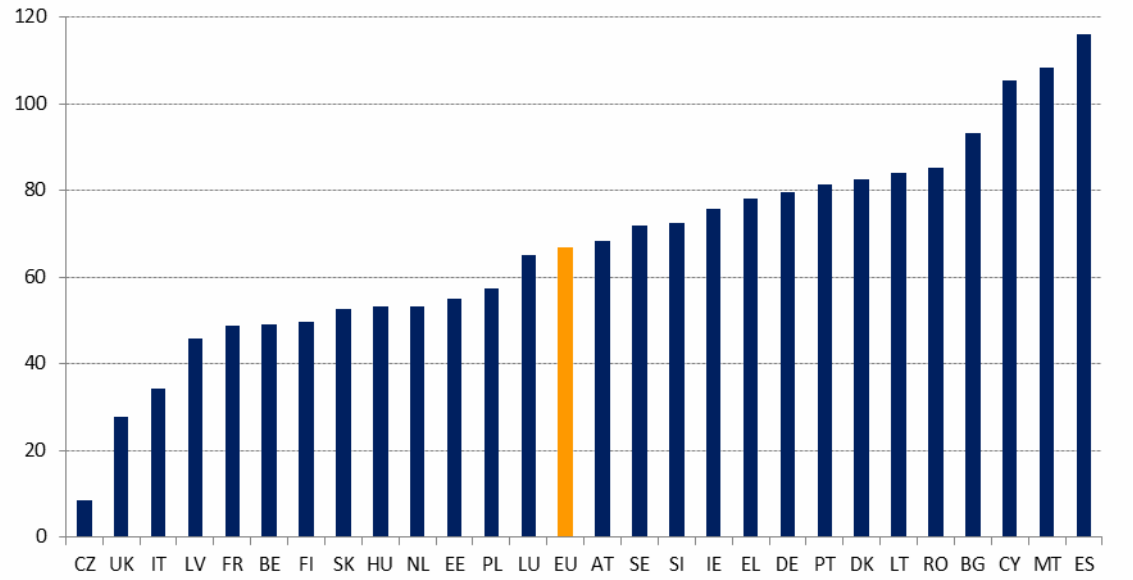
Licence requirements refer to any form of government regulation, registration, permit or approval allowing a business to carry on an activity or an occupation.

[51] http://ec.europa.eu/enterprise/policies/sme/marketaccess/files/internationalisation_of_european_smes_final_en.pdf.

[52] Europe can do better: Report on best practice in Member States to implement EU legislation in the least burdensome way, 15 November 2011.

The associated fees and time needed to obtain a licence greatly influence the ease of starting up a company and doing business.

Figure 2.6: Average number of days to obtain licences in Europe



Source: European Commission based on the pilot survey 'Business Dynamics: Start-ups, Business Transfers and bankruptcy", January 2011. This was carried out in 2010 with a limited number of respondents (2 in the case of Malta), which may have skewed the results. An extended survey will be carried out in 2013.

The Commission established in 2007[53] five different company models (a hotel with a restaurant, a plumbing company, a manufacturer of steel products, a manufacturer of small IT devices and a wholesale or retail distributor). These five firm types have since been used as benchmarks to estimate the burden of licensing procedures.

A recent study[54] assessed the impact on business exerted by legal and administrative procedures for licensing. The graph below shows the average number of days needed to obtain all the required licences to start running their economic activity for the five models of businesses included in the study.

The average time to obtain all necessary licences in the EU is slightly over 67 days. The best performers are the Czech Republic and the UK, with respectively 8.5 and 27.9 days.

There are substantial differences among Member States as regards the time needed and the cost and complexity of procedures. Austria is one of the best performers in Europe in terms of the total number of licences required. For all five types of business only two licences are needed. However, the complexity, the costs and the long delays in obtaining licences hinder business activity. The Czech Republic has a regulatory system featuring a relatively small number of licences and low complexity.

Policy example: Ley de Emprendedores in Spain

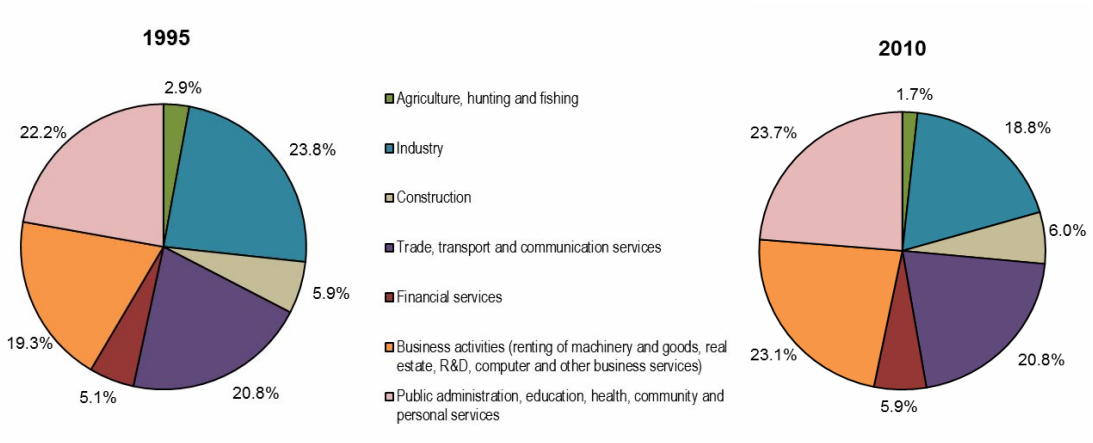
The legal and regulatory framework for businesses in Spain is one the most burdensome in the EU. The time needed to obtain an operating licence is the longest — 116 days. The government is working on a number of initiatives under the Law on Entrepreneurs (*Ley de Emprendedores*). These encompass rationalising and boosting the efficiency of the many one-stop shop systems and generalising tacit consent in licensing procedures.

[53] Assessing business start-up procedures in the context of the renewed Lisbon strategy for growth and jobs.

[54] *Business Dynamics: Start-ups, Business Transfers and Bankruptcy*, http://ec.europa.eu/enterprise/policies/sme/business-environment/start-up-procedures/.

2.4.5. *Services*

Figure 2.7: Economic activities as share of GDP (in %)



Source: Eurostat

Services play an increasingly important role in the European economy. Market services[55] account for more than 50% of GDP, compared to around 45% in 1995. Including non-market services,[56] the sector now represents about three quarters of the total economy, against about two thirds in 1995. At the same time the share of industry fell from 24% to around 19%.

Part of the shift represents the outsourcing of service activities previously performed in house. Manufacturing therefore retains a strong structural relationship with many services. Services have become important input factors for manufacturing that increasingly requires specialised services to design new products and manage the production and distribution processes. This results in vertical integration of services within the manufacturing process along the whole industrial value chain. Also, manufacturing firms have started to offer a variety of services with their products. At the same time, many service industries such as transport, health and information and communication technologies depend on a competitive industry to produce the equipment they use. Owing to this mutual dependency, industry and services are converging.

Business-related services account for over a third of production inputs in manufacturing and therefore play an important role for the competitiveness of industry. Such services include network industries (energy, telecommunications, transport, etc.), distributive trade and others (including consulting, engineering, research and development, and information technology services).

2.4.5.1. Competition and regulation in business-related services

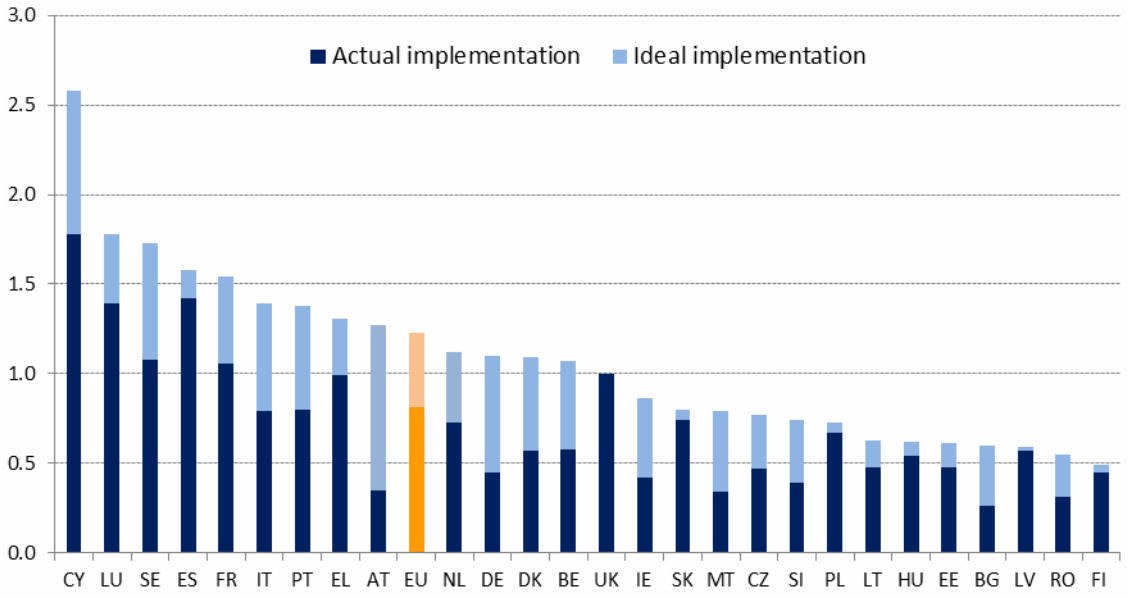
Government regulation normally aims to correct market failures and improve the functioning of markets. However, finding the correct regulatory balance between conflicting objectives is often delicate. Regulations may become too restrictive and impair the functioning of markets. This could have an effect on resource allocation and on production efficiency. Efficient competition and market regulation in business-related services have a considerable impact on the overall business environment and can strengthen the competitiveness of European industry. Competition creates incentives for companies to innovate and increase their productivity, and thereby to improve their position in global markets.

Based on a horizontal regulatory approach, the Services Directive has been a major step forward towards making the single market for services a reality. It has set in motion major efforts in the Member States to modernise their administrations and the legal framework for the provision of services, and to facilitate the establishment and operation of service activities across borders. Full implementation of the Services Directive is expected to lead to more investment and to stimulate competition and productivity, which would also result in higher performance of the sector and reduced average prices for services.

[55] (i) Trade, hotels, transport and communications services; (ii) Financial intermediation, business activities (real estate, renting, leasing, R&D, and other business services).

[56] Public administration, education and welfare.

Figure 2.8: The GDP impact of the Services Directive (in % of GDP growth)



Source: '*The economic impact of the Services Directive: A first assessment following implementation*', European Economy Economic Papers 456, June 2012, European Commission

The Member States have advanced considerably in implementing the Services Directive and have abolished many discriminatory, unjustified or disproportionate requirements, in particular in business services. Nevertheless, the Commission assessment is that in many Member States implementation is still incomplete and it has identified a large number of regulations in force that breach the Services Directive. In addition, in cases when the Directive leaves the Member States with a degree of discretion, often the Member States have chosen to maintain the status quo. Examples of this include quantitative and geographic restrictions, legal form and shareholding requirements, and the obligation to apply fixed, minimum or maximum tariffs. To improve the situation, the Commission has presented[57] a set of actions to stimulate growth in services, including a detailed report on the implementation of the Services Directive by Member State.[58]

Based on an economic assessment carried out by the Commission, the estimated impact of the implementation of the Services Directive on GDP is 0.8%, with an additional 0.4% expected under a moderatelu ambitious scenario – where each country would have the average EU levels of barriers.[59] The expected economic benefit is even higher in some Member States, reflecting their different starting positions, the extent to which barriers have already been reduced and the share of services in the economy.

As part of the implementation of the Services Directive, points of single contact (PSC) have been established by all Member States in order to provide entrepreneurs with access to clear, up-to-date information, together with an easy means of completing administrative procedures both at home and abroad. So far, the gap between the best performing and the less performing PSCs is wide, and there is considerable scope for further improvement. For example, many procedures are not yet available online and information and support is often available only in the language of the Member State. The level of awareness among businesses so far still appears to be rather low and more awareness-raising would be necessary at both EU and national level.[60]

A recent study has highlighted PSCs in Ireland, Slovakia, the Czech Republic, Estonia and one German *Land* (Hessen) as particularly user-friendly, based on the criteria of

[57] Communication 'Partnership for new Growth in Services 2012-2015' on the implementation of the Services Directive, COM(2012)261 final.

[58] The report includes assessment of the economic impact; the status of the Points of Single Contact; and implementation details by Member State.

[59] Commission Staff Working Paper on the implementation of Directive 2006/123/EC on services in the internal market ('services Directive'), DG MARKT, 2012.

[60] Commission Staff Working Paper on the implementation of Directive 2006/123/EC on services in the internal market ('services Directive'), DG MARKT, 2012.

efficiency/effectiveness, user satisfaction and online accessibility of information and procedures.[61]

A number of Member States have recently announced or have already launched ambitious initiatives to strengthen competition and to further reduce regulatory restrictions.

Entry and conduct regulation in business-related professions and services remains quite restrictive in many Member States. However, some Member States are currently in the process of analysing the potential for removing unjustified restrictions in regulated professions or have announced that they will do so in the near future.

Policy example: Grow Italy

The Italian government has initiated a number of measures to spur growth by reforming market regulation and strengthening competition in the services sector. The Decree-law *Cresci Italia* (Grow Italy) promotes enhanced competition in key markets by liberalising professional services, lowering entry barriers in some markets (fuel distribution, insurance, pharmacies), and increasing competition in energy and transport. The government has also strengthened the role of the competition authority.

2.4.5.2. Competition and regulation in network industries

The energy market is still not fully liberalised, since many Member States have not yet transposed the Third Internal Energy Market Package.[62] New investments are also needed to enhance the energy and gas networks in Europe. Analysing the competition in energy markets gives a mixed picture. In some countries a single electricity company either dominates national production (Cyprus and Malta) or has a large share of the market (above 80% in Estonia, Latvia, France, Luxembourg, Greece and Slovakia). On the other hand, Poland, the UK, Spain, Italy and Germany benefit from a more competitive market.

In the markets for natural gas, considerable concentration is evident especially in Estonia, Finland and Latvia, but also in Bulgaria, Poland, Portugal and Slovenia. The UK and Germany have the lowest degree of market concentration in the hands of a single company. In order to increase competition in the gas market, in January 2012 Italy decided to unbundle the incumbent gas operator from the gas transmission operator.

The development of the transport sector is hampered by legal barriers to market entry, especially in the rail sector, where lack of competition considerably lowers the efficiency of the service. Improvements in the sector would particularly benefit the entire Union if made by large or transit countries. The challenges facing Member States include reducing the negative externalities generated by the sector, upgrading the infrastructure or increasing the degree of competition. Competition is particularly hampered where there is no effective separation between the infrastructure operator(s) and service providers.

The telecommunications sector has become increasingly competitive, and in particular mobile communication prices have fallen steadily in the EU over the last decade.[63] A comparison of the market share of new entrants between July 2009 and July 2011 shows mixed results. The EU telecommunications regulatory framework has encouraged many Member States to liberalise the sector. However, almost half of the Member States[64] have not yet fully transposed the relevant EU Directives.

---

61 *The functioning and usability of the Points of Single Contact under the Services Directive — State of Play and Way Forward*, Deloitte, 2012, http://ec.europa.eu/internal_market/services/docs/services-dir/study_on_points/final_report_en.pdf.

62 AT, BG, EE, IE, ES, CY, LT, LU, NL, PL, RO, SI, SK, FI, SE and UK have not transposed or have failed to fully transpose the Gas Directive (2009/73/EC) and/or the Electricity Directive (2009/72/EC). Infringement proceedings have been initiated against these Member States. Assessment under the European Semester 2012/2013.

63 Mobile telephony prices fell by around 30% between 2006 and 2010 according to the 2011 Teligen 'Report on Telecoms Price Developments'.

64 Belgium, Cyprus, Germany, Greece, Spain, France, Italy, the Netherlands, Poland, Portugal, Romania and Slovenia.

2.5. Improving the quality of public administration

2.5.1. Public administration and competitiveness

The quality of public administration and institutions that govern economic and social interactions within a country is a fundamental factor in improving competitiveness and social well-being. At a time when governments are confronted with numerous challenges, including fiscal pressures and an erosion of trust in government,[65] Member States' administrations have also to deal with rapid economic change, complex regulatory issues, new technologies and services, and calls for openness, transparency and increased citizen participation.

Firms interact with the public administration in a variety of ways, for instance when registering a business, applying for licences, settling legal disputes or paying taxes. The efficiency and predictability of these interactions are important to economy-wide competitiveness, because they have a substantial impact on the costs and risks that companies face in investment decisions. In addition, firms indirectly depend on the public administration, as they are the prime beneficiaries of public goods and bear a large part of the overall tax burden.

SMEs face disproportionately higher administrative and regulatory burdens. Smaller enterprises have limited managerial capacities and are at a disadvantage when it comes to hiring specialised staff to look after administrative processes. The same holds for buying expertise in regulatory and legislative issues. Particularly in microenterprises, the entrepreneur has to deal with administration issues, which can deflect attention from core business activities. Furthermore, costs resulting from delays are more problematic for small firms, as their activities and range of products are usually less diversified than those of large firms.

The large number of interactions between the public administration and enterprises, as well as the various channels of transmission through which administrative quality has an impact on a country's competitiveness, make it difficult to fully capture the complexity of this relationship. The most important features of public administration for competitiveness are determined by the costs and uncertainty of firms in dealing with the public administration, as well as by its effectiveness in providing public services (see Figure 2.09). On this basis, the quality of an administration for the business environment could be captured through the following categories of links.[66]

The *general links* cover overarching influences that affect the quality of the public administration and its relationship to the business environment. These are *general governance* (the multi-dimensional concept of administration quality), *tools for administrative modernisation* (the use of instruments to enhance the capacities of the administration; developments in the general sophistication of service provision), and *corruption and fraud* (the extent to which the powers of government and administration are exercised for private gain, including state capture by vested private interests).

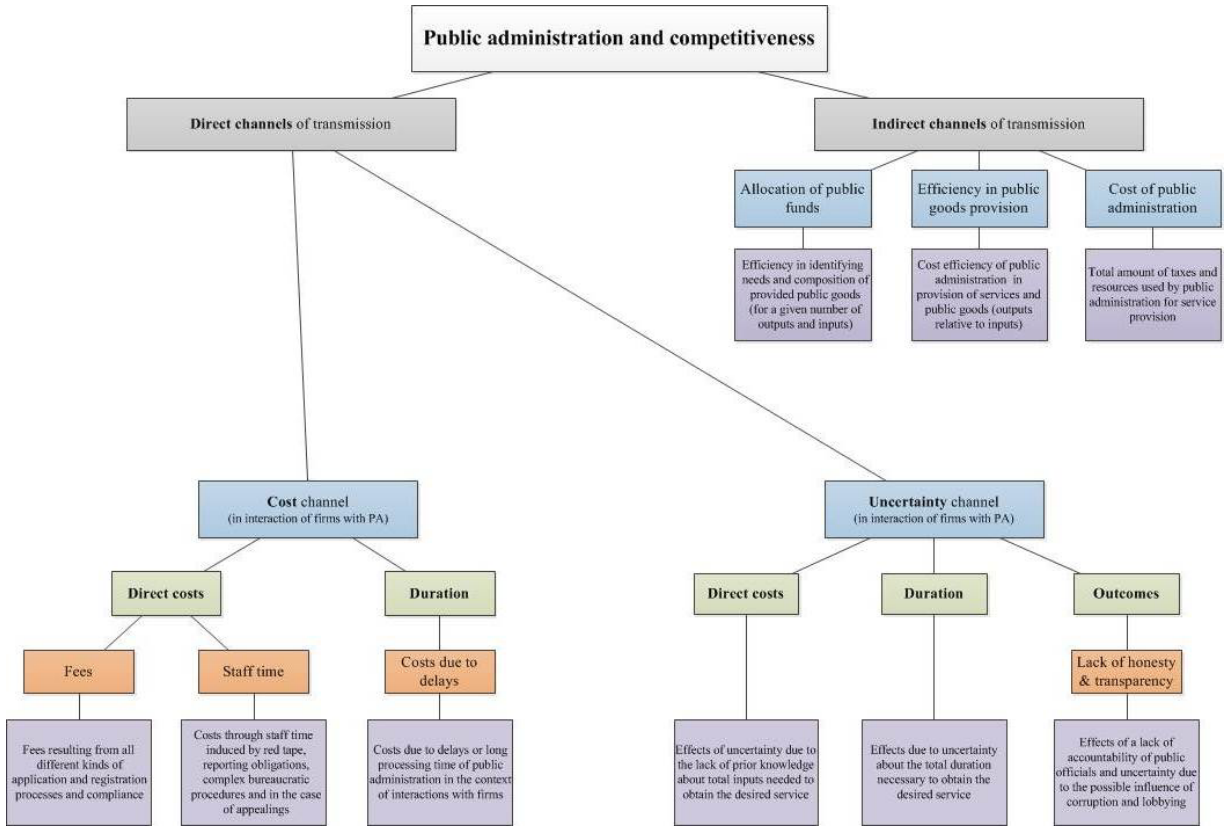
The *specific links* capture the most important interactions and contact points between the public administration and private companies. These are *starting a business and licensing*, *public procurement*, *tax compliance and tax administration*, and *efficiency of civil justice*.

Against this background, modernising public administrations in the Member States for competitiveness includes two separate but related aspects: reforms of the (regulatory) framework conditions under which private companies operate, and internal measures to improve the quality of service provision by increasing the public administration's capacities and incentives to provide goods and services in a reliable, flexible, efficient and effective manner.

[65] European Commission (2011), Eurobarometer 76.

[66] These links were identified and described in the framework to assess the quality of public administration for competitiveness purposes developed by the Austrian Institute of Economic Research (WIFO) in the Study on *Excellence in public administration for competitiveness in EU Member States* (2012) carried out for DG Enterprise and Industry. A summary assessment of performance against the EU average for each public administration–competitiveness link is illustrated in each country chapter through a spider diagram highlighting the weaknesses/strengths of the EU Member States.

Figure 2.9: Channels of transmission for the relationship between public administration and competitiveness



Source: WIFO (2012)

The quality of public administration affects competitiveness through two general transmission channels:

- The ***direct channel*** refers to the performance of public administration in dealing with firms from a business perspective. This channel can be further subdivided into 'cost' and 'quality' components, the latter referring to the reduction of uncertainty about public rules and decisions as a productivity-enhancing service to the enterprise.

  Costs, both direct costs (e.g. fees resulting from application and registration processes, compliance costs resulting from firm staff devoting time to bureaucratic procedures, fees for obtaining permits for new production technologies, costs due to staff time necessary for tax compliance) and costs of duration (e.g. payment delays in the context of public procurement, long processing times for solving commercial disputes, etc.), are a major barrier to competitiveness. High costs of interaction with the administration adversely affect the main drivers of economic growth as they are likely to discourage trade, investment and entrepreneurship, and reduce the capacity for innovation.

  Uncertainty about costs, duration and outcomes encourages smaller, shorter-term, and lower-productivity investment. Firms face considerable uncertainty about future conditions when making long-term decisions. In addition to shocks in the form of business cycles or crises, firms may find themselves insecure about the future business environment or regulatory framework. An efficient public administration can help to reduce this uncertainty through fast, predictable and reliable enactment of the general laws and rules affecting a business.

- The ***indirect channel*** captures the efficiency of public goods provision and resource use. A public administration that provides services efficiently and absorbs relatively few resources has an indirect impact on productivity and competitiveness. This is mainly due to the fact that public goods represent a central input factor for private production and that markets are unable to provide them efficiently. Thus, the allocation of public funds (not only the amount of allocations, but also their composition and quality), the efficiency in the provision of public goods, and the cost of administration are key factors for a country's competitiveness.

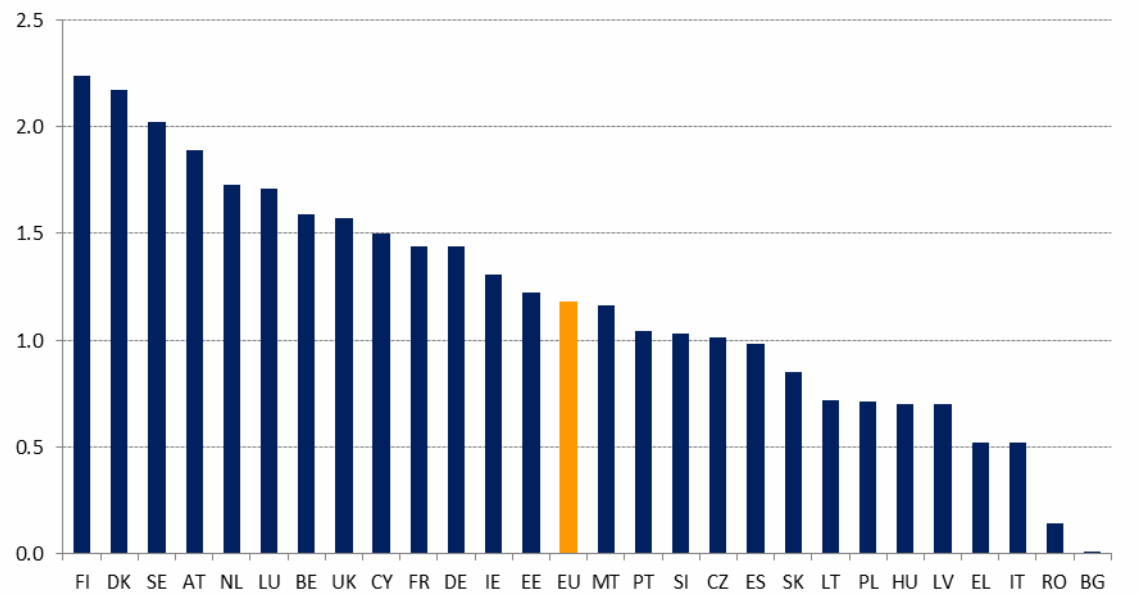
2.5.2. Policy improvements

The reform of public administration is a key challenge in several Member States (e.g. Bulgaria, Greece, Hungary, Italy, Latvia, Lithuania, Romania, Poland and Slovakia). In these countries, weak administrative and judicial capacity, and legal

uncertainty, constitute key impediments in addressing economic development challenges. Nevertheless, in the aftermath of the crisis, almost all Member States have implemented deep changes that have an impact on the functioning of the public administrative systems and institutions.

However, the responses of the Member States have varied in their scope, scale, nature and effectiveness. Some governments have focused on reducing staff and wages in the public sector, but others have taken this opportunity to speed up the pace of wider administrative modernisation. At the same time, efforts are being made in some Member States to fight corruption and improve the efficiency of the civil justice systems. Figure 2.10 depicts the overall effectiveness of government in the Member States.

Figure 2.10: Government effectiveness (2010)



Source: World Bank — Worldwide Governance Indicators

2.5.2.1. Administrative modernisation

Modernisation of the public sector is pursued through the application of an array of tools that aim to increase the capacity of the public administration to provide high-quality services. Although solutions differ from one Member State to another, most instruments involve making use of opportunities provided by information and communication technologies (ICT), applying a strategic approach to human resources management, organising and steering public services provision based on performance, putting the clients' needs at centre stage, and reorganising the interaction between the public and private sectors.

Electronic and technology-enabled government

The enhanced use of e-government applications is a central characteristic of many recent reforms of public administrations. The use of online public services is a procedural solution to many general problems currently facing the public sector — such as accessibility, facilitating internal and external administrative processes, reducing administrative burdens and cutting red tape — thereby harvesting gains in transparency, efficiency and effectiveness of services.

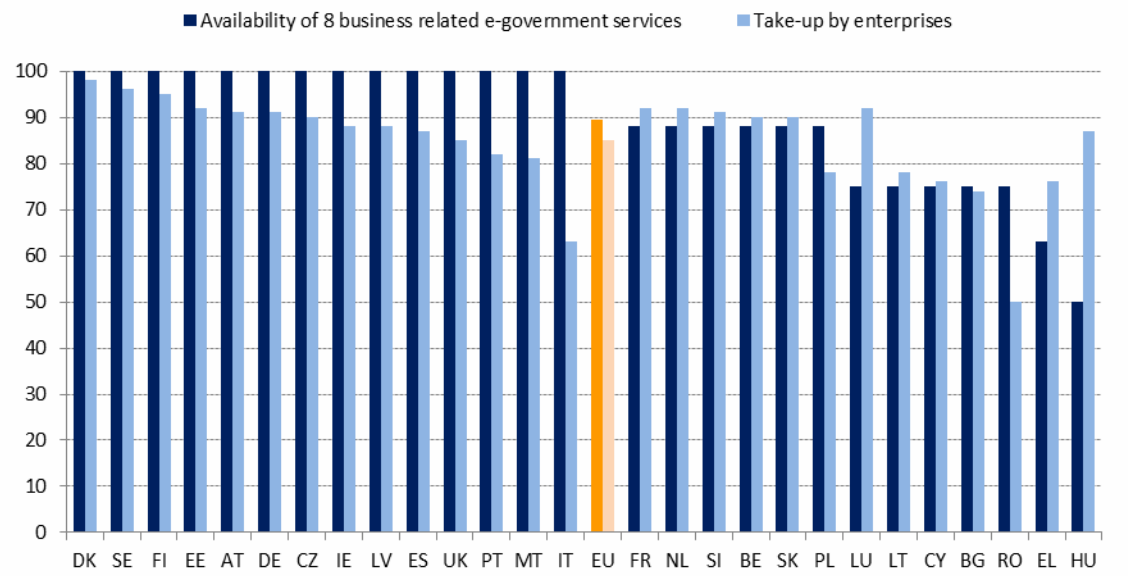
Internal public sector excellence potentially benefits from ICT through several channels: public sector employees are relieved of routine tasks, several procedural steps can be outsourced to the clients themselves, the quality of information transmitted is increased while transaction costs are reduced, some tasks can be centralised, e.g. at shared service centres, and processing times are generally reduced. Additionally, there could be synergies with other internal technological innovations in the public sector, such as knowledge management and business management software.

Electronic exchange of information between administrative entities — e.g. regulatory bodies at different levels of government — may speed up multilevel decision-making processes and thus improve the overall quality of regulatory

management and policy enforcement. To the extent that problems of mutual coordination and cooperation stem from informational deficiencies, substantial progress can be made through interactive systems of communication. Successful strategies for collaboration among different parts of the administration and levels of government must, however, incorporate the setting of common technology standards and the creation of a data network between organisations.

External applications of e-government include informative, transactional and interactional procedures, which are often streamlined for business interests. In several Member States some basic government services for businesses (e.g. social contributions for employees, submission of data to statistical offices, public procurement, customs declarations, VAT declarations, corporate tax declarations, environmental-related permits, and registration of a new company) are now 100% e-enabled (Figure 2.11). This has been supported by the Services Directive, which requires Member States to set up points of single contact through which businesses can obtain all relevant information and complete all necessary procedures and formalities by electronic means. However, the take-up by businesses remains lower, which challenges the public sector to rethink how public services can become more user-centric and move away from a one-size-fits-all approach to e-government services, and towards greater personalisation.

Figure 2.11: Availability of eight business-related e-government services vs use by small enterprises (10-49 employees)



Source: CapGemini (2010); Eurostat (2011)

Although the utilisation of social media in the public sector is still very limited, there are several examples of the use of innovative communication technologies, with special reference to external communication and participatory feedback processes.

Policy example: Estonian prohibition on the collection of duplicate data

Previously Estonian companies had to provide the same data in various reports and the data were presented on paper or in a format that did not allow them to be processed electronically. Starting from 1 January 2010 the Business Register launched an electronic data transmission system for submitting annual reports. Under the Accounting Act, from 1 January 2010 the state or local government institutions have no longer been entitled to require businesses to provide data which they have already submitted to the Business Register in their annual reports. The government can exempt the state or local government institutions from the prohibition for a period of up to two years.

In order to avoid duplicate data collection, Statistics Estonia intends to improve its data collection channel eSTAT, such that data submitted electronically to the register according to the taxonomy of the annual report will be pre-filled for the economic units in eSTAT. The respondent needs to complete only the rows not included in the annual report. Statistics Estonia

will be able to cease duplicate collection of the data included in annual reports after 2012 (when the collection of data for 2011 is finalised).

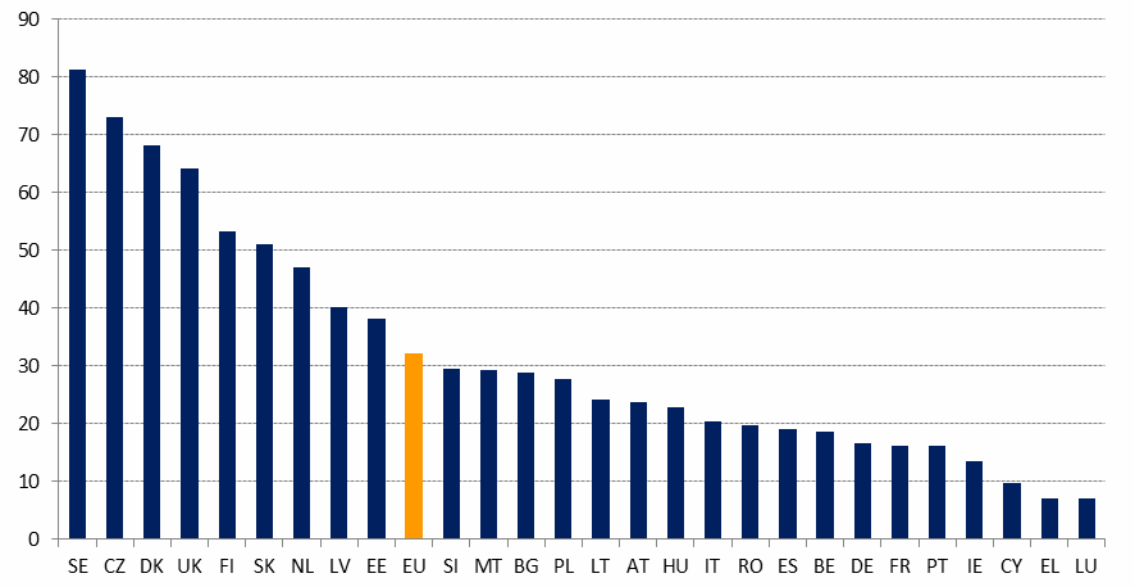
Policy example: Point of Single Contact for Business in Luxembourg

'Guichet.lu' is a national website with the objective of simplifying contacts with the state through fast and user-friendly access to all the information and services provided by public institutions. The website is designed to operate as a one-stop shop for businesses. It is divided into two main sections: one for citizens and one for businesses. The business section is structured around the life cycle of a company (start-up, operation, R&D, environment, international trade, etc.) and offers businesses access to information and online services provided by the state; a description of the main administrative procedures; the possibility to download forms and to submit them online and electronically signed to the competent administration; and the possibility to carry out administrative procedures electronically.

Human resources management

Human resources management has become a central component of public sector reforms to enhance the skills and capabilities of administrative staff in dealing with the challenges of a modern public sector. The different cultural settings and backgrounds in the Member States determine how public sector personnel is controlled and managed. The tools used by the Member States vary significantly — including policies such as improving recruitment strategies, development, training, communication, leadership and motivation of employees — but they have in common a shifting focus from simply administering public personnel towards a people-centred approach. The degree of implementation of different human resources management tools by Member States is described by the post-bureaucracy index (Figure 2.12). Based on the analysis of public employment systems across the EU with regard to the legal status of employees, career structures, recruitment, salary systems and tenure system, contemporary trends in public personnel management reflect a convergence toward reforms that affect the legal status of public employees. Government staffs are experiencing a tendency towards more private law contracts without guaranteed lifetime employment, more flexible working patterns and pay, and a weakening of collectivist cultures. Not all human resources tools are uncontested and their application has to be evaluated in the light of the local context, but understanding public personnel as a key resource of the public sector is a central question in public sector modernisation.

Figure 2.12: Post-bureaucracy index[67] (0 % = traditional bureaucracy, 100 % = post-bureaucracy)



Source: Demmke and Moilanen (2010)

[67] The post-bureaucracy index — developed by Demmeke and Moilanen (2010) in a study on Civil Services in the EU of 27 commissioned for EUPAN — describes the degree of implementation of different human resources management tools concerning the legal status of employees (public law civil servants vs employment based on private law), career structures (regulated insider promotions, etc.), recruitment (special recruitment, private sector experience), salary systems (seniority, performance-based, regulated by law) and tenure system (lifetime tenure, special job security).

Performance orientation and evidence-based steering

Performance orientation, one of the most widely used instruments for modernising public service provision, includes the measurement, incorporation and use of information that refers to the quality of service provision. The performance perspective is fundamental for strategic thinking and steering of the administration. From an internal perspective, performance measurement aims to achieve a general improvement in the manageability of public sector organisations by providing information for improved decisions and supporting evidence-based instruments such as impact assessments; from an external perspective it is a prerequisite for benchmarking. Thus, it can serve as a foundation for informed decisions by policy-makers and increases accountability towards stakeholders, including businesses. Some Member States, such as the UK, used performance information already in the 1980s, while others have only recently started to make use of it (e.g. performance budgeting, management by objectives, regulatory impact assessment).

Policy example: Regulatory impact assessment in the United Kingdom

One of the earliest adopters of regulatory impact assessments was the United Kingdom, which in the late 1990s shifted its emphasis from deregulation to better regulation. A better regulation support unit was set up in the Cabinet Office to systematically apply this tool in order to inform policy decisions and provide a framework for the ex ante analysis of the costs, benefits and risks of policies. This regulatory impact assessment (RIA) of policy proposals is based on five principles formulated by the Better Regulation Task Force in 1997: (i) proportionality (intervention only when necessary, minimisation of costs); (ii) accountability (decision must be justified); (iii) consistency (of all government rules and standards; fair implementation); (iv) transparency (clear communication and effective consultation with affected interest groups, easily understandable); and (v) targeting (focus on problem, minimisation of side effects). The Department for Business, Innovation and Skills, currently responsible for the UK's better regulation efforts, has recently adopted the 'One-in, One-out' rule, which requires the administration to suggest the abolition of one regulation in the same 'red tape challenge theme' as a consequence of every new proposal resulting in a regulation, in order to cut, or at least avoid increasing, red tape for businesses.[68]

One of the key criteria for the success of the impact assessment was the top-level political support it received. Other factors are the allocation of responsibility for impact assessment programmes between the relevant line ministries and a central control and support body, thorough training of the regulators, consistent but flexible analytical methods (qualitative assessments and quantitative cost/benefit analysis), integration of RIA into the policy-making process and communication of its results, and extensive involvement of the public.[69]

Service orientation

The introduction of systematic quality management and the improvement of administrative processes, such as one-stop shop concepts, ensure that the public sector sets its course according to the expectations of businesses and citizens. Defining the satisfaction of clients as a target variable of public conduct leads to a large array of further tools, such as stakeholder consultation, participation, e-government, service charters, reduction of red tape, better trained service personnel, and easily understandable and concise forms.

Policy example: Service quality management among local administrations in the Netherlands

A quality institute (KING) supports representatives and public servants of local administrations in their ambition to be close to the public and business. KING is established by the local administrations and aims to achieve a sustainable increase in the effectiveness of local government and a steady improvement in the quality of local services. The label 'good quality of local administration services' for dealing with businesses could serve as a model for cities outside the Netherlands.

Institutional reorganisation: market mechanisms and decentralisation

The institutional arrangement of public tasks, i.e. cooperation with the private sector and competition within the public sector, is another key reform tool. First, several market mechanisms (e.g. benchmarking, the systematic comparison of costs and outputs, and competitions that promote best-practice solutions[70]) help to make European public administrations comparable and allow best practices to be identified and efficiency to be

[68] BIS (2012), *One-in, One-out: Third Statement of New Regulation*, London, Department for Business, Innovation and Skills.

[69] OECD (1997), Regulatory Impact Analysis: Best Practices in OECD Countries, Paris.

[70] For example, the European Public Sector Award (EPSA): www.epsa2011.eu.

improved. Second, the inclusion of the private sector and the general public in administrative tasks, by means of both consultation and co-production (e.g. outsourcing of formerly public tasks to markets, public-private partnerships, cross-departmental support units), has increased the number of organisations that hold an active stake in public service provision. Third, several reform approaches have included decentralisation efforts and notions of agency multiplication, whose effects are largely dependent on the national context and the administrative culture.

2.5.2.2. Efficiency of civil justice

A highly efficient civil justice system is overwhelmingly important for competitiveness. Securing property rights, timely and correct resolution of business disputes, insolvencies, commercial claims and labour disputes, and swift enforcement of decisions are all important for a business environment conducive to growth, risk-taking and investment. The direct costs of 'using' the system, associated with the indirect costs stemming from the long duration of procedures, constitute a burden for businesses and undermine access to justice. At the same time, an inefficient judiciary system that is vulnerable to political or special interest influence and corruption is probably one of the largest obstacles to economic development and competitiveness.

Figure 2.13 ranks the Member States based on the time (calendar days) and estimated cost (percentage of claims) required to enforce a contract.

Figure 2.13: Time and cost to enforce contracts in the EU Member States

Source: Word Bank, Doing Business (2011)

Some Member States have initiated reforms aimed at reducing delays in the legal system, in particular through changes in judicial organisation and a general reduction of the number of courts (e.g. Austria, Belgium, France and the Netherlands). However, the efficiency of civil justice systems needs to be improved in many countries, in particular by reducing backlogs, speeding up judicial proceedings and introducing alternative forms of dispute resolution, as highlighted by the 2012 European Semester recommendations.[71]

Performance measurement

[71] COM(2012) 299, http://ec.europa.eu/europe2020/pdf/nd/eccomm2012_en.pdf.

Techniques and methods to speed up the processing of cases are increasingly being implemented by Member States. This requires quantified objectives to be set (timeframes for different case types) and performance to be evaluated. For example, some regions of Germany (e.g. the Stuttgart Court of Appeal) have introduced a system of inspections (*Nachschau*) through which Court of Appeal judges visit lower courts to look at cases pending longer than a certain period.

Performance measurement is essential, as it is the only way to understand real inefficiencies and to devise reforms capable of speeding up civil procedures. The publication of court performance data (including timeframes and duration) is a key component of the public accountability of courts and helps to set up processes where delays are identified and trigger action. For example, some regions in Denmark (e.g. the Esbjerg District Court) and Finland (e.g. the Turku Administrative Court) publish annual reports on courts' performance.

Case management policies

Long judicial procedures increase the uncertainty and cost for the plaintiff and the defendant. Delays can result from the way in which procedures are regulated but also from deliberate tactics employed to lengthen the process. Procedural rules containing standards for certain types of cases, and enhanced powers of judges in the conduct of the proceedings are central in reducing the length of contract disputes. Several instruments have been applied in a number of Member States to speed up the proceedings:[72] limitations on the number of hearings, for example two hearings for a typical case; limitations on adjournments; an active case management role for judges (authority to push cases forward); stimulation of early meetings between parties; triage between small and large cases, with separate procedures; standard templates for decisions. Overall, case management policies need to take into account the complexity and the size of the claim.

Alternative dispute resolution

An important role in resolving disputes rapidly and economically can be played by alternative dispute resolution mechanisms. These can be used by disagreeing parties as a means to come to an agreement outside of litigation in court, and take the form of arbitration, conciliation or mediation. Many of these processes are organised and conducted outside the judicial system by different institutions. But alternative mechanisms can also be informal methods attached to official judicial mechanisms and to settlement methods such as mediation programmes and ombudsman offices. An increased use of alternative methods allows courts to concentrate primarily on those matters that require resolution by a judge.

Alternative mechanisms have gained widespread acceptance in most Member States. They are also being used as a means to speed up dispute resolution in specific areas, such as construction. For example, the UK Housing Grants, Construction and Regeneration Act 1996 recommended that contracting parties include in their contracts provisions for adjudication[73] of disputes.

2.5.2.3. Corruption and fraud

By undermining the rule of law, deterring investment and distorting competition and the efficient allocation of public funds, corruption has significant effects on a country's competitiveness. It is estimated that annually up to one per cent of EU GDP is diverted through corruption.[74] The occurrence of corruption is probably one of the most widespread problems facing administrative systems, and this holds true for many of the Member States.

The 2011 Eurobarometer[75] survey on corruption carried out in all 27 Member States showed that the majority (74%) of Europeans believe that corruption is a major problem in their country. The differences of perception among Member States are considerable (i.e. from 98% to 19%). Almost half of all Europeans (47%) think that the level of corruption in their country has risen over the past three years. Most Europeans think corruption exists within local (76%), regional (75%) and national (79%) institutions. Europeans believe that bribery and the abuse of positions of power take place in all areas of public service. National politicians (57%) and officials awarding public tenders (47%) are the most likely to be considered involved in such activities. 40% of Europeans believe that too close a relationship between business and politics contributes to corruption. Lack of action by

[72] CEPEJ — European Commission for the Efficiency of Justice (2006), Compendium of 'best practices' on time management of judicial proceedings, Strasbourg, Council of Europe, CEPEJ (2006) 13.

[73] Adjudication refers to a specific type of arbitration, where an adjudicator reviews evidence and argumentation including legal arguments set forth by the litigants in order to come to a decision that determines rights and obligations between the parties involved. The decision is legally binding but can be reviewed by a court.

[74] European Commission (2011), *Europe can do better — Report on best practice in Member States to implement EU legislation in the least burdensome way,* High Level Group of Independent Stakeholders on Administrative Burdens.

[75] Special Eurobarometer 374, February 2012, http://ec.europa.eu/public_opinion/archives/ebs/ebs_374_en.pdf.

politicians (36%) and lack of transparency about how public money is spent (33%) are believed to be contributing factors.

One very common proposal of international anti-corruption programmes is the establishment of dedicated independent anti-corruption agencies with law enforcement powers.[76] This approach has been used in several Member States. For instance, Bulgaria and Romania have established anti-corruption agencies and have taken a number of measures to pursue judicial reform and the fight against corruption. However, if such agencies are to make a real contribution to the fight against corruption, the independence of the judiciary needs to be strengthened.

State capture

State capture refers to attempts by individuals or firms to influence the drafting of laws or regulations. Increasing accountability and the level of transparency could make an important contribution to successfully combating this form of corruption. For instance, Slovenia has had a mandatory register of lobbyists since 2010; France and Germany have voluntary registers, and the UK and Irish governments are considering whether to introduce mandatory registers of lobbyists.

Specific areas, such as public procurement, are considered at higher risk. According to the assessment made by Transparency International,[77] this is particularly the case in Bulgaria, the Czech Republic, Italy, Romania and Slovakia, where, in spite of legislative frameworks in line with the EU law, the rules are often circumvented with impunity. The obligation for public administrations to publish details on their spending and funding decisions, especially in the context of public procurement tenders, could be a useful tool to increase transparency. For instance, Portugal has reached a share of 75% of public procurement tenders that are fully digitised, whereas this proportion is below 5% for the rest of Europe.[78]

Policy example: Central electronic registry of contracts in Slovakia

Following its introduction in late 2010, the government operates a central electronic registry of contracts and invoices.[79] All contracts awarded by and invoices paid by public administrations, including those at regional and municipal level, have to be published in the online registry. In addition, following the amendment to the Civil Code, the contracts awarded by public bodies become legally valid only upon their publication on the internet. The measures adopted have significantly increased transparency and public control of public spending.

A positive contribution can also be made by disclosing asset declarations of staff, adopting dedicated rules for handling conflicts of interest not only at the level of members of parliament, but for the administration too, conducting compulsory public hearings on draft laws in the presence of experts, carrying out external supervision of the financing of political parties and generally strengthening media independence.

Administrative corruption

At the root of administrative corruption (i.e. corruption that affects the implementation of existing laws) is discretion on the part of public servants, who may discriminate or prioritise service delivery and apply exemptions from existing regulation. Therefore, one step to curb administrative corruption would be to cut red tape and to conduct risk analyses of existing laws on a regular basis to identify those bearing a high risk of misapplication. A further powerful step would be to increase the use of e-government tools for interacting with the public administration. In particular, this allows anonymous interactions between firms and public sector officials, which could be an effective measure to limit administrative corruption.

2.5.2.4. Towards less burdensome taxation systems

The tax compliance burden and competitiveness

The compliance burden of taxation has become heavier for businesses in the last two decades. Economic literature indicates that since compliance costs for businesses are high and fall disproportionately on small enterprises, it is not enough to calculate the purely financial cost of a tax rule; the administrative costs it causes also have to be taken into account. For example, the compliance costs connected with a tax credit may well outweigh its perceived value for some firms;

[76] OECD (2007), *Specialised Anti-Corruption Institutions — Review of Models*, Organisation for Economic Cooperation and Development — Anti-Corruption Network for Eastern Europe and Central Asia, Paris.

[77] Transparency International (2012), *Money, Politics, Power: Corruption risks in Europe*.

[78] European Commission (2011), Fighting Corruption in the EU. Communication from the Commission to the European Parliament, the Council and the European Economic and Social Committee, COM(2011) 308.

[79] www.crz.gov.sk.

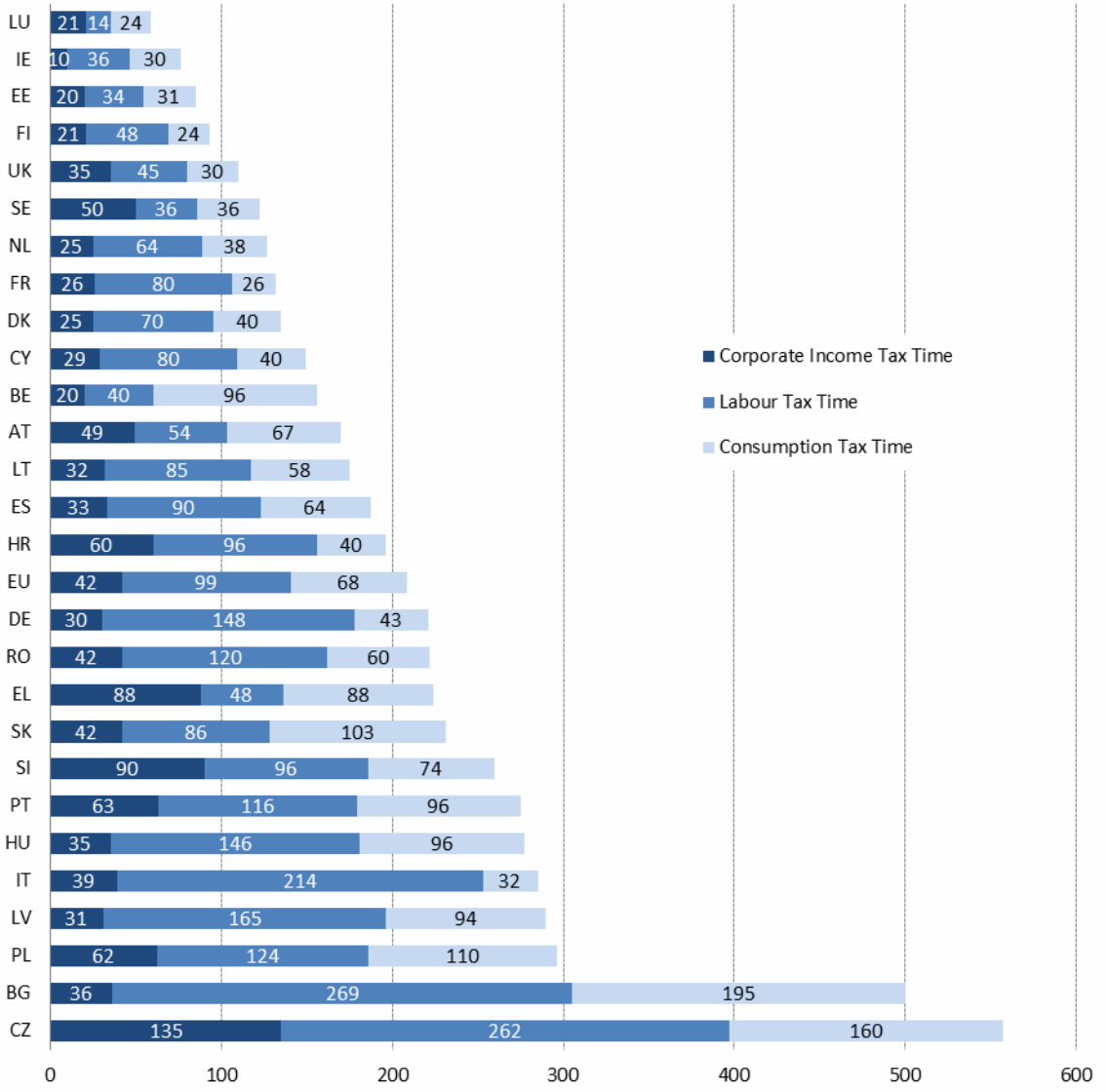
consequently, the design of tax policy must include such costs.

The Annual Growth Survey 2012 paid attention to both the quality and the quantity of tax revenues and noted that tax systems could be improved by reducing the administrative burden and coordinating measures at EU level. This could be done while keeping revenues stable, and without compromising the fight against tax fraud and evasion.

Given the complexity and variety of tax systems, comparisons are difficult. The most wide-ranging study has been conducted by the World Bank and PriceWaterhouseCoopers, measuring the burden a sample company would incur around the world. According to this study, the European Union scores slightly below average among the OECD countries. The average total time required to pay taxes in the EU is 208 hours (OECD average 195). However, thanks to policy efforts and the increasing use of online tools, there is a general trend towards a lower tax compliance burden, meaning that EU countries must improve their tax systems just to maintain their relative position.

Figure 2.14 depicts the situation as of 2012 by showing the number of hours a company operating in the same conditions would need to spend to comply in the Member States.

Figure 2.14: Number of hours to comply across the European Union



Source: Chart adapted by the Commission based on the PwC study *Paying Taxes 2012, The Global Picture*

The data paint a complex picture — there is large variance in the burden caused by any of the three tax types, and Member States can have a light burden for one tax and a very heavy one for the

others. This suggests that there is room for improvement and policy learning using good practices.

Clearly, all taxes impose some collection burden on economic actors. The scope and weight of rules governing tax collection could also depend on the prevalence of tax avoidance and attempts to reduce it. However, increasing the compliance burden does not seem to be a very successful way of combating avoidance. Comparing data on the tax compliance burden with the size of the shadow economy, it appears that countries with a heavy compliance burden also tend to have a higher than average shadow economy. In other words, countries that score well in terms of the tax compliance burden also tend to have a smaller black market. However, the causality is not clear as the compliance burden may be a consequence of tax avoidance, because countries facing high levels of both may try to reduce them with more rules. Independently of this, there is no discernible positive effect: a heavy compliance burden does not seem to lead to less tax evasion, not even over time, and therefore penalises honest businesses without achieving its goal. Furthermore, a tax system that is burdensome on companies is also likely to be more expensive for the state to administer and enforce, in terms both of resources and personnel.

In conclusion, since a heavy tax compliance burden clearly imposes higher costs on businesses, without any evident benefits in reducing tax evasion, and is probably more expensive to run, lightening the tax compliance burden would have a positive effect on competitiveness.

Policy example: The Office of Tax Simplification in the UK

Although the United Kingdom is already one of the top performers among the Member States in terms of the tax compliance burden, the UK government has committed itself to further improving its tax environment. A new Office of Tax Simplification (OTS) was set up in July 2010 in order to specifically address this issue. Particular attention has been paid to smaller companies, which are most likely to suffer from regulatory burdens. In particular, the OTS was given the task of compiling a 'small Business Tax Review', published in February 2012, aimed at providing the government with independent advice on how to simplify the tax system. The two goals of this process are to make the tax obligations easier to understand, and simpler to fulfil. The report has started a dialogue between the OTS and the government aimed at identifying action that could be taken to make tax compliance easier and quicker.

Broadening of the tax base

In recent years, flat-rate taxes have received a considerable amount of attention as a tool for reducing the complexity of the tax system and a means of attracting investment. However, apart from VAT, where multiple rates lead firms to keep parallel accounting systems and thus increase the administrative burden, flat rates do not automatically lead to a lighter compliance burden; they only do so when linked to a simplification of the tax code, reducing exemptions and deductions and leading to a broader tax base. An example of this is Ireland, where the flat corporate tax rate (at 12.5% in most cases) was combined with a cut in tax deductions by 29%. At the same level of resources raised, a low flat rate imposed on a larger base is more efficient than a higher rate, or multiple rates imposed on a tax base narrowed by exemptions and deductions, since these inevitably increase the complexity of the system. The tax code is often used as a policy instrument to promote or discourage certain forms of behaviour; it is clear that this increases its complexity and the administrative costs. These can be so high that sometimes firms can choose to forgo the tax incentives they could claim rather than incur the administrative costs necessary to do so. This is the case in particular for smaller companies, which have very limited amounts of in-house tax expertise.

There has been a widespread trend towards a broader tax base with a reduced tax rate, even though most countries have at the same time continued to grant new allowances to favour investments in priority areas such as R&D. Nonetheless, the steep decline in corporate tax rates has stopped since the outbreak of the crisis. At the same time, top marginal income tax rates are on an upward trend again, which is to the disadvantage of non-incorporated businesses. This is particularly relevant for SMEs.

While broadening the tax base has proven to be an effective method of reducing the tax compliance burden, it is often difficult to implement. The multiple aims of the tax system make it difficult to introduce reforms without a fundamental rethink, and the elimination of allowances, incentives and special tax rates is politically difficult, as this always creates winners and losers.

Inevitably, the number of authorities the taxpayer has to have contact with and report to is positively correlated with the resulting administrative burden. For instance, a study has indicated that the compliance costs for VAT are higher when it is administered by a different authority from the one

dealing with corporate income tax. In many countries taxes and social charges have in the past been administered separately, sometimes each by a different administration. While this is sometimes still the case, there has been a movement towards reducing the number of interfaces for the taxpayer.

Value added tax

Within the taxation system, VAT has become a larger revenue component, partly owing to a rise in the standard rate in half of the Member States. As noted in the Annual Growth Survey 2012, it is growth-friendlier than taxes levied on capital and labour income. This makes VAT central in the pursuit of fiscal consolidation and economic growth. The OECD also considers that reforms to broaden the VAT base would be good for both economic growth and tax revenues. Less clear-cut is the effect of VAT on the compliance burden. The compliance costs of VAT are substantial according to most studies, but they are estimated to differ greatly across countries, and across firms within the same country. For instance, in the United Kingdom they have been estimated to range from approximately 2% of the total bill for small businesses to 0.04% for large businesses. VAT compliance costs are partially due to the possibilities of evasion and fraud, but as the effectiveness of checks does not seem to increase as the burden increases, there is room for improvement.

One of the most effective ways to reduce the burden of VAT compliance appears to be to have fewer rates and exceptions. This was advocated by the Commission's 2010 Green Paper on the Future of VAT, which noted that a 'broad-based VAT system, ideally with a single rate, would be quite close to the ideal of a pure consumption tax that minimises compliance costs'. Most Member States have been reluctant to take action on this front. There are reasons to believe that VAT is not an optimal way of achieving other goals — studies suggest that the increased compliance burden and the distortion of incentives created by a complex VAT system can easily outweigh its benefits, and that social goals could be better achieved through targeted social policies.

The one-stop shop approach and the use of online tools have been widely adopted in taxation and often also cover the administration of VAT. The Commission is planning to use a one-stop shop approach for cross-border transactions, in which information about all VAT regimes should be provided through a central web portal. The one-stop shop system will initially be applied to e-commerce, broadcasting and telecom services, even if the payment will be allocated to different Member States. The system will be gradually extended to other goods and services. Electronic invoicing will be a cornerstone of the system.

While a well-designed system and robust electronic support can significantly reduce the VAT compliance burden, they do not change the fact that the burden falls disproportionately on smaller enterprises. Therefore some countries have devised special regimes that reduce their obligations with regard to VAT as well as other forms of taxation.

Special regimes for small and micro enterprises

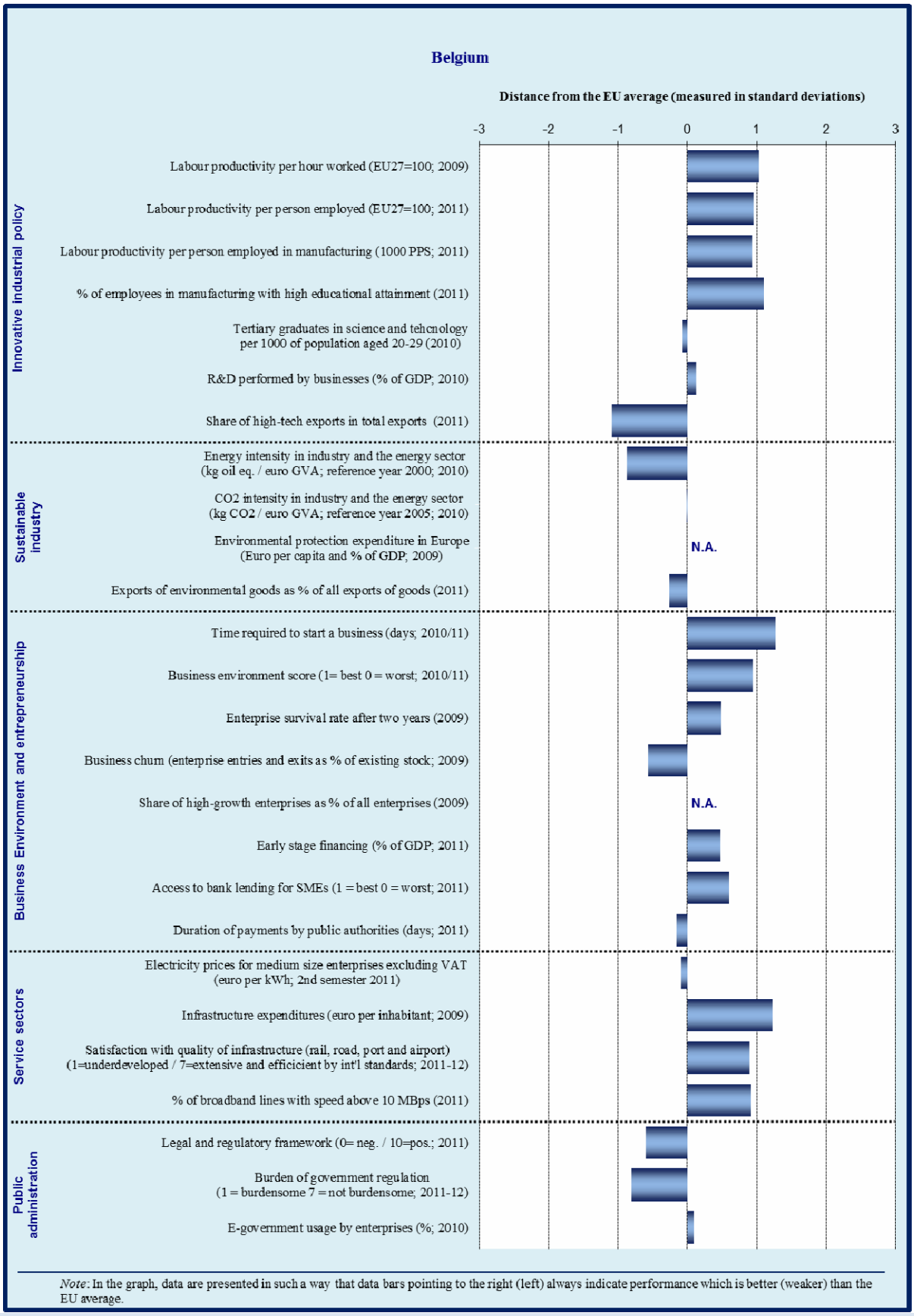
There are good reasons for policies that aim specifically to reduce the tax compliance costs of smaller companies. The OECD found that while total business tax compliance costs tend to be higher for large companies as an absolute figure, as a percentage of sales they are significantly higher for SMEs; similarly, the European Tax Survey estimated that European SMEs have a cost to tax revenue ratio (i.e. the ratio between total tax-related compliance costs and paid taxes) of 30.9%; for large companies this was 1.9%. For small firms time is literally money and time used to prepare taxes could be used productively. This could create a more level playing field, in particular for microenterprises. Reducing the tax compliance burden on small and micro enterprises could improve their chances of survival and encourage growth.

While all Member States have simplified tax rules for SMEs, often reducing the amount of information to be reported to the tax authorities and the frequency of filing, some countries have taken much more radical steps. In particular, they have allowed some or all taxes to be replaced by a simple replacement tax, usually defined as a cash-basis or presumptive tax.

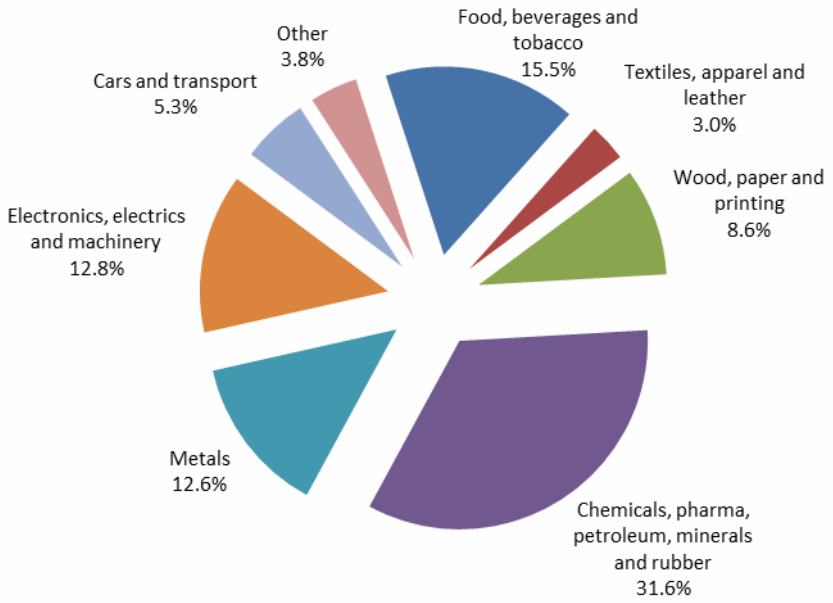
The design of a simplified taxation regime for microenterprises is important, since it has to achieve the goal of reducing the administrative burden on them without producing distortive effects, such as encouraging companies to stay small, or creating conflicts with other aspects and aims of the tax system (e.g. incentives and rebates). Therefore, such systems need to be designed for the specific conditions and needs of the microenterprises of a specific country.

3. COUNTRY CHAPTERS

3.1. Belgium



Sectoral specialisation of manufacturing – Belgium (2009)



Note : No data available for sectors C12 (tobacco products), C15 (Leather and related products), C30 (other transport equipment) and C32 (other manufacturing)
Source: Eurostat

3.1.1. Introduction

At the detailed manufacturing industry level, Belgium is specialised in capital-intensive industries, such as fabricated and basic metals, chemicals, food and electronic equipment. At the more aggregated sector level, Belgium is specialised in sectors featuring medium-high educational and innovation intensity, such as chemicals, petroleum industries, but also textiles. Overall, manufacturing produces 13.8 % of total value added (versus 15.5 % in average in the EU).

Belgium belongs to the top EU countries in terms of productivity levels, although its performance is weak in terms of productivity growth and wage costs remain high (the contry-specific recommendations of the European Semester 2012 required Belgium to act in this respect). With regard to exports, Belgium is still specialised in low- and medium technology goods, for which price competition is higher, although the share of high-tech exports has been rising rapidly.

3.1.2. Innovative industrial policy

According to the Innovation Union Scoreboard 2011, Belgium is one of the innovation followers, although with an above average performance. Its relative strengths are in high-skilled human resources, the attractive open research system and the high number of innovative companies. Its relative weaknesses are business investments, intellectual assets and outputs.

In 2000-2010, private expenditure on R&D declined (from 1.42 % to 1.32 % of GDP)[80] due to two reasons: (i) changes in the economic structure, which has become more service-oriented; and (ii) the reduced Belgium-based R&D activities of the telecommunications and chemical sectors. Business R&D is highly concentrated in only a few sectors, and in a small number of large companies and multinationals. Four sectors are responsible for 50% of R&D expenditure (pharmaceuticals, chemicals, computer-related services, and telecommunications equipment). The dominance of the services sector in Belgium, which is growing at a faster rate than manufacturing, would justify specific measures to improve the knowledge intensity of the service sector over time.

A key challenge for Belgium is how to speed up the transition towards a more knowledge-intensive economy by fully exploiting the strengths of its research and innovation system, including by further developing the support given to clusters, and better conditions for the growth of innovative firms. This includes addressing the fragmentation of the relatively low level of public R&D expenditure, promoting entrepreneurship and the commercialisation of research outputs. The relevant authorities have recognised the importance of innovation for productivity growth, and competitiveness. This is reflected in the budgetary

[80] In the same period public R&D expenditure increased (from 0.52% to 0.65% of GDP). Total R&D intensity (private and public) stagnated (rising only from 1.97% in 2000 to 1.99% of GDP in 2010).

decisions taken by all political entities in recent years[81].

The federal government provides a 75 % payroll tax exemption for researchers.[82] Despite the availability of highly-qualified human capital, there appears to be a mismatch between demand and supply of labour in some sectors. Shortages of skilled graduates, in particular in in sciences and engineering could become a barrier to improving the competitiveness of the Belgian economy.

All Belgian regions have developed strategic innovation approaches covering all major aspects of an innovation strategy. In the Walloon Region the focus has been on supporting a limited number of competitiveness poles (a cluster approach); in 2011, EUR 125 million was allocated to R&D projects on competitiveness clusters under the Marshall2Green.

New approaches have been developed under the so-called 'Creative Wallonia' Plan, including supporting the market take-up of new products and services; and promoting cultural and creative industries. Concrete actions include promoting creativity in schools; monitoring innovative performance; and creating an electronic platform for networking.

In the Flemish Region, the willingness to address through innovation the major economic and societal challenges is a main driver of research and innovation policy. In 2011, the competence poles for industrial design, logistics, materials research and mobility have been extended and a new competence pole for sustainable chemistry has been created.

In the Brussels Capital Region, the preparation of a new research and innovation strategy has started in 2011. To improve innovation financing, the Region created a fund to support starting young innovative companies (Brustart). The implementation of an Interfederal Plan for Research and Innovation has to ensure better coordination of the efforts made by the Regions and the federal government with regard to R&D and technological innovation.

Within the framework of its industrial policy, special attention was given by the Walloon government to the internationalization of the competitiveness clusters to attract foreign investors and to boost international visibility. The Flemish government adopted in 2011 the White paper 'A new industrial policy for Flanders' presenting a global view of Flanders' industrial future and comprising 50 concrete actions to be followed by an Industry Council. A particular investment fund (TINA fund) with EUR 200 million at its disposal has been set up in order to help reforming the Flemish economy through innovation.

3.1.3. Sustainable industry

The Belgian economy is some 20 % more energy-intensive than the EU average, due to the high energy intensity of its industry and the poor energy efficiency performance of households. The higher energy intensity of industry can be explained by the large share of particularly energy-intensive activities, such as the production of metals and chemicals, in the country's industrial structure: these two activities represent one fifth of all industrial value added and consume almost two thirds of all final energy used in industry[83]. Improvements have been made however: between 2006 and 2010, the energy intensity in Belgian industry and energy sectors decreased by 8 %.

Belgium has developed a series of measures on energy efficiency, covering most sectors, with a particular focus on refurbishing existing buildings. It is also one of the best performing EU countries in terms of green public procurement, according to a recent study.[84]

The emission intensity of the Belgian economy is high in some important sectors (such as heavy industry or residential heating) but is mitigated overall by the importance of nuclear energy. In particular, the emissions from road transport have increased over the past two decades whereas most other sectors managed to cut emissions. Consequently, road transport now already represents 20 % of all greenhouse gas emissions, and should be a central part of every future emission reduction policy[3].

The Walloon '*Plan Marshall 2.Vert'* incorporated guidelines for broader integration of the sustainable dimension. To this effect, the Government launched 'Employment-Environment' Alliances (the first one is dedicated to energy efficiency in buildings) and introduced a 6th competitiveness cluster dedicated to new environmental technologies. Flanders will elaborate a new regulation for strategic and ecological investment projects; this regulation is

[81] Public R&D budgets have increased from EUR 2.29 billion in 2009 to EUR 2.47 billion in 2012.

[82] Foregone revenues from R&D tax incentives are almost as big a subsidy as direct public funding of business R&D. Taking both of these into account, support for business R&D in Belgium is 0.17% of GDP, higher than in most other Member States.

[83] Source: Schmitz, T. (2012), 'Greenhouse Gas Emissions and Price Elasticities of Transport Fuel Demand in Belgium', OECD Economics Department Working Paper No 955.

[84] 'Assessment and Comparison of National Green and Sustainable Public Procurement Criteria and Underlying Schemes' 2010.

aimed at projects that offer a global or integral environmental or energy solution at company level. In the Brussels Region, the 'Employment-Environment' Alliances mobilise and coordinate public and private partners and associations around concerted actions on sustainable construction, water and waste.

Compared to the EU average, Belgium has a medium performance with regard to waste generated by enterprises and with regard to the share of environmental goods of the total export of goods. The 2010 trade balance of environmental goods was in deficit for the majority of Member States and also for Belgium (- 0.14 % of GDP).

3.1.4. Business environment

The share of successful loan applications was in 2011 higher in Belgium than in other EU countries, even though access to private capital (bank lending) became more difficult in 2011 compared to 2009. Belgium's performance is particularly high in the amount of venture capital flowing to early stage investments. Belgian SMEs have also better access to public financial support than similar firms in other EU countries. On the other hand, business organisations expect that access to finance will become more difficult in the future also because of a more restricted lending policy from banks confronted with Basel III requirements; most problems are encountered with the craft enterprises.

The duration of payments by public authorities also has an impact on the financing needs of SMEs. In 2011, the average duration of payments by Belgian public authorities was 73 days, exceeding the limit of 30 days set by the EU directive and above the EU-average of 66 days. Corrective measures have been implemented in 2011 and will be pursued in order to respect the deadline of 30 days.

A number of initiatives have been taken to improve access to funding for SMEs. The various measures put in place cover a wide range of needs for SMEs and include financing (loans, guarantees, venture capital investments, cash advances etc.) and support measures such as credit mediation. Some new initiatives have been taken such as FINMIX (helping companies to participate in venture capital financing) or the Win-Win Loan which has been extended to all SMEs and with increased amount limits (Flanders). Also loan guarantee schemes such as the Automatic Financing product or various support schemes by *Participatie Maatschappij Vlaanderen* have been put in place. Other examples (Wallonia) are the VIVES2 fund to support spin-offs and the development of the BIOWIN pole via risk capital participation in the VESALIUS Fund. Belgium has been one of the first countries to create a Credit Mediator service, as well as using a monitoring system of the financial markets and access to finance of companies (Flanders) to detect possible problems very soon. In Wallonia, the Concileo mediation platform was transformed from a temporary anti-crisis measure to a permanent service.

According to the Global Competitiveness Report, Belgians are quite satisfied with the quality of infrastructure, although a decrease in the satisfactory score is observed since 2006. Congestion (concentrated in bottlenecks around Brussels and Antwerp and on some trunk roads) is placing a particularly heavy burden on the Belgian economy; estimates of the cost of congestion in Belgium range from 0.05 % of GDP to 2 % of GDP. For company cars, the development of an environment-friendly fiscal system will further be pursued via a new taxation system. A more efficient public transport service would encourage a transfer of traffic from road towards more environmentally-friendly modes of transport. Also increased coordination between the different levels of powers and responsibilities would help in reducing negative transport externalities.

3.1.5. Services sector

Electricity prices for Belgian medium size enterprises are slightly higher than the EU average (0.1147 €/kWh vs. 0.1117 €/kWh). Although measures have been taken to limit the indexation of prices, efforts to enhance competition in the markets for energy are needed for more competitive pricing. This could include reducing the competitive advantage posed by amortised nuclear plants. The electricity and gas market regulator and the competition commission should play a more active role to improve price transparency. The distribution rates that seem to have caused price rises to the tune of 20 % should be reviewed.

Generally speaking, goods and services are more expensive in Belgium than in many other Member States, reflecting weak competitive pressures and some structural barriers, especially in the retail sector and network industries. The country-specific recommendations of the 2012 European Semester require Belgium to remove obstacles from competition in the network industries.

3.1.6. Public administration

Belgium's overall public administration performance, as depicted by the World Bank's

Government Effectiveness Indicator, is above EU average. Perceived quality of public services, including quality of the civil service and policy implementation in Belgium is quite good, although not exceptional. On the other hand, the use of tools to improve public administration performance (e-government, impact assessment, performance and service orientation, accountability) is less widespread than on average in the Member States.

Belgium's situation as regards corruption and fraud is better than the EU average. Indeed, irregular payments, as well as diversion of public funds and experience of corruption are rarer than in other Member States. Also the individual experience of corruption (3 % of all cases) is much lower than the EU-average (10 %).

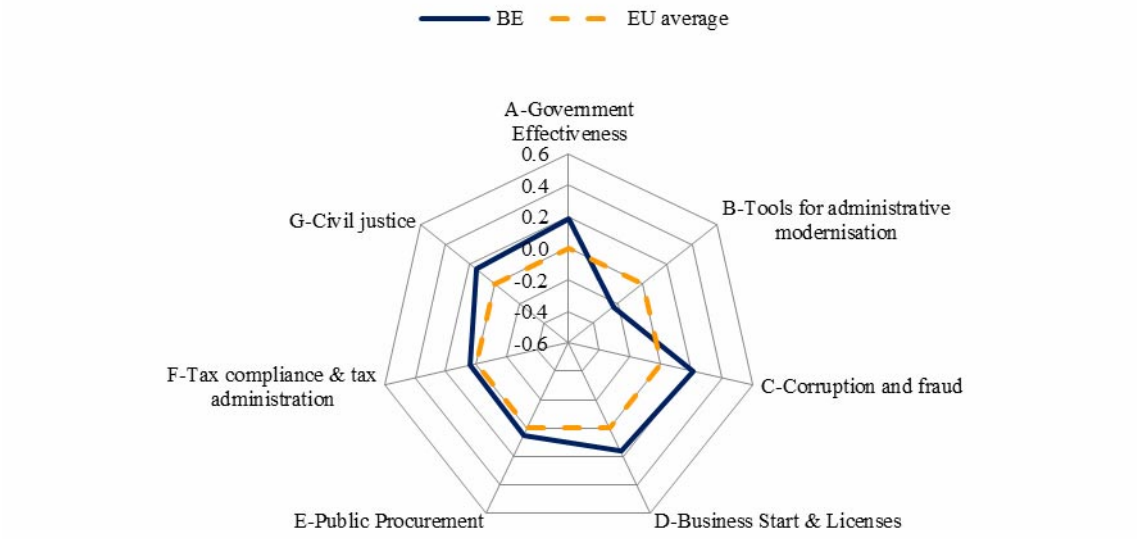
The *civil justice* indicator is above the EU-average and also the time for resolving insolvency is good compared to EU mean; in Belgium it take less than one year to resolve insolvency, while it takes on average almost two years on average in the European Union.

Belgium performs quite well in terms of indicators linked to paying taxes (the number of payments and the complexity of procedures); according to the most recent World Bank Doing Business data, Belgian firms, on average, make 11 tax payments a year (EU-average: 17) and spend 156 hours a year filing, preparing and paying taxes (EU-average: 218). Nevertheless administrative costs of taxation are slightly higher than the EU average. Since the latest reform in 2010 (when the tax payment process and administration were improved by mandating electronic filing for medium-size businesses), no new tax reforms to make paying taxes faster or easier for businesses, have been recorded.

The *public procurement* index is slightly above the EU average. Whereas on average the typical costs of taking part in a tender amount to 0.19 % of the respective domestic GDP per capita in the EU, participation in Belgium causes cost of 0.18 % of GDP per capita. As from 2012, it is compulsory for both the Flemish and the Walloon administrations to use e-tendering procedures.

The performance of Belgium with regard to *starting a business and licensing* is higher than the EU average. In Belgium there is a fully operational one stop shop to start up a company and the procedures for starting up a business seem less complex in Belgium than in the EU; it takes only four days in Belgium compared to two weeks on average in the EU. However, the cost of starting-up a company and the licensing complexity sub-indexes are closer to the EU-average.

Overall profile of public administration



Source: WIFO

The use of new tools to improve the performance of public administration, in particular evidence-based instruments, is less widespread than in many other Member States. Nevertheless, a tool called 'e-Depot' was introduced in 2007 to offer notaries a quick and easy way to complete, sign and deposit the forms and documents required to create a

company in all administrative databases.[85] Tax, social security and land registry information can also be researched electronically. Thanks to e-Depot, a company can be set up in just a few days. Overall, e-Depot provides complete and integrated services for notaries and their clients, as well as the authorities. It improves their work by providing access to a complete database, reduces time and costs, facilitates trade, improves administrative work, and allows for paperless interaction.

According to the World Bank Doing Business 2012, Belgium's overall performance with regard to responsive administration matches the EU average, but it performs particularly badly in terms of the time needed to transfer property and the cost of doing so[86]. On the other hand, the cost of enforcing contracts is lower in Belgium (16.6 % of the claim, as against the EU average of 20.84 %). On the policy front, the procedures for e-invoicing have been simplified at federal level, and property registration has been tightened up for entrepreneurs by the introduction of time limits and implementation of the 'e-notariat' system. Belgium has also recently adopted a package to modernise its public procurement legislation.[87]

A survey on administrative burdens shows that the administrative burden fell from 2.55 % of GDP to 1.43 % between 2000 and 2010.[88] However, inefficient government bureaucracy is still listed as one of the three major problems in terms of doing business in Belgium.[89]

The time and effort needed to obtain permits still seems to be a problem experienced by many businesses. The results of the 2011 survey (2010 data) on administrative burden show that businesses saw a slight increase in administrative burdens (0.07 %) as a proportion of GDP, compared with 2008. For businesses, environmental legislation has been the main factor in increasing administrative burdens, with a rise in the relative share of burdens resulting from such legislation compared with the other two domains that were examined (taxation and employment).

Initiatives are being taken at the federal and regional levels to simplify and streamline investment procedures, and to enhance the performance of the authorities vis-à-vis the business sector.

One of the projects covered by the Flemish multiannual programme 'Decisive Governance' (*Slagkrachtige overheid*) concerns fast procedures for investment files. In this context, the Flemish government decision (July 2011) to introduce a single permit integrating the environmental with the urban planning licences, can be referred to. The Walloon Region and French Community continue the implementation of their Administrative Simplification Plan (*Ensemble Simplifions*) and the Industry Action Plan with the aim to minimise administrative complexity and reduce the administrative burdens affecting all users of public services, particularly companies; the introduction of the confidence principle was launched as a pilot project. To succeed in the 25 % reduction goal, the Brussels government approved a list of 11 projects; the main focus is on businesses. The new federal government established the priority to reduce by 2014 the administrative burden for all companies by 30 %.

3.1.7. Conclusions

Belgium presents a competitiveness profile that reflects in many ways the average position of Western Europe, with strengths in many pillars and the need to improve in a number of others. Specific weaknesses relate to the fragmentation of research efforts, the relatively low level of private investment, and deficiencies in leveraging intellectual assets. Improving the commercialisation of research and promoting entrepreneurship are challenges Belgium shares with many other Member States.

An important challenge concerns Belgium's competitiveness. Although the Belgian economy is characterised by high labour productivity and a high level of foreign direct investments, Belgium is losing its relative good competitive position in recent years and Belgian exporters have progressively lost shares in world market. Moreover, even if the share of high-tech exports has been rising, Belgian exports are mainly composed of low/medium-tech goods, facing fierce competition from lower-cost countries.

In such context, a key challenge for Belgium is how to speed up the transition towards a more knowledge-intensive economy by fully exploiting the strengths of its research system, including by further developing the support given to clusters and better conditions for the growth of innovative firms.

---

85 http://www.simplification.fgov.be/showpage.php?iPageID=3622&sLangCode=FR

86 World Bank, Doing Business 2012, Belgium.

87 http://www.publicprocurement.be/portal/page/portal/pubproc/beep%20algemeen/wetgeving%20overheidsopdrachten/

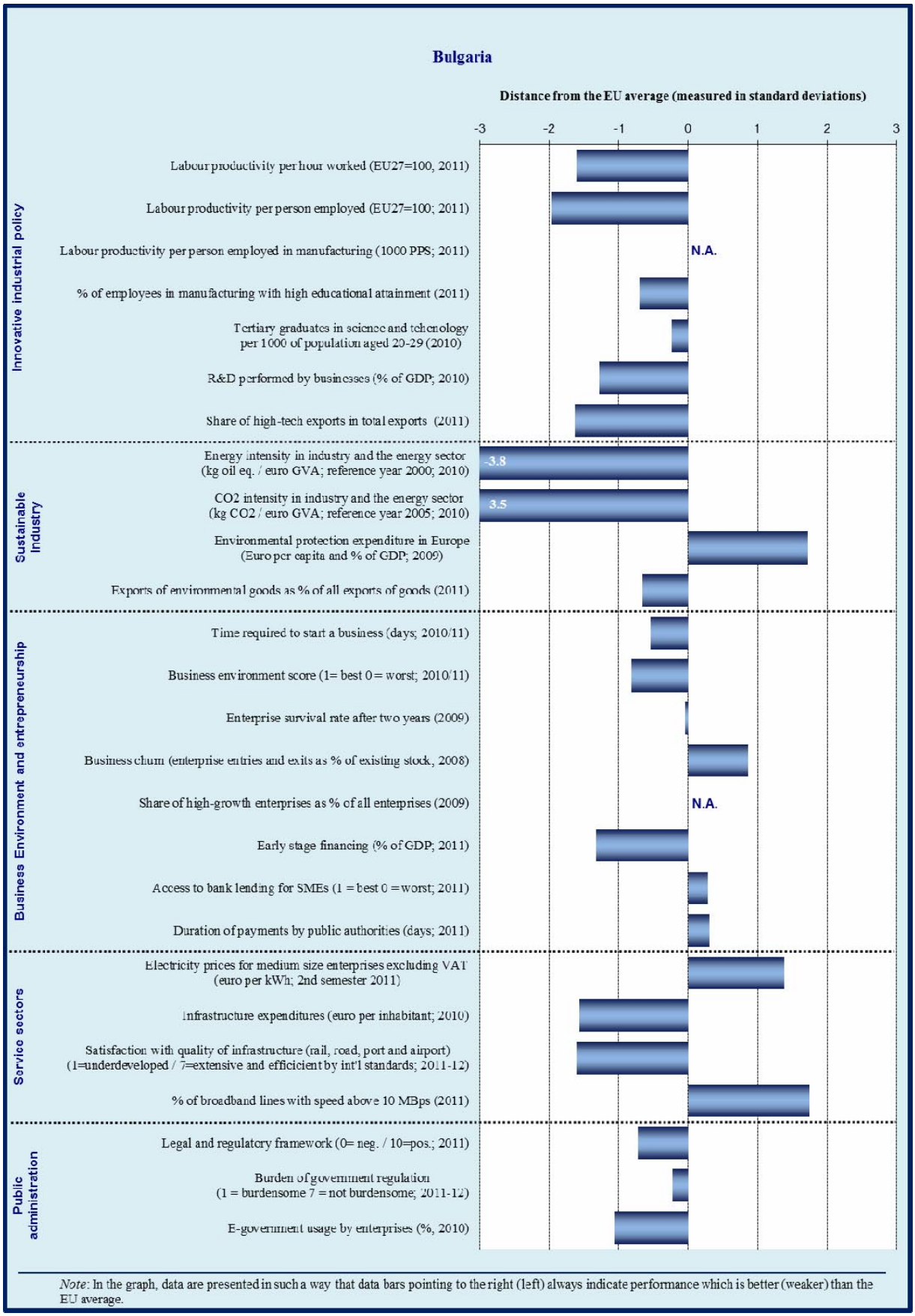
88 Sixth edition of the survey on administrative burdens, commissioned by the Agency for administrative simplification.

89 Third factor behind 'restrictive labour regulations' and 'tax rates' (World Economic Forum Global Competitiveness Report 2011-2012).

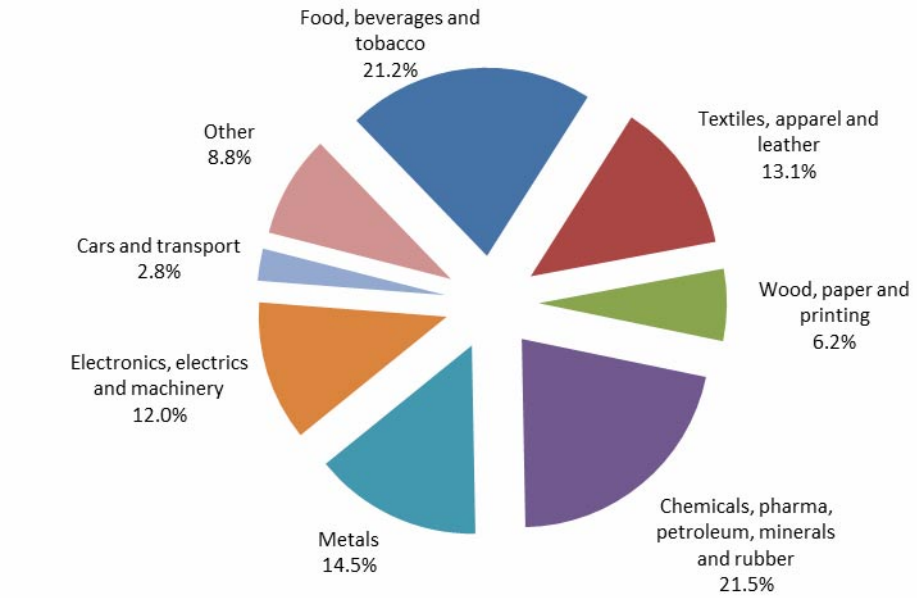
In general, pro-business policies, despite the high taxation system, provide the right conditions for businesses to develop their activities. Further implementation of initiatives at the federal and regional levels to simplify and streamline procedures is needed and will enhance the performance of the authorities vis-à-vis the business sector.

Finally, improving the efficient use of energy and other resources will lower costs and will directly boosts productivity by virtue of making better use of inputs.

3.2. Bulgaria


Bulgaria
Distance from the EU average (measured in standard deviations)
-3
-2
-1
0
1
2
3
Innovative industrial policy
Labour productivity per hour worked (EU27=100, 2011)
Labour productivity per person employed (EU27=100; 2011)
Labour productivity per person employed in manufacturing (1000 PPS; 2011)
N.A.
% of employees in manufacturing with high educational attainment (2011)
Tertiary graduates in science and tehcnology per 1000 of population aged 20-29 (2010)
R&D performed by businesses (% of GDP; 2010)
Share of high-tech exports in total exports (2011)
Sustainable Industry
Energy intensity in industry and the energy sector (kg oil eq. / euro GVA; reference year 2000; 2010)
-3.8
CO2 intensity in industry and the energy sector (kg CO2 / euro GVA; reference year 2005; 2010)
-3.5
Environmental protection expenditure in Europe (Euro per capita and % of GDP; 2009)
Exports of environmental goods as % of all exports of goods (2011)
Business Environment and entrepreneurship
Time required to start a business (days; 2010/11)
Business environment score (1= best 0 = worst; 2010/11)
Enterprise survival rate after two years (2009)
Business churn (enterprise entries and exits as % of existing stock, 2008)
Share of high-growth enterprises as % of all enterprises (2009)
N.A.
Early stage financing (% of GDP; 2011)
Access to bank lending for SMEs (1 = best 0 = worst; 2011)
Duration of payments by public authorities (days; 2011)
Service sectors
Electricity prices for medium size enterprises excluding VAT (euro per kWh; 2nd semester 2011)
Infrastructure expenditures (euro per inhabitant; 2010)
Satisfaction with quality of infrastructure (rail, road, port and airport) (1=underdeveloped / 7=extensive and efficicient by int'l standards; 2011-12)
% of broadband lines with speed above 10 MBps (2011)
Public administration
Legal and regulatory framework (0= neg. / 10=pos.; 2011)
Burden of government regulation (1 = burdensome 7 = not burdensome; 2011-12)
E-government usage by enterprises (%, 2010)
Note: In the graph, data are presented in such a way that data bars pointing to the right (left) always indicate performance which is better (weaker) than the EU average.

Sectoral specialisation of manufacturing – Bulgaria (2009)



Note : No data available for sectors C19 (coke and refined petroleum products) and C21 (Manufacture of basic pharmaceutical products and pharmaceutical preparations)
Source: Eurostat

3.2.1. Introduction

The manufacturing sector plays a slightly bigger role for Bulgaria than for the EU in total. This is mainly due to specialisation in labour-intensive industries e.g. textiles and clothing, leather and footwear, and in capital-intensive industries e.g. manufacture of cement, lime and plaster, refined petroleum products and non-metallic mineral products. The primary sector is larger compared to the average for the EU due to the higher share of agriculture. In general, the Bulgarian economy is dominated by sectors with low and medium-low technology intensity. With respect to services, wholesale and retail trade, financial services, tourisms, transportation and health-care services are the most important market services in the Bulgarian economy.

Overall, Bulgaria is a typical member of the group of countries featuring relatively lower income levels and specialisation in labour-intensive industries. While labour productivity per hour worked has gradually increased over the last years, it is still about 58 percentage points below the EU27 average. The crisis seems to have accelerated Bulgaria's structural change towards more advanced and knowledge-intensive industries and sectors, as demonstrated by the sizeable gains in exports by technology-driven and mainstream manufacturing industries. However, Bulgaria can be seen as catching up with respect to competitiveness, in particular as regards specialisation and the quality ladder, but not with respect to R&D.

3.2.2. Innovative industrial policy

According to the Innovation Union Scoreboard 2011, Bulgaria belongs to the modest innovators group in the EU i.e. its innovation performance is well below the EU average. Though, Bulgaria has been slowly catching up for the past 7 years. In 2010 the investments in research and innovation represented only 0.60 % of GDP[90]. Although the updated National Reform Programme reconfirms the target of 1.5 % GDP spending in R&D activities by 2020, investment in this field will have to be further raised.

The industrial research and innovation activity essentially takes place in the sectors of information and communication technology, electronic equipment, machine building and pharmaceuticals with increasing trend of trademark applications. However, the number of patent registration applications[91] and the share of SMEs introducing

[90] The 0.60% GDP consists of almost equal shares of public (0.29%) and private (0.30%) investment.
[91] 1.22 patents per million of residents, compared to the EU average of 115.8.

innovations are still very low compared to the EU averages. Therefore, the development of adequate human capital, well-established clusters and technology centres is essential for the innovation capacity of Bulgarian companies. The establishment of the first science and Technology Park[92] in Sofia, a project of approx. EUR 50 million co-financed by the ERDF, will deserve continued public support.

The current innovation strategy was adopted in 2004 and, today, it does not appropriately tackle the bottlenecks in the area of industrial innovation. Overall, there is policy fragmentation because research and innovation policies are being developed separately by respective ministries, each with different policy objectives and implementation structures. So far, the national R&I funds (i.e. Innovation fund and Science fund) have not effectively supported companies and universities in their innovative projects, for lack of regular funds. National funding for R&I has no stable mid- to long-term funding perspective. The planned adoption of a new Law on Innovation in 2012 and the next innovation strategy will have to set an adequate and up-to-date innovation framework in Bulgaria, which is coherent with the national research policy.

3.2.3. Sustainable industry

Although the sustainability indicators continue to improve, the industry lags behind the EU average in terms of energy intensity and carbon intensity. Moreover, the industry is particularly vulnerable to energy price shocks and stringent environmental and emissions obligations because of the high level of energy intensity of the economy and the dependency on limited number of foreign energy suppliers. National strategies in key areas such as carbon emissions and water have not been delivered yet. Nevertheless, Bulgaria is committed to deliver on its 2020 targets, namely to increase the share of renewable energy in the energy mix to 16 % in 2020 and to reduce the greenhouse gas emissions in the non-ETS sectors by 20 % by 2020.

In October 2011, the Council of Ministers adopted a national plan for green public procurement. The plan sets binding objectives for the central administration on green procurement of 6 product groups (e.g. IT equipment, air-conditioning, lighting). A System for Certification of Green Jobs is operational since January 2011 and 786 new green jobs were created under this programme.

A new Law on waste management, transposing the Waste Framework Directive, was adopted in 2011. The law introduces a life-cycle approach on waste management and defines greater role of municipalities as owners of the infrastructure. The goal is to create an integrated waste management infrastructure and to address several bottlenecks on permitting as well as restriction on ferrous and non-ferrous metals recycling.

A couple of calls have started under Operational Programme Competitiveness in 2011 in the area of green industry. They aim at mitigating the negative impacts of large enterprises and SMEs on the environment by supporting the adoption of energy efficiency technologies.

The Ministry of Economy, Energy and Tourism is working on a national plan for the introduction of electric vehicle, which will be presented during 2012.

3.2.4. Business environment

The regulatory environment is not stable and predictable for the companies as legislative acts change very often. The national harmonisation with the EU legislation sometimes is complex and contradictory. In the Doing Business 2012 Bulgaria's ranking worsened for a second consecutive year (from 57 in 2010 to 59 in 2011), pointing to excessive red tape and inefficiencies in the business environment, including permitting, access to electricity, contract enforcement, and the insolvency framework. The following reforms to improve the business environment, both at local and state level, are still lagging: alleviation of regulatory regimes and permitting; simplification and decrease of administration fees, implementation across the board of tacit consent; significantly increasing the provision of e-government services; and improvement of the public procurement framework. The actions, in the spheres of improving the functioning of the judicial system and fighting against corruption and organised crime, could be strengthened further, as noted in a recent Commission report.[93]

Bulgaria envisages to adopt the Small Business Act as a national strategy in 2012 and possibly also the SME test thereafter. The SME Test has not yet been implemented as the introduction of mandatory impact assessment of regulatory measures was delayed several times so far. Companies are still too small to internationalise. If enterprises

[92] The park will focus on R&I activities in the areas of ICT and pharmaceuticals.

[93] 'On Progress in Bulgaria under the Cooperation and Verification Mechanism', COM(2012) 411 final, http://ec.europa.eu/cvm/docs/com_2012_411_en.pdf

internationalise, they invest in neighbouring countries such as in the countries in the Western Balkans and in Turkey rather than in the EU. This is because Bulgarian companies have better knowledge of these markets, face less competition from multinational companies or are not aware of existing FTAs with other countries.
The absorption of EU funds is low because of low administrative capacity and limited access to finance despite financial engineering. The administrative procedures are complicated and, at the same time, the enterprises do not find the needed co-financing for the projects[94]. Meanwhile, more than a billion euros were allocated to SMEs in 2007-2013. This included EUR 988 million from ERDF in the form of grants and financial engineering instruments, EUR 80 million from the Competitiveness and Innovation Framework Programme, EUR 9 million from the European Progress Microfinance Facility and over EUR 500 million from EIB in the form of credit lines for SMEs.

Over the past years, SMEs have encountered difficulties in financing innovative projects due to high interest rates and credit rationing, while start-ups have not been able to find appropriate funding. In 2009 and 2010 Bulgaria registers a share of investment in seed and start-ups significantly lower than the EU average[95]. Moreover, Bulgaria experienced the largest increase in unsuccessful loan applications over the past several years - from 3 % in 2007 to 36 % in 2010[96]. This has a direct impact on SMEs' innovation and growth potential[97]. The limited public financial instruments and guarantees for innovation mainly consist of EU programmes, which are still to be realized. Therefore, it is urgently needed to speed up their absorption and make them attractive to enterprises.

Several calls for proposals to support SMEs were launched in 2011 through Operational Programme 'Competitiveness'. These calls are in the areas of compliance with international standards, energy efficiency improvement, and enlargement of clusters. Altogether about EUR 1.2 billion has been allocated to this programme in 2007-2013.

3.2.5. Services sector

The modernisation of the transport and energy infrastructure is a major challenge after years of underinvestment in core areas such as highways, ports, rail, and gas interconnections. The railway sector has experienced decreasing performance and shrinking market share over the past decade. The enhanced usage of European structural funds will be a prerequisite for the successful completion of these projects as Bulgarian public funding is limited. Although medium-sized enterprises in Bulgaria pay the lowest electricity prices in the EU, the liberalisation reforms of the electricity and gas markets are still uncompleted.

Bulgaria is a top performer in relation to the speed of broadband internet. However, the deployment of broadband in Bulgaria is still lagging behind the EU average. The provision of broadband internet in rural areas is the lowest in the EU. In the area of the health services sector, important public health measures have been continuously postponed and, thus, hindered the potential for growth of the sector.

Professional services such as these provided by architects, lawyers and others are subject to regulations on legal forms, shareholding or prices which may hamper competition. In general, competition in the services sector is also hampered by the absence of a clear distinction between rules applicable for the establishment of a service provider and the cross-border provision of services by a provider established in another Member State.

3.2.6. Public administration

Bulgaria is still in the process of reinforcing its public institutions, which have to become stable and efficient and increase their capacity to support the business environment. The Council of Ministers adopted the Action Plan for Optimisation of the State Administration (2010–2011) in July 2010. Around 75 % of the proposed measures in the Action Plan have been accomplished by the end of 2011. The reform of the state administration also included a reduction of 14 % of the staff since 2009. However, there are still many corruption risks in public contracting and procurement processes due to inefficiency and lack of transparency in the public administrations.[98]

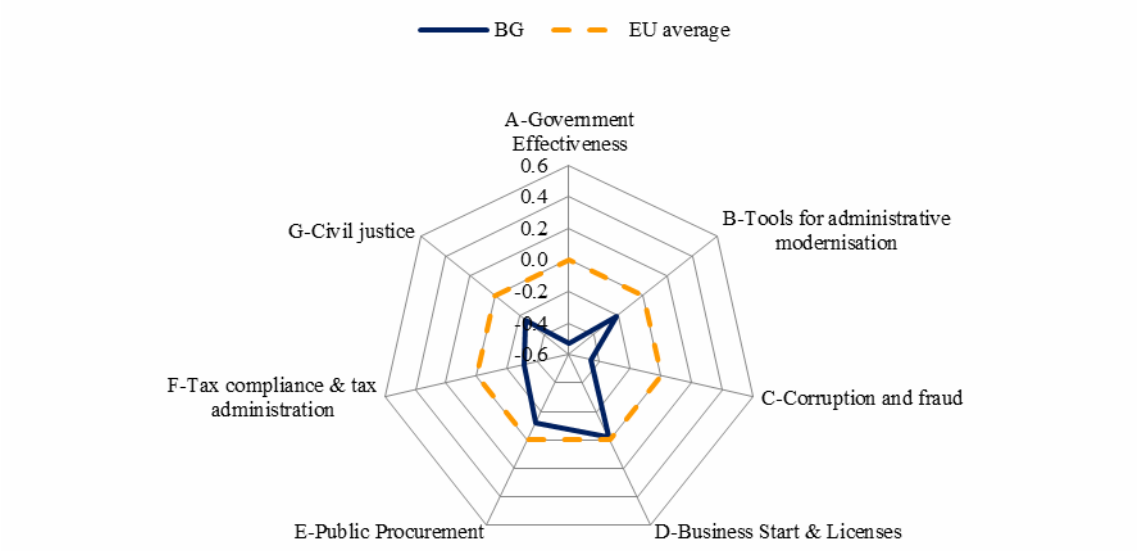
According to the Government, 89 measures from its plan for reducing administrative burden have been implemented and another 37 are in progress. The total expected economic effect from these measures is EUR 55 million less costs for the business. Also, a methodology for cost-based calculation of fees for

[94] There is a problem of co-financing of EU projects in Bulgaria as under the EU Financial Regulation (Article 111) double funding of projects is not possible.
[95] Source ECVA.
[96] Source Eurostat.
[97] A 2011 report from the Bulgarian Small and Medium Enterprises Promotion Agency showed that innovation activities of enterprises are in direct correlation to access to financing.
[98] Transparency International 'Money, politics, power: corruption risks in Europe' 2011.

administrative services has been developed and will enter into force in 2013. However, the criteria of exemption from the methodology are very broad. The expected economic effect from this methodology is between EUR 25 and 100 million savings for the business and the citizens.

The procedure of impact assessment of future regulatory acts has still not been implemented. There were only a few pilot measures (e.g. Law on independent evaluators) that had been subject to an ex-ante impact assessment. There is no clear timetable.

Overall profile of public administration



Source: WIFO

The implementation of e-government has been delayed many times and, since 2011, it has become a priority for the Government.[99] A strategy for e-government was adopted in 2011 aiming to integrate the existing systems and tools within individual administrations. According to the National Revenue Agency, most administrative services have been made available online for the past several years. Despite the progress of the implementation of different action plans, businesses and citizens do not perceive significant amelioration of the public services so far.

Bulgaria has in general a very low tax structure favourable to businesses. However, tax evasion and relatively low administrative efficiency of the tax system appear to be significant bottlenecks to the system. Further, the shadow economy is large, by some estimations the largest in the EU.

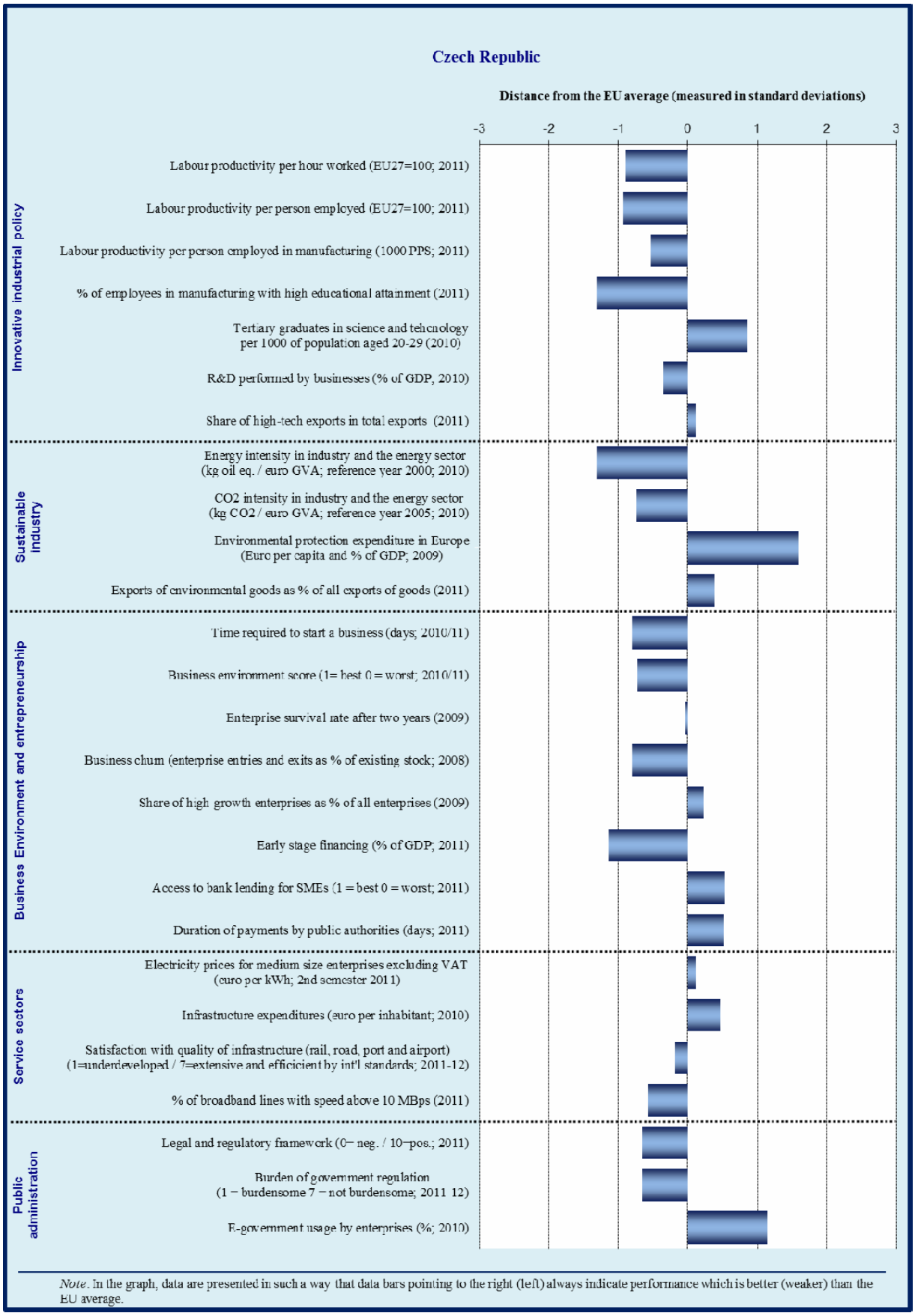
The tax compliance burden is still very high and stands at around 500 hours according to Doing Business 2012. In 2012 the Government plans to simplify VAT invoicing rules and fully implement the Late Payments Directive.

[99] According to the Bulgarian Industrial Chamber, only 30 out of 700 administrative services are available through internet.

3.2.7. Conclusions

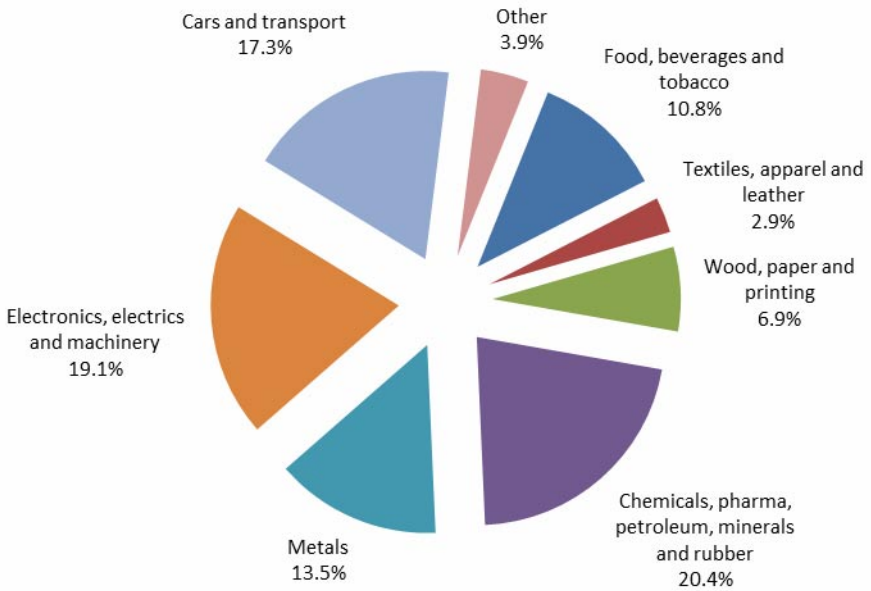
Bulgaria is still in the process of reinforcing its public institutions, which have to become stable and efficient, while increasing their capacity to support and promote the business environment. Important structural reforms to improve Bulgaria's competitiveness have been continuously postponed for the past several years. Such reforms include, among others, cutting the red tape at national and local level, fostering innovation in view of increasing industrial productivity, setting an integrated R&I system and improving the energy efficiency across the economy. Bulgaria has committed to more than double its current R&I spending by 2020 and will have to make effective use of all existing policy instruments in order to succeed. This will imply to focus resources on key sectors and enhance participation of industry and business in innovation activities. The modernisation of the transport and energy infrastructure is another major challenge to growth. The increased absorption of structural funds will be crucial in supporting all these key undertakings.

3.3. Czech Republic



Note. In the graph, data are presented in such a way that data bars pointing to the right (left) always indicate performance which is better (weaker) than the EU average.

Sectoral specialisation of manufacturing – Czech Republic (2009)



Note : No data available for sectors C12 (tobacco products) and C33 (installation of machinery and equipment)
Source: Eurostat

3.3.1. Introduction

The manufacturing sector plays a crucial role in the Czech economy, representing 24.3 % of value added in 2011 (EU average was 15.5 %). The main areas of specialisation within the manufacturing sector are transport equipment, electrical and optical equipment, machinery and equipment and basic metals and fabricated metal products. Over the past decade there has been an increase in specialisation in sectors such as rubber and plastic, air transport, motor vehicles, trailers and semi-trailers. On the other hand, there has been a decline in specialisation in the textile sector, refining petroleum and nuclear fuel and recycling.

3.3.2. Innovative industrial policy

The Innovation Scoreboard 2011 classifies the Czech Republic as a moderate innovator with a below average performance. In an effort to shift the Czech economy towards higher value added the Czech Republic adopted the International Competitiveness Strategy for 2012-2020 and the new National Innovation Strategy (NIS) in 2011. A more targeted set of national R&D and innovation priorities will be submitted to the Government in the course of 2012.

The Czech Republic has a target to increase public R&D investment to 1 % of GDP by 2020. While there was an increase in expenditure on R&D in 2010, public R&D expenditure remained similar to the level reached in 2009, that is, 0.58 % of GDP in 2010. However, there was a good performance of the Czech research and innovation system in terms of business expenditure on R&D (BERD), which reached 0.97 % of GDP in 2010, mainly due to a strong manufacturing sector with industrial specialisation in innovative sectors. The majority of companies performing R&D are foreign owned.
One of the main problems faced by the Czech Republic is the lack of co-operation between research and business sector. The above mentioned problem is mainly due to low readiness of research organisations to collaborate with companies (e.g. a code of practice concerning intellectual property right issues for the purpose of technology transfer is often missing), low horizontal mobility between the research organisations and companies, but also low demand for contracted research from companies. Structural funds are helping in this regard. There is also a lack of policy instruments for long-term collaboration between Universities and businesses. Some progress is expected from 'competence centres' which are to be set for mid-to-long-term projects and are to be fully government-funded. The setting up of an evaluation and funding allocation system which rewards best science and technology teams to create an incentive for firms to start co-operating with Universities would be useful. While the National Reform Programme 2012 makes reference to work launched in this respect, results are only expected in the end of 2013.

The Czech Republic also suffers from a lack of co-ordination and fragmentation of responsibilities on

innovation policy at government level. The planned amendment of the relevant Act[100] in 2012 should be helpful in this respect as it will strengthen the role of the Council for Research, development and Innovation, which would help in overcoming the issues of weak coordination and governence.

Direct support, such as those financed through structural funds, remain the main policy tool to foster R&D spending with low investment from the private sector in R&D and innovation. Introducing new types of tools for R&D and innovation support would thus be beneficial. A positive development relates to the tax reform adopted on 1 January 2012 but which will be effective from 1 January 2014. Amongst other things, this will allow tax credits for R&D services purchased by companies from universities or research organisations, as opposed to the previous practice of tax credits only for in-house R&D. In May 2012, the Government also approved the amendment to the Act[101] on investment incentives, using investment incentives that would make the Czech Republic more attractive for both domestic and foreign firms.

The Czech Republic tends to suffer from a lack of venture capital to support innovative businesses. In light of this, Government's recent approval of a joint stock company which aims at supporting the creation of new SMEs and the development of innovative and technologically oriented companies is welcomed.

3.3.3. Sustainable industrial policy

The Czech Republic is one of the most energy-intensive countries in the EU, mostly due to the high energy intensity of its industry and an unfavourable energy mix. Renewable energy was 9.2 % of the gross final energy consumption in 2010. There is an intention to extend two existing nuclear power plants. Smarter grids are important for an increase uptake of renewable energy and energy efficiency improvements and in this respect some progress has been made. However, concerns remain about the capacity of the electricity grid to facilitate increases in renewable energy generation from domestic and mainly foreign sources. Consequently, the Czech Republic is currently holding talks with Germany on the interconnection of electricity grids concerning problems faced by the Czech Republic with excessive transit of electricity from Germany.

In September 2011, the Second National Energy Efficiency Action Plan was adopted. The National Reform Programme 2012 makes reference to programmes to support projects that contribute to reducing energy consumption in industrial production. However, adoption of the Government's long term energy policy and also the Climate Change Policy has been postponed and these strategic documents are to be submitted in 2012. Subsequently, the energy efficiency target has not yet been established. A number of legislative amendments proposed in 2011 have also been delayed.

In the area of environment legislation, eco-audits have been carried out in consultation with stakeholders to eliminate environmental legislation which was overburdening businesses unnecessarily. As a result 96 specific incentives have been identified to be reduced or eliminated and some of them have already been implemented.

The New Waste Act of the Czech Republic is still being developed. A new Waste Management Plan is envisaged for mid-2013. Czech industry has a particular interest in secondary materials given their importance for Czech industry. With respect to recycling and waste related to construction material, good results have been achieved in the Czech Republic with approximately 86 % of construction and demolition waste being re-used. A raw material policy is also planned to be submitted to the Government by August 2012.

3.3.4. Business environment

Regulatory and support environment

The Czech Republic has a target of reducing administrative burden for businesses by 30 % compared to 2005 levels by 2020, with an intermediate target of 25 % by the end of 2012. Most recent data suggests that a reduction of 22.6 % in administrative burden has been achieved, with 295 information obligations being reduced or cancelled. Czech authorities are currently working on re-measuring administrative burden.

Czech Points[102] and 'data boxes'[103] are currently in place and new features in the data boxes have been implemented. Other features are planned for the second quarter of 2012, such as providing links to e-banking services.

The Czech Government has set a target of 50 % of population and 95 % of business using e-

[100] No 130/2002 Coll.
[101] Act No 72/2000 Coll.
[102] 'All in one' contact points where any citizen can obtain all the information about the personal data held by authorities in centralised registries.
[103] An electronic delivery system for sending and receiving documents related to public authorities.

government services by the end of 2015. Data as at 2010 suggests that 91 % of businesses and 22 % of citizens are using e-government services. It is pertinent to note that data for 2011 shows a significant rise in e-government use by citizens, measuring 42%. This notable increase is likely due to the establishment of basic public administration registers. While this is good progress, the system is still not fully operational, e.g. paper copies are still required by law courts. The National Reform Programme 2012 also makes reference to projects of electronic legislation (e-legislation) and electronic legal code (e-collection) which aims at simplifying access to law for citizens, business and public administration. The Czech authorities aim to complete this project by 2015. Concerning the ease of starting up a business, the Czech Republic does not score well in this regard[104].

A new Act on Business Corporations which entered into force in January 2012 will take effect on 1 January 2014. This Act will replace the current Commercial Code as part of a re-codification of civil and business laws. Amongst others, this new Act provides for elimination of a minimum capital requirement and creditors' protection to be enhanced by new solvency requirements. The Ministry of Justice is also preparing a new law on business registers that should simplify company starts-ups so that register could be made by public. However, one-stop shops have not yet been established.

The Czech Republic fairs very well with respect to the time and cost it takes to obtain licenses[105] with the lowest level of licensing complexity in all dimensions (number of licenses, time and costs) compared to the other countries in the survey. On the other hand, the Czech Republic scores badly with respect to payment culture[106] with average delays in payment by both the public and private sectors increasing between 2010 and 2011. Total value of payments lost is also high, calculated at 3.1 % of payments lost compared to total turnover in 2011. The late payment directive is currently being transposed into the Czech legislation and should enter in force in 2013.

Through its Export Strategy for 2012-2020, which was approved by Government in March 2012, the Czech Government is aiming at securing growth for exporting firms, shift the composition of Czech exports towards final products and increase the share of exports to countries outside the EU. The document was created in co-operation with the Czech Chamber of Commerce and the Czech Confederation of Industry.

Access to finance

Access to finance remains one of the main concerns highlighted by Czech businesses, especially in the early stages of financing[107]. Instruments such as seed and venture capital funds were still not operational in the Czech Republic[108]. However, as identified in the 2012 National Reform Programme, the new state Seed/VC fund designed to assist in funding for newly emerging innovative businesses will be introduced at the end of 2012. During the summer 2012, commercial banks will be supported by the INOSTART programme, falling under the Swiss-Czech Co-operation programme. This programme will provide investment loads, backed by preferential guarantees and targeted technical assistance, to start-ups with innovative business plans in the Olomouc and Moravia-Silesa regions.

3.3.5. Services sector

Challenges remain in the Czech Republic with respect to competition in network industries, in particular in the telecoms and electricity/gas market where incumbents still control the vast majority of the market. There is also lack of competition in the railway sector.

With respect to the gas market, a new gas line is being build and is expected to be finalised in 2 years' time. There is also a gas interconnection with Poland. While there are 5 distributors of gas in the Czech Republic, there is no significant price differential amongst distributors. A similar situation

[104] According to the World Bank Doing Business Report 2012 it takes 20 days to start up a business in the Czech Republic. However, the Czech Government has indicated to the World Bank that these figures are outdated. The start-up procedures data published by DG Enterprise and Industry says that it takes 15 days to start a company in the Czech Republic — http://ec.europa.eu/enterprise/policies/sme/business-environment/start-up-procedures/progress-2011/index_en.htm.

[105] European Commission's study 'Business Dynamics: Start-ups, business transfers and bankruptcy' 2011. Data from this report is based on a survey from a number of stakeholders and measures the complexity of licensing procedures (in terms of cost, time and effort) for five model companies (hotels with restaurant, plumbing company, wholesale or retail distributor, manufacturer of steel products, manufacturer of small IT devices).

[106] The Czech Republic scores among the worst performing countries in the European Payment Index 2011. Average delays in payments by both the public and the private sectors increased between 2010 and 2011 from 10 to 13 days and 15 to 17 days, respectively. .

[107] Czech Republic is one of the Member States identified in the ECB-Commission survey on access to finance of SMEs (December 2011) where rejected loan application was higher than the EU average in 2011 and where the loan application situation deteriorated between 2009 and 2011.

[108] The European Private Equity and Venture Capital Association (EVCA) also estimates that the share of investment in seed and start-ups as a percentage of GDP is lower than the EU average in the Czech Republic.

is also present in the electricity market. While the transmission and distribution of electricity has been unbundled there are three main distributors in the Czech market charging similar prices across the board. With respect to railway sector, there has been a gradual liberalisation of the market with a new competitor entering the market (RegioJet).
There is a particular concern about entry requirements for notaries. Despite the judgements of the Court of Justice in May 2011 concerning eight Member States, the Czech Republic has refused to repeal the nationality requirement for notaries. There are also 335 regulated professions (compared to the EU average of 152); 25 of these are in business services, (EU average is 13).

3.3.6. Public administration

As measured by the World Bank's Government Effectiveness Indicator, the overall public administration performance scores for the Czech Republic are lower than the EU average showing an inferior perception of quality of public services and policy implementation than the EU average. Scores for the quality of its institutions, regulatory framework and the efficiency and stability of its public administration are all low[109].

In contrast, the composite indicator on the use of tools for administrative modernisation (e-government, impact assessments, performance and service orientation, accountability) points to a performance significantly better than the EU average. In fact, the Czech Republic is one of the best performing Member States. This is due to good results in e-government services, implementation of modern human resource management tools and intensive reliance on evidence based instruments such as regulatory impact analyses.

However, indicators on corruption exhibit a significantly lower score compared to the EU average indicating that corruption is still a major issue[110]. In this context, especially in relation to the sub-indicator on 'diversion of public funds' this type of corruption is perceived to be very common by a majority of respondents.

The current anti-corruption strategy for 2011-2012 established extensive anti-corruption measures which a long list of measures to be tackled. While a quarterly report is submitted to government with updates on the government website, a central website with comprehensive information concerning public tenders is still lacking. An anti-corruption strategy for the period 2012-2013 is currently being drafted.

The composite indicator on starting a business and licensing shows that the Czech Republic's performance is fairly equal to the EU average. However, looking at sub-indicators shows that this result is mainly driven by the indicator on the complexity of obtaining permits. By contrast, in the remaining sub-indicators – such as the existence of a fully operational one-stop shops – the Czech performance is below average.

While the composite indicator on public procurement shows a better than EU average score, this indicator should be interpreted with caution. This composite indicator takes into account three indicators of the direct and indirect costs of public authorities to assess public procurement. In relation to cost and time needed to participate in a public bid, the Czech Republic scores well. However, the indicator does not take into account the competitiveness of the Member State, such as the number of public bids. This is an important factor when assessing the overall effectiveness of public procurement.

The system of non-transparent public procurement contracts is one important aspect of the anti-corruption strategy. Non-compliance with public procurement provisions has had an effect on Structural Funds with a number of operational programmes being interrupted. However, on 1 April 2012 the new Act on Public Procurement entered into force. The Act simplifies and makes the tendering process more transparent and extends the powers to supervise public procurement contracts by the Office of Protection of Competition. As of 1 April 2012, an e-market place system has also become functional for tenders below the threshold. While this reform is an important step forward, proper enforcement and implementation is crucial. The Czech Republic also still needs to fully address the issue of anonymous shareholding, which was initially foreseen to be addressed in 2012. Such company ownership can lead to conflicts of interest in tendering procedures, also in relation to the implementation of Structural Funds.

Concerning tax compliance and tax administration the composite indicator reports a score significantly lower than the EU average. This holds true for both the time needed to prepare tax returns as well as administrative costs. The tax compliance burden for businesses is relatively high[111]. Tax regulation in

[109] 'Global Competitiveness Report 2011-2012' World Economic Forum.

[110] Transparency International ranked Czech Republic in 57th place in its 2011 report, as opposed to 53rd place a year earlier.

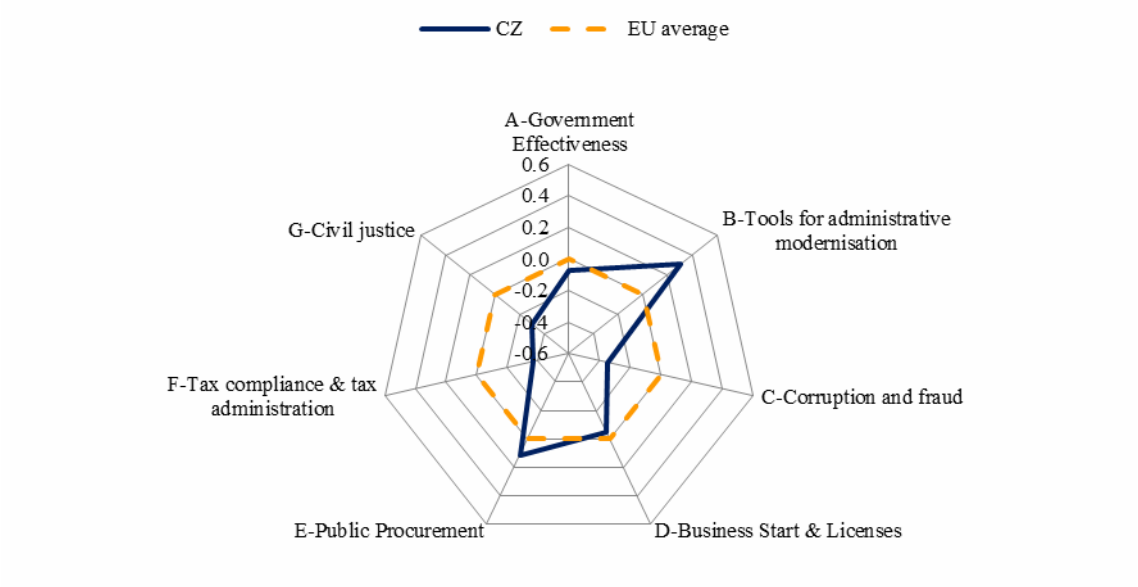
[111] World Bank Doing Business Report 2012 estimates that on average firms make 8 tax payments a year and spend 557 hours filing, preparing and paying taxes. .

the Czech Republic is identified as one of the main problematic factors for doing business[112].

The adoption of the Act No 458/2011 is supposed to improve the efficiency of tax collection, as it establishes a single collection point for the collection of taxes, healthcare and social security contributions. It will be fully in force as of 1 January 2014. The reorganisation of tax and customs administration and the institutional reform related to the single collection point have been launched.

[112] 'Global Competitiveness Report 2011-2012' World Economic Forum.

Overall profile of public administration



Source: WIFO

The efficiency of civil justice composite indicator shows that the Czech Republic again performs worse than the EU average. This is due to the fact that it takes up to 100 days longer to enforce contracts at a higher cost than the EU average and it takes longer to resolve insolvencies when compared to the EU average[113]. There is a lack of expertise to fight financial crime, weak power of prosecutors and low efficiency of contract enforcement. To tackle this, a draft state prosecution act aimed at strengthening the independence and responsibility of the Prosecution Office is aimed at being submitted to the Government in June 2012. Several measures have been highlighted in the national Reform Programme 2012.

The Czech Republic does not have a public servants act in place to promote stability and effectiveness of the public administration with the adoption of such an act being postponed a number of times in the past. The Ministry of Interior is working on a new bill which aims at legislating rights for all public officials, both at the central and local level. The final draft bill is expected to be submitted to Government by 30 September 2012 with entry into force foreseen for 1 January 2014. The adoption of this act is one of the key conditions for the use of Structural Funds in the new programming period 2014-2020.

3.3.7. Conclusions

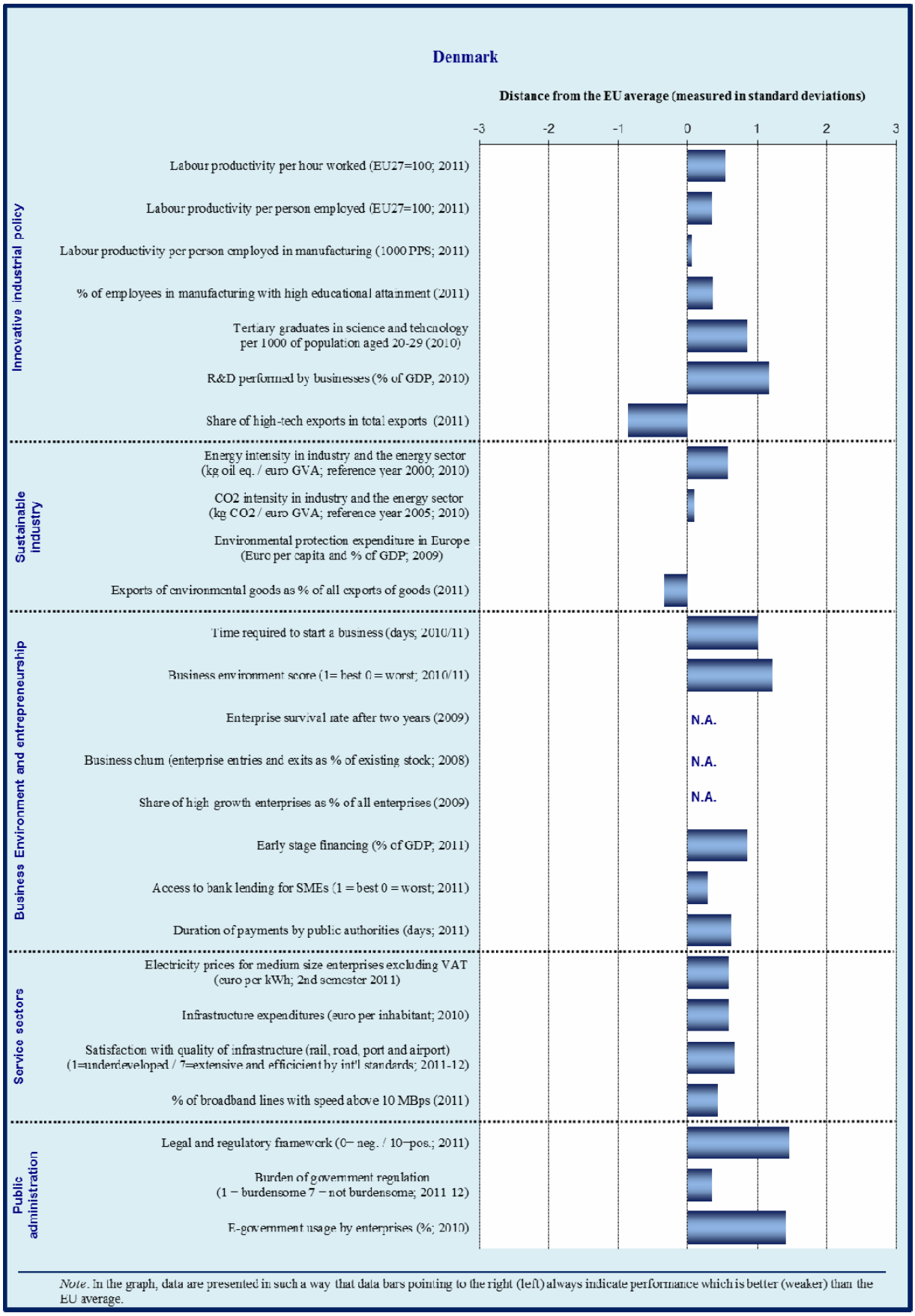
As one of the most energy intensive countries in the EU, moving towards a cleaner and more efficient energy mix is crucial. The Government should deliver its long term energy policy as soon as possible and also establish its energy efficiency target.

The Czech Republic also faces challenges with respect to improving the business environment. A key area of concern here is access to finance for business, in particular in the early stages of financing. Seed and venture capital funds would be beneficial in this regard.

While progress has been made to address deficiencies in public administration and corruption, such as the adoption of the Public Procurement Act, this area remains one of the major challenges faced by the Czech Republic. Effective monitoring of the new act and continued efforts to deal with corruption are crucial for the business environment.

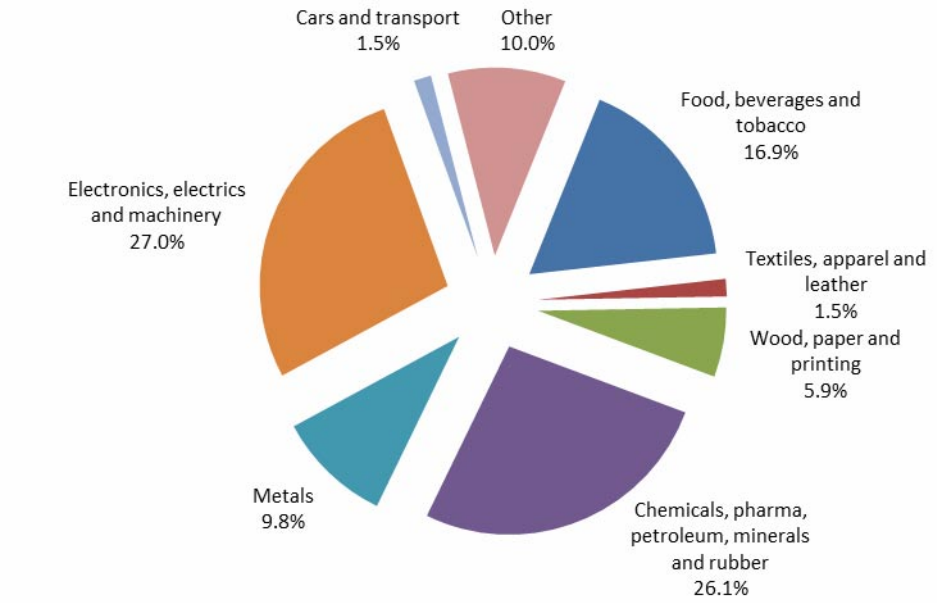
[113] The World Bank doing Business Report highlights that it takes 611 days to enforce a contract and requires 27 procedures.

3.4. Denmark



Note. In the graph, data are presented in such a way that data bars pointing to the right (left) always indicate performance which is better (weaker) than the EU average.

Sectoral specialisation of manufacturing – Denmark (2009)



Note : No data available for sectors C12 (tobacco products) and C19 (coke and refined petroleum products)
Source: Eurostat

3.4.1. Introduction

Manufacturing plays a smaller role for Denmark than for the EU in total (10.9 % compared to 15.5 % in 2011). Danish industries are specialised both in sectors with high innovation intensity (machinery), and with low innovation intensity (water transport). In exports, Denmark is strongly specialised in sectors with low innovation and medium-low education intensity. Overall, Denmark's specialisation profile is determined both by intangible assets (marketing-driven industries such as games and toys), but at the same time by natural endowments (agricultural products, maritime industries), explaining its bipolar specialisation in both innovative and less innovative sectors.

Danish manufacturing cost competitiveness has deteriorated since the last decade giving rise to an appreciation of the real effective exchange rate. Nominal unit labour costs have increased by significantly more than in the EU27 and in the Euro area, reflecting in particular relatively higher wages and weaker productivity growth in Denmark. As noted in the country-specific recommendations of the European semester 2012, these could be at least partially addressed by removing obstacles to competition and improving the quality of the educational system.

3.4.2. Innovative industrial policy

Denmark is an innovation leader according to the Innovation Union Scoreboard 2011. Denmark is successful concerning linkages and entrepreneurship and intellectual assets and research systems, while input in terms of human resources is relatively low.

The strong cooperation between private and public partners in the innovation system has led to a strong involvement of also SMEs in the innovation system. Denmark actively participates in public-private cooperation in the EU with good results for participating firms. Denmark has recently launched reforms to boost innovation and is currently elaborating a new broad innovation strategy. The strategy aims at strengthening the links between public expenditures on R&D&I and growth. The aim is further to accelerate the development process in a few key areas which are expected to speed up the results in terms of growth and productivity. Two related initiatives are the strategy for public procurement for innovation, and a strategy for innovation networks and clusters involving regions.

The key areas are water (technologies for cleaning etc.), maritime affairs, green technologies, creative industries and health care industries where Danish industries have comparative advantages.

Even though the Danish innovation system is well functioning, a number of challenges remain. Despite impressive efforts to increase R&D and innovation, so far the economic effects in terms of innovating firms and medium- and high-tech manufacturing exports have not fully materialised. The reasons are likely to be found in bottlenecks in the commercialisation of research, and lack of growth among new firms, reflecting the experience of many other Member States.

3.4.3. Sustainable industry

Danish industry scores comparatively well in energy and carbon intensity with low scores on both parameters. The Danish industry is relatively low energy and carbon intensive. Danish industries have comparative advantages in exports of goods and services based on bio-technology and energy technologies and are particularly successful in exporting wind-turbine components, insulation materials and energy efficient pumps.

Following up on the former Government's *Energy Strategy 2050* (February 2011) and the present Government's *Our Future Energy* (November 2011), an energy agreement for Danish energy policy for 2012-2020 was launched in March 2012. The agreement contains a number of initiatives promoting green technology growth and the transformation of industry to become less energy intensive and less dependent on fossil fuels. The initiatives in the energy agreement aim at raising the share of renewable energy in final energy consumption to more than 35 % in 2020; and at reducing the gross energy consumption by 7.6 % in 2020 relative to 2010.

Comprehensive policy measures in the environmental technologies action plan, the energy agreement as well as other initiatives promoting green growth and the Business Innovation Fund provide evidence on Danish ambitions in this policy area.

3.4.4. Business environment

Regulatory and support environment

Regulatory reform is a priority and many ambitious measures have been implemented. The target of reducing administrative burdens for business was met in 2010 and the new Government has launched a strategy for reduction of administrative burdens. The strategy is centred around the Business Forum for Simpler Rules which advises the government on where the burdens are perceived to be particularly high and on corresponding simplification measures. The Business Forum consists of the main interest organisations, businesses and experts. The strategy also focuses on the continued measurement of administrative burdens and on handling EU legislation.

Indicators on SME performance and SME policies indicate that Denmark perform well above the EU average with the exception of entrepreneurship. A number of measures aiming at increasing the entrepreneurial spirit in the education system have been implemented. Denmark has for a number of years had a high level of start-ups. The challenge is a low level of high growth and innovative firms. This is well recognised and has been addressed by a number of measures[114].

Other measures aiming at improving business conditions include advice to business in crisis aiming at promoting a 'second chance' for failed enterprises. Transfer of business due to retirement of owner has become an issue as many firms need to have their ownership transferred. In order to address this issue, the Danish Business Authority has launched the initiative Business Transfer Denmark ('EjerskifteDanmark').

In order to facilitate start-up of new enterprises, two digital initiatives will be launched in 2012. A digital guide will provide enterprises an overview of requirements and possible business relevant regulation. From the end of 2012 will all new enterprises be equipped with basic tools for digital communication with authorities.

Despite the growth friendly business environment, the low level of high growth firms remains to be a challenge together with low labour productivity growth. The problem of weak productivity growth is well recognised and the government has appointed a Productivity Commission in order to address the issue and get a better understanding of the reasons behind the development. Nevertheless, studies point towards competition and education as possible drivers.

Access to finance

Following the financial crisis, access to finance again became a problem for SMEs. A number of bank packages aimed at securing the functioning of the financial system and easing access to finance for firms have been launched.

Recent financial measures include the 'Development package', which launched several

[114] For details, see the SBA fact sheet: http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/countries-sheets/2010-2011/denmark_en.pdf

initiatives in order to generate new loans for enterprises. The package includes, among other, an increase of the Export Credit Fund's export credit facility and an extension of the reduced capital-adequacy band, which allows for additional funds. Business development is supported by an increase of the credit facility of 'Vaekstkaution' loan guarantees and a subordinated debt initiative targeted at SME's. Overall, the financial measures taken in Denmark to support lending activity seem to have been appropriate and well designed for meeting the needs.

3.4.5. Services sector

Weak competition in the services and construction sectors is hampering productivity growth and innovation in these sectors. The electricity and natural gas sectors were liberalised in 2000. Being natural monopolies, the transmission and distribution companies are subject to economic regulations. The retail market for electricity and gas has been liberalised gradually although some regulations still exist, which according to the Danish Competition and Consumer Authority, limits the competition on the retail market and makes consumers less inclined to change distributors of energy. The market for large consumers was fully deregulated by 2000, and the freedom to choose supplier was implemented for all other consumers by 2003.

While large enterprises are active on the market and reap the benefits of competition, most SMEs, private consumers and public institutions have refrained from switching suppliers and remain customers of companies that sell electricity at a regulated price. The picture is similar for natural gas. In general the regulated retail prices have increased more than prices for large consumers.

In order to improve the competition on the retail electricity market, the Danish Parliament has passed a bill on June 2012 on introduction of a wholesale model, where the electricity retail companies become the central players at the market. The model is also known as a supplier centric model. The wholesale model will have effect from October 2014.

Regarding the telecom sector, the Danish mobile market is characterised by strong competition at retail level and mobile broadband is increasing significantly. The fixed telephone market is still dominated by the incumbent operator.

According to the 'Konkurrencepakke' in 2011, more railway lines should be opened up for competition. However, the rail passenger market is still not open to competition, but licensed operators are providing services on about 15 % of the network.

The postal services were liberalised in 2011. The new legislation enables free entry for competing firms on all postal markets. State owned 'Post Danmark' has however in reality still monopoly on the market for delivering letters as it is the only actor on major parts of the market.

With the exception of lawyers, the level of regulation of professional services in Denmark is low. A bill decreasing lawyers' monopoly on representing parties in minor cases of debt collection was introduced in 2011. However, pharmacies, dentists, construction, financial markets and the markets for taxis are subject to regulations that considerably limit the competition on these markets. The problems are well recognised and the Government has announced a new competition-package before the end of 2012, with initiatives aiming at increasing the competition in these markets, generally strengthening the competition law and initiatives aiming at increasing the competition within the public sector.

Concerning retail and wholesale services, zoning laws were partly liberalised in 2011. Shops' opening hours will, with the exception of holidays and special days, be liberalised in 2012.

3.4.6. Public administration

Denmark's overall public administration performance, according to the World Bank's Government Effectiveness Indicator, is significantly better than the EU average. Denmark is one of the countries where the quality of public service provision is perceived to be most excellent in international comparison.

According to the global government governance indicator, Denmark has one of the most efficient public administrations of very high quality and impartiality. Regulatory quality is also high in Denmark according to the World Bank.

The composite indicator for corruption and fraud displays very good results in comparison to the EU-average, with irregular payments and the diversion of public funds being far less common than in the EU27. The individual experience of corruption appears to be especially low, with a value of not more than 2 % of all respondents in the according survey. This corresponds well to the overall assessment of similar corruption assessments (such

as in the Worldwide Governance Indicators) where Denmark regularly performs best.

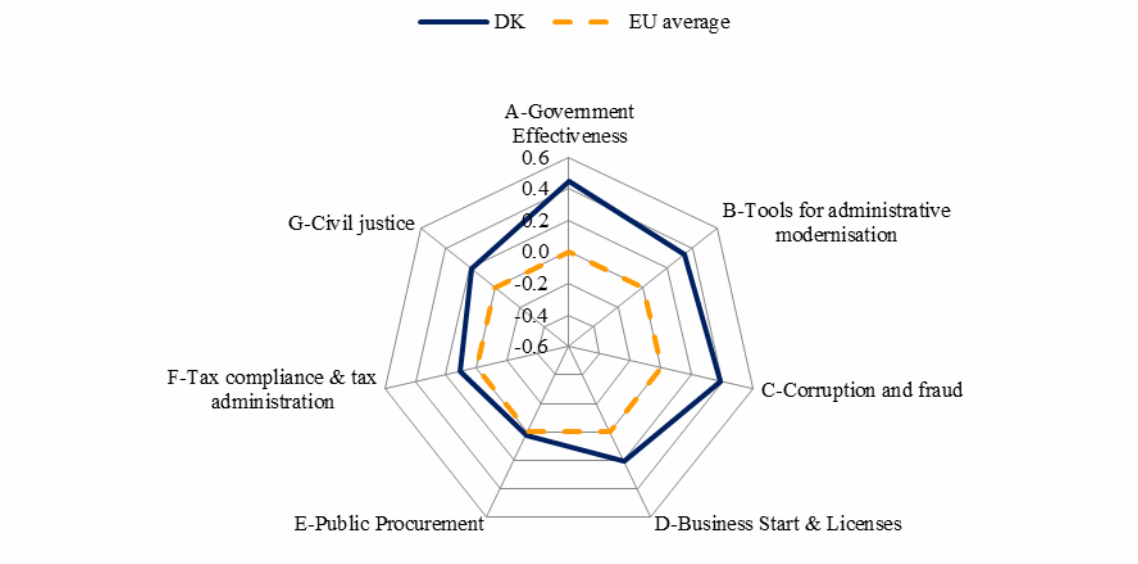
Tax compliance burdens are relatively low in Denmark compared to the EU average. The average number of hours to comply with VAT rules is only two thirds of the EU average. Also the number of payments per year for enterprises is low in an international comparison. Tax compliance and compliance costs for other purposes are not perceived as a big problem for Danish enterprises with regard to current legislation. But industry organisations complain that it is however very time consuming for companies to familiarise themselves with new pieces of legislation on tax.

The compound index for public procurement signals some scope for smaller improvement. The average delay in payments from the public administration is 12 days, and is shorter than in most other EU countries.

The composite link-level indicator for starting a business and licensing reflects a similarly good performance in Denmark, including a fully operational one-stop shop for start-up purposes and licensing procedures that are less complex than the EU-average. Most strikingly, however, are the fast procedures to start-up a company and the elimination of all administrative costs whatsoever to do so.

Most sub-indicators measuring the efficiency of civil justice are well above the EU average, especially due to the perception of the judiciary as highly independent from political pressure and the short time necessary to enforce contracts as well as to resolve insolvency. However, the costs of enforcing said contracts (23.3 % of a claim) are slightly above average (20.6 %), which indicates some room for improvement.

Overall profile of public administration



Source: WIFO

Denmark has been one of the most ambitious countries regarding e-government for several years and in August 2011 a new e-government strategy was launched, also taken up by the new government. With its new e-government plan the government has launched new targets for the digital communication with both business and citizens. Digital portals for communication with both citizens and business have existed for a number years and the new strategy takes the digital communication further by introducing mandatory digital communication between public authorities and business and citizens.

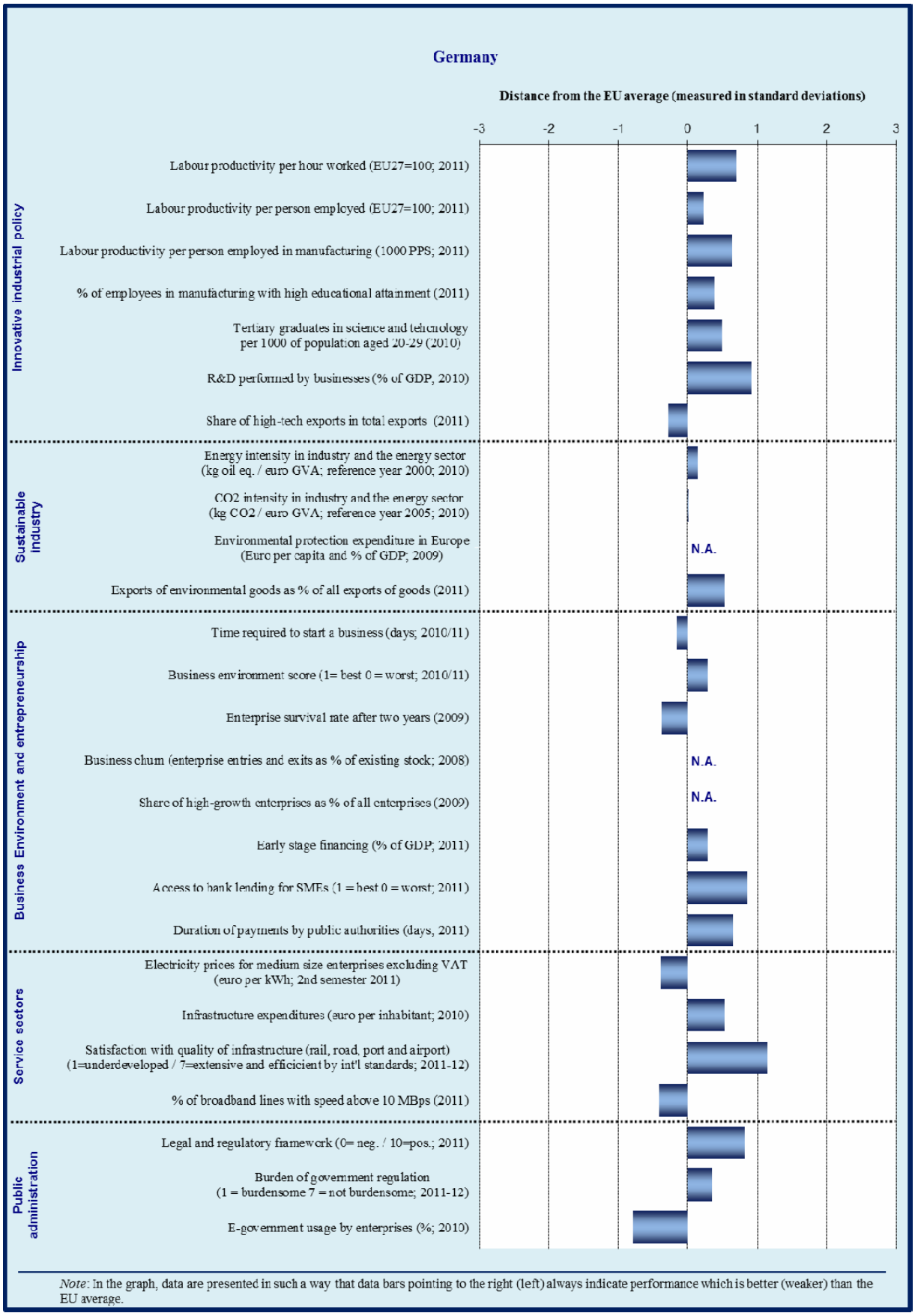
The business portal 'virk.dk' will from 2012 be supplemented by personalised services with content related to the situation of the specific business. After identifying themselves, businesses will be able to see recent reports to public authorities and get an overview of coming reporting requirements and selected data stored about the business in public databases. In this way the personalised section of 'virk.dk' will help business' get an overview of their obligations towards the public administration. The main website, www.virk.dk, also gives access to all digital self-service solutions for businesses.

3.4.7. Conclusions

Ambitious policies related to the business environment and public administration have been successful. Danish ambitions regarding sustainability of industry are very high. Concrete measures are in place in order to reach targets of reducing the use of fossil fuels and increasing energy efficiency throughout the economy. The impacts of the response to the financial crisis are yet too early to assess but the existing initiatives concerning access to finance appear comprehensive.

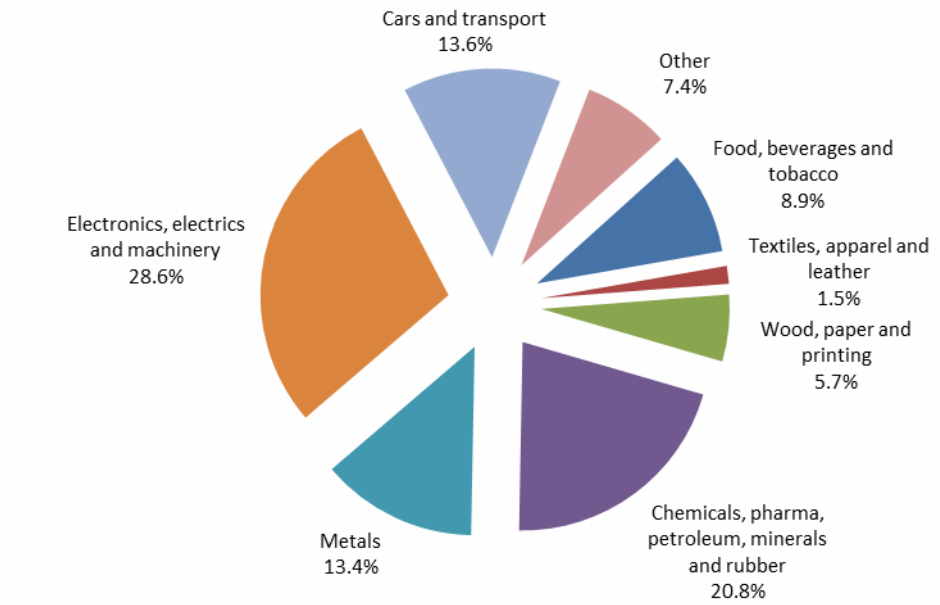
Challenges remain with reference to the innovation system and competition in some markets. Even though Denmark is an innovation leader, the economic effects are in some respects lower than expected given the ambitious efforts to increase the functioning of the national innovation system. A strengthening of the linkages between the private and public sectors in the innovation system has yielded promising results. Lack of skilled capital is a bottleneck for enterprises and taken into account the well established links between education and innovation and productivity growth, policies aiming at increasing the supply of skilled labour should be taken into consideration.

3.5. Germany



Note: In the graph, data are presented in such a way that data bars pointing to the right (left) always indicate performance which is better (weaker) than the EU average.

Sectoral specialisation of manufacturing – Germany (2009)



Source: Eurostat

3.5.1. Introduction

The impact of the crisis has been less harmful to the German economy than initially expected. Germany's manufacturing production rebounded quickly and the labour market has proven remarkably resilient. ***Manufacturing*** plays an important role in the German economy and contributes 22.6 % to Germany's total value added compared to an average of 15.5 % in the EU (2011). Germany is particularly specialised in technology-driven industries and capital-intensive industries, such as machinery, electrical and optical equipment, motor vehicles, metal products or chemicals.

Germany's ***cost competitiveness*** has improved over the last decade, as indicated by a depreciation of the real effective exchange rate. ***Labour productivity*** per hour worked is about 24 percentage points above the EU27 average and about 10 percentage points above the Euro area average.[115] Overall, the German industry enjoys a favourable position with respect to competitiveness but faces important challenges in securing its competitive position also in the medium and long term.

3.5.2. Innovative industrial policy

The Innovation Union Scoreboard 2011[116] classified Germany among the ***innovation leaders in the EU***[117], based on its R&D capital stock as well as its output in terms of patents and new products. Funding for R&D and innovation has been increased over the last years. With an ***R&D intensity*** of about 2.8 % in 2010, Germany is approaching its target of 3 %. However, other major competitors outside the EU also pursue ambitious innovation policies and some invest even more in research and innovation. Moreover, significant disparities remain at regional level in terms of R&D investments as well as innovation performance, including for example in respect to technology transfer and cooperation between firms and universities or other research institutes.

Germany's '***High-Tech Strategy 2020***"[118] defines the central goals of Germany's research and innovation policy. The strategy concentrates public R&D resources for scientific and technological research into areas that face particular global challenges. These include energy and climate protection, health and nutrition, mobility, as well as security and communication. The strategy also supports the development of key enabling technologies, which act as drivers of innovation and

[115] Eurostat data for 2010.

[116] Innovation Union Scoreboard 2011, http://ec.europa.eu/enterprise/policies/innovation.

[117] Together with Denmark, Finland and Sweden.

[118] High-Tech Strategy 2020 for Germany http://www.hightech-strategie.de.

which build the basis for new products, processes and services[119].

The ***Central Innovation Programme for SMEs*** *('Zentrales Innovationsprogramm Mittelstand',* ZIM) successfully assists SMEs in enhancing their research and innovation efforts in order to develop new products, processes and services. The program was opened for enterprises (including connected enterprises) with up to 500 employees until end of 2013. In addition, the supplement costs for transnational projects will be reconsidered by an increase of 5 % of the funding rate. In recent years the Association of German Chambers of Industry and Commerce ('Deutscher Industrie- und Handelskammertag', DIHK) identified ZIM in its innovation report ('Innovationsreport') as 'best practice'. For 2013, the planned annual budget has been fixed to about EUR 500 million, which will finance an estimated 5 000 new applications and 8 000 on-going projects[120].

In view of the demographic trends, an important long-term challenge will be to avoid a systematic ***skill shortage in industry, services and academia***. Shortages of skilled workers are emerging in various sectors and regions. High skilled professions, such as engineers and IT professionals, continue to be particularly in demand. SMEs are generally more affected than large enterprises. The challenge is addressed in the government's initiative '*Konzept für Fachkräfte*'[121]. The related key actions aim in particular at increasing the number of tertiary students, reducing early drop-out from education and training and enhancing life-long learning as well as the labour market participation of older workers and women. The initiative recognises that mobilising domestic labour potential will not be sufficient and that the German economy will also depend on better attracting skilled workers from other EU but also non-EU countries[122]. In 2012, laws have entered into force aiming to better facilitate the recognition of professional qualifications obtained abroad as well as the immigration of non-EU skilled workers (blue card law). While these measures go into the right direction, it remains to be seen whether they will be sufficient.

3.5.3. Sustainable industry

Overall, the ***environmental performance*** of Germany's industry can be characterised as good. The energy intensity in manufacturing is below the EU average and the carbon intensity in industry is close to the EU average. Moreover, ***green technologies, products and services*** play an increasingly important role in the German economy. In 2012, about 34 % of companies offered green products or services compared to 26 % in the EU[123].

In respect to ***raw materials***, there are two factors which may have a particular impact on the competitiveness of German industry: the dependence on high quality raw materials and the substantial price increases over the last years. The challenge of access to raw materials is primarily being addressed through initiatives of the private sector; however, the Federal Government also actively supports the establishment of raw material partnerships.

Germany is pursuing a major ***reform of the energy system***, which includes a gradual phase-out of nuclear energy production until 2022, measures to accelerate grid expansion, and a more market-based development of renewable energies. The new energy strategy introduced in 2011 opens the door to new opportunities for growth, but it also involves challenges in terms of potentially high costs and risks of vulnerability of the system due to capacity constraints. Energy prices in Germany are already among the highest in Europe and are expected to increase further[124]. If the energy strategy is to be successful, the overall economic costs need to be minimised, including by increasing the cost-effectiveness of renewable energy, by stimulating competition in the energy markets and by further enhancing energy efficiency. The timely deployment of the required infrastructure will be an important pre-requisite for achieving the strategy's objectives.

In 2011, the German federal government also decided to launch a new ***Energy Research Programme*** *("Sechstes Energieforschungsprogramm")*, which increases the financing for R&D in these areas by 75 %, mainly using funds from the special 'energy and climate fund". Between 2011 and 2014, about EUR 3.5 billion will be dedicated to energy research[125].

---

[119] Report on 'Innovation Policy Trends in the EU and Beyond', December 2011, INNO Policy Trend Chart, http://www.proinno-europe.eu/inno-policy-trendchart.

[120] '*Zentrales Innovationsprogramm Mittelstand'* http://www.zim-bmwi.de.

[121] Bundesregierung, '*Konzept für Fachkräfte"*, 22.6.2011, http://www.bundesregierung.de.

[122] Bundesarbeitsagentur '*Perspektive 2025: Fachkräfte für Deutschland'*, http://www.arbeitsagentur.de.

[123] Flash Eurobarometer 2012, European Commission, http://ec.europa.eu/public_opinion/flash.

[124] EU energy and transport in figures, DG Energy, http://ec.europa.eu/energy/observatory/statistics.

[125] *Pressemitteilung* '*Bundeskabinett verabschiedet 6. Energieforschungsprogramm',* 3.8.2011, http://www.bmwi.de.

The ***public procurement system*** in general has an important potential to support the deployment of environmentally friendly products given its significant level of expenditure. The public procurement system is increasingly integrating sustainability aspects, in particular energy efficiency and emissions, based on a life-cycle approach. Since August 2011, the revised public procurement laws place an even stronger emphasis on energy efficiency and require the highest standard of energy efficiency performance[126].

3.5.4. Business environment

Overall, Germany offers a ***favourable business environment***. It scores the highest among the 27 Member States concerning the overall satisfaction with the quality of infrastructure. However, it scores around average regarding the administrative burden of the regulatory framework[127].

Entrepreneurship and SME policy

The business environment is favourable for ***entrepreneurial activities*** and federal and regional programmes are in place to support the development of SMEs through a broad range of consulting and financing services. Of particular importance is also the support provided by the well-developed network of chambers of commerce and other crafts and business associations, both in Germany and abroad. Compared to the EU average, German SMEs tend to be more active in other EU and non EU markets. The high share of exports to emerging markets indicates further growth potential.

Nevertheless, Germany is traditionally lagging behind the EU average regarding entrepreneurial activity[128]. Low unemployment, emerging skill shortages as well as demographic effects are likely to result in a further decline in the ***number of entrepreneurs***. For 2012, the number of entrepreneurs who start a business is expected to be at a lower level, because of less 'necessity' entrepreneurs[129]. A further decline in the number of entrepreneurs could hamper Germany's economic growth and innovation performance in the long term. Moreover, women still represent only one third of entrepreneurs, indicating further untapped potential.

In 2011, the Federal Ministry of Economics and Technology has introduced an '***EU SME Monitor'*** *('Mittelstandsmonitor für EU-Vorhaben')*[130]. The tool provides information on current and planned EU initiatives early on in the process and aims to facilitate better involvement of German SMEs and their representatives in the European decision-making process, including the participation in public consultations[131].

Access to finance

Access to finance for the private sector (including SMEs) was not substantially restricted in 2008/09 and credit growth has picked up slightly since then, with no significant tightening of lending conditions in sight[132]. The German federal government undertakes considerable efforts to provide start-up companies with a wide range of support services and financing instruments, including risk capital[133]. Nevertheless, while the ***availability of risk capital*** is broadly in line with the EU average, Germany has the potential to still do better in this respect.

Reduction of administrative burden

Germany has made noticeable progress over the last years in reducing the ***administrative burden*** related to reporting obligations in the business sector. By the end of 2011, a reduction in reporting obligations of 22 % has been achieved under the 'Bureaucracy Reduction and Better Regulation programme". Since the initial target for 2011 was a reduction of 25 %, the federal government agreed in December 2011 to introduce a number of additional simplification measures, such as the reduction of the minimum archiving period for invoices and documents. These measures still need to be implemented.

Furthermore, the 'Bureaucracy Reduction and Better Regulation' programme has been extended in 2011 to cover in addition to reporting obligations also other measurable ***compliance costs***. The National Regulatory Control Council ("*Nationaler Normenkontrollrat"*) now scrutinises the administrative burden and compliance costs for businesses, citizens and public administrations of all newly proposed regulations[134]. Continuing the

---

126 *Novellierte Vergabeverordnung* (VgV), 20. August 2011.

127 Global Competitiveness Report 2012, World Economic Forum.

128 SBA Fact Sheet 2012, DG Enterprise & Industry, http://ec.europa.eu/enterprise/policies/sme.

129 *DIHK Gründerreport 2012.*

130 *Mittelstandsmonitor für EU-Vorhaben*, http://www.bmwi.de.

131 The initiative has been highlighted as a good practice in the Report of the High-Level Group of Independent Stakeholders on Administrative Burden, December 2011 http://ec.europa.eu/dgs/secretariat_general.

132 See ECB's 'bank lending survey' of April 2012.

133 Including for example through the 'ERP Start Funds', the 'ERP/EIF Dachfonds', or the 'High-Tech Gründerfonds'.

134 The initiative has been highlighted as a good practice in the Report of the High-Level Group of Independent

process of simplifying the regulatory framework and reducing the administrative burden for enterprises, especially SMEs, should contribute to further strengthening investment and encouraging entrepreneurship.

3.5.5. *Services sector*

Competition in the ***gas and electricity sector*** has increased due to initiatives launched in recent years, including the transposition of the Third Energy Package in 2011. The new legislation should further strengthen the independence of energy production and supply, on the one hand, and transmission activities, on the other hand. In 2012 the federal administration is establishing a ***market transparency agency*** (part of the Federal Cartel Agency) aimed to better monitor competition and pricing in the gas and electricity market and to improve market information and transparency.

Competition has developed noticeably over the last years in the ***telecommunication sector***[135]. Moreover, the government has recently proposed a revision of the act against competition restrictions and has adopted a revision of the telecommunications act. Effective implementation of these measures should contribute to further stimulating competition.

In the ***postal sector***, competition develops only slowly[136]. In 2012, the government has announced its intention to review the competition framework in the postal sector[137].

Also in the ***railway sector*** competition develops only slowly, mainly due to the lack of effective separation between the infrastructure manager and the railway holding. Competition has increased over the past year, in particular in the regional rail passenger market. However, in the long-distance market there is very little competition[138].

A draft law has been proposed to partially open up the ***long-distance bus transport market*** but still needs to be adopted.

The government announced that it will assess in the coming period whether ***entry and conduct regulation*** in services sectors can be further reduced without any negative impact on quality and safety[139].

3.5.6. *Public administration*

According to the World Bank Doing Business Report[140] and the Government Effectiveness Indicator[141], Germany has in general a business friendly regulatory environment and an ***efficient and transparent public administration***. While overall the perceived quality of public services is ranked above the EU average, there is scope for further improvement or simplification in some areas.

On average, ***payments by public authorities*** are processed within 36 days, which is considerably below the EU average (66 days). Also in respect to late payments, the average delay (11 days) is noticeably shorter than the EU average (28 days)[142]. ***Public procurement*** processes seem to be well organised but often remain complex. On average, companies have to invest slightly more time than on EU average when participating in a public tender[143].

Germany has made progress over the last years in reducing the costs and time of ***business start-up and licensing procedures***. The time required to start a business and the administrative costs are broadly in line with the EU average, but there is still room for further improvement[144]. Moreover, fully operational One-Stop-Shops for starting a company do not yet exist in all Länder.

Overall, the ***German tax system*** is rather complex. The average time required to comply with tax obligations (221 hours) exceeds the EU average (208 hours). While Germany still scores slightly better than the EU average in terms of the tax compliance burden[145], in particular SMEs would benefit from further simplifications. The tax compliance burden weighs disproportionally high on SMEs, since they have less resources and expertise than large companies. The 2011 Tax Simplification Act *("Steuervereinfachungsgesetz*

Stakeholders on Administrative Burden, December 2011 http://ec.europa.eu/dgs/secretariat_general.

135 Monopolkommission, www.monopolkommission.de.

136 Monopolkommission.

137 BMWi, *Eckpunkte zur Änderung des Postgesetzes,* www.bmwi.de.

138 Monopolkommission.

139 National Reform Programme 2012.

140 Doing Business Report 2012, World Bank.

141 Government Effectiveness indicator, World Bank.

142 European Payment Index, Intrum Justitia.

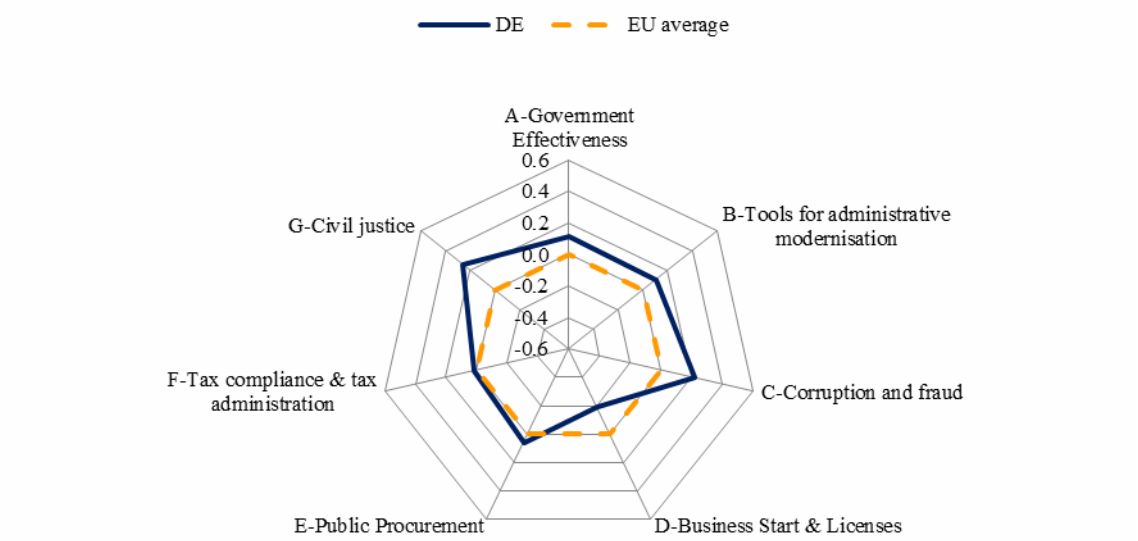
143 Cost and effectiveness of public procurement in Europe, European Commission, http://ec.europa.eu/internal_market.

144 Doing Business Report 2012, World Bank.

145 Paying Taxes Report 2012, World Bank.

2011") has introduced some further improvements and simplifications, for example regarding electronic invoicing. Despite the complexity of the tax system, the public authorities are quite efficient. The corresponding administrative costs measured in per cent of tax receipts are smaller (0.8 %) than the EU average (1.3 %).

Overall profile of public administration



Source: WIFO

While in general the online availability of information and basic public services seems satisfactory, small enterprises in Germany still use ***e-government services*** less often than their counterparts in some other Member States[146]. The federal government intends to pass legislation in this legislative period with the aim of increasing the availability of e-governance services.

*The **civil justice system** in Germany is perceived as particularly independent and efficient[147]. Enforcing contracts in Germany takes less time in comparison with the EU average (394 days vs. 556 days) and is less expensive (14.4 % of the value of the claims compared to 20.6 % in the EU). The time to resolve insolvency issues (1.2 years) is also shorter than the EU average (1.95 years)[148].*

3.5.7. Conclusions

The impact of the crisis has been less harmful to the German economy than initially expected. This is due to a large extent to the German industry's favourable position with respect to competitiveness, a strong orientation towards international markets, a resilient labour market, the absence of a serious credit crunch and an overall favourable business environment.

Germany is among the innovation leaders in the EU and the framework conditions are conducive to R&D and innovation. The capacity of Germany's industry to innovate and to remain at the technological frontier is of increasing importance in securing Germany's competitive position also in the medium and long term.

An important challenge will be to avoid a systematic skill shortage by adapting both the educational system and labour market to the changing requirements of technology and innovation. The declining number of entrepreneurs could also have a negative impact on Germany's economic growth and innovation performance.

The new energy strategy creates important opportunities for growth, but also entails considerable challenges regarding the overall

[146] Survey on ICT use, 2011, Eurostat.
[147] Global Competitiveness Report 2012, World Economic Forum.
[148] Doing Business Report 2012, World Bank.

economic costs and the timely deployment of the required infrastructure.