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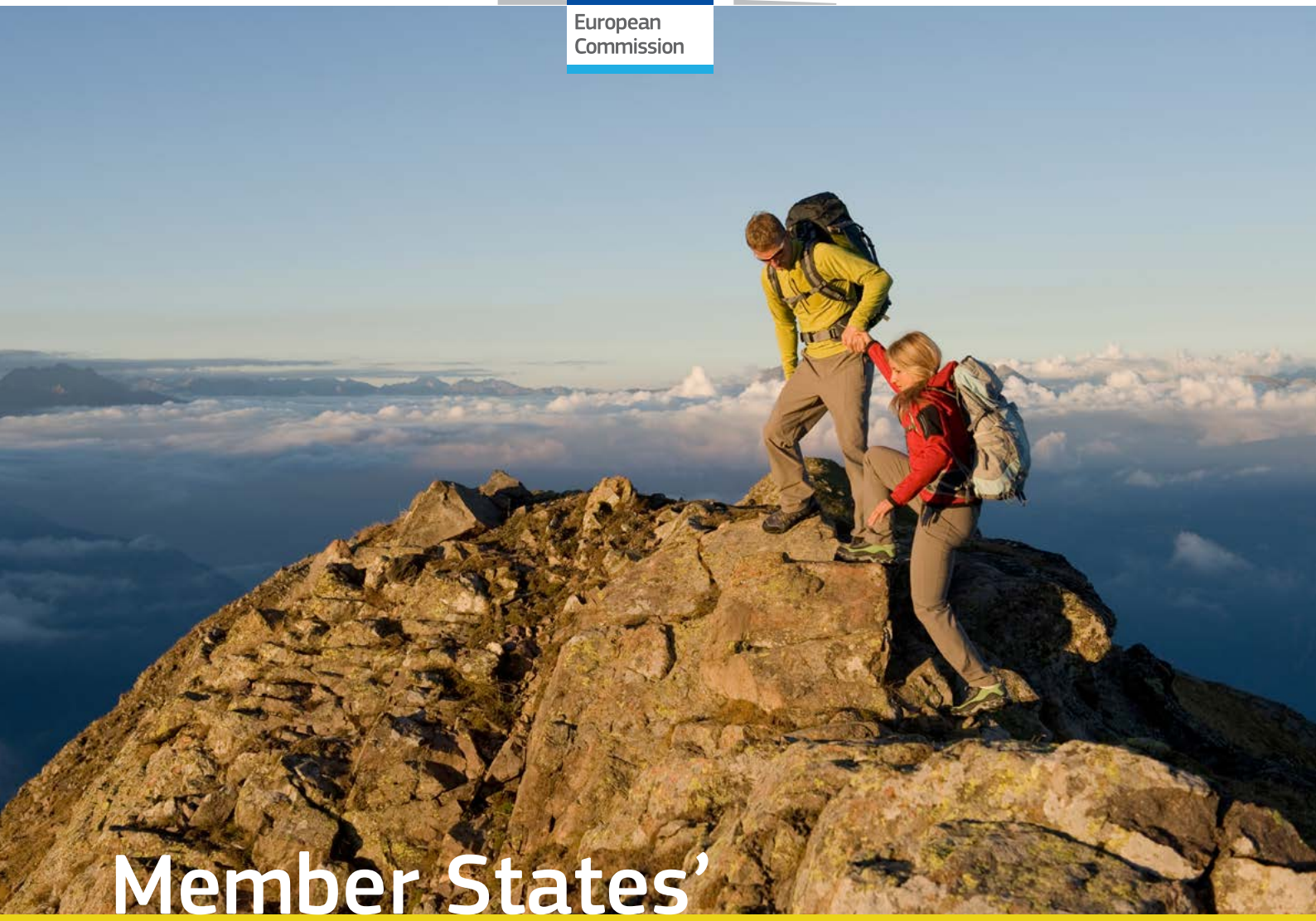

Member States' Competitiveness

Performance and Implementation of EU Industrial Policy

Industrial Performance

Scoreboard

2013 EDITION

A Europe 2020 Initiative

Enterprise and Industry

Commission staff working document

Industrial Performance Scoreboard

and

Member States' Competitiveness Performance and Implementation of EU Industrial Policy

SWD(2013)

A Europe 2020 Initiative

2013 EDITION

Foreword by Vice-President Antonio Tajani

Growth and employment can only be achieved through competitive enterprises. The task of policy-makers is to create an environment where entrepreneurs can fulfil their ambitions and contribute to a sustainable and balanced growth of our economies. This has been and continues to be my goal.

The purpose of this annual report drafted by the Commission – pursuant to Article 173 of the Treaty – is to review and compare the industrial performance and policies of the EU as a whole and of individual Member States. It builds upon the country-specific recommendations and supporting documents of the May 2013 European Semester, feeds into the policy monitoring cycle of the next cycle, and focuses on microeconomic policies where it deepens the analysis. This report will help policy-makers to focus on obstacles to growth, and advocates the learning of lessons from good practices. There is considerable scope for this, as the differences in competitiveness between the Member States are considerable.

In addition to country-specific problems like low productivity, lacking innovation capacity, and high administrative burden, there are common problems that affect many Member States. These include access to finance, access to markets, the price of energy, and the lack of investment. You will find a deeper analysis of these issues in this report.

For my part, I would like to emphasise the importance of industry as the cornerstone of our economies. Those Member States with a diversified economy and strong industrial base have fared much better in the crisis. But a strong industrial base is not built on sand. It needs high levels of skills, it needs constant innovation and investment.

We need a better single market for the products and services of our industries. But Europe is not enough, especially as 70% of the growth by 2020 will be in the emerging countries. To support our exporting industries, I have initiated missions of growth to Latin America, the United States, North Africa, Russia and China. I will continue these missions, in particular to Burma, Thailand and Vietnam.

I hope that his report will help to put the performance and policies of Europe and its Member States into a wider context, and that it will promote reform and renewal.

Antonio TAJANI
Vice-President
European Commission

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Executive Summary

This annual report is prepared by the Commission pursuant to Article 173 of the Treaty on the Functioning of the European Union. The report reviews and compares the industrial performance of the EU as a whole and of individual Member States, based on indicators in the areas of industrial innovation and sustainability; business environment services and infrastructure; public administration; finance and investment; and skills. This year the report also covers the implementation of European industrial policy. The report focuses on the microeconomic policy aspects of growth and competitiveness, complementing the analysis of the European Semester 2013.[1]

Unusually harsh economic conditions, global macroeconomic uncertainties and structural difficulties have kept the short term outlook negative for European industry. Although the industrial performance of the economy has stabilised and our external performance has been improving, we have not yet returned to pre-crisis levels.

Annual figures at the end of June 2013 indicate that the contribution of manufacturing to gross value added in the EU has fallen from 15.4 % to 15.1 % a year ago, keeping us far from the 20 % goal as set by the October 2012 Industrial Policy Communication Update.[2] In some countries there has been a decline, but the manufacturing sectors in Germany, Austria, Ireland, the Netherlands and the UK have been largely able to maintain their pre-crisis share in the EU's manufacturing production. In Greece and Portugal manufacturing increased its relative size in 2012, and manufacturing grew strongly also in several catching-up economies such as Bulgaria, Romania, Czech Republic, Slovakia, Hungary, Lithuania and Latvia. There are successful elements of industrial policy on national level in several Member States and lessons can often be learned from partners within the EU.

We are now in the second dip of the industrial recession that, albeit less severe than the 2009 slump, risks stagnating European industry in the long run. Downside risks in financial markets and subdued macroeconomic conditions can only be dispelled if there is a return to growth. However, private investment remains low and unresponsive to Member State efforts as well as supply side measures at EU level.

Internationalisation efforts have produced results that are visible in the very strong export performance of European industry, but adjustment has been sluggish and there is a risk of fragmenting the single market. The scarcity of high technology skills and the need for retraining also constitute obstacles to speedy restructuring in the EU.

Two major factors jeopardise the successful implementation of industrial policy in Europe. First, remaining barriers in the internal market, fiscal consolidation, the prolonged period of bank deleveraging and low demand are contributing to a sluggish performance. Second, investment has remained well below its long-term trend, partly due to economic and political uncertainties. In 2012, investment in machinery and equipment – initially relatively resilient to the crisis – followed the decline of other components of gross fixed capital formation.

While the economies of individual Member States differ, their industrial competitiveness is affected by many common factors. In 2012, the Commission launched the Industrial Performance Scoreboard, assessing Member States' performance across several dimensions: manufacturing productivity; educational attainment in manufacturing; export performance; innovation capacity; energy intensity; business environment; electricity prices; satisfaction with infrastructure; and bank lending and investment in equipment.

To facilitate the analysis and comparison of countries with roughly similar features, the report has used cluster analysis to group Member States in three groups. These groups are by definition only roughly similar, and some countries are further away from the core of a group than others.

[1] Many of the reform areas referred to below and further in this report have been the objects of recommendations in the context of the European Semester 2013; see http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm.

[2] COM (2012) 582.

The consistent cluster *performs well in all areas of competiveness (Sweden, Belgium, Finland, Germany, Luxembourg, Denmark, Austria, the Netherlands, Ireland, the United Kingdom, France and Spain).*

The moderate cluster *perform well in some competitiveness areas but face difficulties and deterioration in many others (Slovenia, Portugal, Italy, Cyprus, Malta and Greece).*

The catching-up countries *face significant challenges in many areas, but are quickly improving. For certain competitiveness indicators, the best of them perform as well or better than moderate or even some consistent performers (Estonia, the Czech Republic, Latvia, Lithuania, Slovakia, Hungary, Croatia, Poland, Romania and Bulgaria.)*

Real progress has been made in the business environment, exports and sustainability although many problems remain. For example, starting a company has become cheaper and easier; and exports have performed well. However, high energy prices pose a significant problem for industries in many Member States, especially as they have risen across the board over the last five years. Although world energy prices have risen, deficiencies in the internal market for energy, uncompetitive practices, restricted competition, and bottlenecks in infrastructure have also contributed to this situation. Overall, competition in sectors supporting industrial firms in 2012 (transport, energy, professional services) did not appreciably improve in 2012. Total factor productivity has remained stagnant despite apparently increasing labour productivity.

The Commission identified in 2012 six priority technology areas and established task forces to facilitate the development and commercialisation of these technologies. Many of the issues that need to be addressed are common to all innovation. Examples include the conditions for the commercialisation of innovation, the development of standards for new products, processes and materials. More investment in technology and skills are also identified in all these priority areas.

In addition, in certain cases specific investment in infrastructure is required. For example, clean cars require recharging or refuelling networks; and smart grids require interoperability standards. The benefits of technologies such as sustainable construction, clean vehicles and advanced manufacturing only emerge in the long term but they entail large upfront investment. Therefore, targeted smart incentives are necessary to facilitate the introduction of these technologies. Some of these incentives, including public procurement, may benefit several sectors.

Continuing implementation of reforms on innovation, sustainability, business environment, public administration and access to finance are prerequisites for sustainable growth.

Many Member States have increased their innovation performance since 2008, although the relative performance differs. It seems that there is no longer a convergence of innovation performance between the Member States, but a danger of a growing innovation divide within the EU.[3] This danger is the more acute as budgetary restraints have led many Member States to squeeze their research and development budgets. To some extent this could be alleviated with higher private investment. The most innovative Member States have invest more in research as a share of GDP, because of higher private investment (about 2 % of GDP), but also because of higher public R&D investments (about 1 % of GDP).

The question for all research and innovation policies is to what extent they contribute to the creation of new knowledge-intensive jobs, high-tech exports or intellectual assets. Also here Member States perform unevenly, as some R&D systems, business environments, and their links are more effective in this than others. However, the problem is widely recognised, and it is being increasingly monitored and evaluated to improve the outcome.

By definition, the emergence of innovative new products and services will entail the transfer of resources from declining industries to areas of growth, but managing this process is a challenge for many Member States. One essential component is to upgrade skills. Here, Member States are increasingly responding to the demands of the market, involving the private sector as user and provider of skilled labour. Examples include improved and extended traineeships,

[3] Innovation Union Scoreboard 2013.

apprenticeships and vocational training, as many Member States have introduced reforms and action plans aimed at improving the involvement of employers and the coordination of the provision of vocational education and training and the skills demands emerging from the market.

For growth to be sustainable, we need to continue to reduce the energy and carbon intensity of our economies. Considerable improvement has been achieved by industrial restructuring in the catching-up Member States, although many still have some distance to go to reach the EU average. This is likely to be economically profitable as EU energy prices increased in 2012 (5.8 % for industrial users), despite the weakness of the economy. Member States are also seeking to extend resource efficiency beyond energy to waste and raw materials.

Businesses that focus on environmental goods and services are benefiting from the trend towards sustainability, although estimates vary.[4] But for full benefits to materialise, stable policies in resource efficiency, climate and energy, and robust regulatory environment, including virtual platforms, would be beneficial in order to facilitate the efficient matching of supply and demand.

Member States have improved their business environment considerably, keeping the EU average high. The time needed to start a company has decreased in 13 and start-up costs have come down in 22 Member States. However, many competitors are improving their business environment even faster. While the top EU performers are among the best in the world, the worst Member States can be found in the lowest quartile. Clearly, there is a lot of room for improvement. And in many cases the Member States have been focusing on the narrow set of indicators of the World Bank's *Doing Business* that are not enough to achieve a fully favourable business environment.

Modernising public administration requires strengthening strategic design and implementation: ministries and public authorities at national, regional and local levels should improve their capacities to define key challenges, identify the main priorities to address these challenges, assess the economic, social and environmental impact of interventions, and design appropriate action plans with clear milestones. However, an integrated approach is crucial: in order to avoid a proliferation of strategies on public administration reform, the development and implementation of such strategies should be closely coordinated across all relevant departments.

An efficient public administration is an essential factor in policies promoting jobs, growth and competitiveness. They need to implement a stable, transparent and consistent regulatory framework that crucial for new investment. Further, reduction of the administrative burden on businesses, and strengthening the administrative capacity to support business services, in particular online, and modernisation information infrastructures, are all essential. Sustainable growth and competitiveness therefore require more effective, client-oriented, and forward-looking public administrations that can manage risks, have a systematic innovation policy, can manage scarce resources well, and can effectively coordinate and implement policies.

Similarly, an effective high-quality and independent justice system contributes to trust and stability.[5] Predictable, timely and enforceable judicial decisions are an important part of an attractive business environment, and conversely, slow and outdated legal systems have a major negative economic impact.

The most prominent areas of reform are reducing the administrative burden on firms, enhancing capacity for strategic and budgetary planning, and ensuring strategic and effective human resources management. Further, in particular for countries with multi-tiered administrative structures, improving coordination between levels of administration has been on the agenda. Reforms have also sought to strengthen the corporate governance of state-owned enterprises, and to improve the efficiency, quality and independence of the judicial system. Many Member States have a lot to do in fighting corruption, as well as trying to

[4] Employment in eco-industries grew an estimated 2. 8 % annually between 2000 and 2008, although estimates for 2009-12 are much higher at over 8 %. http://ec.europa.eu/environment/enveco/jobs/pdf/jobs.pdf.

[5] More details are available in the EU Justice Scoreboard: A tool to promote effective justice and growth COM (2013) 160, http://ec.europa.eu/justice/effective-justice/files/justice_scoreboard_communication_en.pdf

improve the efficiency of local government, tax collection authorities and various regulatory bodies. In many ways e-government can help in achieving reform goals, but in many cases there is a need to adapt administrative procedures to its use, and it is necessary to link the different administrative information systems.

Access to finance has deteriorated in many Member States, also in the past year. Euro area banks have tightened their credit standards because of their risk perceptions, cost of funds and balance sheet constraints. Combined with borrower risk and macroeconomic uncertainty, this has led to constrained lending volumes and high interest rates, in particular in the countries most affected by the crisis. For a lasting solution, a stabilisation of the banking sector is needed.

As most firms are dependent on bank lending for their working capital and investments, policy measures, including loan guarantees and equity investment programmes, have been adopted in almost all Member States. In the longer run, it is likely that corporate finance will be more market and less bank-based, in the short term, no alternative source can replace bank loans. The agreements to gradually pay the arrears due by the public administrations in many of the crisis countries have been clear and positive results for many SMEs.

Investment is essential for growth and the EU remains an attractive environment for investments despite its share of global foreign investment declining substantially, from 45 % in 2001 to 23 % in 2012. Foreign direct investment has concentrated on business services, software and cars. Many Member States have introduced measures that seek to attract more investment by targeting sectors and countries, and improving cooperation among investment promotion actors.

Foreign investment is only one road to increased openness and internationalisation. Internationalisation and competitiveness of firms are linked, as exposure to global competition forces firms to improve. In addition, the a large share of global growth will come from outside of Europe, and to benefit from this, many Member States have introduced policies to support the internationalisation of SMEs.

1 Industrial performance scoreboard

1.1. Introduction

The worst financial and sovereign debt crisis in the history of the EU first hit European industry more than five years ago. Despite the resulting instabilities, European industry has remained competitive in international comparison. Although manufacturing exports were hit in 2008, they have since then grown 20 % compared to the pre-crisis level. In particular, European exports to emerging markets have grown faster than their GDP. Currently, Europe's trade surplus in manufactured products is over a billion euros a day, making EUR 365 billion per year, almost three times more than in 2006.

However, as the Commission's industrial policy communication pointed out last October,[6] there are serious reasons for concern. Economic activity remains weak and the impressive trade surplus is not just the result of a good export performance but also due to the very low imports because of the length of the crisis.

Most importantly, investment remains subdued. Over five years European industry has endured the consequences of both an intense deleveraging of balance sheets, and the fall in internal demand, which has depressed our investment and innovation rates thereby compromising our future competitiveness.

But industry is reacting positively. The process of reallocation of resources is under way – they are moving away from non-tradable sectors into productive industrial activities. However, this process has not been rapid enough. Adjustments have also been slow in the trade and investment flows within the internal market, across sectors of activity, production locations, and between firms, hampering the growth of efficient emerging SMEs. The result is excess capacity in some industrial sectors and high unemployment rates.

This chapter presents a snapshot of the current state of European manufacturing, a sort of thermometer reading of the state of our industry, identifying key impact of the crisis on our current and future competitiveness. This should contribute to improving the development and implementation of EU policies to speed up the recovery and get us back on track for increased competitiveness in the medium and long term. It also presents the developments in Member States. The Industrial Performance Scoreboard is designed to indicate changes in the industrial competitiveness of Member States over time. It is based on ten policy indicators in five areas that all affect the competitiveness of industry: innovation and sustainability; export performance; business environment and infrastructure; finance and investment; and productivity and skills.

The long-term competitiveness and productivity of European industry are tied to the ability to successfully invest in research and innovation. Higher innovation capacity then drives structural change in Member States' economies towards production with higher added value and more jobs. Technological innovation in turn facilitates the transition to a more resource-efficient economy. And an efficient use of raw materials and energy can mitigate the negative impact of their rising and volatile prices on industry's competitiveness.

Exports are an important source of growth, in particular when domestic demand is subdued. The ability to integrate production into global value chains and to participate in international trade is an essential part of a competitive economy. However, some Member States have been better at using the growth potential of international trade than others. The most successful of them increasingly export advanced products that are close to the technology frontier, as well as knowledge-intensive services, relying on their strength in non-price competitiveness. The catching-up economies have expanded their export market shares by benefiting from foreign investments in export-oriented manufacturing.

In a business-friendly environment it is easier for enterprises to successfully transform production inputs into new goods and services. A transparent

[6] A stronger European industry for growth and economic recovery. Industrial policy communication update. COM(2012) 582.

and smart regulatory framework, coupled with efficient public administration and effective judicial systems, will enable businesses to focus on their core activities and to minimise unnecessary compliance burden and transaction costs. In particular, an easy start-up environment, competition-promoting regulation, easy access to finance, and openness to trade are important in creating new business activity and investment.

In the EU, bank loans have traditionally been the dominant source of investment funding, in particular for SMEs. The tightening of credit standards and the banks' continued deleveraging have caused the supply of credit to deteriorate in many Member States, and rising interest rate differentials reflect new fragmentation and a reversal in the integration of the EU financial markets.

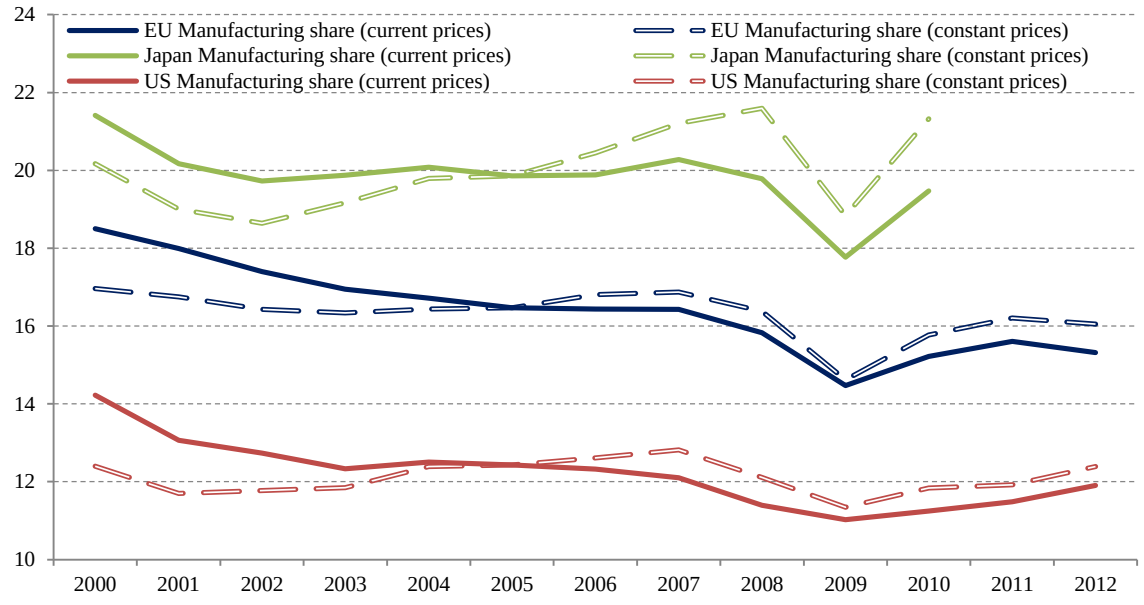
Finally, a transition to a more innovative and knowledge-intensive economy is only possible if the skills base improves. Modern manufacturing needs a highly-skilled workforce, and in a fast-changing environment, continuous upgrading of acquired skills is essential to ensure their continuing relevance in the labour market.

1.2. The real magnitude of the impact of this crisis on industry

The October 2012 communication focused on the declining share of manufacturing in EU GDP. For the first time, it proposed reversing the declining contribution of manufacturing value added, aiming at raising the share of manufacturing in GDP to 20 %. This proposal underlined the importance of manufacturing and productive activities for increasing the resilience of the EU economy, and stressed the need to diversify the composition of our GDP.

In advanced open economies, the share of manufacturing tends to decline and that of services to grow over time, measured as the share of value added to GDP. This is at least partly due to the more competitive environment and higher productivity of manufacturing, as this leads to slower price increases compared to services.

Figure 1.1: Manufacturing GVA as percentage of total GVA generated by the private sector



Sources: EUROSTAT, Bureau of Economic Analysis (BEA), World Bank

This is driven mainly by the relative changes in the prices for manufactured goods and services. In fact, if we look at the share of manufacturing in gross value added generated by the private sector in EU-27 in real terms, i.e. discounting for the lower rates of growth in the prices of manufactured goods, the

share of manufacturing over private gross value added remained relatively stable around the 20 % mark until 2008, when it dropped considerably. The same applies for instance to the US throughout the period considered, where the share of manufacturing in GDP increased by nearly one percentage point during the latest recovery.

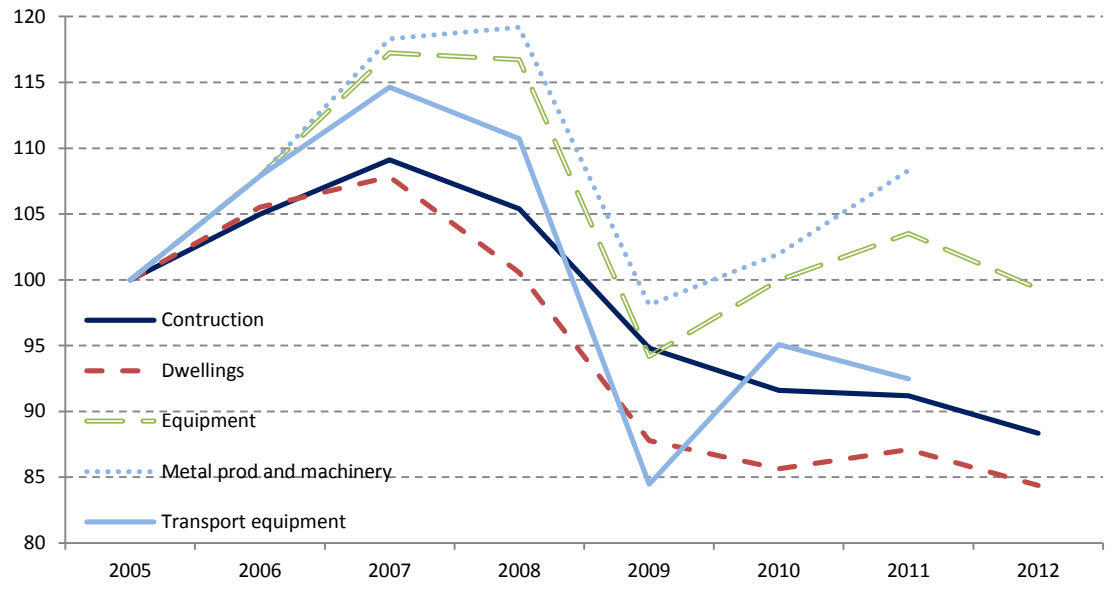
However, after 2009 there has been a considerable difference between the US and the EU. While industrial production in the US has recovered back to pre-crisis levels, in Europe it had a short-lived recovery and a second dip in 2012. In other words, despite the excellent performance of EU manufacturing exports, the fall in internal demand and the deleveraging process have again lowered the value added of manufactured goods produced in Europe. This development justifies the attention paid by the Commission on the evolution of manufacturing in the EU.

There are two main elements in the evolution of the crisis that call for the attention of policy makers.

The first is the protracted impact of the crisis. If we compare the impact in the three most developed industrial areas of the world, Japan, the US and Europe, interesting differences appear in production, employment and access to credit. Figure 1.2 shows that contrary to the US experience, it is taking longer for the EU industry to recover, although not as long as in the case of Japan,

The second important development is that investment remains stubbornly unresponsive in the EU. Since the onset of the crisis, our investment level has fallen by nearly four percentage points of GDP, from 21.1 % in 2007 to 17.5 % by June 2013. The dismal evolution of gross fixed capital formation is mostly due to the collapse of construction-related investment, as investment in equipment, metal products and machinery has remained relatively resilient during the crisis. Still, even there investment has been falling again since 2012. Investment by non-financial corporations has been relatively resilient compared to investment in services.

Figure 1.2: Evolution of investment components in the EU (2005=100)



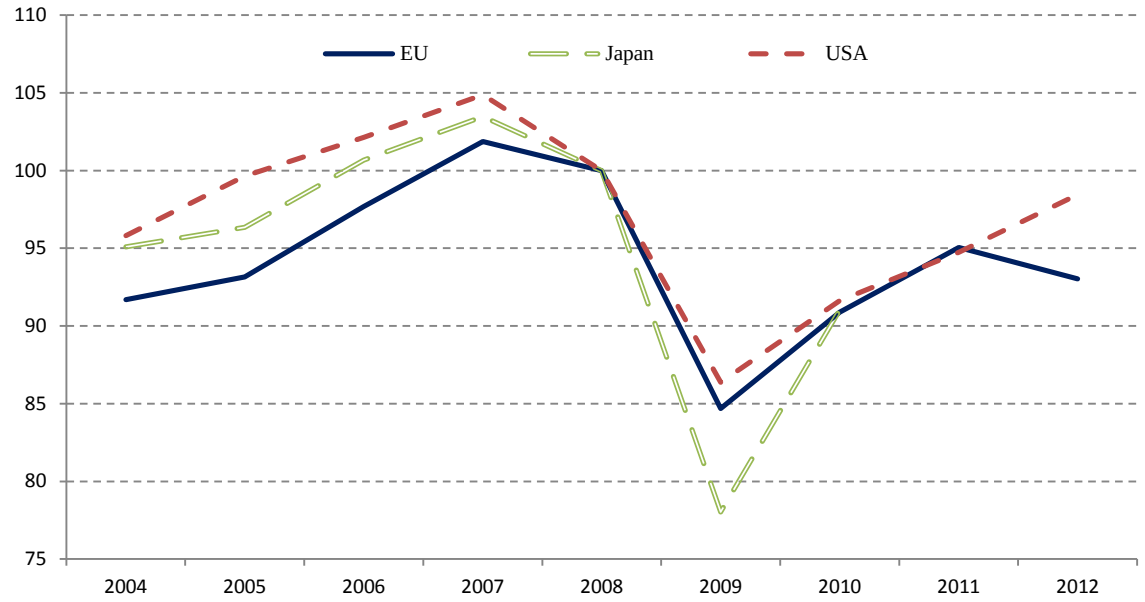
Sources: EUROSTAT

Industrial production

Manufacturing production fell considerably in US, Europe and Japan in 2009 (figure 1.3). However, the post-crisis recovery has been faster and more sustained in the US. Manufacturing production in the US, which is a smaller part of the economy than in the EU, has remained relatively stable in real terms throughout the whole period. However, in Europe, industrial production had a second dip in 2012. In Japan, industrial output had already been stagnant since the 1990s and suffered a more severe

blow although it is recovering now. The same path has been followed by most industrial sectors in the three main trading blocks. In Europe most sectors remain below 2008 output levels, with the exception of pharmaceuticals and food, while most sectors have recovered in the US.

Figure 1.3: Manufacturing production indexes (2008=100)

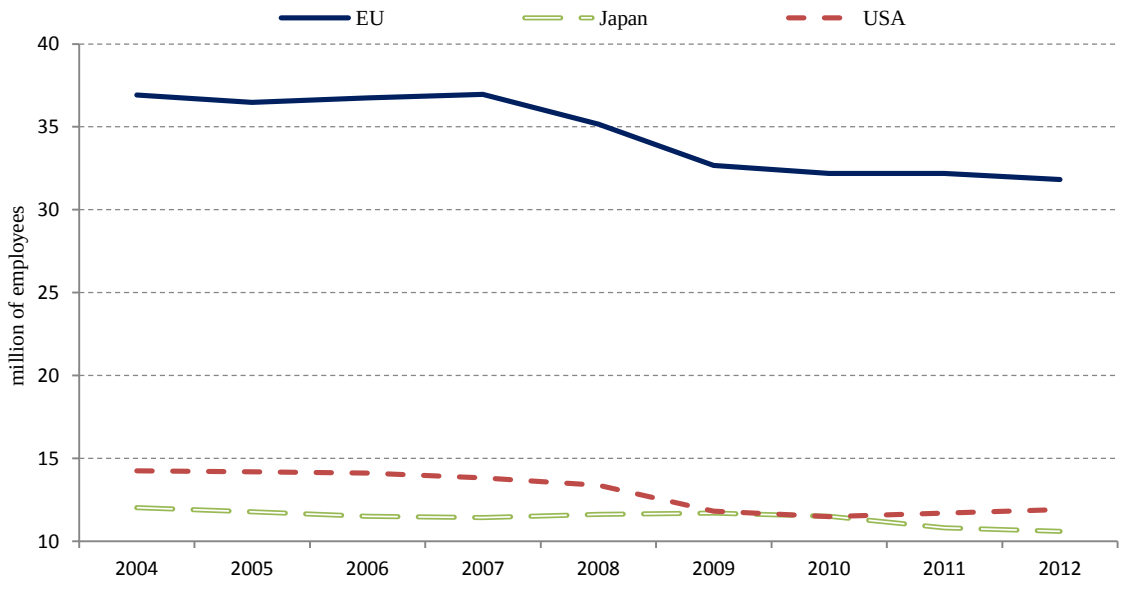


Sources: EUROSTAT, Bureau of Economic Analysis (BEA), Ministry of Economy, Trade and Industry of Japan

Industrial employment

Over 3.8 million jobs have been lost in manufacturing in Europe since the beginning of the crisis and this trend continues (figure 1.4). In the US, manufacturing job losses have been smaller and almost 500 000 jobs have been created in recent years. Following the 1990s crisis, employment in manufacturing in Japan remained stable in the 2000s, with deterioration since the crisis hit.

Figure 1.4: Manufacturing employment in US, Japan and the EU (2004-12)

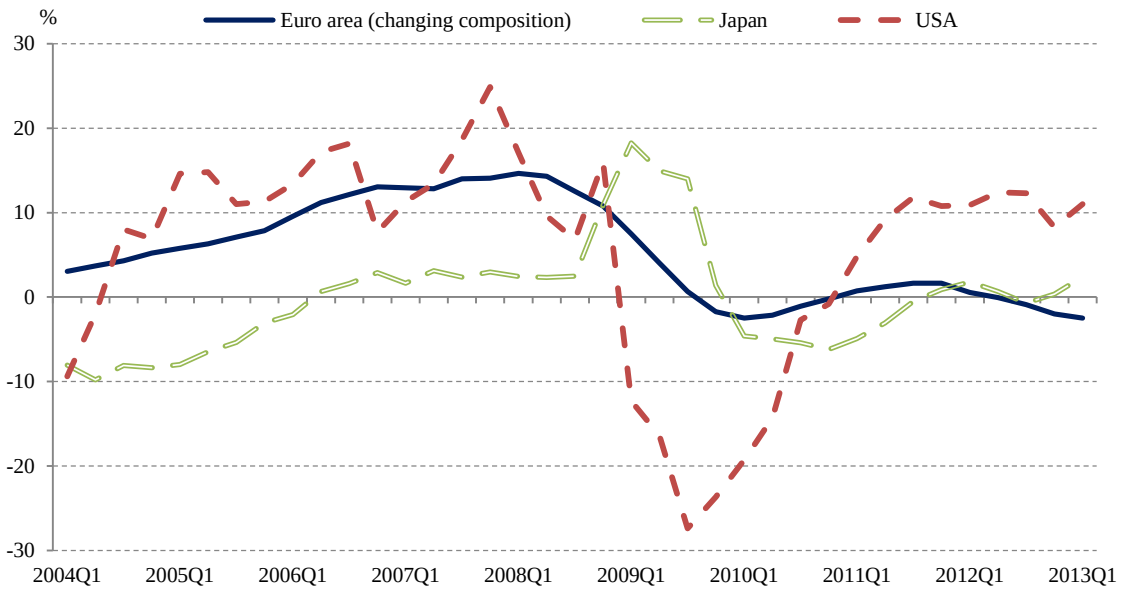


Sources: EUROSTAT, Bureau of Labour (BEA), Ministry of Economy, Trade and Industry of Japan. Note that there is a break in the employment series of the EU for 2008.

Bank credit

Bank credit fell sharply in 2009, but while it bounced back in the US soon after, it has not yet recovered in the EU (figure 1.5). Over the last decade, the prolonged stagnation of the Japanese economy has kept loans to non-financial corporations mostly below the rapid growth rates seen in the US and Europe. Although the crisis also hit bank loans in Japan, the recently implemented expansionary monetary policy has been reflected in loan growth.

Figure 1.5: Year-on-year growth of loans to non-financial corporations



Sources: ECB, Federal Reserve, Bank of Japan

1.3. Why is recovery taking so long?

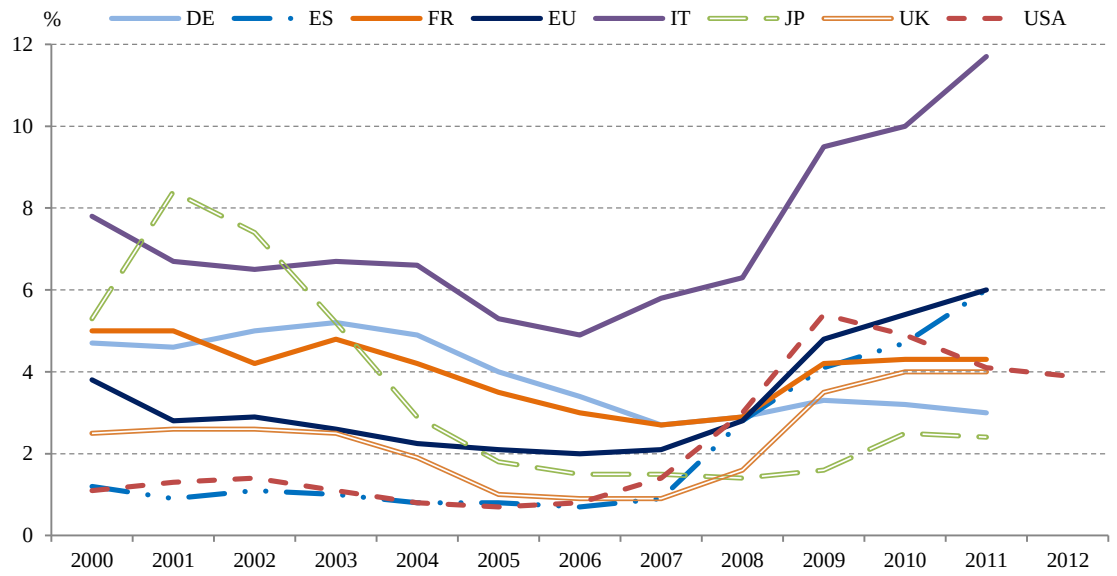
There is no single factor explaining why recovery in EU industry is so difficult. Rather, we must look at a set of factors including aggregate demand conditions, access to finance and deleveraging, barriers to effective restructuring and a prolonged uncertainty in the policy environment.

1.3.1 Access to credit

The high volume of debt accumulated before the crisis is a heavy burden for many firms that find it difficult to roll over bank credits. Constrained access to credit has become a serious threat to the survival of significant parts of Europe's competitive industries. Loans to non-financial corporations have not yet recovered from the crisis and lending activity continues to decrease in the euro area. Approximately third of euro area SMEs were unsuccessful in applying a loan, or were discouraged from asking for a loan they needed in March 2013. There is a wide regional disparity with only 10 % of SMEs facing such difficulties in Germany, against 50 % in Spain. The situation is also very uneven across firm sizes. Larger European firms have been able to tap into the bonds markets in the past few years while SMEs have had a harder time diversifying their financing sources.

The constrained bank lending in EU is in contrast to the US, where there was a 30 % fall in lending at the height of the crisis but a growth of 10 % year-on-year since 2011. This difference is explained at least in part by the larger amount of non-performing loans in some EU countries, making banks much more prudent with their new lending.

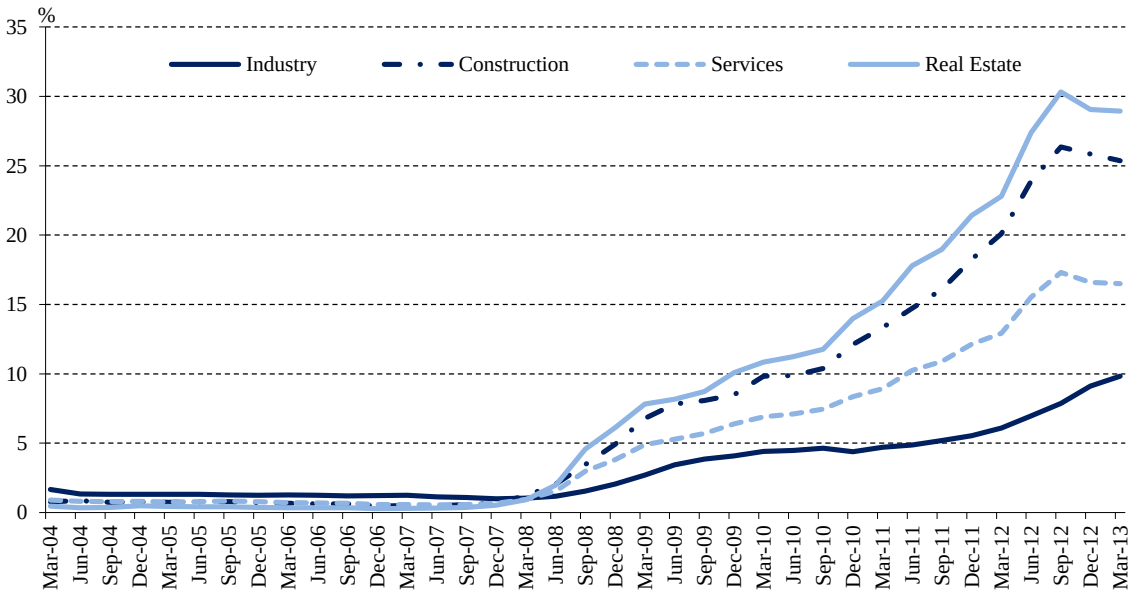
Figure 1.6: Non-performing loans as a share of total loans



Source: World Development Indicators, World Bank

Difficulties encountered by many European firms in gaining access to credit are reflected in the increasing trend displayed by nonperforming loans in Europe, which feeds back into the difficulties of obtaining credit (Figure 1.6). These difficulties are due to several factors. First, the process of deleveraging reduces the small volumes of credit available to roll over existing debt and to finance new projects. In addition, the crisis and the subdued economic conditions have an impact on the volume of nonperforming loans that has increased considerably in some countries. According to the ECB, this percentage has doubled in Spain or Italy since 2008 while it has remained low or constant, or has even decreased in others (Germany).

Figure 1.7: Share of non-performing loans of the total in Spain by sector



Source: Bank of Spain

There is no detailed information about the sectoral distribution of these nonperforming loans at EU level but information from one of these countries suggests that industry is not the main sector responsible for the growth in 'bad loans' (Figure 1.7).

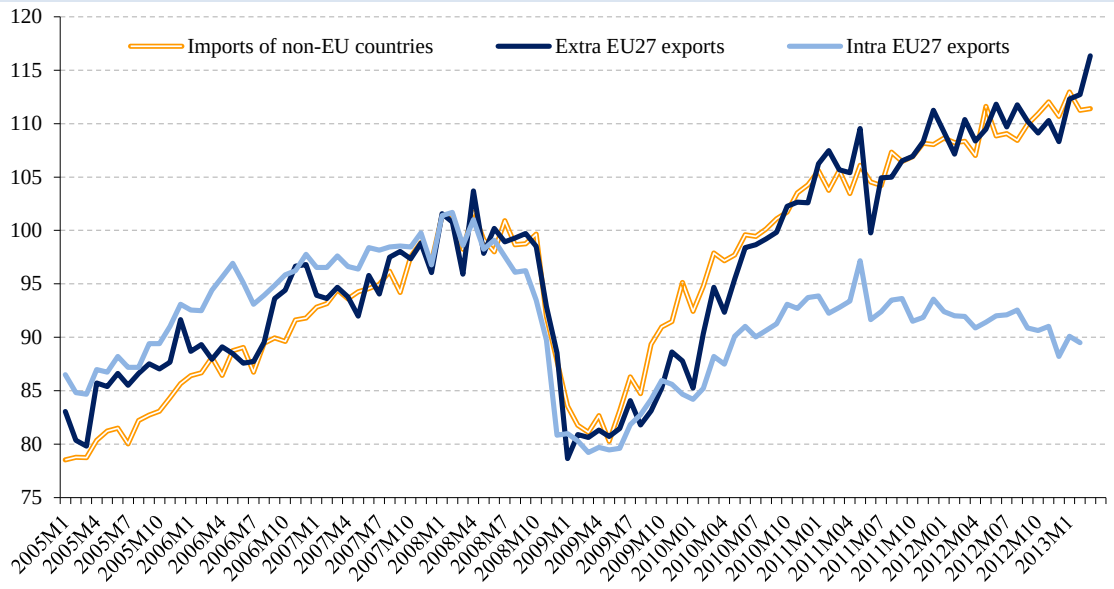
Restoring bank credit flows will be essential to avoid the strangling of perfectly viable business in many Member States. This must inevitably start by a healthy banking sector that can restore credit flows to firms. Yet, many firms are suffering disruptions in payments and the accumulation of arrears is representing a serious burden for the financing of the working capital in many parts of Europe.

1.3.2 Aggregate demand conditions

Aggregate demand remains subdued in the EU, being affected in particular by deleveraging by non-financial corporations that have moved from being borrowers to being savers since 2009. Given the fiscal balance imperative to ensure the sustainability of debt levels, governments have not been able to compensate by supplying internal demand.

Exports, mostly to the rest of the world, have been the main driver of industrial activity (figure 1.8). Although the rate of growth of total EU exports has noticeably decreased since 2011 reflecting a potential economic slow-down in emerging economies, export continues to be crucial for industrial activity in the EU.

Figure 1.8: External and internal EU trade



Source: EUROSTAT, CPB World Trade Monitor

The relatively small size of many exporting EU companies is a factor that is potentially limiting growth. Smaller firms wishing to expand face difficulties that might be hindering the reallocation of resources towards the exporting sector. Faster growth of efficient SMEs oriented towards export markets would contribute to the recovery and increase the competitiveness of our industry.

Overall, manufactured products represent more than 80 % of exports and generate a massive trade surplus for the EU (EUR 365 billion in 2012 compared to EUR 125 billion in 2006, nearly a threefold increase), an essential counterweight to the trade deficit in energy and raw materials.

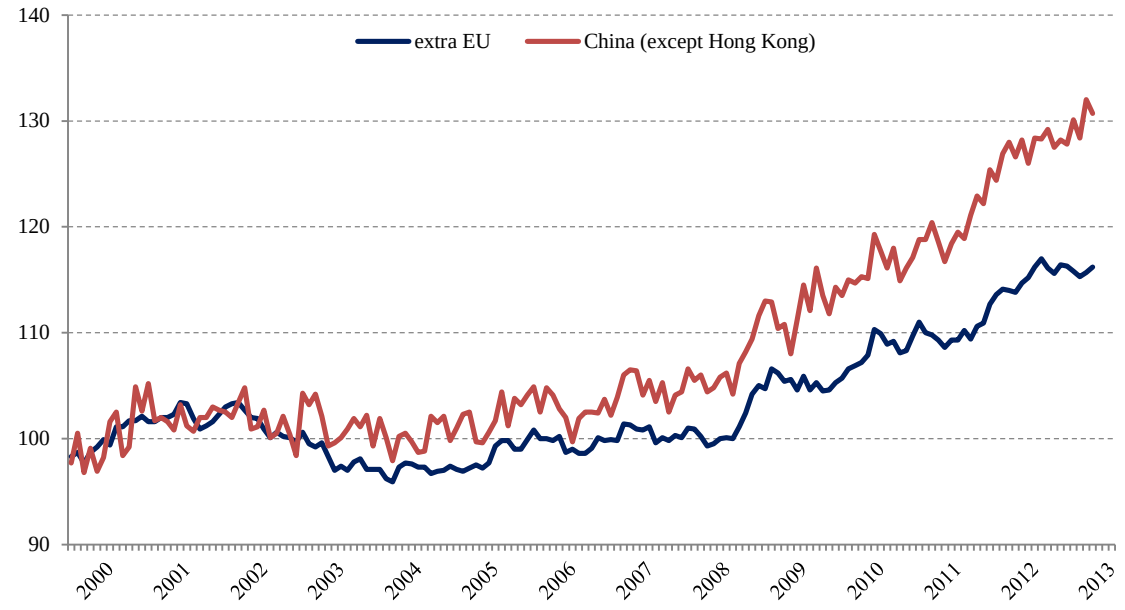
A few sectors account for a sizeable share of this large trade surplus. These include road vehicles[7] (an approx. EUR 120 billion surplus in 2012), industrial machinery and equipment (EUR 70

[7] Looking more closely at the industrial product generating the largest surplus, road vehicles, it is remarkable that extra-EU exports in 2012 were double those of ten years earlier whereas imports increased by only a third.

billion), pharmaceutical products (EUR 55 billion), aircrafts (EUR 28 billion), beverages (EUR 20 billion) and paper (EUR 14 billion). In all these sectors, the EU industry remains, sometime with a wide margin, the largest global player. Conversely, large trade deficits are sustained by the EU in a minority of industrial products such as clothing (EUR 47 billion.), office machines (EUR 48 billion), telecommunications equipment (EUR 40 billion) or non-ferrous metals (EUR 11 billion).

Interestingly, during the recession, the unit value of goods exported by the EU to the rest of the world has grown substantially, as shown in the graph below in the case of machinery and transport equipment: unit value remained basically flat until the start of the recession, remaining around the levels of 2000, and then, increased by more than 15 %. Trade with China is largely responsible for this trend.

Figure 1.9: Unit price of EU exports (2000=100)



Source: Eurostat

This suggests that the recession has made China an even more important market for the EU and that EU industry is selling higher value and more complex products to the rest of the world. This trend also suggests that China is investing heavily in capital goods. While this implies higher export revenues in the short term, it could have a drawback because it might imply a limited time horizon for these types of exports: as China climbs up the quality ladder and become increasingly competitive also in medium-high technology products EU competitiveness might be eroded in those markets. The picture is completely different for trade within the single market. Still taking the example of road vehicles, exports in 2012 were only 12 % above the level 10 years ago and still 17 % below the pre-crisis peak in 2007.

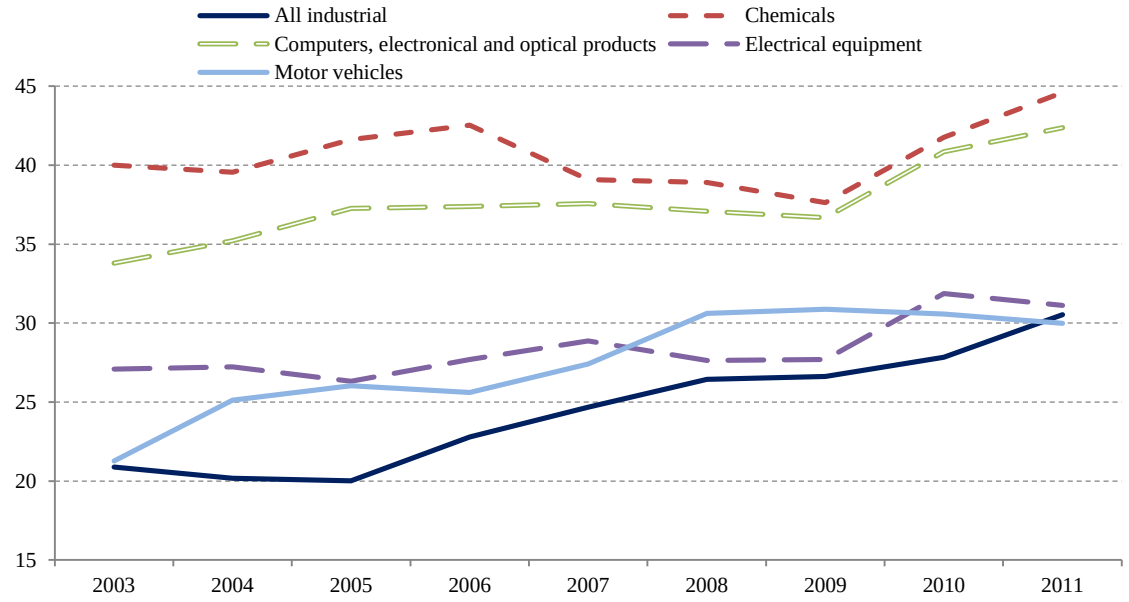
Studies demonstrate a direct link between internationalisation and firms' competitiveness. International activities help companies to grow, improve their competitiveness and support their long-term sustainability. However, most European SMEs depend on their domestic markets despite the opportunities created by the single market, and by globalisation. A quarter of European SMEs export or have exported at some point in the last three years.

EU SMEs are getting a higher share of their income from international markets: while in 2004 exports accounted for 20 % of the operating revenue of industrial exporting SMEs, in 2011 they had reached a ratio of 30 %.[8] But in medium-to-high

[8] These ratios were calculated from 5000-companies samples. Only those companies that reported export revenue were computed in the calculations. However, if we also included in our analysis those that did not record export revenue, ratios would turn out to be lower (about 4 % for all industry, 9 % for chemicals and between 4-6 % for computers, electrical equipment and motor vehicles), but the upward trend would remain.

value added sectors such as chemicals, computer, electronic and optical products, and electrical equipment, the increase is even more remarkable especially after 2009. Most exports have been to other EU countries and only about 13 % of SMEs export to markets outside the EU.

Figure 1.10: Average export revenue/operating revenue ratio of exporting SMEs



Source: AMADEUS; Commission calculations

Trends in eco-industries

Employment in eco-industries has grown considerably[9] in recent years, and these sectors have been identified[10] as having future growth potential. Exports also show that eco-industries are doing well; the value of exports of environmental goods[11] has gone up by about 50 % since 2007, although they did fall between 2011 and 2012, and their share of total EU exports rose from 0.28 % in 2005 to 0.68 % in 2012.

The relative composition of these environmental goods exports has changed over time. The value of exports of photosensitive semiconductor devices (including solar panels) tripled between 2007 and 2010. However, it has fallen since then due to competition, slower growth in some key markets, and falling prices.[12] Currently the largest export category is air, gas and liquid filtering machinery, apparatus and components. In this area German, French, British and Italian firms have a significant share of a growing global market. Other environmental goods exports belong to numerous smaller categories, such as analysis apparatus, light-emitting diodes or non-electric water heaters, that in aggregate amount to about a quarter of the total and have shown as much more stable evolution pattern.

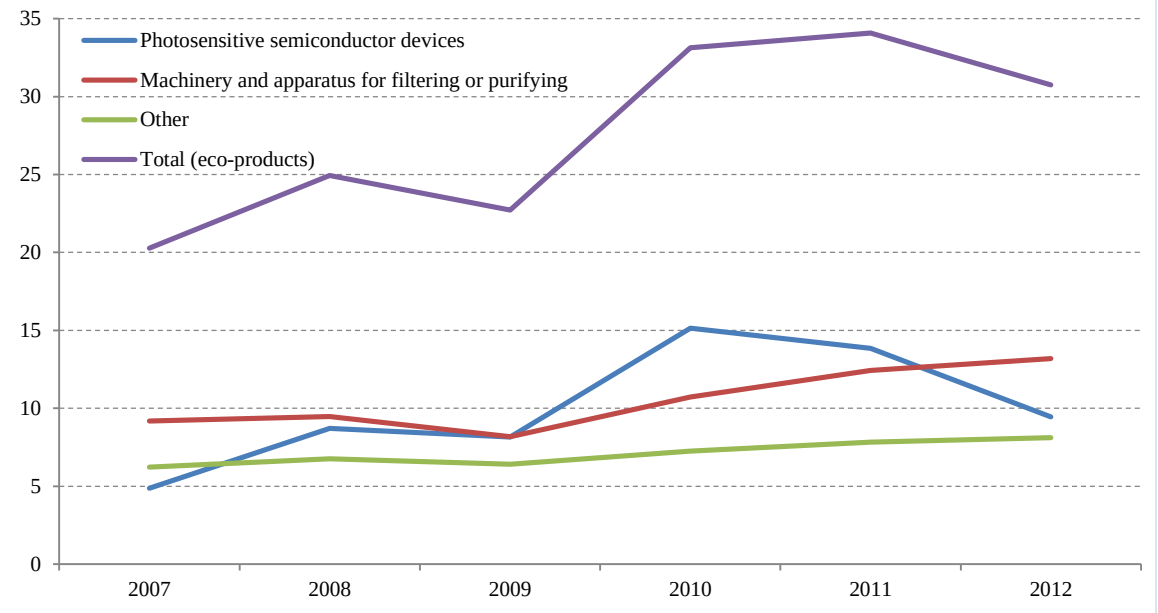
9 It has increased by about 180 000 jobs per year between 1999 and 2008, an annual growth rate of 7 %. Source: the European Commission brochure 'Sustainable Industry: Going for growth and resource efficiency' and its related studies, available at http://ec.europa.eu/enterprise/index_en.htm. More recent and harmonised data are not available for the EU as a whole. However national and sector-specific data already published point in the same direction.

10 See the Employment package by the European Commission 'Towards a job-rich recovery', COM(2012) 173.

11 Exports of environmental goods refers 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 in the Ecorys study on the 'Competitiveness of the EU eco-industry' (p 190/191) of 22 October 2009, carried out for DG Enterprise and Industry.

12 As photosensitive semiconductor devices are diverse products, it is difficult to cite a single figure for the sector as a whole. Market research (for instance by the Frauenhofer Institute http://www.ise.fraunhofer.de/en/renewable-energy-data and Bloomberg New Energy Finance http://about.bnef.com) suggests that the price of photovoltaic modules fell by around 50 % in the period 2007-12. This confirms Swanson's law, according to which the price of solar photovoltaic cells would drop 20 % each time industry capacity doubles.

Figure 1.11: Exports of environmental goods, 2007-12, EUR billion



Source: Eurostat COMEXT

The degree of success of the internationalisation of SMEs varies widely from country to country. Recent studies have shown that firms in some countries face higher trade costs that prevent them from fully engaging in international trade.[13] [14] These relatively high trade costs result in firms being of a smaller size, which means that they cannot introduce innovation or boost their productivity to compete in foreign markets. The removal of trade barriers could contribute to an increase in the size, productivity and international competitiveness of firms. Policy-makers should focus on the barriers that hinder firms´ capacity to increase their size and to improve their export performance.

1.3.3 Integrating in global value chains

It is widely recognised that falling trade costs and advances in information and communication technologies have led to a new phase in globalisation, dominated by global value chains.[15] Analysis highlights in particular the fact that export market shares are now less significant in revealing countries' competitiveness as firms in advanced economies such as the EU still capture much of the value in manufacturing value chains, even when the final phase of production is located in an emerging economy.

In policy terms, this development underlines the increasing importance of open and competitive access to inputs and intermediate products and services, and of establishing a favourable framework for attracting foreign investment in order to enhance the competitiveness of EU industry.

The Commission set out its approach to foreign direct investment in 2010[16] with a view to harnessing its potential for growth and competitiveness. Foreign direct investment greatly contributes to growth and employment. While Europe still attracts large foreign investment flows estimated at USD 324 billion, it can be noted that its share of the world total has declined from more than 30 % in 2008 to 23 % in 2012, while in the same period China's share increased from less than 10 % to more than 16 %.

[13] Loris Roubini et al. *Breaking down the barriers to firm growth in Europe: the fourth EFIGE policy report*, BRUEGEL 2012.

[14] European Commission, Study on the level of internationalisation of European SMEs, 2010, http://ec.europa.eu/enterprise/policies/sme/market-access/internationalisation/index_en.htm#study.

[15] OECD, *Interconnected Economies: Benefiting from Global Value Chains*, 2013.

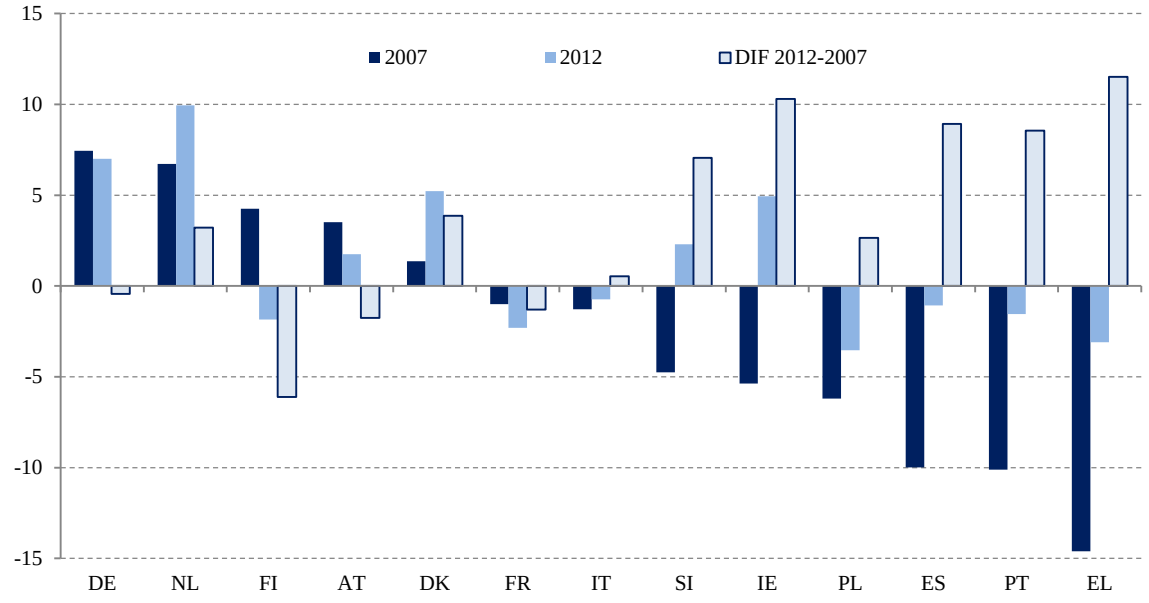
[16] Commission communication *Towards a comprehensive European international investment policy*, COM(2010) 343.

Attractiveness for foreign investors is largely determined by business environment, which requires appropriate policies at national and regional levels, in particular as part of the smart specialisation strategies to be put in place in the 2014-20 programming period of the European Structural and Investment Funds, with the support of EIB loans (see section 2.4).

1.3.4 Slow adjustment within the internal market

In addition to the low levels of aggregate demand, rebalancing within the internal market has been relatively slow. Before the crisis, some EU countries experienced increasing current account deficits that were in part financed by countries that exhibited current account surpluses. During the crisis, the main deficit countries have reduced significantly their trade imbalance and have come closer to more balanced current accounts thanks to a drop in imports and an increase in exports (figure 1.12).

Figure 1.12: Current account adjustment (% GDP)

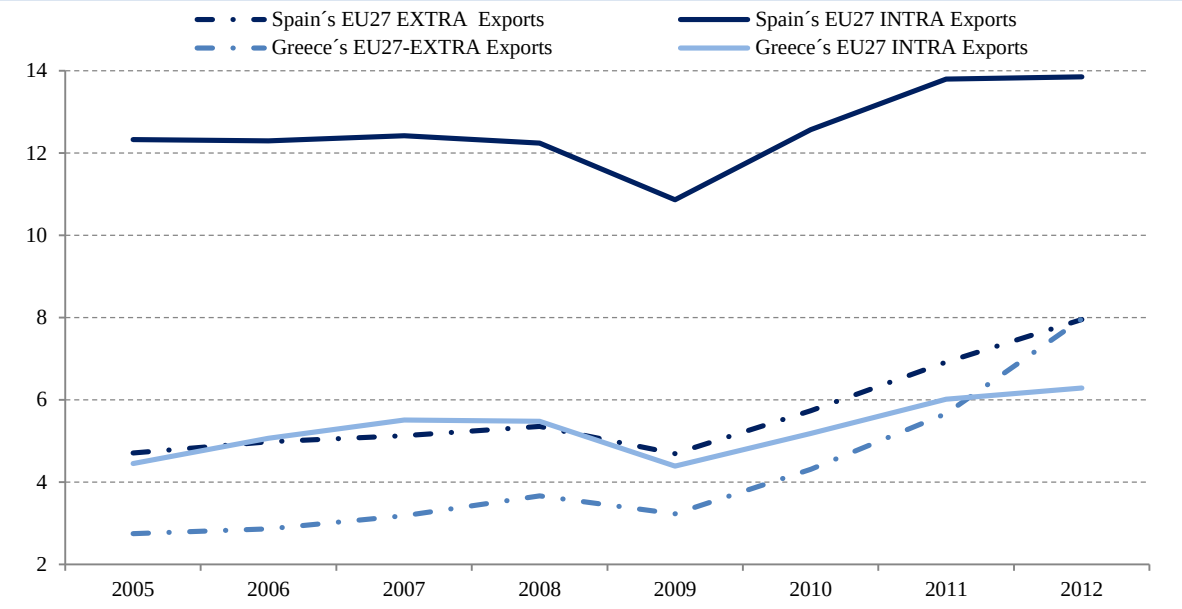


Source: EUROSTAT

However, this rebalancing has been achieved mainly through transactions with the rest of the world. Peripheral economies (Spain, Greece, Portugal and Italy) have displayed a relatively impressive performance in global markets compared to their exports to the other EU countries as figure 1.13 shows. Although exports to the EU are still greater in volume than exports to the rest of the world, extra-EU exports growth rates are relatively higher. On the other hand, with the exception of Finland, surplus economies have increased their exports and their current account surplus while maintaining high current account levels.

The share of exports from those four countries in total intra-EU trade has been slowly declining since 2004. On the other hand, the share of exports from these countries to the rest of the world over total EU exports to the rest of the world has gained ground in recent years. In fact, data indicate that the southern periphery is increasingly losing importance as a supplier to the EU economic core. Also, the geographic reallocation of value added chain segments within the internal market seems to have come to a standstill during the crisis.

Figure 1.13: Exports of Spain and Greece, per cent of GDP



Source: EUROSTAT

Intra-EU foreign direct investment has been drastically reduced during the recession, especially towards the periphery. There is some evidence of return to the core. This is indicated in the chapter on the Manufacturing Imperative included in the 2013 European Competitiveness Report accompanying this report. There is also evidence of intra-EU direct investment in core countries such as Austria in recent years.

There is no doubt that subdued internal demand must be largely responsible for this development but it would be useful to consider what impact the crisis has had on internal market integration, and how the internal market could contribute to speeding up the adjustment after the crisis correcting trade and investment imbalances.

1.3.5 Insufficient structural adjustment

A final factor that can help to explain why the economic crisis is taking so long to resolve in Europe is the lack of dynamism of the EU economy due to structural problems such as administrative obstacles and the difficulties faced by firms wishing to expand.

The emergence of new large players has traditionally been a rare occurrence in Europe, where the attitude towards entrepreneurship is less positive than in other regions of the world. There is no EU equivalent of new giants such as Apple, Google or Facebook, and completely new sectors have struggled to emerge from scratch. Even within a sector, firm renewal in Europe is slow. Large firms tend to fail less than in more dynamic economies such as the US and small firms tend to have difficulties growing. This has hindered both the development and penetration of new high-growth sectors and the reallocation of resources to more innovative parts of the economy.

Structural and institutional rigidities prevailing in European in labour, product and services markets are not conducive to speedy reallocation of factors in the economy. The ability to access markets with a new product and to reach an efficient scale is often hindered by a heavy regulatory environment.

Skills mismatch is an also an issue with several high-growth sectors struggling to find trained specialists. Education and training systems do not always provide the right skills sets needed for fast-growing high technology sectors.

In addition, research and innovation systems are underfunded but also, the overall incentives for innovation require attention. There is a bias towards fundamental research in Europe and an insufficient amount of innovation that is close to market or that relates to new ways of commercialising a technology. This is evidenced by the situation in

many sectors such as microelectronics where the prominence of the EU in research is not reflected in its share in commercialisation. In addition, process innovations are not properly taken into account in the systems of incentives developed by national authorities. Giving attention to this important form of innovation at EU level could be a catalyst to encourage Member States to rebalance the incentives currently in place.

1.3.6 Skills mismatch

The impact of the crisis on industrial employment has been particularly severe. Since the adoption of the 2012 communication, the seasonally adjusted unemployment in the EU-27 has climbed to record-levels at 12.2 % corresponding to over 26.5 million unemployed persons.[17] Almost 6 million young people were unemployed in the EU-27 area in March 2013 corresponding to an unemployment rate of over 23 %. Between the first quarter of 2008 and the end of 2012, over 3.8 million jobs or 11 % of total employment have been lost in manufacturing in the European Union. The construction sector suffered an even more severe loss (17 %), while other sectors such as the distributive trades (2 %) and the financial sector (1.2 %) that was at the origin of the crisis, suffered relatively lower job losses.[18]

Job losses in manufacturing have been unevenly distributed across sectors and countries, with Spain, Lithuania, the Baltic Countries and Portugal being the worst hit and Germany and Austria suffering only small losses in manufacturing jobs. By sectors, only the pharmaceutical sector reported positive net job creation figures by the end of the third quarter of 2012. The intense job destruction has revealed structural mismatch since the start of the crisis. The recession has hit the low-skilled and the youngest the hardest while demand of high skilled labour remains.

The long-standing trend towards ever higher skill requirements means young people without the necessary skills and low educational attainments will find it increasingly difficult to find employment.[19] In tackling skill shortages and mismatches, youth unemployment therefore requires specific attention, which is addressed by the communication on youth unemployment, adopted by the European Commission in June 2013.[20]

Within the manufacturing sector, 70 % of workers have medium-level skills and highly-skilled workers represent 27 %. Low skilled workers are a mere 3 % of the industrial labour force. But the demand for highly skilled labour in manufacturing is estimated to rise by 22.7 %, more than for any other sector, while the demand for medium skilled labour in manufacturing is estimated to fall.

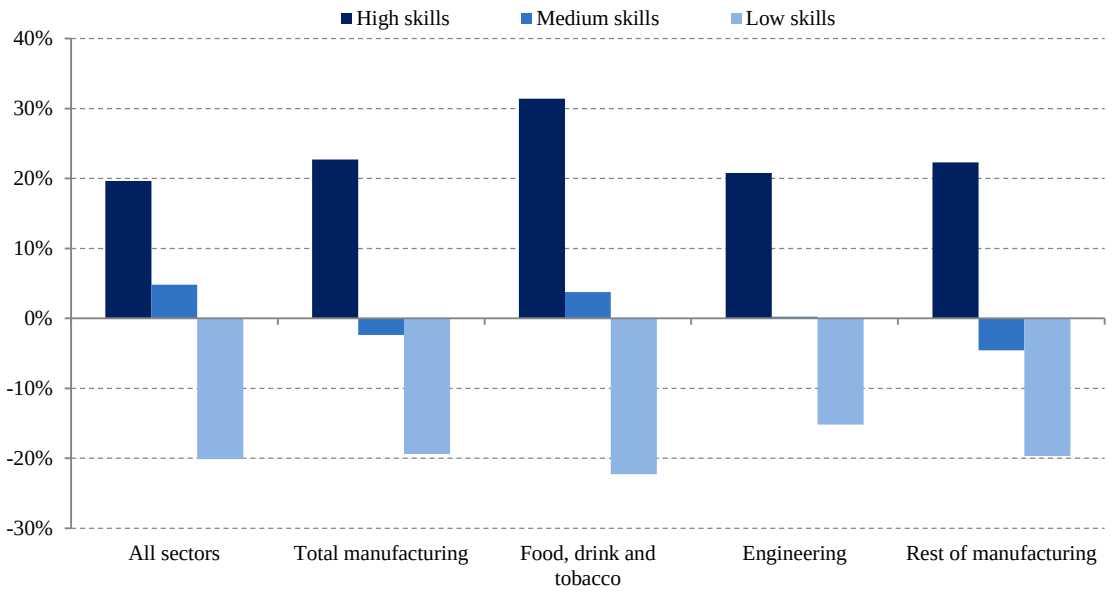
17 Eurostat, News release, 31 May 2013.

18 2013 March Monthly Note, Industrial Policy Indicators and Analysis, DG Enterprise and industry.

19 Education at a glance 2013, OECD.

20 COM(2013) 447, 19.06.2013.

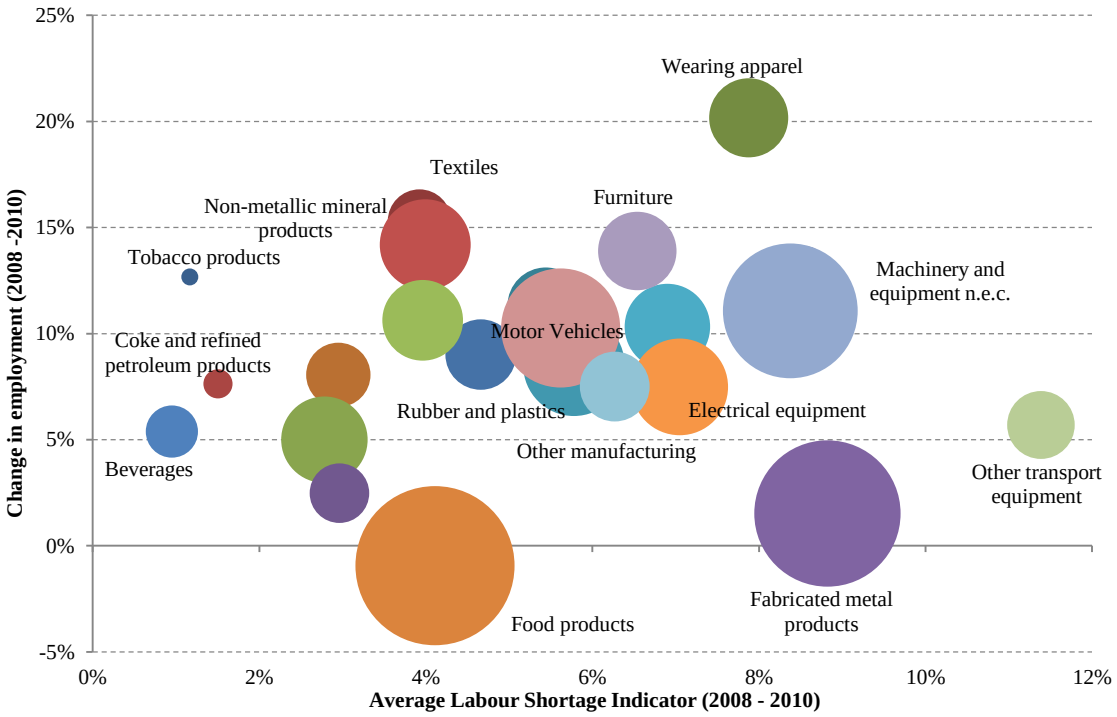
Figure 1.14: Change in demand for skills in the manufacturing sector between 2010 and 2020



Source: CEDEFOP

The manufacturing sector is increasingly experiencing skill shortages that may limit production, in particular when growth picks up. A cluster of manufacturing sub-sectors (motor vehicles, machinery and equipment, electrical equipment, computer, electronic and optical products) has been experiencing high levels of labour shortages.

Figure 1.15: Labour shortages and employment growth in manufacturing sub-sectors



Source: Commission's Business Survey (2009) and Eurostat
Note: Labour shortage is measured by the labour shortage indicator (LSI); sector averages.

The chart above shows the change in employment growth and average annual labour shortage by sector for 2008–10. The bubble size indicates the relative mass of sectoral employment in 2010. The centre of the chart shows a cluster of medium to large manufacturing sectors that have experienced high growth in employment but also serious labour shortages. Among these sectors, the latest 2012 labour shortage indicators remain significant: machinery and equipment (7.7 %), motor vehicles (6.4 %), computer, electronic and optical products (6.1 %) and electrical equipment (5.0 %).

As testimony to the skill gap in the manufacturing labour force, a persistently high number of workers in EU manufacturing sectors feel under-qualified (11.5 %); the situation seems particularly acute in sub-sectors such as the manufacture of basic metals, electrical equipment, computer, electronic and optical products and basic metals.

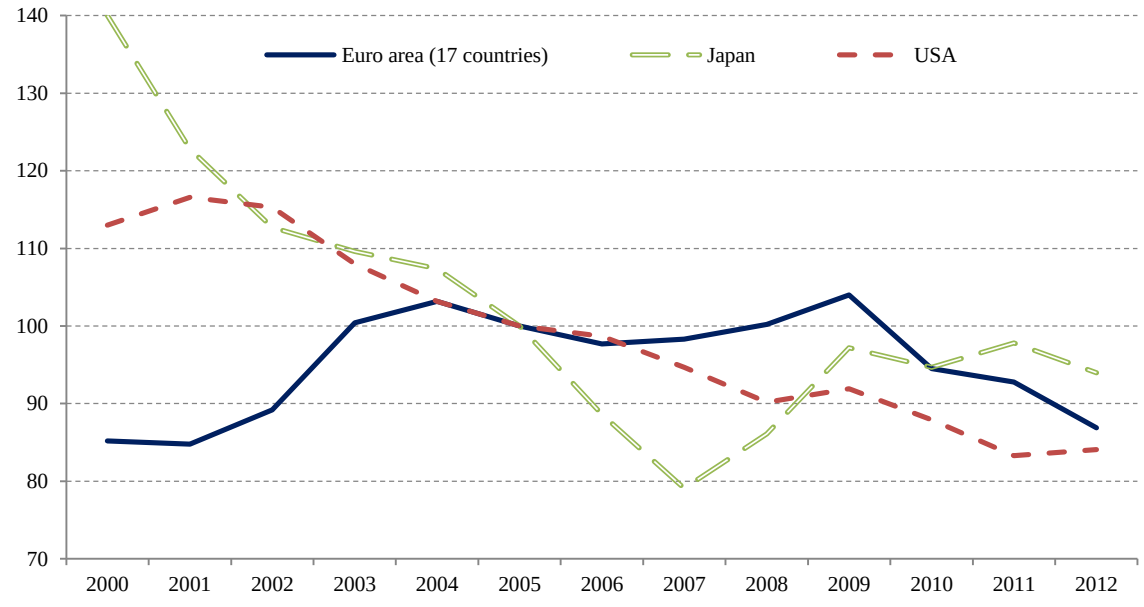
Finally, obsolescence and the lack of retraining seem to be an issue. A high percentage of manufacturing workers (31 % of lower skilled and 33 % of older workers) report that their skills have become obsolete due to rapid technological change. However, only 54 % of all manufacturing companies provide training and of these only 55 % assess their future skills needs.

1.4. Why is investment unresponsive?

Economic recovery requires investment to pick up. Until now, investment has stayed well below long-term values and seems to be unresponsive to policy actions. There is considerable variance in the official forecasts of the future evolution of investment in the EU. While Commission forecasts in May expected a recovery in gross fixed capital formation of 2.6 % in 2014 for the EU and of 2.3 % for the Euro Area, the IMF and the OECD predicted a mere 1.3 % for the euro area. Until now, the expectations of the Commission for a recovery of gross fixed capital formation have been dampened by actual figures. It is very difficult to identify when investment will recover but cost conditions and uncertainties have been identified as major factors delaying this recovery.

1.4.1 Cost conditions – productivity

Figure 1.16: Unit labour costs (2005=100)

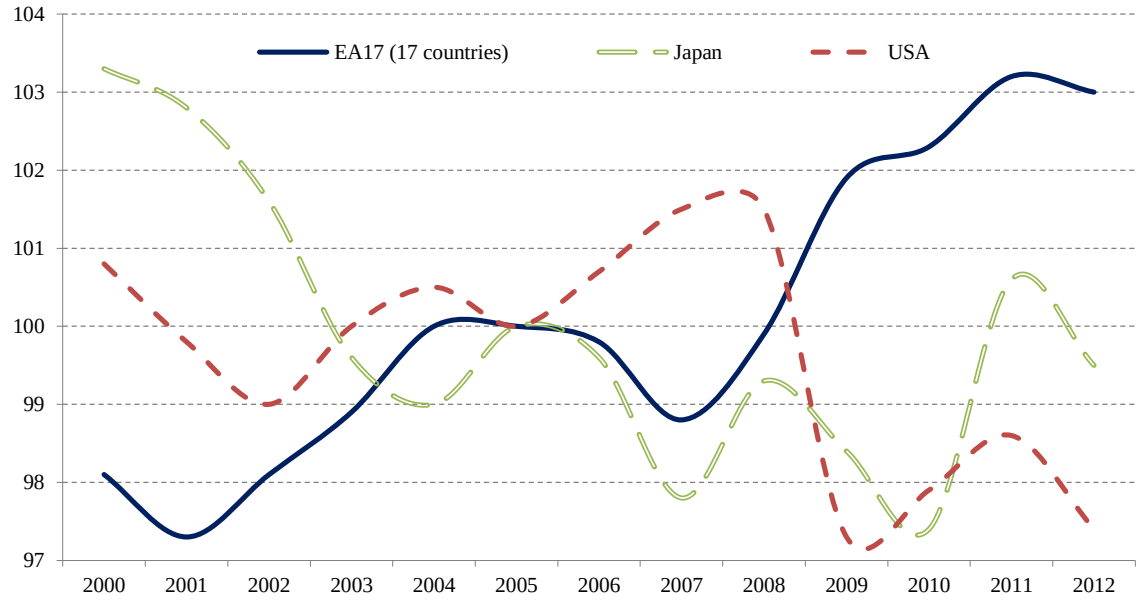


Source: AMECO

Labour productivity measured by unit labour costs has remained relatively stable in the EU over the last twelve years (figure 1.16). Behind this apparent stability there is a considerable variation over time and across countries. While some countries have experienced a considerable reduction in recent years due to the impact of the crisis, they had relatively higher labour costs before the crisis hit. On the other hand, Member States that have fared better during the crisis show moderate but increasing labour remuneration albeit compensated by productivity gains.

All in all, this evolution is not very positive in relative terms when compared to other industrialised countries. When we consider the combined impact of the nominal effective exchange and labour costs on the euro area, we see that our cost competitiveness has been eroded during the crisis (figure 1.17).

Figure 1.17: Real effective exchange rate relative to the rest of 36 industrialised countries (2005=100)



Source: AMECO

The relative levels of energy costs are also delaying investment. Compared to other industrialised economies and the US in particular, the costs of energy in the EU are relatively high. The extraction of shale gas in the US has allowed decoupling of natural gas and oil prices as well as releasing some of the pressure on the price of oil for final consumption and electricity prices. The use of gas not just as an energy source but as a feedstock has a significant impact on the chemical sector to the disadvantage of European producers.

The overall indicator of competitiveness, total factor productivity, is also pointing in the same direction and helps to explain the persistently low investments levels in the EU. Since the onset of the crisis, the euro area countries have continued losing total factor productivity relative to the US and Japan, the indicator that best captures the impact of innovation and technological changes on the competitiveness of the economy. Once more, the performance of Member states varies considerably across countries and over time with some remarkable turnovers since 2009, but the aggregate result suggests some stagnation in the evolution of total factor productivity.

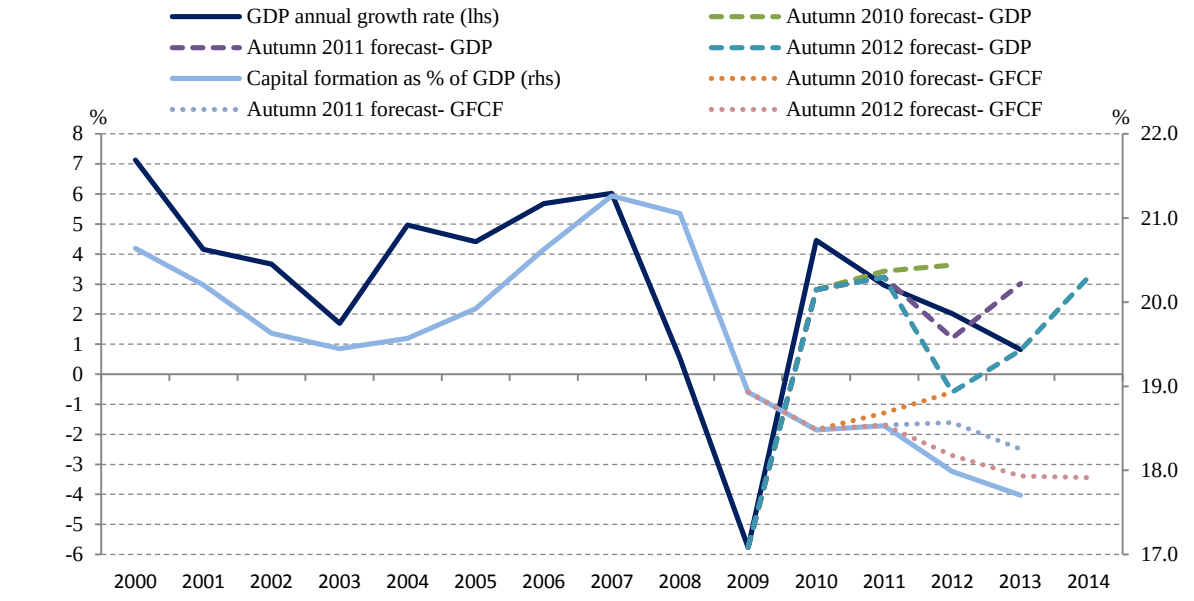
1.4.2 Uncertainty

Finally, it is often claimed by business that the high level of uncertainty over the macroeconomic situation and regulatory changes is an obstacle to investment. This view is supported by economic theory; uncertainty about households and companies income may postpone consumption decisions for durables and, in turn, uncertainty over sales and profits, whilst concerns about the possible depreciation of assets may delay investment decisions. Productive firms may postpone decisions to enter new markets in times of uncertainty.

Finally, firms may be reluctant to hire new workers, thus reducing expectations of employment and income for job seekers.

It is hard to tell to what extent uncertainty does deter or delay investment projects. However, it is possible to get some measurements or indicators of uncertainty and follow their evolution over time. Figure 1.18 shows the difference between forecasted values and actually realised figures for investment since 2010, confirming an increase in the level of uncertainty on this key variable.

Figure 1.18: GDP growth and gross fixed capital formation (EU27, current prices in EUR)



Source: AMECO database, Commission economic forecasts

There is also some level of uncertainty with respect to the evolution of important policies notably regarding energy and climate change. Lack of coordination among policies pursuing different objectives is also producing inconsistencies. Coordination among different layers of policy intervention and across Member States could be improved to avoid generating an uncertain and costly environment for firms. Finally, macroeconomic governance issues are at the moment still not fully resolved, generating an additional layer of perceived risk.

1.5. Overall performance in Member States

1.5.1 Industry in total economy

The varying sectoral specialisation and relative size of the Member States' industrial structures have an effect on the path towards a more knowledge-based economy which the Member States can take. Some economies in the EU are global exporters of advanced manufactured goods, some are more integrated in intra-EU value chains and provide price-competitive intermediate inputs, and some increasingly specialise in services.

Industry accounts for three quarters of the EU's exports and creates one in four private sector jobs. Moreover, many jobs and value added services depend on industry as a supplier or as a client. Through its innovative capacity and adoption of new technologies, manufacturing is already proving its dynamism and competitiveness, and contributing to the growth and welfare of the EU.

The indicators of the scoreboard

The industrial performance scoreboard draws on the 26 indicators that are annually monitored for each country in the report on *Member States' Competitiveness Performance and Policies*. To construct the scoreboard, a set of ten individual policy indicators was selected to represent the key areas of industrial competitiveness according to these criteria: (i) the indicators 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.

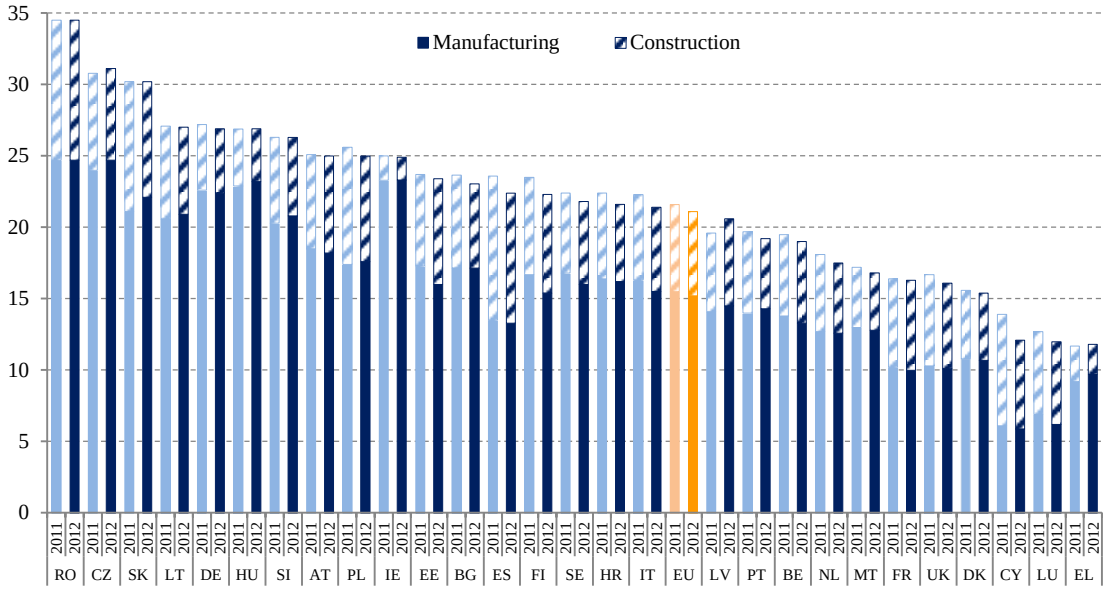
1. Overall industry performance can be gauged through **manufacturing productivity,** as productivity levels are an important element of cost competitiveness.
2. The quality of the workforce in the manufacturing sector is assessed by **educational attainment**.
3. The **share of exports** in GDP published by Eurostat is an indication of the openness of the economy, with domestic value added, and exports of medium-and-high-tech goods and non-financial knowledge-intensive services, 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 directed 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.

The scoreboard has been designed to be as simple and stable as possible, enabling comparison over time. However, each year the scoreboard contains a number of supplementary charts which help to illustrate progress in a particular indicator or to improve understanding of the underlying phenomena. Taking into account possible improvements in available statistical data, and changing policy priorities, the choice of indicators may evolve over time.

For the EU as a whole, the share of manufacturing shrank slightly from 15.6 % in 2011 to 15.3 % in 2012. It is clear that in advanced economies the share of services tends to grow, and the higher productivity in manufacturing leads to relative changes in prices for goods and services, contributing to the lower share of manufacturing – although the EU is above 2009 level. In Germany and several catching-up Member States manufacturing represents over 20 % of the total economy (figure 1.19).

The share of manufacturing shrank in many Member States from 2011 to 2012. In Denmark, Sweden, Italy, and France, as well as in Cyprus and Malta, this has been a long-term gradual trend that started in the wake of the crisis. Finland's manufacturing has seen the most dramatic decline within the EU, falling by more than six percentage points relative to its economy since 2007. An above-average share of manufacturing reflects the ability to produce globally competitive goods with high value added. In the catching-up economies, the lower share of services and the smaller general government relative to their GDP contribute to the larger share of manufacturing.

Figure 1.19: Manufacturing and construction (as% of GDP at factor costs)

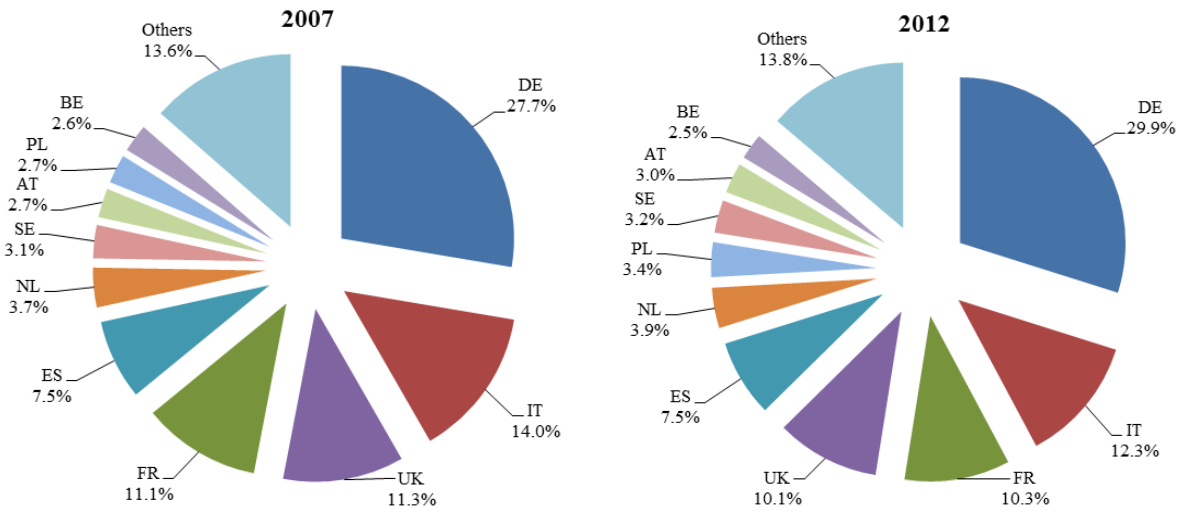


Note: RO - manufacturing 2012 = manufacturing 2011; BG - manufacturing used from national statistics database; BG - manufacturing 2012 = manufacturing 2011

Source: Eurostat

On the other hand, the manufacturing sectors in Germany, Austria, Ireland, the Netherlands and the UK were largely able to maintain their pre-crisis share. In Greece and Portugal manufacturing expanded its relative size in 2012, showing that industry can rapidly respond to an improved environment. Relative to the total economy, manufacturing grew strongly also in several catching-up economies such as Bulgaria, Romania, Czech Republic, Slovakia, Hungary, Lithuania and Latvia, providing solid support for their economies. These countries also show that for some industrial products, price-competitive intermediate inputs (including labour costs) are still an important competitiveness factor. In contrast to the other catching-up Member States, the relative size of manufacturing in Poland, Croatia and Estonia stagnated or fell slightly, compared to the 2007 level.

Figure 1.20: Country share in EU manufacturing



Note: HR included in 'Others"; 2011 data used for ES, IE, FR, LU and RO; BG missing

Source: Eurostat

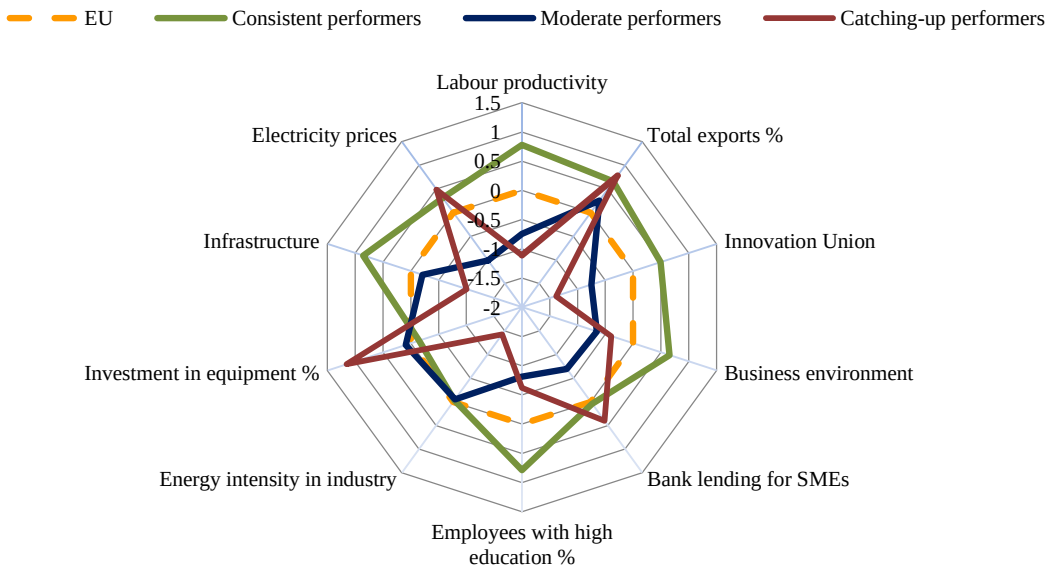
The five largest economies account for more than two thirds of EU manufacturing, and thus have an overwhelming influence on the overall competitiveness of the EU (Figure 1.20). Since 2007, a majority of the mature economies have lost some of their share, whereas manufacturing in most of the catching-up Member States, for instance Slovakia or Lithuania, has expanded throughout the crisis. Also Austria, Germany, and the Netherlands have significantly increased their shares since 2007. In spite of the double-dip recession in Spain and Portugal, their manufacturing has broadly held to the same shares as before the crisis. The figures indicate that Italy has experienced a deindustrialisation process lasting several years, whereas in the UK a similar process appears to have halted. Whilst initially holding up well during the post-crisis period, France saw its share shrinking after 2009. Finland's share in EU manufacturing has been on the decline every single year since 2007.

1.5.2 Three clusters

Based on data from 2011 and 2012, this year's scoreboard provides an opportunity to assess the impact of the crisis on industrial performance. While economies differ, their industrial competitiveness is positively or negatively affected by many common factors.

A cluster analysis can help to analyse the performance of Member States. It should be noted that the aim of the cluster analysis is to facilitate the analysis through using the available data to group the Member States into relatively similar clusters. The indicators and the clustering method influence the results, as does the number of groups. There are often outlying countries and countries that are relatively close to more than one cluster. Consequently, the clustering exercise should be seen only as a device to facilitate analysis, not as a ranking. Details of the clustering method used are in the methodological annex. Figure 1.21 compares the average performance of these groups along the ten indicators of the scoreboard.

Figure 1.21: Performance groups



Sources: Commission calculations

Note: The spider plots the distance from the EU average for each scoreboard indicator of the average of the clusters. These distances are expressed in standard deviations.

Consistent cluster:

Belgium, Germany, Ireland, Finland, Sweden, followed by Denmark, France, Luxembourg, Netherlands, Austria, the United Kingdom, and Spain (slightly away from the core of this group).

Firms in these countries have increasingly adopted advanced technologies and employ highly-trained staff. As a result, they are very productive in manufacturing goods with high value added, often competing with non-price qualities. Developed R&D systems and close academia-industry linkages help translate investments in innovation (mainly by the private sector) into knowledge-intensive jobs and high-tech exports.

Energy intensity is relatively low and improving gradually, except in some countries with large energy-intensive sectors. Most of the group maintain good overall export performance, keeping a considerable share of the value added. Some are increasingly specialised in exporting services, in particular the UK.

These countries have some of the best business environments in the EU, although some deterioration has been observed recently.

Developed transport infrastructure, competitive electricity prices and integrated energy markets enable their businesses to produce and distribute products efficiently. On the other hand, energy policies can also cause market distortions like in Germany.

Many countries provide stable and relatively easy financing conditions, whereas in countries that have gone through a banking crisis, deteriorating finance conditions have constrained investment and thus their future competitiveness. Several indicators show that France has been drifting away from the best of the consistent performers (in terms of export market shares, labour productivity, and business environment). Spain is a borderline case, for instance with weaker innovation capacity and difficult financing conditions, but performing very well in regard to other competitiveness indicators (energy intensity, export market shares, quality of infrastructure, high skills and labour productivity).

Major challenges:

Ensure investment in research and innovation; focus on new products and services; formulate coherent energy policies; ensure access to finance.

Moderate cluster:

Greece, Italy, Cyprus, Malta, Portugal, and Slovenia.

These Member States perform well in some competitiveness areas, but face difficulties and deterioration in many others. Innovation capacity is dragged down by weak entrepreneurial culture and missing research-business linkages, plus an increasing lack of appropriate skills, resulting in a lower proportion of innovative SMEs. Since 2011, the innovation performance has deteriorated in all these countries except Italy, whereas in Malta and Greece it was worse than in 2008.

All moderate performers have labour productivity levels below the EU average, reflecting a lack of highly-skilled workforce in manufacturing, and significant falls in investments in new equipment and production technology. On the other hand, both labour productivity and the proportion of highly-qualified workers in manufacturing have risen since 2007. A majority of these countries have energy-efficient industries, although the electricity prices, which on average are high, contribute to this. The prices can be explained by expensive fuel mixes, high dependency on energy imports, weak competition and market integration. High energy prices are one of the factors contributing to the deindustrialisation process that is evident in Italy.

Greece, Cyprus and Portugal have considerable potential to benefit more international trade, although Portugal has increased its share of total EU exports. In contrast to the rest of this group, Italy and Slovenia managed to keep their share of knowledge-intensive exports above EU average in 2011. All moderate performers have visibly improved their business environment, which is still relatively poor in most of them, in particular Greece and Malta. Similarly, the level of satisfaction with transport infrastructure is below the EU average, except in Portugal and Cyprus. Most of the moderate performers have experienced stress in their financial systems, which is making access to finance more difficult. This deterioration is

reflected in higher interest rates, falling stock of bank loans and lower investment.

Major challenges:

Ensure skills mix that supports innovation and manufacturing; facilitate private investment; formulate coherent energy policies; facilitate exports; facilitate access to finance.

Moderate cluster:

Bulgaria, Czech Republic, Estonia, Croatia[21], Latvia, Lithuania, Hungary, Poland, Romania, and Slovakia.

These countries still face significant challenges in many areas, but are quickly improving. For certain competitiveness indicators, the best of them keep pace with or perform better than moderate or even some consistent performers. However, their innovation capacity is well below the EU average, although Slovakia and Czech Republic already score better than for instance Greece or Malta.

In general, faster progress towards an knowledge-intensive economy is slowed down by poorly developed research and innovation systems, low R&D investments, and insufficient cooperation between the science base and enterprises, as well as less effective policy implementation. Despite this, Estonia, Latvia, Slovakia and Lithuania have made the most progress in the EU since 2008.

The industrial structures of the catching-up countries continue to be highly energy intensive, although many have become significantly more efficient because of structural changes and technology transfer. Foreign direct investment has improved the export performance of most countries in this group, which is reflected also in their rising export market shares. In comparison to the other clusters, they are more specialised in intra-EU exports.

As is the case with moderate performers, most catching-up countries could improve their business environment. They tend to have less stringent regulatory regimes but weaker legal institutions and public administrations. However, all have improved since 2007, with Latvia and Lithuania now having a business environment above the EU average. Electricity prices are in most cases relatively low, although this is partly due to price regulation (e.g. Bulgaria). While transport infrastructures are generally much less developed than elsewhere in the EU, satisfaction with the infrastructure has significantly improved in almost all catching-up countries as they have benefited from EU Structural Funds.

The financing conditions are relatively favourable, except in Hungary and Slovenia where banking sector restructuring has constrained the availability of bank loans. In spite of a large drop recently, most catching-up economies still have above-average investment in equipment. Investments in new technology and production capacity have greatly improved their labour productivity, although it remains below the EU average. Except for Lithuania and Estonia, the proportion of highly-qualified workforce in manufacturing is relatively low. Consequently the combination of technology transfer (often through foreign investment) and low labour costs still forms the basis of their competitiveness.

Major challenges:

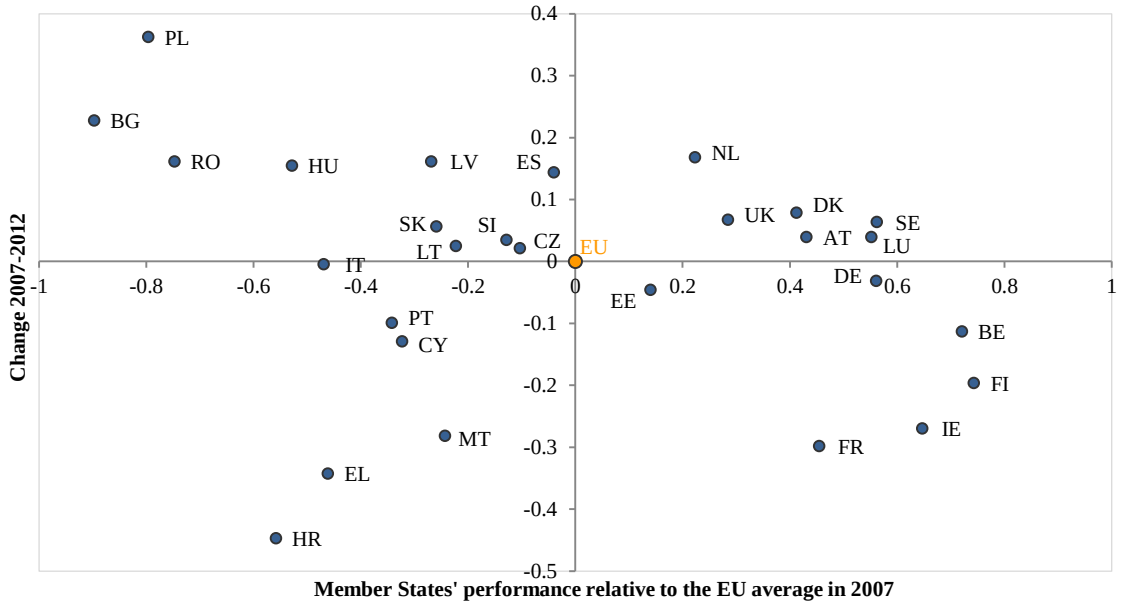
Facilitate investment in innovation; improve energy efficiency; improve the business environment.

1.5.3 Change in performance

The three groups identified above are based on recent performance figures. However, it is also interesting to look at changes in performance over the last five years to have an idea of the direction in which a country is moving. Compared to the EU average, developments in 2007-12 reveal how some Member States have improved or maintained their performance whereas others have worsened.

[21] Note that Croatia was not included in the cluster analysis due to data problems. However, for analytical purposes it is dealt with in the group of 'catching-up countries'.

Figure 1.22: Change in performance 2007-12 (2007=100)



Note: For each scoreboard indicator, distances from the EU average, in 2007 and in the most recent year available, are calculated for each Member State. These distances are expressed in terms of standard deviations (a similar approach to that of the country graphs). Graph 1.4 shows the average distance over the scoreboard indicators for each Member State and each year; later year were used instead of 2007 for some indicators; respectively one for BE, LU,MT, UK, two for MT and three for HR of the scoreboard indicators (2007) were missing.

Source: Commission calculations

The consistent performers are found mostly in the two quadrants on the right. For the countries in the top corner industrial performance has improved since 2007, while the countries in the bottom right corner saw their performance deteriorate. The moderate performers are found in the bottom left quadrant. Except Italy and Slovenia, they all saw their performance drop. The catching-up Member States are found mostly in the upper left quadrant; with a low starting point but a markedly improved performance, their catch-up characteristics are confirmed.

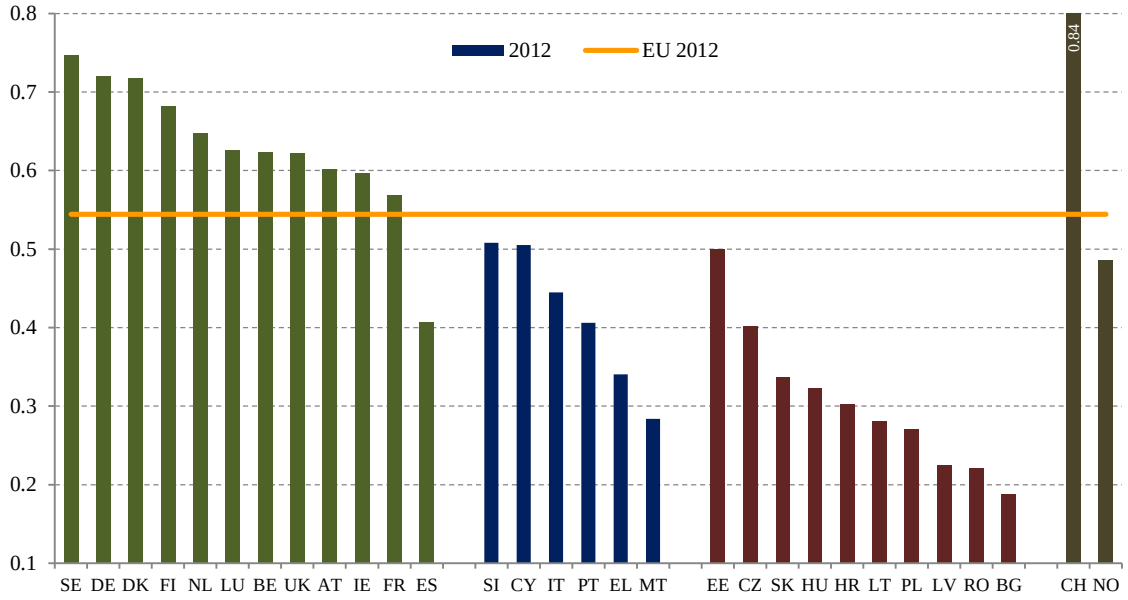
1.6. Innovation and Sustainability

1.6.1 Innovation performance

Innovation performance of the EU has improved since 2008. However, the innovation gap has started to widen as the performance of some of the less innovative economies has deteriorated, while the innovation leaders continue to advance.[22] As a result, the previously observed convergence process seems to have ended.

[22] For a more detailed analysis, please see EC (2013), 'Research and Innovation performance in EU Member States and Associated countries, Innovation Union progress at country level, 2013", available at: http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf.

Figure 1.23: Innovation Union Scoreboard (0=worst possible performance / 1=best possible performance)



Source: Innovation Union Scoreboard 2013
Note: EU = EU27 average; the 0 to 1 scale is derived from the performance of EU countries and TR, IS, NO, CH, RS, and MK

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

Components of the Innovation Union Scoreboard

***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

Sweden, Germany, Denmark and Finland are the most innovative economies in the EU. They are followed by other consistent performers that are all more innovative than the EU average, except Spain. The research and innovation systems score well in all innovation dimensions. They all have high R&D spending, with Finland at the top. This is mainly due to private R&D investment,[23] but public R&D expenditure is also systematically higher[24] in those Member States than in the others.

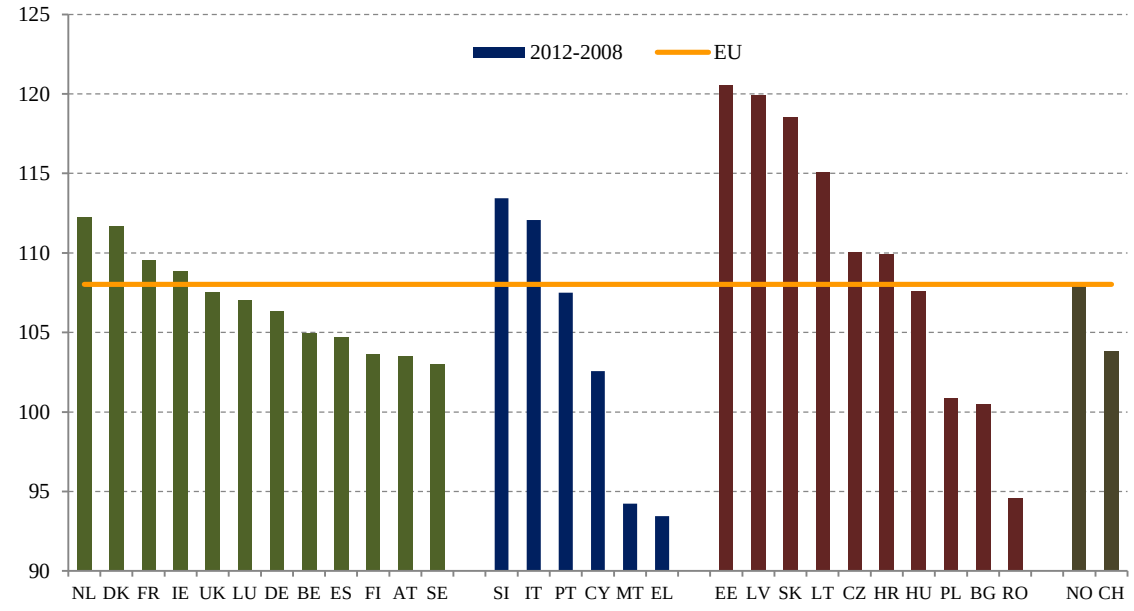
Scientific and technological excellence in these countries is transformed into knowledge-intensive jobs and exports, benefiting from close cooperation between academia and industry. Compared to the top performers, countries like Belgium, France, the UK, or Spain are weaker in transforming their research investment into intellectual assets such as patents or trademarks. France and Spain also have

[23] Above or close to 2 % of GDP.

[24] About 1 % of GDP.

somewhat weaker business dynamics, as indicated by the lower proportion of innovative high-growth SMEs. Compared to last year, Germany has moved from third to second, while the Netherlands and Luxembourg improved by more than one step. Irrespective of the ranking, a crucial observation is that all Member States in this group have improved their innovation performance since 2008 (figure 1.24).

Figure 1.24: Change in innovation performance (2008-12; 2008=100)



Note: Progress in innovation performance in the Member States in 2012 compared to 2008; y <100 = deterioration, y >100=improvement
Source: Commission calculations based on the Innovation Union Scoreboard 2013

Although there are differences between the countries, on average the innovation performance within the second group lags behind the EU average. Fewer innovative SMEs, weaker entrepreneurial culture, and lack of research-business linkages prevent the efficient commercialisation of research results. In Italy, Malta and Portugal poor innovation performance is also due to the lack of human resources and skills. Except for Malta and Greece, the moderate performers improved after 2008, but this process seems to have slowed down, and innovation performance deteriorated in 2011, except in Italy.[25]

The catching-up countries are less innovative than the EU average, although Estonia and Czech Republic outperform several of the moderate performers. But in many countries there aren't enough SMEs with growth ambitions that would bring innovative products and services to the markets. Business investment in research and innovation has been weak in Romania, Bulgaria and Latvia, whereas Estonia is over the EU average and the Czech Republic approaches it. Although the innovation capacity of domestic firms is still low in most catching-up economies, the technology transfers created by foreign direct investment have helped to modernise and upgrade production, resulting in more knowledge-intensive exports. The quality of the public research system in the catching-up countries is weak, although significantly better in Estonia. This is a major bottleneck for their national research and innovation systems, as good public research systems attracts business R&D investment, as seems to be the case for Estonia and the Czech Republic.

A majority of the catching-up Member States have seen above-average improvements in their innovation performance since 2008, with Latvia,

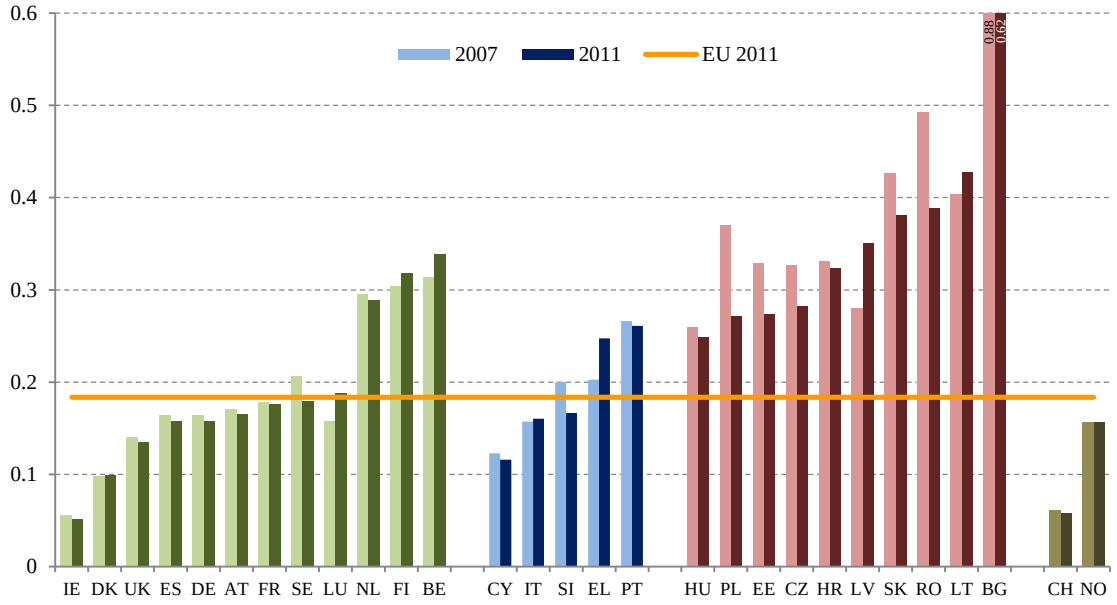
[25] The European Research Area progress report 2013 provides further insight on the current national research and innovation policies. It includes information on initiatives undertaken by Member States to make the national research systems more effective, to enhance transnational cooperation, to increase the mobility and career' attractiveness of researchers as well as to optimise access and transfer of knowledge.

Slovakia and Lithuania, and in particular Estonia, making the biggest advances. Estonia and Czech Republic have a better success rate of applications in the Seventh Framework Programme than Italy or Portugal. This positive dynamic is counterbalanced by the continued decline in Romania and the slow progress in Poland and Bulgaria. In contrast to previous years, Hungary has also lost ground recently.

1.6.2 Energy intensity

Energy has a significant impact on total production costs, in particular in the energy-intensive industries, such as cement, metals, pulp and paper, glass. Given the dependency of the EU on energy imports, energy efficiency is crucial for competitiveness. At EU level, the average energy intensity has improved since 2007. On the other hand, the pace of progress has slowed down significantly, with several Member States seeing rising energy intensity since 2007 (figure 1.25).

Figure 1.25: Energy intensity in industry and the energy sector (2011)



Note: No data available for Malta; EU = EU 27; CH, NO, HR – 2010
Source: Eurostat, expressed as kg oil equivalent/euro GVA (ref. year 2005)

Bulgaria, Lithuania, Romania and Slovakia remain well above the EU average, and the Netherlands, Belgium and Finland seem to consume more energy per unit of value added than their closest competitors. With increasing energy prices,[26] these countries will likely have to focus on further improvements in energy efficiency to maintain or improve competitiveness.

[26] Eurostat data, available at http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Electricity_and_natural_gas_price_statistics#Electricity_prices_for_industrial_consumers. Significantly, the price increases are highest in southern European countries such as Italy and Greece despite the recession they went through in 2012.

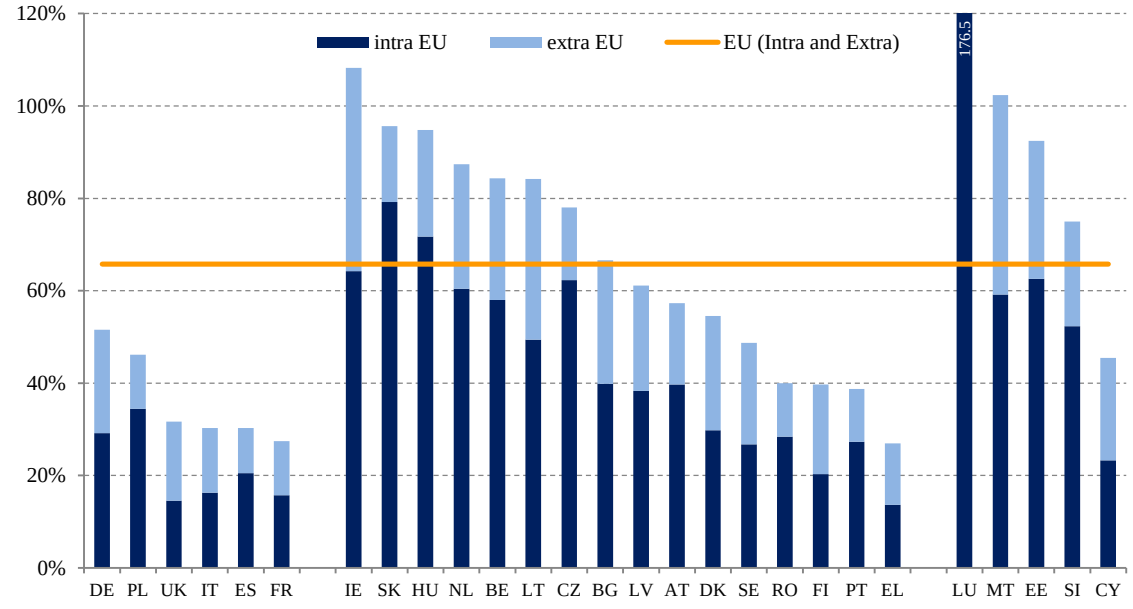
1.7. Export performance

1.7.1 Trade openness and export market shares

Openness to international trade and the ability to integrate in global value chains are key ingredients of competitiveness. Smaller countries tend to be relatively more integrated in international trade, and vice versa, the larger ones normally have lower trade-to-GDP ratios. Therefore, for this indicator, it is more relevant to compare Member States of similar size. The comparison of their economies then reveals that some of them engage in international trade more than others.

The EU as a whole has gradually become a more open economy, and recovered the exports lost in 2008-2009. Exports of goods and services were 40.1 % of the EU's GDP in 2007, but fell to 36.9 % in 2009; and have since then risen to 44.9 % in 2012.

Figure 1.26: Total exports as a percentage of GDP (2012)



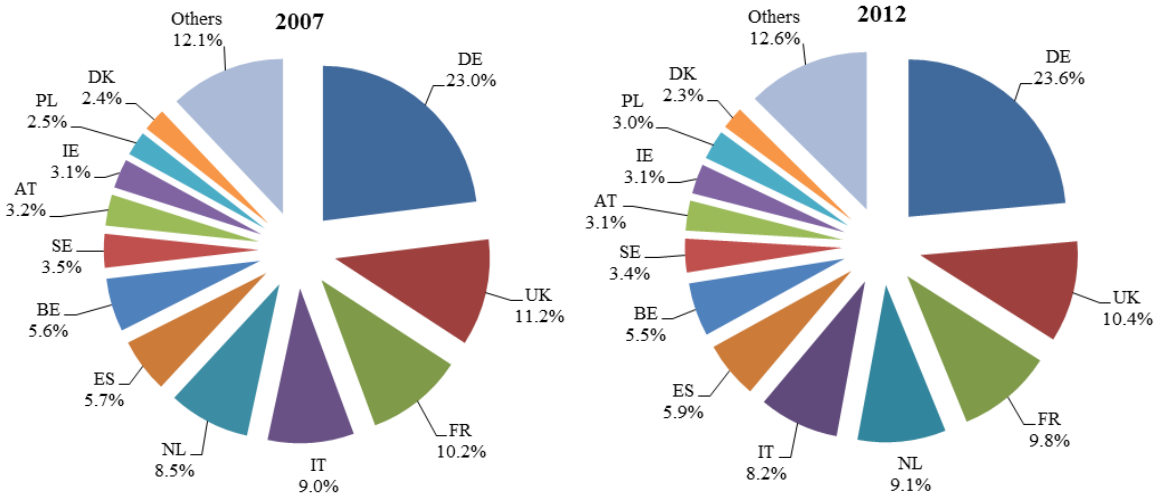
Note: EU unweighted average, grouped into large, medium-sized and small counties.
Source: Eurostat

Among the six largest Member States, Germany's export-oriented economy stands out, while for France, Italy and Spain exports are relatively smaller part of the overall economy. Also Romania, Portugal, Greece, Cyprus, and Finland are less active in international trade than their peers. On the other hand, Ireland, the UK and Malta, with a relatively high share of extra-EU exports, are the Member States most likely to benefit from the growth of the world economy.

In the catching-up Member States, exports have pushed growth, as foreign direct investments went to export-oriented industries. Intra-EU exports dominate in Slovakia, Czech Republic, Poland and Hungary. This can be partly explained by the sourcing of intermediate inputs (e.g. components, parts) from these price-competitive countries by the exporters that tend to be specialised in capital and skills-intensive activity. Compared to the previous year, the overall picture was relatively stable in 2012, with Portugal becoming slightly more export-driven and overtaking Romania.

A majority of Member States have increased the share of exports in their GDP. Deviating from this positive development were Austria, Sweden, Cyprus, Luxembourg, and particularly Finland, where total exports relative to GDP have not recovered and in 2012 remained below the pre-crisis level.

Figure 1.27: Country share of EU exports of goods and services



Note: Share of national exports in world exports (%) – Total – all products (complementary info to be used for the drafting, but the table won't be retained)
Source: Eurostat

Due to the rise of emerging markets, the EU share of world trade has gradually declined.[27] Within the EU, a majority of the catching-up economies have continued to expand their world export market shares since 2007, although the effect of low starting points still show, as Poland's share is smaller than that of Austria. However, the export markets shares of Romania and Hungary have shrunk, indicating challenges ahead.[28]

Germany and the Netherlands have expanded their export shares, as have crisis-hit Spain and Portugal, showing that their exporting industries have been able to recover their competitiveness. On the other hand, France, Italy, Finland and Denmark have witnessed further declines in their export shares. In the case of the UK, the decline in the export share for manufactured goods was much steeper than for services.

1.7.2 Capturing the value of exports

The production of goods and services is complex, requiring a growing number of intermediate inputs that are being traded across borders. Exports can be a source of growth; however export market shares do not sufficiently reveal the relationship between trade and wealth creation. Domestic value embodied in exports show the ability of Member States to capture value from trade.

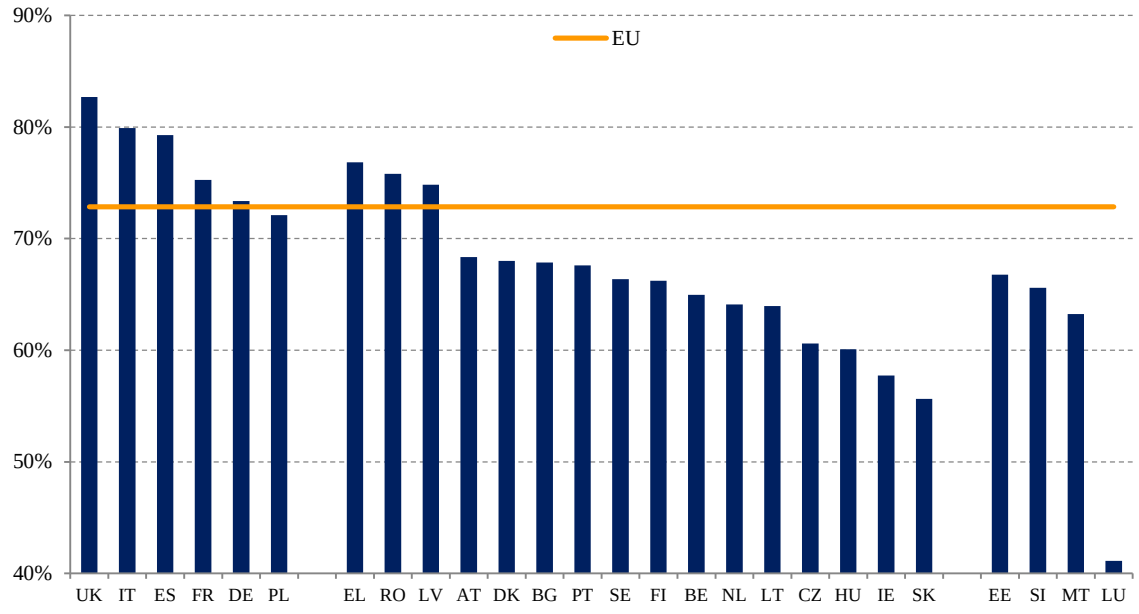
Normally, domestic value added of exports should be positively correlated to the size and negatively to the trade openness of an economy. The economies rich in natural resources and those relatively isolated from foreign markets also tend to add higher domestic content to their exports. Nevertheless, comparing Member States of similar size and trade openness illustrates that some capture much more value from a unit of exports than the others.

The largest EU economies, Germany, UK, France, Italy and Spain, as well as Greece, Romania and Latvia show a relatively high domestic value in exports. The high value of the UK also reflects its export specialisation in services. Greece is also specialised in service exports, but the high domestic content reflects the closed nature of the economy and low foreign direct investment. In the case of France it would seem that the crisis has affected its global value chains more than the domestic ones.

[27] 17.4 % in 2007, 15.6 % in 2012.

[28] Many member States are large exporters of food products but the industry is not particularly innovative. The most innovative Member States in this sector are Sweden, France and Belgium. It would seem that there is room for adding value in food exports. See http://ec.europa.eu/enterprise/policies/industrial-competitiveness/files/industry/doc/sec_2009_1111_en.pdf .

Figure 1.28: Domestic value added of exports (2009)

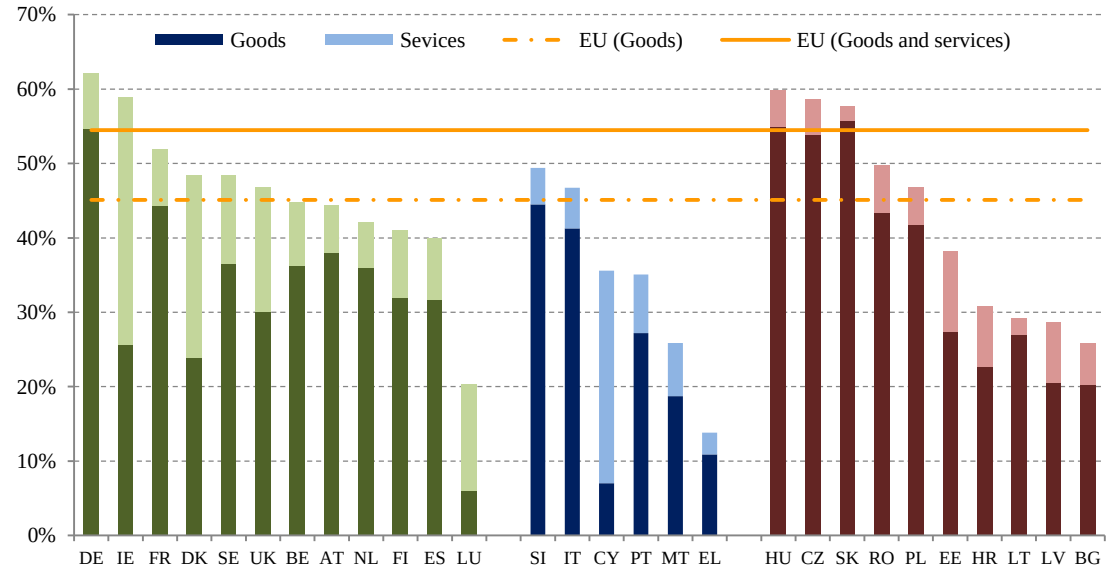


Note: Grouped into large, medium-sized and small counties.; data missing for CY, MT, LV, RO, LT, BG
Source: OECD.

1.7.3 Knowledge-intensive exports

Exports of high-tech goods and knowledge-intensive services indicate the shift towards high value added activity and jobs. From a broader perspective, knowledge-intensive exports indicate how successfully investments in education, science and innovation translate into economic outputs.

Figure 1.29: Knowledge-intensive exports (2011)



Note: Services = exports of non-financial knowledge-intensive services, Goods = exports of medium-to-high-tech goods; CY (2010)
Source: UN database, Eurostat, Commission calculations

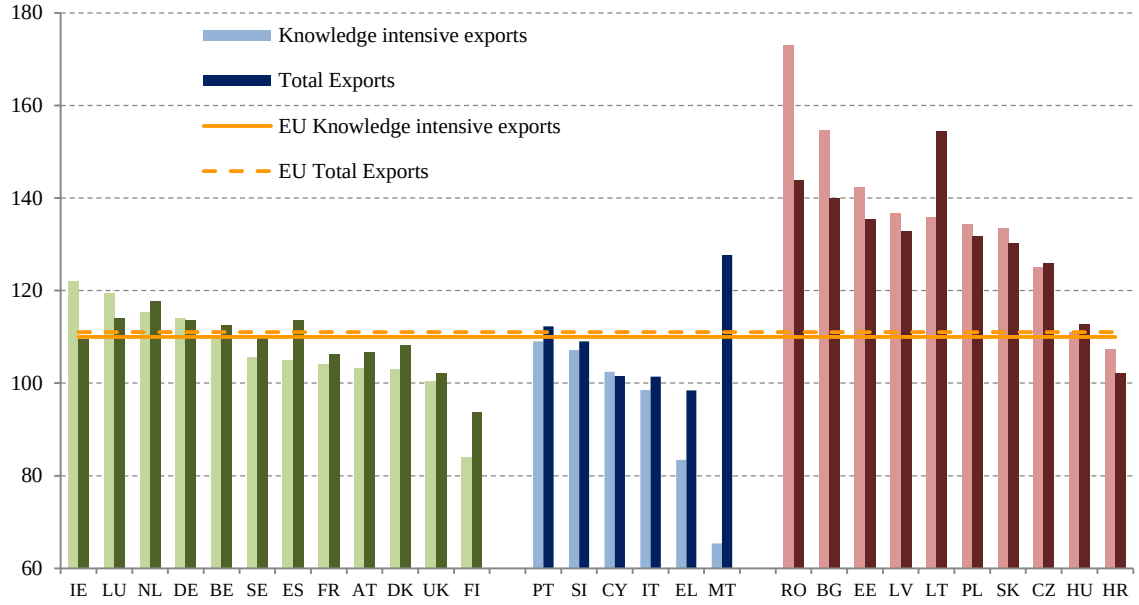
The consistent performers mostly have a 40 % or higher share of knowledge-intensive exports in their total exports, except Luxembourg. Germany in particular makes advanced products close to the technology frontier and specialises much more in exports of knowledge-intensive goods than services. So do Finland, the Netherlands and Austria. In Ireland, the UK, Denmark, Sweden and

Luxembourg, knowledge-intensive service exports play a much bigger role than elsewhere in the EU. Reflecting their strong non-price competitiveness, the knowledge-intensive exports of Ireland, Luxembourg and Germany grew faster than their total exports between 2007 and 2012. In all other economies of the consistent group, total exports rose faster, except in Finland where both knowledge-intensive exports and total exports declined during the period.

The moderate performers also have significant shares of knowledge-intensive exports, although only Italy and Slovenia exceed the 40 % level. This difference seems to stem from lower exports of high-tech goods, whereas the exports of knowledge-intensive services are comparable to many economies of the consistent group. Except for Slovenia and Portugal, the exports of knowledge-intensive goods in this group did not grow (Cyprus) or declined (Italy, Greece, Malta), indicating a move towards more low-technology exports (e.g. food), or lack of competitiveness in the global markets.

In the catching-up economies, knowledge-intensive services tend to play a smaller role. In about half of them, the exports of knowledge-intensive goods account for a high share of total exports. However, their share is below 30 % of total exports in Latvia, Lithuania, and Bulgaria. Exports of goods with high technology content have expanded significantly since 2007 in a majority of Member States in this group, at least partially due to foreign direct investment in manufacturing. This is part of the catching-up dynamic. On the other hand, in Lithuania, Hungary and the Czech Republic, knowledge-intensive exports grew more slowly than total exports.

Figure 1.30: Change in exports of knowledge-intensive goods and services and total exports (2007-11; 2007=100)



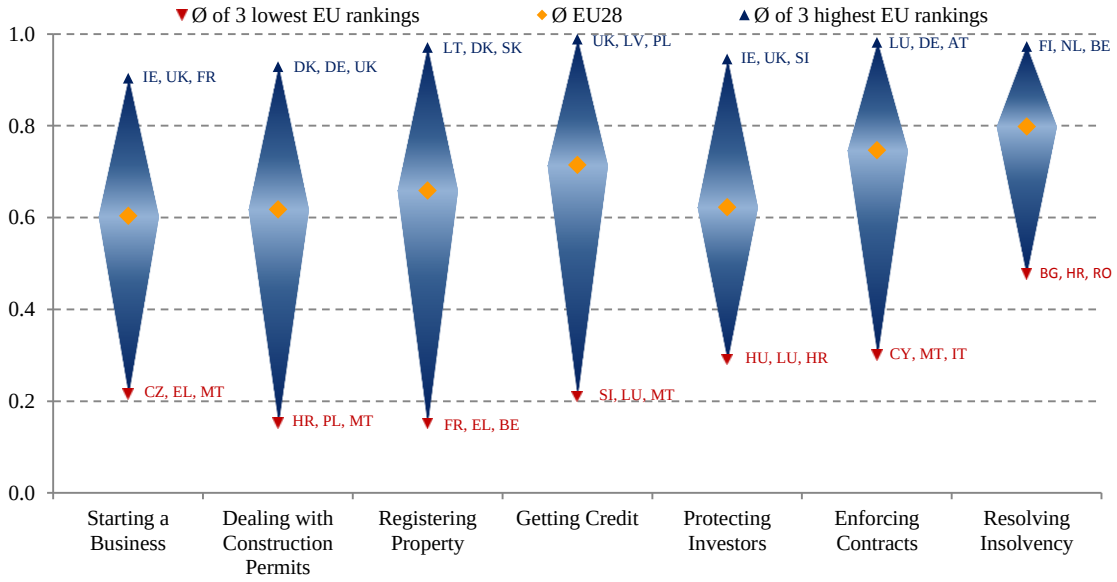
Note: CY data for 2010
Source: UN database, Eurostat, Commission calculations

1.8. Business environment and infrastructure

1.8.1 Business environment

A business-friendly environment allows enterprises to concentrate on their core activities, transforming inputs into goods and services. A smart regulatory framework and efficient public institutions are essential for an attractive investment climate, driving investment in new technologies, processes or jobs.

Figure 1.31: Dimensions of business environment (2012)



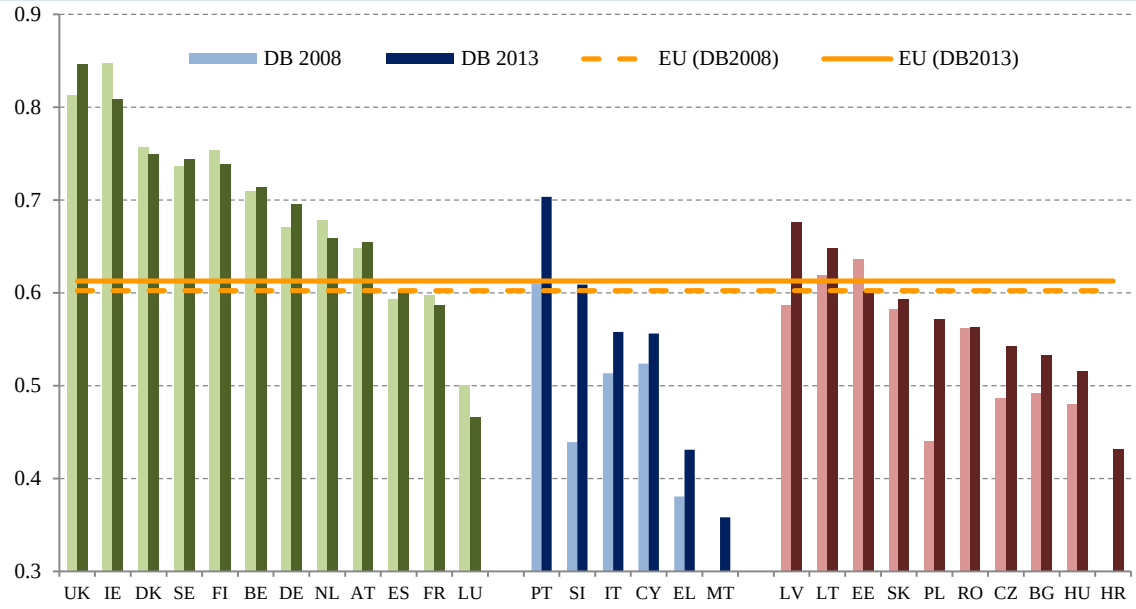
Note: Ø = weighted average; 1 = world's best practice, 0 = world's bad practice
Source: Commission calculations based on World Bank Doing Business data

The single market legislation is an essential part of this, and the Commission continues to propose improvements to it.[29]For the EU as a whole, the business environment improved slightly in the period 2007-12. In spite of this, our global competitors moved ahead faster. In 2008, the World Bank's Doing Business listed eight Member States in the top 20, three of them in the top 10. In 2013, there were only six Member States in the top 20, and two in the top 10.

Nevertheless, many Member States are still close to the global frontier in terms of the constituent indicators of business environment. However, the variations in performance within the EU are striking. This indicates major potential for policy learning among the Member States.

[29] For example, the package on product safety and market surveillance, COM(2013) 78 and COM(2013) 75, seeks to simplify and improve the product safety framework. The goal is also to improve cooperation between administrations. The Commission is also planning to conduct a fitness check of the food chain to ensure that the current legislation conforms to the smart regulation principles.

Figure 1.32: Business Environment (0=least attractive, 1=most attractive; 2012)



Note: EU = unweighted average; no data available for HR and MT – DB 2008
Source: Commission calculations based on World Bank Doing Business data

With the UK in the lead, in most cases the business environments of the consistent performers are among the most attractive in the EU, performing across the board. These countries tend to have streamlined regulatory processes and strong legal institutions. However, each Member State has some relative weakness. Starting up a business is easy in Ireland and the UK, but enforcing contracts less so. Compared to other Member States, the time needed to resolve insolvency is relatively low in Ireland, Belgium, Finland, Denmark, UK (England and Wales), Austria, the Netherlands and Germany,[30] although the protection of investors is in some cases weaker. In France, Spain and Luxembourg, obtaining a construction permit is cumbersome, and in Spain and Luxembourg start-up conditions are complex. The UK, Sweden and Germany show that even the best can improve further, but half of the consistent performers had a worse business environment in 2012 than in 2007.

The moderate performers have had to tackle significant challenges. However, since 2007 they have caught up markedly, with the business environment in Portugal now higher than the EU average and better than in some of the consistent performers. Slovenia and Greece have also improved significantly. On the other hand, enforcing a contract in Italy, Greece, Malta, Cyprus and Slovenia is still costly and time-consuming.[31]

Registering property in Slovakia, Estonia and Lithuania is fairly easy, but protection of investors could be improved. Good start-up conditions in Bulgaria and Romania coexist with lengthy processes for resolving insolvency. Since 2007, almost all Member States in this group have narrowed the gap to the best business environments in the EU, although only Latvia and Lithuania score above the EU average.

In conclusion, the moderate performers and catching-up countries have been reforming their business environment, but the consistent performers have slid down in the ranking, or improved only marginally.

1.8.2 Electricity prices

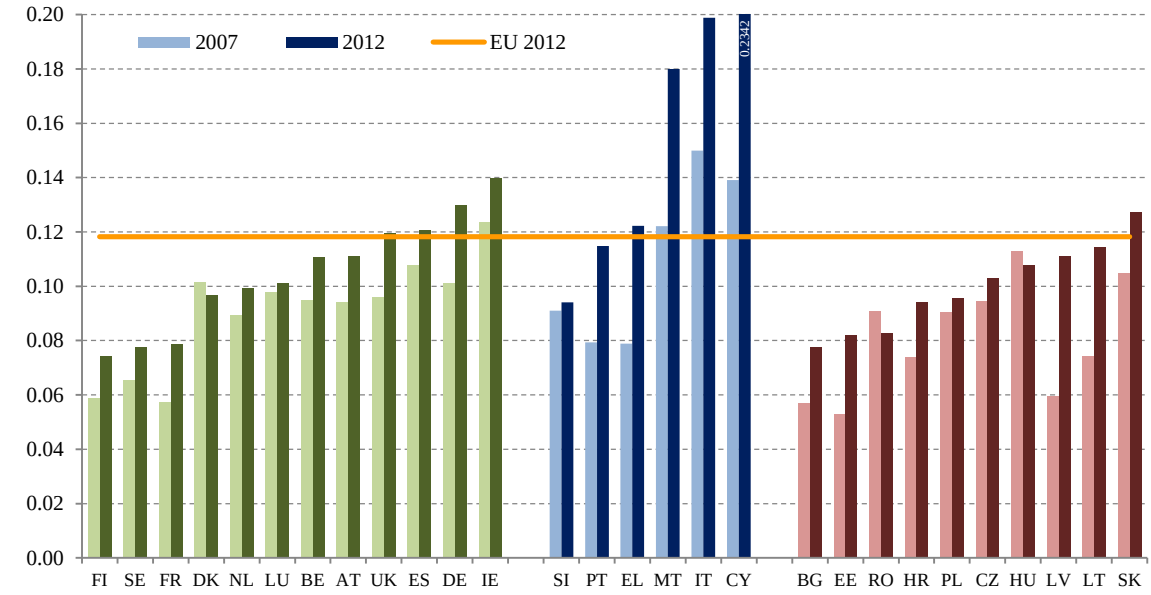
As Member States rely on various fuel mixes and different infrastructure, electricity prices for industrial consumers vary considerably in the EU, depending on circumstances, including the degree of competition and the level of regulation. In a global comparison, prices are high and pose a challenge to the competitiveness of European

[30] 2013 EU Justice Scoreboard, Figure 4.

[31] Doing Business 2013, the World Bank.

industry. This reflects also widespread dependency on energy imports.

Figure 1.33: Electricity prices for mid-sized enterprises (excluding VAT)



Note: data refer to prices in the second half-year; including tax, except VAT; expressed in euro/KWh for consumption band IC (500 MWh < Consumption < 2 000 MWh); IT (2nd half of 2008 instead of 2007),
Source: Eurostat

However, electricity prices have responded well to competition, rising less where electricity markets have been liberalised and where distribution networks have been linked.[32]

Most of the consistent performers enjoy below-average electricity prices. With around three quarters of electricity traded on a common exchange,[33] the Nordic energy market is well integrated and competitive. This integration and the abundant hydro power generation in Norway and Sweden help keep electricity cheap in Finland, Sweden and Denmark. In France, electricity is affordable because of the dominance of the competitive nuclear energy in power generation, although the high concentration in the market creates upward price pressure.

Germany has a well-developed electricity market but prices have risen over the last five years due to increasing power generation from renewable energy sources that has set feed-in prices, and bottlenecks in infrastructure (the weak north-south transmission capacity, and grid instability). Exemptions from network charges for large energy-intensive companies have also contributed to higher prices for mid-sized enterprises. Average wholesale electricity prices in the Central and Western European market[34] were in the first quarter of 2013 approximately at the same level as in the first quarter of 2010.

A majority of the moderate performers have seen major increases in electricity prices since 2007, with Italy, Cyprus and Malta having the highest prices in the EU. Italy's electricity generation relies heavily on gas, which is not only more expensive than other fuels, but its wholesale price in Italy is one of the highest in the EU. Moreover, internal bottlenecks caused by a weak transmission network have given rise to suboptimal use of generation capacity. Cyprus and Malta have small isolated electricity systems that depend on energy imports and are not connected to neighbouring countries.

In almost all catching-up economies, mid-sized enterprises enjoy below-average electricity prices.

[32] See the communication on the internal energy market and its associated staff working document: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0663:FIN:EN:PDF and http://ec.europa.eu/energy/gas_electricity/doc/20121217_energy_market_2011_lr_en.pdf

[33] Nord Pool Spot.

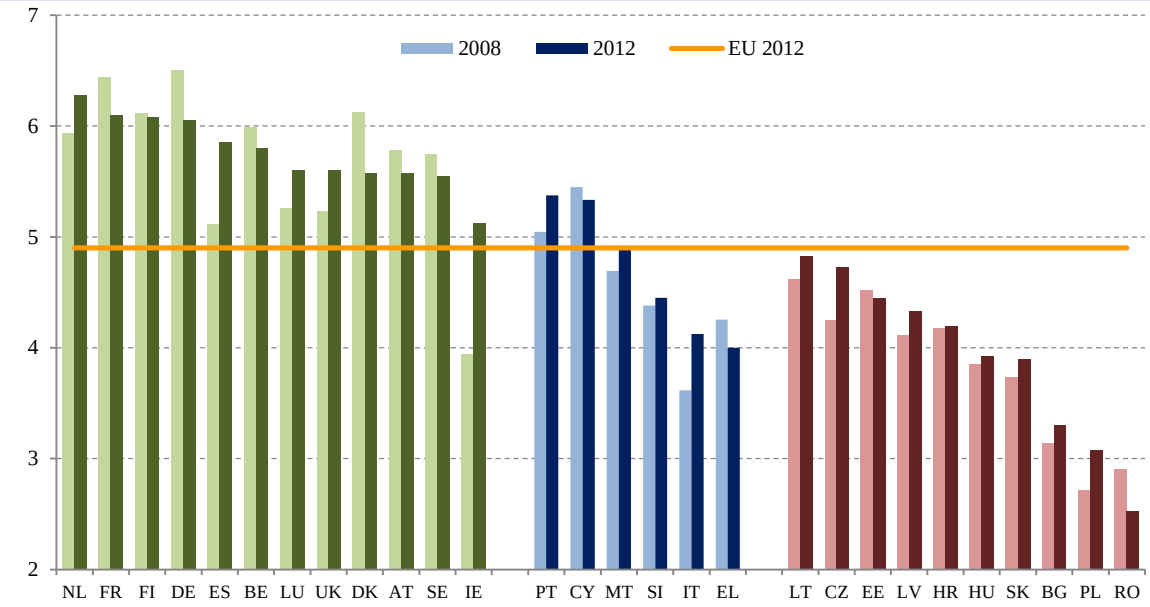
[34] CWE market coupling launched in 2010 includes BE, DE, FR, LU, NL and AT.

Electricity is particularly cheap in Bulgaria, due to regulated prices. This holds also for Romania, which, however, will phase out the price regulation for corporate customers by the end of 2013.

In spite of price regulation for small industrial customers, electricity in Slovakia is relatively expensive, largely due to high transmission and distribution charges. In the Czech Republic, a generous feed-in tariff triggered large investment in solar plants, but contributed to price increases. Prices have also increased in Lithuania since 2007, reflecting the limited competition and concentrated market. On the other hand, the wholesale electricity prices are now competitive after the country joined the Nordic electricity market in 2012 (Estonia had already done so in 2010). Improved cross-border and domestic network infrastructures, and opening up the markets in other countries could gradually have a similar impact.

1.8.3 Transport infrastructure

Figure 1.34: Satisfaction with the quality of infrastructure



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

Satisfaction with the quality of rail, roads, ports and airports is highest in the Netherlands, France, Finland and Germany, and above the EU average in all the consistent performers. Their economies tend to invest in the maintenance of the existing infrastructure rather than in completely new infrastructure projects. Since 2008, however, satisfaction with the transport infrastructure has declined in a majority of the consistent performers, and increased only in Ireland, the UK, Luxembourg, Spain and the Netherlands.[35]

Except for Portugal and Cyprus, the moderate performers have a below-average level of satisfaction, with Italy and Greece ranked lowest among the mature economies. On the other hand, a majority of the moderate performers have improved since 2008.

Satisfaction with infrastructure is below the EU average also in all the catching-up countries, although there are big differences. Whilst Lithuania and the Czech Republic approach the EU average, Romania, Poland and Bulgaria appear to have large gaps in their transport infrastructure. In a majority of the catching-up countries, satisfaction has increased since 2008, probably reflecting the use of Structural Funds for infrastructure projects. Conversely, the slow absorption of EU funds and cumbersome implementation of infrastructure

[35] It should be noted that the survey is limited to user perceptions only, and does not refer to structural problems identified e.g. in the context of the European Semester 2013.

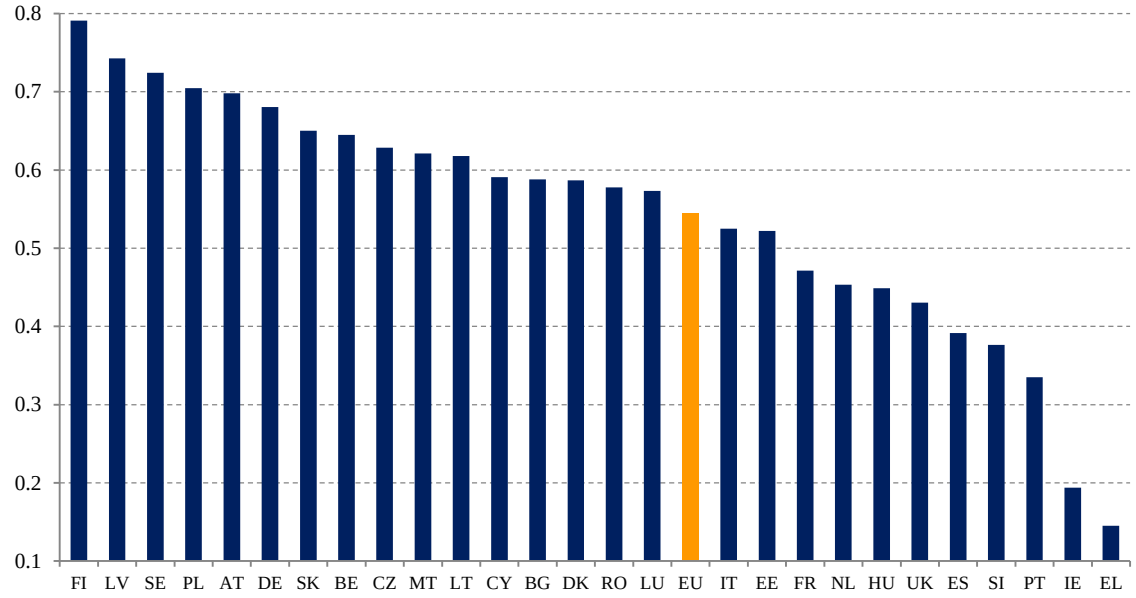
investment have most likely contributed to diminishing satisfaction with Romania's transport network.

1.9. Finance and investment

1.9.1 Access to bank loans

Although the stresses in the financial markets have calmed down, the crisis continues to have a negative effect on access to finance in many Member States. The tightening of credit standards and the banks' continued deleveraging have reduced the supply of credit. Interest rate differentials have grown between countries, and between large and small firms, in particular worsening the situation in the crisis countries. However, demand for new loans has dropped as many businesses have postponed investments.

Figure 1.35: SME access to bank lending



Note: Responses to six key questions in the 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

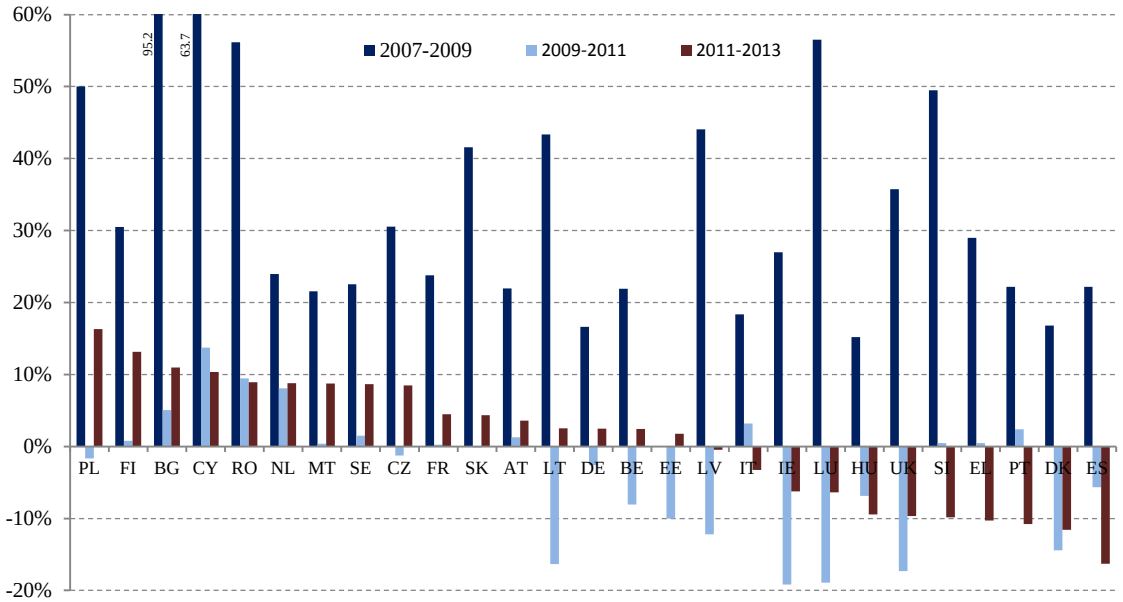
The framework for financing conditions is set by monetary policy and the financial markets. Consequently, the usefulness of cluster analysis in this case is limited. In each cluster there are economies with relatively easy access to finance as well as those where the financing conditions for SMEs are significantly more difficult. The common factor that have made access to finance more difficult, are the recent banking and sovereign debt crises.

Access to bank finance has been relatively easy and stable in Finland, Sweden, and Austria, where bank loans to non-financial businesses have continued to grow moderately also during the crisis. In most catching-up countries, like Poland, Bulgaria or Slovakia, access to bank lending has also remained relatively easy. As these countries started with a relatively low level of financial development, almost all of them experienced major credit expansions before the crisis. After a dip between 2009 and 2011, the volumes of bank loans to non-financial companies have been growing again at a healthy pace in most of them.[36]

[36] Analysis of access to finance is limited by the availability and frequency of data. In cooperation with other Union institutions, the Commission is seeking to improve the situation. For details of access to finance, see chapter 4.4.

Access to finance has continued to deteriorate in Spain and Ireland, where lending has shrunk since 2009. The situation has worsened in Greece and Slovenia, where bank restructuring limits the willingness to lend. In Portugal and Italy, the stresses in the sovereign debt markets have kept interest rate margins high, curbing new credit demand. In Hungary, the downward trend in lending volumes reflects the banking crisis caused by high dependency on foreign credit. Similarly to the crisis-hit countries, the businesses in many catching-up Member States also face high interest rates as their sovereign credit ratings are lower.

Figure 1.36: Change in bank loans to non-financial institutions



Note: Cumulative annual flows of bank loans to non-financial institutions from March (t) to February(t+2) as% of outstanding volumes at March(t)
Data for DK and UK missing, 2007 data RO and EE missing, more limited dataset is available for loans (referring only to home or reference area) in non-euro EU Member States

Source: ECB - Monetary Financial Institutions Balance Sheet Items Statistics

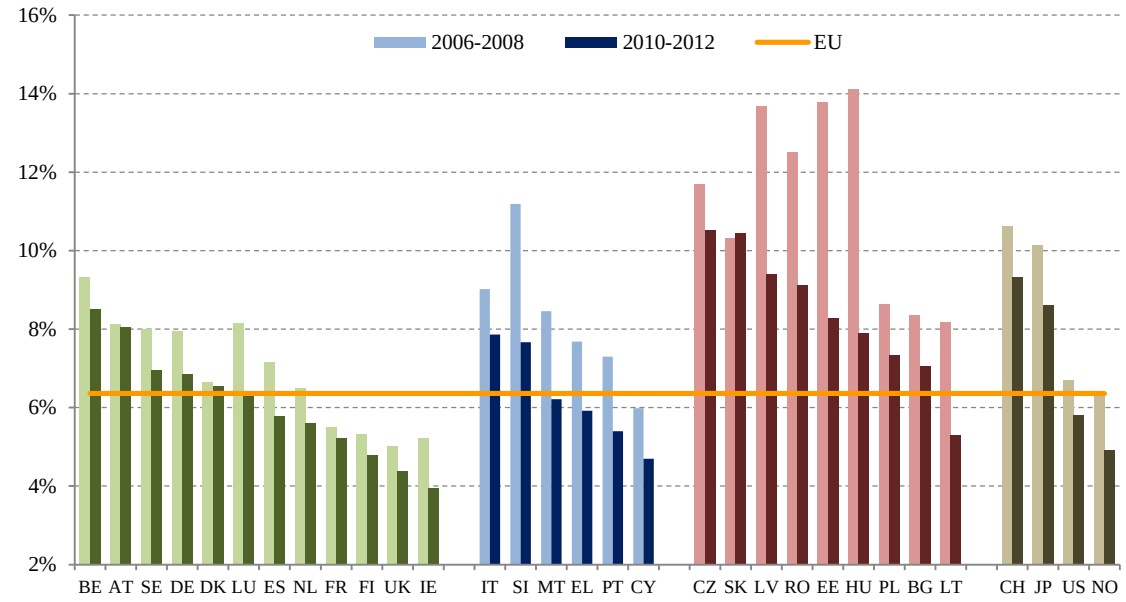
Due to low expectations and uncertainty about future economic activity, the demand for new loans in France has been below normal levels. In the UK, the stock of bank lending has declined since 2009 and businesses are facing difficulties when seeking external finance. While both demand and supply have shrunk, the high interest rate differential between smaller and larger businesses, and between core and southern periphery countries, has contributed to the worsening of access to finance. Deleveraging of the banks, their heightened risk aversion, and new capital requirements have not improved the situation. SMEs in Spain and Italy have suffered continuous declines in profitability, whereas in Germany there have been no significant changes.[37] On the positive side, in Italy the demand for funds for fixed investment has re-emerged after a long decline.

1.9.2 Investment in equipment

Against the background of continued uncertainty, weak demand and sluggish growth, many firms have held back their new investments, and many larger ones have accumulated significant levels of excess liquidity. The lack of investment postpones economic recovery, and acts as a negative feedback loop on companies' investment decisions.

[37] Survey on the access of finance of SMEs, October 2012 – March 2013.

Figure 1.37: Investment in equipment, as% of GDP



Note: EU and BG (2010 and 2011); JP (2010); no data available for HR
SUM (Gross domestic product at current market prices (UVGD)) divided by SUM (Gross fixed capital formation at current prices: equipment (UIGEQ)) in respective time periods
Source: AMECO / Eurostat

The overall picture is not encouraging, as investment in equipment has dropped below the 2006-08 level in all but one Member State. Among the consistent performers, Belgium, Sweden, Germany, Austria and Denmark still maintained an above-average investment level. Also all the moderate performers have seen large drops, although in Italy and Slovenia investments have not fallen below the EU average. Investment in equipment has declined steeply in several of the catching-up countries, but has remained above the EU average in all, except Latvia. Slovakia was the only economy where investment in equipment rose, albeit only marginally.

In contrast to the catching-up economies, consistent performers register generally lower investment levels as their mature economies need to invest less in equipment relative to their GDP.

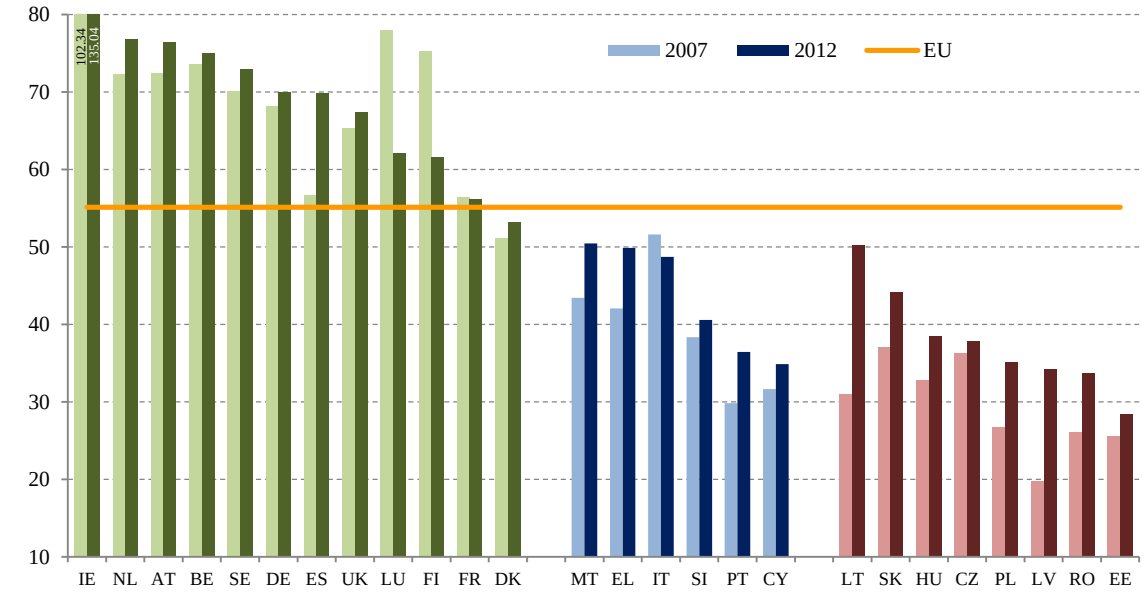
1.10. Productivity and skills

1.10.1 Labour productivity

Labour productivity[38] ultimately captures all aspects of competitiveness and indicates the potential for growth and living standards of an economy. In a growing economy with stable employment, a rise in labour productivity can largely be explained by improvements in total factor productivity (various technological and process innovations). In times of change it also reflects the restructuring activities of businesses that aim to produce the same amount of goods or services with fewer workers.

[38] This report uses labour productivity (ie. the value of output) per hour worked in manufacturing.

Figure 1.38: Labour productivity in manufacturing



Note: expressed as gross value added, in 1000 PPS/employee, RO (2011), data missing for HR and BG
Source: Eurostat

In a large majority of Member States, labour productivity in manufacturing has risen since 2007. However, in many of them it reflects the fact that the total workforce shrank faster than the manufacturing production declined. Lower investments in equipment and innovation are likely to limit the potential for further improvements in many Member States.

Labour productivity in manufacturing is highest in Ireland, the Netherlands, Austria and Belgium, and above the EU average in all other consistent performers, except Denmark.

The very high productivity level in Ireland also reflects R&D and marketing activities of multinational companies (chemicals, pharmaceuticals) that are undertaken outside the country. Denmark's labour productivity, which is just below the EU average, shows that besides technology-intensive sectors it also has significant less knowledge-intensive sectors such as the food processing industry. In contrast to the generally rising productivity in the EU, it did not improve in Luxembourg, Finland and France, owing to rising average unit labour costs. On the other hand, it can partially also be explained by the fact that some companies hold on to their highly-trained workforce (see the following section on skills) in spite of lower production activity. Some of this is also behind the labour productivity decreases in Finland, where, moreover, unfavourable structural changes in the electronics and process industries have resulted in a general loss of competitiveness.

All moderate performers have labour productivity levels below the EU average, although all have improved since 2007, except Italy. The decline in labour productivity is a symptom of Italy's lacklustre performance over the last decade. It partially reflects the rigidity of its labour market, which hinders the adjustment capacity of industries and slows down developments in productivity. Combined with a wage dynamic that does not reflect productivity developments, this has led to a sustained rise in unit labour costs and an overall loss of cost competitiveness. On the other hand, the rising productivity in Greece and Portugal indicates progress in reallocation of resources.

All catching-up Member States have a below-average labour productivity. However, they have seen significant increases since 2007, as they have continued to benefit from foreign direct investment that improves the technology base and management practices.

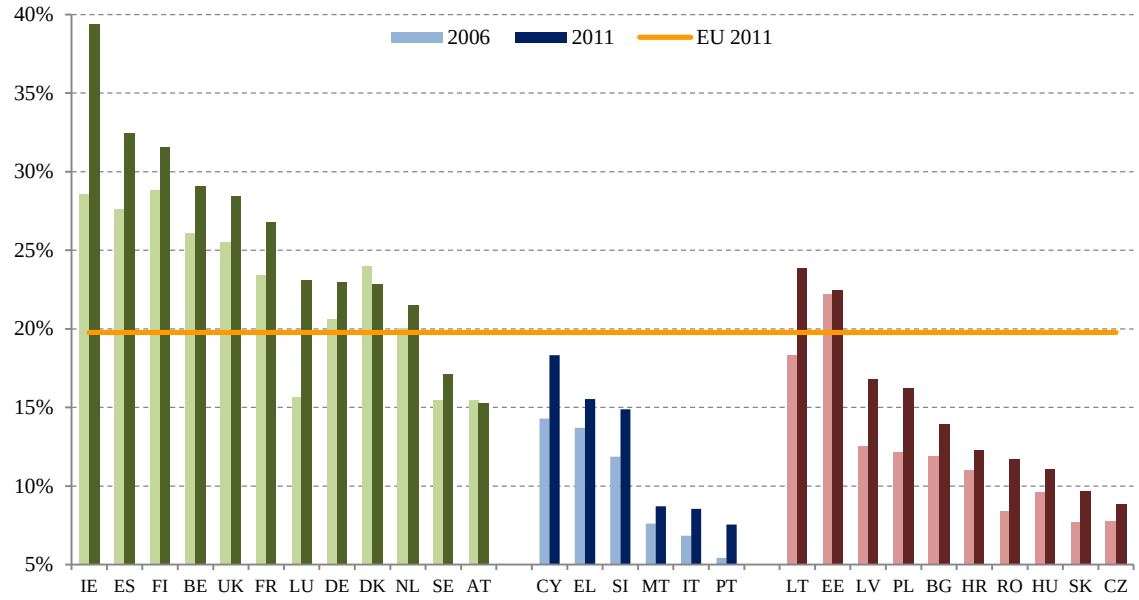
The productivity of firms producing manufactured goods has also been aided by significant investments in transport infrastructure. In some of the catching-up economies, like Lithuania and Latvia, the rising proportion of highly-skilled

workers in manufacturing is also likely to have contributed to the productivity improvements.

1.10.2 Skills

A highly skilled labour force is crucial for developing new technologies, transforming them into advanced products and selling them across the globe. In a fast-changing environment, continuous training is essential to maintain and upgrade skills.

Figure 1.39: Percentage of people employed in manufacturing with high qualifications



Source: Eurostat

Most Member States improved the skills base of their workforce between 2006 and 2011. Ireland, Spain, and Finland are leading the consistent performers in terms of qualifications. The slightly lower levels of Germany or Sweden indicate that, besides a skilled workforce, advanced manufacturing systems and technologies are equally important for overall productivity. In a majority of the consistent performers, manufacturing now employs more highly qualified persons than in 2006. The marginally declining proportion of highly skilled workers in Austria and Denmark may indicate shortages in the supply of skilled labour, or skills mismatches.

All moderate performers are below the EU average. Moreover, Portugal, Italy and Malta are among the worst in this respect, reflecting their specialisation in labour-intensive low education and low innovation industries. For Italy, it also reflects skill mismatches on the labour market and mirrors the lowest tertiary education attainment rate in the EU for the 30-34-year-old age group.

Most of the catching-up Member States have a below-average proportion of personnel with high qualifications, except Lithuania and Estonia, which are above the average. All of them have improved since 2006, in particular Latvia, Poland and Romania. The proportion is lowest in Slovakia and the Czech Republic, in contrast to their relatively high labour productivity. This indicates that the competitiveness of their manufacturing largely relies on a combination of a few firms using advanced technology and competitive labour costs.

2 Implementation of EU industrial policy

2.1. Introduction

In 2010, the Commission adopted the flagship initiative entitled '*An integrated industrial policy for the globalisation era'* in the context of the Europe 2020 strategy for smart, sustainable and inclusive growth. The initiative has progressed well with a high rate of implementation of the 70 key actions announced.

In October 2012, the Commission issued an update communication '*A stronger European industry for growth and economic recovery*'. The underlying theme of this communication was the need to make sure that the impact of the reforms initiated already under previous industrial policy communication make themselves felt more quickly. To this end, the Commission focused on establishing a broad partnership between the EU, its Member States and industry to dramatically step up investments in new technologies. The Commission remains convinced that it is Europe's capacity to take up new technologies that will determine the speed of our recovery and the strength that the EU will wield in the coming decades. The EU needs innovation and new technologies to be employed in practice in order to boost the productivity of our manufacturing and services sectors. Europe has world-class research and innovation capacity, but a well- designed Industrial policy framework is needed to make sure that technical developments originating in Europe make a greater contribution to European competitiveness and growth.

The new technologies and innovations emerging from Europe's research communities are therefore an important part of the picture, but not enough in themselves. Public policy must shift up a gear to embrace innovation-friendly market conditions that encourage demand for innovations, while providing appropriate supply-side conditions.

This means that the necessary deployment of new technologies and innovations is only the first step. To achieve sustainable competitiveness, greater access must also be secured on access to international markets, and the single market must be made to function better. In addition, basic conditions in the form of access to finance and relevant skills will provide the foundation both for the development of technologies to deploy, and for their long-term success on the markets.

These issues were all addressed in the 2012 communication. They formed the basis for the Commission's proposal that investment and innovation be jointly focused on six priority action lines: advanced manufacturing technologies, key enabling technologies (KETs), bio-based products, sustainable industrial and construction policy and raw materials, clean vehicles, and smart grids. The communication announced that a task force would be established for each of these areas.

All six priority action lines have a sustainability perspective. This means that the final objective of the European policy is not only to achieve the long-term goals on environment and resource efficiency, but also to maintain the related manufacturing activities in Europe, thus fostering growth and employment.

This chapter takes stock of the implementation of EU industrial policy. The accompanying communication presents a number of proposals for action based on the experiences drawn from the implementation of our industrial policy so far.

2.2. Investment in innovation: state of play in the six priority action lines

The six priority action lines of the 2012 communication were selected after a public consultation and careful analysis. The task forces work on a number of implementation measures which can produce tangible results already in the short to medium term. This section provides an overview of the background in each of the particular priority action areas, and how the task forces address any problems identified.

The task forces have reached in different stages in their work, depending on the priority area concerned. The task forces for *key enabling technologies* (KET) and for *clean vehicles and vessels* are building on existing structures, continuing the approach of high-level groups that were previously in place. The task force for *sustainable industry, construction and raw materials* also has well-established implementation frameworks since the adoption of the 2012 communication on that topic.

The task force for *bio-based products* is building on activities under the lead market initiative (where bio-based products was one of the areas addressed) and the Commission's strategy and action plan for the bioeconomy ('Innovating for sustainable growth: A bioeconomy for Europe'). It is also cooperating closely with a range of Commission groupings, mainly from the research field. The task force for *smart grids* will function as an expert group. The task force for *advanced manufacturing technologies* is being established from scratch, although there were precedents in the public-private partnership for the *Factories for the Future* and significant progress is being made.

Such background features are reflected in the degree of advancement. Hence, concrete progress can already be seen in the area of clean vehicles, and the work on KETs is clearly outlined. Advanced manufacturing has made an ambitious start and covered the first aspects of the issues, and the task force on bio-based products has a clear implementation strategy and has produced its first deliverables. An expert group on industrial policy for smart grids has identified, with the help of industry stakeholders, a number of areas requiring policy attention in order to speed up the deployment of smart grids and is in the process of recommending actions to be taken in these areas. This process is expected to end in September 2013, after which the expert group will move to implementation. During the last quarter of 2013 this group will start working on an implementation plan for its recommended policy actions in conjunction with the Member States. So far, the task force for sustainable construction does not have much to present in terms of concrete results. The discussions are on-going, however, and it would seem that there is scope for progress with a more concentrated approach in these important areas. A greater sense of urgency will be needed.

Standardisation is a common feature of some of the priority action lines. As announced in the 2010 communication, the Commission has presented a proposal for modernising the European standardisation system. It is too early to see any results of this on the priority action lines, but action in these areas will be helped by a smoothly functioning standardisation system.

2.2.1 Markets for advanced manufacturing technologies for clean production

The commercialisation and industrial application of results stemming from research efforts undertaken in the EU needs to be improved in many industrial areas, particularly in advanced manufacturing technologies. In addition, it is clear that demand is currently low in Europe. This is due to decreasing investments in equipment, problems in gaining access to finance, a low propensity to invest in a more efficient, clean manufacturing production (process innovation), and conflicting investment priorities.

Task force on advanced manufacturing

In line with the 2012 communication, a task force is addressing these issues through providing support for market oriented pre-competitive research in manufacturing and in process development via public-private partnerships ('*Factories of the future*' and '*SPIRE*').[39] The task force is contributing to the roadmaps for these public-private partnerships and is exploring stronger incentives to commercialise the results of publicly co-funded research. It is also supporting demand for advanced manufacturing technologies, e.g. by organising match-making events and awareness-raising activities on advanced manufacturing technologies for clean production. Work towards a better regulatory framework for manufacturing has started through screening for needs relating to standards or legislation.

[39] SPIRE: Sustainable Process Industry through Resource and Energy Efficiency.

In conclusion, the problems faced in this action line are common across several sectors of European industry. European competitiveness will have to be based on cutting edge technologies, and continuous innovations and improvements. The first role of policy makers is to set the appropriate framework conditions. Where this is not enough to make Europe globally competitive, measures to stimulate demand and deployment will have to be attempted. The task force has made good efforts in this direction. The communication has also invited Member States to promote the commercialisation and deployment of advanced manufacturing technologies and to develop cross-border collaboration taking into account their national specialisations and needs. Such work will need further impetus, possibly by spreading good practice from the task force to Member States.

2.2.2 Clean vehicles and vessels

2.2.2.1 Clean road vehicles

Sales of motor vehicles on the EU markets fell sharply in 2012 and are expected to decline further in 2013. Even if exports outside Europe have developed more positively, several companies have embarked on restructuring processes aimed at adjusting production capacity in Europe. In the current adverse economic situation, clean and energy efficient vehicles[40] can be a factor that could help the European automotive industry to overcome the crisis and return to the path of growth and profitability. Further investments in new technologies and skills are therefore required in order to strengthen the global competitiveness of the sector, stimulate its growth and enable it to create high-skilled jobs.The European automotive industry has a leading position in the development of clean and energy-efficient technologies for transport. It possesses unique competences, which have enabled it to place on the market a portfolio of low-emission technologies including modern internal combustion engines; and hybrid, electric, fuel cell and alternative fuel vehicles. The development and deployment of innovative, low-emitting powertrains has not, however, been without problems. High costs, low consumer confidence and the lack of refilling infrastructure are the main stumbling blocks holding back faster market uptake of green vehicles. Despite heavy investments in research and innovation projects, electric and fuel cell vehicles still constitute just a fraction of the market. Similarly, despite being considered mature technologies, alternative combustion fuels including natural gas and LPG are still not able to increase their market penetration significantly. There is a need to further promote the uptake of alternative fuel vehicles through coordinated investments in research and alternative fuel infrastructure, and incentives for the purchase of low-emitting vehicles.

Task force on clean vehicles

The task force is addressing these issues by contributing to policy initiatives such as:

* Developing and harmonising at global level type-approval legislation for electric and fuel cell vehicles making them at least as safe as those with a traditional powertrain.
* Publishing guidelines on financial incentives that will serve as a reference for Member States wishing to introduce demand-side measures promoting clean and energy-efficient vehicles.

Adopting the clean power for transport package including a communication on *'Clean Power for Transport: A European alternative fuels strategy'* and a Directive requiring Member States to provide minimum infrastructure coverage with harmonised standards in the EU.

In order to boost research in the area of energy efficiency and alternative powertrains, the Commission will initiate, from the beginning of 2014, a '*European Green Vehicle Initiative*' public-private partnership. This will replace the *European green cars initiative* which between 2008 and 2013 provided a strong financial stimulus to EU automotive R&D, successfully leveraging public funding for investments in clean technologies. A budget of EUR 700 million is envisaged, which is almost double the amount earmarked for the previous initiative. In addition, on-going cooperation with the EIB will enable supplementary funding to be obtained for innovative projects in the

[40] The term 'clean vehicles' indicates low pollutant emissions (NOx, PM, CO and hydrocarbons). This covers vehicles based on energy-efficient conventional internal combustion engines, alternative fuels to burn in combustion engines, electric vehicles, and hydrogen fuel cell vehicles. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0017:FIN:EN:PDF.

area of low emission technologies. In terms of providing the workforce with a high level of competences, a European Skills Council will be established in order to identify long-term trends in skills needs in the automotive industry.

The CARS 2020 monitoring exercise to coordinate European, national and regional policies together with actions by the industry and civil society is currently under way and will end in the second half of 2014. A *European Electromobility Observatory* has been set up to facilitate the co-ordination at all level.

Thus, this action line has advanced in its tasks and has considerable policy support. The actions announced in the 2012 communication are well underway, and in line with the structure that had already been established.

2.2.2.2 Vessels

While the production of standard cargo vessels has virtually ceased in Europe, some companies producing specialised tonnage and advanced marine equipment are showing good resilience or even growth. Clean vessels clearly offer a major market opportunity, especially for the marine equipment industry, but also for new-building and repair yards. The European maritime technology industry has a leading role to play in the development of clean and energy-efficient technologies for maritime transport.

Key specific issues for shipbuilding and shipping include overcapacity, low demand, limited incentives for the installation of emission reduction equipment, and regulatory uncertainty. With today's and expected future fuel prices, many of the technical or operational measures to reduce CO_2 emissions are cost-efficient. The uptake of these cost-efficient measures is often blocked by market barriers and the difficulty of obtaining finance. Notwithstanding, forthcoming legislation and customers' expectations for cleaner shipping will be driving change in the industry and enable clean ship technology take-up.

Task force on clean vessels

This task force forms part of the *LeaderSHIP initiative*. It is currently preparing a workshop with the EIB in September 2013 to make the best out of the possibilities of the bank in the financing of green vessels and for environmental retrofitting of existing vessels. These activities will be supplemented by the *European Sustainable Shipping Forum* (ESSF) being established by the Commission. This forum will in particular deal with and further develop the actions outlined in the first progress report on the implementation of the *Sustainable Waterborne Transport Toolbox*.[41]

Further, a Regulation on the monitoring, reporting and verification of greenhouse gas emissions from maritime transport was adopted in June 2013.

2.2.3 Bio-based product markets

Fostering the development of bio-based industries involves addressing two important and interdependent issues: the 'cascade' principle and adequate biomass supply. The task force is already focusing on cascade (also called smart or pyramidal) use of biomass, which is its phased use through a sequence of integrated stages in order to optimise resource and energy efficiency while maximising added value and job creation or maintenance. Such optimal exploitation of the economic, social and environmental potential of biomass would require using the market to ensure prices reflect value, with biomass first used for food, feed or high value-added products (solid wood and paper goods, pharmaceuticals and cosmetics, bio-based chemical building blocks, polymers, lubricants, detergents, plant bio-stimulants, etc.) and the simultaneous use of their residues and co-products, the re-use and recycling of all these, and using biomass as a source for bioenergy and biofuels, according to their market value.

In such a sequence, one partner's by-product or waste becomes the raw material for other partners' production, paving the way towards interdependent, cross-sectorial innovative value chains and a circular economy. However, the choices between competing uses at any given stage would have to be based on, for example, affordability, logistics, value

[41] COM (2013) 475 final

added and whether or not jobs are maintained or created. Accordingly, these factors must be incorporated into the sustainability criteria in the socio-economic evaluation.

To develop this virtuous circle of significant bio-based industries adequate biomass supply will need to be assured hand-in-hand with its more efficient (cascade) use. However, policy instruments are currently used in an attempt to foster the development of biofuels and other biomass and have introduced greater competition (e.g. higher prices, tighter supplies) in the use of the biomass.

There is also fierce competition from non-EU countries. The US in particular has implemented a *BioPreferred* programme since 2002. This involves a federal government procurement initiative, with mandatory preference for bio-based products, and a product certification effort. Minimum bio-based content has been established for each category designated for federal procurement. Such promotion of a fast-growing product sector means incentives for innovation and product development that risk leaving European competitors behind, in the absence of similar initiatives on the EU market.

The priority recommendations arising from the final evaluation of the *Lead market initiative for bio-based products* have formed a basis for this work. There is a need to better align Commission industrial, innovation, agricultural, environmental, market, energy and research policies in the field of bio-based products and to create more effective mechanisms to attract industry and SMEs to participate in EU research and innovation programmes. Furthermore, most actions of the task force were announced already in the 2010 communication.

In order to ensure the implementation of the LMI recommendations with regard to biomass use, standardisation, public procurement and awareness-raising, a Commission expert group for bio-based products has been established. This group will also continue to contribute to the work of the *bioeconomy panel* and the *European Bioeconomy Observatory* focusing on specific topics relating to the bio-based sector.

Task force on bio-based products

The development of European standards for bio-based products is a key component of the initiative to underpin the future sustainability of the sector. For bio based polymers and lubricants technical specifications and reports are already available. Standards play a central role in developing the market by providing market players with the necessary tool to make a complete description of the products. As regards public procurement and the related standardisation, work has started on informing public purchasers and raising their awareness about bio-based products. A compilation of lists and databases of bio-based products is now available. Standardisation is in progress in different areas ranging from nomenclature, via measuring bio-based contents to sustainability assessment and certification of bio-based products.

As mentioned above, one of the key issues is to foster the cascading use of biomass at EU level. The task force will deepen this discussion within Commission departments, and in various forums (e.g. the Chemical Industry Roundtable in June 2013). The Commission's recently published *Renewable energy progress report* recognises the need for policy coherence, since there is currently a significant increase in competition for bio-resources, as bioenergy demand competes with traditional bio-based products. Other links are being developed in the context of the new EU forest-based sector strategy and the work of the EU expert group on forest-based industries.

The task force has substantially contributed to the establishment of the *European Bioeconomy Observatory* in collaboration with the Joint Research Centre, building on existing information systems. The Observatory will perform EU capacity mapping, technology watch, bioeconomy policy outlook, and market monitoring in various areas relating to the bioeconomy, together with forward-looking analyses at EU and global levels.

The task force is also contributing to the creation of the *Bio-based and renewable industries for development and growth in Europe* (BRIDGE) public-private partnership as a *Joint Technology Initiative* including an effective link with the

SPIRE[42] partnership. Concrete work on is expected to start in 2014.

2.2.4 Key enabling technologies

The Commission announced already in the 2010 communication that it would launch an initiative on key enabling technologies (KET). The current task force builds upon that initiative. The six KETs (nanotechnology, micro and nanoelectronics, industrial biotechnology, advanced materials, photonics and advanced manufacturing technologies) have applications in a number of industries such as the automotive, food, chemicals, electronics, energy, pharmaceuticals, construction, and telecommunication sectors, and more applications are expected in a variety of other industries. Depending on the particular KET, growth potential of 10 to 20 % is expected in the coming years. For particular submarkets, the growth potential is even larger.

The Commission has proposed a comprehensive long-term strategy that includes all relevant EU instruments and key stakeholders. The strategy marks a move away from individual actions towards a coordinated approach across different policy fields with the aim to boost the deployment of KETs into products. The implementation of the strategy is on-going and many actions have already been launched.

Task force on key enabling technologies

In order to leverage the funding instruments at the EU's disposal, the priorities of Horizon 2020, the Structural Funds and the European Investment Bank have been aligned to support the deployment of KETs into products and services. A memorandum of understanding with the European Investment Bank will pave the way for improved access to finance for investments in KETs.

One of the main goals of Horizon 2020 is to help capture a larger share of the rapidly expanding markets of KETs. There will be dedicated support for pilot lines and demonstrator projects in order to facilitate industrial take-up and commercialisation. A dedicated budget has been assigned to KETs. There are provisions in the new cohesion policy to foster the adoption and diffusion of KETs for the benefit of industry. The rules have been changed to make it possible to combine research and innovation funds with resources from the Structural Funds. KETs have been defined as one of the priority investment areas in which the Structural Funds can be used to finance projects that are much closer to the market, all the way to first production. This opens up wider opportunities for regions to support all the crucial stages of technology and product development. The Commission has established a Member States' group on KETs to ensure synergies and promote complementarity with national and regional KET policies.

In this context, public-private partnerships (PPPs) with a strong commitment from industry will be essential to the successful implementation of the KET strategy, as already shown by the achievements of the ENIAC joint technology initiative in the domain of nanoelectronics. They will ensure close interaction between research and innovation activities and support the cooperation of all stakeholders, including end-users, across the entire value chain. Horizon 2020 will have public-private partnerships on key enabling technologies in the sectors of nanoelectronics, photonics, advanced manufacturing, and bio-based industries.

In the memorandum of understanding signed between the Commission and the European Investment Bank, the bank agreed to reinforce its focus on close-to-the-market KET projects. Since the signature of the memorandum in February 2013, the number of projects supported by the EIB has been increasing. In the first half of 2013, EIB signatures have almost reached the lending volume of the whole of last year (EUR 2.6 bn).

The high-level group on KETs ensures smooth implementation of policy as outlined in the communication of 2012. It presented a first set of recommendations to the Commission in July 2013,[43] covering framework conditions for further industrial deployment of KETs such as skills, intellectual property, state aid (projects of common European interest) and trade issues, smart specialisation[44] and support for multi-KET pilot lines of high industrial interest in four identified

[42] SPIRE: Sustainable Process Industry through Resource and Energy Efficiency.

[43] See http://ec.europa.eu/enterprise/sectors/ict/files/kets/hlg_ket_status_implementation_report_final_en.pdf.

[44] See http://s3platform.jrc.ec.europa.eu/.

areas: smart structures, embedded energy, high performance production and industrial processes using renewable resources.

In the context of the work of the high-level group, the development of Europe-wide KET technology platforms that are open to SMEs is encouraged. Such platforms could be an excellent way to foster innovation among SMEs as SMEs often do not have the required technical knowledge or the means to test the feasibility of their ideas and projects.

As new technologies cannot be developed and brought to the market if the necessary skills are not available, a strategy is being initiated to identify skills, to assess the competencies needed, and to strengthen the partnerships between industry, academia and education systems to ensure the availability of the necessary skills. A contribution will be made by the European Institute of Innovation and Technology (EIT), as KETs will be a part of the Knowledge and Innovation Community (KIC) on added-value manufacturing. This will be a forum for interaction and for the promotion of multidisciplinary skills for combinations of key enabling technologies.

In the course of 2013, a KET Observatory will be established to provide relevant market data on the supply of and demand for KETs in the EU and other regions.[45] This Observatory will monitor the implementation of the European strategy to boost KETs deployment in Europe.

2.2.5 Sustainable construction

The construction industry, including products manufacturers and professional services, accounts for almost 10 % of EU GDP and provides about 17 million direct jobs. Besides this economic weight, the construction value chain has a vital role in reducing the EU's demand for energy and in improving resource efficiency.In 2012, the Commission presented a strategy for the sustainable competitiveness of construction.[46] In order to streamline and coordinate various initiatives currently underway at EU, national and sectoral levels with respect to the strategy, the Commission has set up in 2013 a high-level forum and five thematic groups, involving more than 150 representatives from national administrations and sector associations.

Task force on sustainable construction

The task force will take stock on the implementation of this strategy to make recommendations in seven domains:

* It will develop a common understanding of requirements for the sustainable use of natural resources in construction. This would require the screening of national building regulations in order to prepare an interpretative document on these requirements.

* It will support a pro-active policy to encourage building renovation. The Commission will follow up on the recent report on the impact of EU financial schemes on energy efficiency in buildings by communicating more effectively the financial facilities offered by EU cohesion policy funds. There is also a need to map skill needs for energy efficiency in building renovation.

* It will promote innovation to improve the performance and sustainability of the construction value chain. It will decide what issues are at stake to improve the innovation process in construction and to identify the possible initiatives to be supported within the context of Horizon 2020 and COSME.[47] It will also identify initiatives – such as SILC (Sustainable industry, low carbon) – to foster the production of resource-efficient and low-carbon raw materials used for construction.

* It will establish guidelines for the transition towards a new energy and industrial paradigm. The task force will contribute to the smart cities[48] initiative and to the new '*Connect & construct*'[49] initiative that aims to develop the smart use of information and communication technologies for the integration of services in the construction sector value chain.

45 As announced in COM(2012) 341 final.
46 COM(2012)433 final of 31.07.2012.
47 A Conference will be organised in October 2013 to discuss these issues.
48 http://setis.ec.europa.eu/implementation/technology-roadmap/european-initiative-on-smart-cities.
49 http://www.connectandconstruct.eu/aboutConnectConstruct.html

* It will develop a better understanding of the economic and regulatory issues associated with increased recycling of construction and demolition wastes in the manufacturing of construction products and other types of industrial products. The task force will first analyse two waste streams in detail: the recycling of glass and plasterboard.

* It will identify priorities for ensuring fair business opportunities for European companies vis-à-vis international competitors and for continuing and stepping up international cooperation on regulation and standards, such as the Eurocodes. It will also address the issue of access to finance and guarantees, particularly for high-risk regions or those where EU contractors suffer from unfair competition.

* It will identify priorities for ensuring fair business opportunities for European companies vis-à-vis international competitors and for continuing and stepping up international cooperation on regulation and standards, such as the Eurocodes. It will also address the issue of access to finance and guarantees, particularly for high-risk regions or those where EU contractors suffer from unfair competition.

2.2.6 Smart grids

A smart grid is an electricity network that can cost efficiently integrate the behaviour and actions of all users connected to it – generators, consumers and those that do both.[50] The technologies for deploying smart grids already exist, and a Commission mandate in the area of standardisation has helped to move this forward. The focus should now be on how to bring the already available technologies onto the market. This is the objective of the task force on industrial policy for smart grids, the new working group that was set up under the leadership of the smart grids task force.According to the 2012 communication, the task force should identify further targets for the deployment of smart grid components, revise and broaden standardisation mandates. Much of the work remains to be done.

The expert group on industrial policy for smart grids has identified, with the help of industry stakeholders, a number of areas requiring policy attention in order to speed up the deployment of smart grids and is in the process of recommending actions to be taken in these areas. This process is expected to end in September 2013, after which the expert group will move to implementation. During the last quarter of 2013 the expert group will start working on an implementation plan for its recommended policy actions in conjunction with the Member States.

Task force on smart grids

The policy actions suggested by the members of the expert group are:

* Framework to stimulate investment in smart grid projects that do not fall under TEN-E guidelines

* Action to promote investment in smart appliances

* Legislative action (Directive/Regulation) for low voltage side networks

* Addition of ‘effect on jobs’ aspect to cost-benefit analysis methodology

* Study to analyse lighthouse projects and what has already been achieved so far in this area.

2.2.7 Accompanying measures

The development of novel technologies requires changes in the skills needed by the workforce and changes the way workplaces are organised. The 2012 communication therefore stated that the Commission will promote the transformation of workplaces. To that end, the *European Workplace Innovation Network* (EUWIN) was launched in April 2013 and already consists of some 500 ‘ambassadors’. Activities are on-going in all countries and regions in Europe to gather evidence and persuade more companies to implement such organisational and related internal changes, so as to enhance their productivity and competitive position.

[50] SWD to COM(2011)202, 12 April 2011, at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2011:0463:FIN:EN:PDF.

Design is increasingly recognised as a key discipline and activity to bring ideas to the market. Though still often associated solely with aesthetics, the application of design is much broader. Analyses of the contribution of design to competitiveness show that companies investing strategically in design tend to be more profitable and grow faster. User-centred and non-technological aspects of innovation are, however, still insufficiently integrated into innovation policy and support. The Innovation Union flagship initiative made a commitment to improve this situation. In response to this commitment, the Commission set up a *European design leadership board* in 2011 which was tasked with developing proposals on how design could be more widely used to spur non-technological innovation.

One of the action points in the 2012 communication update is that the Commission will implement an action plan to accelerate the take-up of design in innovation policy. The staff working document on implementing the action plan for design-driven innovation will describe current and upcoming actions endorsed by the Commission and for promoting design-driven innovation in different policy fields.

The action lines of the plan build on the recommendations of the *European design leadership board* and on the outcome of a consultation with stakeholders. The key strategic areas for action are:

- Promoting understanding of design's impact on innovation;
- Promoting design-driven innovation in industries to boost Europe's competitiveness;
- Promoting the adoption of design to drive renewal in the public sector.

Implementation of the action plan will be supported by the European design innovation platform. This is an EU co-financed project that will provide a web-based platform for cooperation and dissemination of information along with other initiatives to promote the adoption of design as a driver for innovation.

Linking supply-side innovation policies with demand-side innovation policies is starting to receive strong support within the Commission and among Member States. Following the announcement in the 2012 communication that it would further promote demand-led innovation by launching an action plan to boost demand for innovative European goods and services, the Commission will provide support for the completion of targeted market-specific roadmaps starting in 2014 and will launch an innovation demand-side monitoring system (to be finalised in 2016) to spread knowledge about demand-side innovation policies and to facilitate mainstreaming of these policies into EU research and industrial policy.

2.3. Access to markets

European firms will have more opportunities to innovate and grow if conditions for accessing markets are favourable. The ability of the single market to work as an integrated area that is favourable to entrepreneurship and commerce is all the more important in the current context of subdued demand across the EU. Current macroeconomic governance requires countries that have to make particularly tough adjustments to rely in the short term on external demand for growth. The single market should be a key instrument to provide all European enterprises with an opportunity for doing business. Also, many of the efficiency gains brought about by technological innovation are due to interconnectivity and networked operations. Such efficiencies will be all the greater if they can take place on a European scale within a favourable regulatory framework.

2.3.1 Improving the internal market for goods

As announced in the 2012 communication, the Commission has adopted a proposal on product safety and market surveillance, which includes two proposals for Regulations and a multi-annual plan for market surveillance. This package will allow better coherence and improve coordination amongst national surveillance authorities, to the benefit of both consumers and companies. The proposal,

following a commitment made in the industrial policy communication of 2010, also include measures to improve the traceability of consumer products throughout the supply chain and an obligation on manufacturers and importers to ensure that products bear an indication of the country of origin of products.

The Commission performed a thorough evaluation of the single market legislation for industrial products. The results of the public consultation and the recommendations of the final report on the evaluation provide a complete picture of the status quo of the single market for products and allow the Commission to prepare a r*eview of the single market for industrial products* as envisaged in its work programme 2013.

In order to improve the regulatory framework for industry and better take into account costs and benefits of EU regulations on specific industrial sectors, the Commission launched as announced in the 2012 communication a fitness check for the petroleum refining sector, to be completed in 2014, and cumulative cost assessments for the steel (already completed) and aluminium sectors (to be completed in 2013). These industrial sectors have in common their strategic importance in the European industrial value chain and the fact that they are directly impacted by relatively high energy prices in Europe.

As announced in the 2012 communication, a high-level group on business services was set up in March 2013. The group is focusing on innovation, internationalisation, skills, single market rules and other regulatory instruments. The group will examine these themes in sectors such as technical and engineering services, marketing and advertising, private security services and design. The business services sector has been identified as having a great deal of untapped potential and the high level group should impart a new impetus to policy development by identifying ways to improve the level of productivity and innovation of business-services. The recommendations also look at how to improve the interaction between business services and manufacturing. The group will finish its work and deliver its report in March 2014.

2.3.2 Fostering entrepreneurship

Entrepreneurs and SMEs are the driving force of European economic growth and job creation. As many as 85 % of new jobs in the private sector are created by SMEs and more than 4 million new jobs are created by newly founded businesses. However, according to the latest 'Eurobarometer' on this topic, only 37 % of Europeans today prefer being self-employed or running a business to being a paid employee. As a comparison, the figure is 51 % in the US, 56 % in China – and it was 45 % in Europe just three years ago.

In order to unleash Europe's entrepreneurial potential, the Entrepreneurship 2020 action plan was adopted by the Commission in January 2013. It is based on three pillars:

- Entrepreneurial education and training to support growth and business creation, to give our young the necessary entrepreneurial knowledge and skills and educate the future generations of entrepreneurs;
- Creating an environment where entrepreneurs can flourish and grow; where the public administration ‘effectively helps entrepreneurs or gets out of their way’;
- Promoting role models and reaching out to specific groups whose entrepreneurial potential is not being tapped to its fullest extent or who are not reached by traditional outreach for business.

Examples of key actions include introducing entrepreneurial education throughout Europe, promoting digital entrepreneurship and smart use of digital technologies by SMEs and strengthening their e-skills and e-competences, and reducing the regulatory burden for SMEs. Special support initiatives have been launched, such as a European mentors’ network, reaching out to and including specific groups in entrepreneurship support and development (women, seniors, migrants, unemployed and young people). Other measures include the digital entrepreneurship monitor, a tool to monitor emerging digital trends and new business opportunities, and measure progress at pan-European level, a pan-European awareness and media campaign for entrepreneurs on new business paradigm shifts empowered by digital technologies and the creation of a European e-mentors

ecosystem, bringing together potential entrepreneurs, mentors, role models and investors to spark, support and expand new business ideas in the digital era

2.3.3 Intellectual property

In the industrial policy communication of 2010 the Commission invited the Council and the European Parliament to adopt as a matter of urgency the proposals for an EU patent and a unified patent litigation system to allow the first patents to be issued in 2014. In October 2012, the Commission stressed the need to ensure that the intellectual property framework serves the needs of the new economy, in particular the need for open and collaborative innovation. Patents are key rights for collaborative innovation.

Significant progress was made since the communication: the unitary patent package consisting of two Regulations implementing enhanced cooperation in the area of the creation of unitary patent protection and with regard to the applicable translation arrangements, and an international agreement among Member States setting up a specialised patent jurisdiction (the '*Unified Patent Court'*) common to the Member States have been approved. The two Regulations were adopted by the European Parliament and the Council in December 2012. The Unified Patent Court agreement was signed in February 2013 by 24 member states with one more joining in March 2013. For the whole package to be operational, the Unified Patent Court agreement needs to be ratified by 13 Member States, including the three with the highest number of European patents.

The use of patents in Europe is extensive. According to the latest data available, patent applications at the European Patent Office have made a rebound growing by a rate of 4 % on an annual basis in 2012 compared to a decrease of 5.5 % the year before. Most of the increase should be ascribed to non-European applicants as applications from Europe grew by only 0.9 %. However, this figure hides steady growth from large countries such as Spain, France and Germany and two-digit growth rates from a number of countries in central and eastern Europe, notably Estonia, Lithuania, Poland and Romania.

Still, the maze of national patent systems and the lack of a unitary protection throughout Europe make the life of EU innovators complicated. The work on the unitary patent and the unified patent litigation system in Europe will reduce costs and the fragmentation of patent protection in the single market. In view of the progress already achieved, the Commission believes that the first European patent with unitary effect could be granted already in early 2015.

The Commission announced in 2012 that it is examining the very fragmented legal framework for trade secrets protection. Following a study completed in 2012 and a public consultation in spring 2013, the Commission is continuing to examine whether existing differences in national approaches to protect confidential business information against misappropriation may undermine the smooth functioning of the single market. A legislative or non-legislative initiative is scheduled in the Commission's work programme for 2013.

The Commission committed itself in 2012 to considering measures that can contribute to increase transparency and improve the treatment of intellectual property rights (IPR) in standardisation and it has started together with industry to review the current framework for transfers of standard-related patents. The Commission is closely cooperating with patent offices, standard setting bodies and companies active in standardisation. It is also maintaining and will step up the dialogue with its counterparts in the US to provide industry with more global solutions where appropriate.

The Commission is following the development on the most critical points of the current framework for licensing standard-related patents, such as the conditions for transferring ownership of standard-essential patents, the conditions for the use of injunctive relief in these patents, the use of alternative dispute resolution mechanisms for disputes, the transparency of declarations of such patents and the further clarification of fair, reasonable, and non-discriminatory licencing terms.

Work is also progressing in the area of pro-competitive patent pools which can reduce transaction costs and overcome the problem of royalty stacking. The Commission has consulted stakeholders on the idea of creating an antitrust safe

harbour for such patent pools and in line with the broad support received will consider adopting new rules in early 2014 in the context of its reform of the antitrust rules for technology transfers.

A further area of intensive work is transparency surrounding standard-essential patents. Such transparency is a crucial pre-condition for smooth licensing and minimising transaction costs, such as search costs. In its push for more transparency the Commission announced in 2012 that it will foster cooperation between patent offices and standard setting organisations including initiatives such as patent landscaping and database linking.

Lastly, the Commission initiated in 2012 a wide-ranging fact-finding exercise, aimed at identifying further areas where the current framework governing IPRs in standardisation could possibly be improved. A study has been commissioned and will bring results in late 2013. This work will feed into the independent review of the European standardisation system which the Commission will launch by the end of 2013.

In 2012 the Commission announced that it would work on possible options to make it efficient and less costly for business and research bodies to invest in, license, transfer and share valuable knowledge and information throughout the single market. A report was issued in January 2013 and a high-level expert group is working on the development of a comprehensive policy approach to open innovation and knowledge transfer. The group will deliver a final report in November 2013.

A study is underway that will provide an international comparison and analysis of the impact of patent costs on the exploitation of R&D results by SMEs, universities and public research organisations.

The Commission announced in 2012 that it would consider the most appropriate IPR valuation methods and the relationship between the IPR market and the appropriate valuation and disclosure of IPR in accounting. An expert group for intellectual property valuation will issue a report at the end of 2013.

Counterfeiting is a commercial threat to legitimate business and can result in health and safety risks to consumers. According to the report on customs enforcement produced by the Commission for 2011 the volume of illegal products is on the increase and the danger is becoming more and more evident worldwide. Industries suffer huge economic losses; according to customs enforcement data, almost 115 million suspect articles were stopped at the EU's borders in 2011. The estimated value of the equivalent genuine products was over EUR 1.2 billion.

In order to strengthen the legislative framework and facilitate the enforcement of IPR at the borders, a new customs Regulation was approved and will be applicable from January 2014. It will bring more clarity and efficiency to the procedure and make the rules friendlier towards right holders.

In the 2010 industrial policy communication, the Commission indicated that it would set out its future action to enhance the enforcement of intellectual property rights, including in particular an initiative to strengthen the *European Observatory on Counterfeiting and Piracy*.

In June 2012, a Regulation[51] entered into force entrusting the Office for Harmonisation in the Internal Market (OHIM) with tasks relating to the enforcement of intellectual property rights, including bringing together public and private-sector representatives as a European observatory on infringements of intellectual property rights. Currently the multiannual plan 2014-18 for the observatory is being discussed.

The Commission is also drawing consumers' attention to the economic losses, potential job losses and health and safety risks linked to counterfeiting through a broad awareness campaign: *'Too good to be true: the real price of fake products'* under the patronage of Vice-President Antonio Tajani. The campaign is a call for action and co-operation with national authorities engaged in IPR protection, including national customs. It targets consumers as they are the most vulnerable part of the trade chain and most exposed to health and safety risks.

[51] (EU) 386/2012.

2.3.4 The internationalisation of EU firms: exports as a driver of growth

Industrial exports to the rest of the world have been the main factor alleviating the impact of the crisis. Internationalisation of EU firms is a major objective of our industrial policy. In a very depressed economic context, net exports have been the most dynamic component of EU GDP growth since 2010 and in fact the only positive one both in 2012 and 2013.

As highlighted by the communication '*Small Business, big world: A new partnership to help SME's seize global opportunities*",[52] and by the 2010 and 2012 industrial policy communications, fostering the internationalisation of firms means:

- Implementing an ambitious and wide-ranging trade and investment agenda, and ensuring that effects on industrial sectors are fully taken into account when identifying objectives and assessing different outcomes (e.g. competitiveness proofing of trade negotiations mandates);
- Ensuring a level playing field throughout the world for EU companies, not least by fighting trade and investment barriers and using whenever necessary trade defence instruments, which the Commission has recently proposed reforming;
- Fostering further integration of EU companies in global value chains, in particular by ensuring that the EU is an attractive location for inward foreign direct investment;
- Promoting the internationalisation of SMEs, including through 'Missions for growth' around the world and with specific support such as that provided by the IPR SME helpdesks.

An industry-friendly trade and investment agenda

The Commission is currently implementing a very ambitious trade and investment agenda. While the WTO talks are deadlocked, the focus has switched to bilateral negotiations, which now involve the three largest national economies in the world, the United States, China and Japan.

- Negotiations for a transatlantic trade and investment partnership (TTIP) with the United States were launched in June 2013. It is estimated that an agreement could see EU exports to the US (EUR 292 billion. in 2012) rise by 28 %.
- The Commission proposed in May 2013 launching negotiations for an investment agreement with China. Such an agreement could be the first of its kind following the new competencies for investment granted to the EU by the Lisbon Treaty.
- In April 2013, negotiations for a free trade agreement (FTA) were launched with Japan.
- Negotiations were concluded with Singapore, are almost completed with Canada, and are progressing with India and with other economies such as Malaysia, Thailand or Vietnam.

The Commission is delivering on its commitment, as announced in the 2010 industrial policy communication, to better assess the impact of trade negotiations on industrial competitiveness (competitiveness proofing). The impact assessments with a view to the negotiations with the United States and Japan both include estimates of the sectoral impact and provide important pointers to identify *ex ante* the most suitable outcome.

For example, while the impact assessment for the Japan FTA suggests that the motor vehicles sector in the EU could be adversely affected by a possible agreement, it also stresses the need to be extremely ambitious regarding the removal of non-tariffs barriers such as technical regulations and standards in order to neutralise these negative impacts.

Consequently, the mandate for the negotiations includes the principle of strict and clear parallelism between the elimination of EU duties and non-tariff barriers in Japan and an unprecedented review clause that allows the Commission, one year from the start of the negotiations to take stock of progress made by Japan in removing non-tariff barriers and possibly suspend the negotiations as a result.

[52] COM (2011)702.

Ensuring a level playing field throughout the world

Trade agreements are fundamental to providing EU industry with a level playing field, but they usually take years to complete and to deliver their impact. This is why it remains fundamental on a day-to-day basis to defend and uphold EU companies' rights, among other things by pursuing a pro-active market access strategy, constantly fighting against trade and investment barriers and combating unfair trade practices such as dumping and subsidies.

Enforcing trade agreements can involve, as a last resort, using the WTO Dispute Settlement Body. The EU has launched 32 offensive cases since 2001 including recently against China's restrictions on exports of rare earths and against Argentina's restrictions on imports. As acknowledged by the 2013 report on trade and investment barriers, progress is still required in many areas, including investment barriers in China and a number of protectionist measures in Brazil.

The Commission has stepped up its fight against dumping and subsidies as highlighted by some recent cases and the proposal it put forward in April 2013 for a reform of trade defence instruments. This proposed modernisation should make these instruments more effective and also, as promised in the 2010 industrial policy communication, more accessible to SMEs.

Promoting the internationalisation of firms

On SME internationalisation there is some evidence of progress although there are no new data on number of SMEs exporting beyond the EU. The Commission is increasingly giving pro-active support to EU industry's internationalisation, and is favouring contacts, dialogue and cooperation with non-member countries. SME internationalisation support projects are established in China, India, Japan and Thailand. More such projects are in preparation in a number of ASEAN countries.

Commission-led 'Missions for Growth' are a key example of such pro-active support. The goal of these missions is to strengthen cooperation between the EU and other countries and regions of the world by combining political meetings with a business dimension dealing with enterprise and industry policy issues. Between December 2011 and July 2013, 'Missions for Growth' took place in 12 different countries (Chile, Brazil, Argentina, Uruguay, Mexico, Colombia, Peru, Morocco, Tunisia, Egypt, Russia and China), with the participation of more than 300 EU companies representing a wide range of sectors and with a specific focus on SMEs.

Increasing the internationalisation of SMEs beyond EU borders is an important target to render the EU economy more stable and resilient. It is a key feature of the international dimension of our industrial policy. When SMEs launch their internationalisation process (through trade or investment), they require assistance to protect and enforce intellectual property rights. This is the role played by the China IPR SME helpdesk since 2009. Following the 2012 communication, a similar SME support desk has been established for the ASEAN region and it will be followed by a third helpdesk for South American countries to be launched before the end of this year.

2.4. Access to finance

Despite the expansionary monetary policy pursued by the ECB, the supply of credit, particularly to SMEs, has not fully recovered. The growth of loans to non-financial corporations is well below historical level and companies, especially SMEs in those Member States worst hit by the crisis, are facing tighter lending conditions. This is due to market fragmentation, continued deleveraging of the financial sector, the link between sovereign and bank risk, economic uncertainty and the low level of demand in the economy. There is a substantial amount of unsatisfied demand for credit in these countries reflecting tougher bank lending conditions. The increase in non-performing loans in many countries is also both a testament to the difficulty faced by firms and a cause for further credit tightening.

Therefore, even if monetary easing by the ECB has been significant, transmission of the monetary policy by the banking system is not working

effectively, as was already highlighted in the 2012 communication.

Because of their traditionally high dependence on bank credit, the banking crisis is having a heavy impact on many European firms and especially on SMEs, while alternative sources of funding remain underused. Thus, broadening the choice of funding sources available to firms appears a necessary strategy not just to ensure access to capital, but also to sustain the growth of SMEs.

The 2012 communication paid special attention to the role of the public sector in facilitating access to finance for entrepreneurs and to the diversification of potential sources of finance for firms. One goal was to leverage the funds of the EIB and the Structural Funds to attract private capital. Also, the communication called for the development of alternative instruments in the fields of private equity, project bonds and venture capital with an emphasis on facilitating cross-border operations.

The chapters below describe a series of European initiatives in that direction that have been implemented.

2.4.1 EU financial measures to facilitate access to capital

Covering the timeframe 2014-20, the new *Programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises* (COSME) will replace the current *Competitive and Innovation Programme* (CIP) as a dedicated fund to promote the competitiveness of enterprises and especially SMEs.

Measures to improve SME access to finance include an *Equity Facility* and a *Loan Guarantee Facility*. The Equity Facility will provide SMEs with commercially-oriented reimbursable equity financing primarily in the form of venture capital through financial intermediaries. The Loan Guarantee Facility will provide SMEs with direct or other risk-sharing arrangements with financial intermediaries to cover loans. The COSME instruments will be supplemented by the Horizon 2020 research programme instruments for financing research and innovation. The proposed budget of COSME is over EUR 2 billion (in 2011 prices), with more than half of this budget allocated to financial instruments. In addition, the European Agricultural Fund for Rural Development (or European Structural and Investment Funds in general) offer possibilities for development and support to national/regional financial instruments, which target SMEs.

The European Investment Bank (EIB) Group will provide EUR 15.8 billion of financing to SMEs via loans and guarantees each year during the bank's 2013-15 business plan, equivalent to approximately a quarter of its total lending. It is expected that EUR 14 billion or 89 % of this SME support will be delivered through intermediated loans via partner banks.

In order to respond to the increased urgency of facilitating SMEs financing, the Commission and the EIB presented a joint report for the European Council of June 2012,[53] setting out three concrete options for restoring normal lending to the real economy. The thrust of this approach is in developing joint risk-sharing mechanisms by combining resources from COSME, the EU Structural and Investment Funds (ESIF), the EIB and the European Investment Fund (EIF). The report proposes a mechanism to securitise SME loans under a joint guarantee instrument. The options vary in term of the scope of loans covered and the range of the pooling, with a higher degree of pooling requiring more Member State involvement. The potential leverage would vary between EUR 55-58 billion and up to EUR 100 billion.

2.4.2 Initiatives relating to banking and alternative channels

In March 2013 the Commission issued a green paper that launched a public consultation on how to foster the supply of finance for long-term investment and how to improve and diversify the system of financial intermediation for long-term investment in Europe. One section of the paper was devoted to SME access to bank and non-bank financing. It asked for views on the fostering of venture capital markets, dedicated markets and networks, new securitisation instruments, standards for credit scoring assessments, and whether other 'non-traditional' sources of finance should be

[53] Joint Commission-EIB report to the European Council, 27-28 June 2013, http://ec.europa.eu/europe2020/pdf/eib_en.pdf

promoted such as leasing, supply chain finance, or internet-based sources of funding such as crowdfunding.

The Regulation and Directive translating the latest international bank capital requirements into EU law will be applicable as from January 2014. The new more restrictive capital requirements will not apply to loans granted to SMEs up to an amount of EUR 1.5 million since the new rules will introduce a reduction in the capital charges for exposures to SMEs. This will provide credit institutions with an appropriate incentive to increase the credit available to SMEs.

The new EU venture capital framework has been applied since July 2013. It created a genuine single market for venture capital funds as it enables venture capitals to operate more efficiently within the Union. Fund managers are able to have a European passport and market their funds across the EU.

In order to make SME markets and listed SMEs more visible, the Commission has included in its proposals for the financial markets an SME growth market label in the EU capital markets legislation. The prospectus regime has also been made more efficient[54] through the implementation of a proportionate disclosure regime for SMEs and small caps by reducing administrative burdens for such types of issuers where they were considered to be disproportionate.[55] The amendment of the accounting and transparency Directives will simplify and improve accounting rules for SMEs and reduce the regulatory burden for small issuers.

The 2011 Directive on combating late payment in commercial transactions is due to have been transposed into national legislation since March 2013. The aim of the Directive is to reduce late payments by setting maximum deadlines for payment. These measures are designed to reduce the vulnerability of SMEs to late payment and thereby place them in a better financial position.

54 Directive 2010/73/EU of the European Parliament and of the Council of 24 November 2010 amending Directives 2003/71/EC on the prospectus to be published when securities are offered to the public or admitted to trading and 2004/109/EC on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market, OJ L 327, 11.12.2010, p. 1.
Commission Delegated Regulation (EU) No 486/2012 of 30 March 2012 amending Regulation (EC) No 809/2004 as regards the format and the content of the prospectus, the base prospectus, the summary and the final terms and as regards the disclosure requirements, OJ L 150, 9.6.2012, p. 1.

55 The reduction of disclosure requirements has been carefully calibrated in order to reach the right balance between the reduction of the administrative burden for the issuers and the need to preserve a sufficient level of investor protection not to discourage potential investors from investing and not to hinder confidence in relation to the issuer. The proportionate disclosure regimes have also taken into account the amount of information already disclosed to the markets.

2.5. Human capital and skills development

Both the 2010 and 2012 industrial policy communications[56] pointed to the skill mismatches hampering growth and employment and argued that investment in education and training is also investment in innovation. In fact, much technological change results from incremental innovations by skilled workers and engineers on the factory floor.

The 2012 communication presented a number of accompanying measures to create jobs and increase investment in human capital and skills. With special focus on the six priority action lines identified in the 2012 communication, the Commission has been working to ensure that the necessary skills are available for the development of production and markets with a high potential for boosting growth and employment. Some of the initiatives have also helped to bring together a wide spectrum of relevant stakeholders and to build consensus on key issues and the way forward. Overall, several key measures have already been adopted, including new initiatives to address youth unemployment, while others are well under way.

For example, in November 2012 the Commission adopted the communication *'Rethinking Education: Investing in skills for better socio-economic outcomes*'. The communication makes the case for immediate action and investment in education and training focusing on learning outcomes and areas, such as education for entrepreneurship and better partnerships between education, business and research.

Moreover, the *EU Skills Panorama* was launched in December 2012, providing a single access point to data, information and intelligence on skills trends in occupations and sectors at national and EU levels. It will help improve the response of education and training systems to changing skill trends and to ensure that people are equipped for those areas where job demand is set to increase.

On the *validation of non-formal and informal learning*, the Commission proposed a Council Recommendation, which was adopted in December 2012. It invites Member States to have in place no later than 2015 national systems for the validation of skills and competences gained outside school or university. The aim is to increase job opportunities in particular for the young unemployed and those with few formal qualifications such as older and low-skilled workers.

The Commission also supports several instruments such as *Ploteus*, *Euroguidance* and the *European Lifelong Guidance Policy Network on* educational counselling, vocational guidance and career orientation, which are crucial for addressing skills mismatches.

On high-level skills, the Commission has taken several initiatives to develop the skills and careers of researchers in view of combatting existing mismatches. Building on the Marie Curie Actions of the 7th Framework Programme (2007-13), the *Marie Skłodowska Curie Actions (MSCA)* in the Horizon 2020 will support excellence in research with top-quality international, inter-sectorial and interdisciplinary training that fosters innovation skills. The *EURAXESS Jobs portal*, which facilitates matching skills with available jobs, has grown to over 10 000 job offers and fellowships for researchers in industry and academia and over 20 000 CVs posted by researchers.

A new tool that the Commission is coordinating in collaboration with stakeholders is the development of the *European Skills/Competences, Qualifications and Occupations (ESCO)* classification, which will go live in autumn 2013. It will enable online job tools to match people with jobs across all EU Member States and be of benefit to labour market and education and training stakeholders, along with other interested parties.

In addition, the Commission adopted in November 2012 a decision reforming the *European Job Mobility Portal* (EURES)[57], which is due to be implemented by January 2014. It will make it easier for jobseekers to contact employers looking for particular skills, to focus on sectors and occupations

[56] COM(2010)614 and COM(2012)582.

[57] https://ec.europa.eu/eures/home.jsp?lang=en.

with skills shortages and to support targeted mobility schemes for young people.

The transition from education to work was a central theme of the *Youth Employment Package*, which proposed two specific initiatives to facilitate this transition: the European Alliance for Apprenticeships,[58] launched in July 2013, and the Quality Framework for Traineeships.

The Commission has also adopted in June 2013 a *communication on youth unemployment* urging the Member States and the private sector to step up measures to get young people back into work, education or training without delay.

As regards structural change, the Commission is committed to improving the anticipation and management of restructuring operations, in particular through targeted action at sector level. As mentioned in the CARS 2020 communication of November 2012, a *European Automotive Skills Council* will be set up in 2013. It will bring together existing national organisations conducting research on skills development and employment in the automotive sector. Similar initiatives are planned for the construction and steel sectors.

Following the January 2012 Green Paper on restructuring and anticipation of change, the Commission will also propose a *communication on a quality framework on restructuring* presenting best practices in this field.

In the area of vocational education and training, a call for pilot proposals for a new initiative, *Sector Skills Alliances*, was launched in 2012 in five economic sectors: the automotive industry, the aeronautic industry, health and social work, energy saving including sustainable construction, and tourism and catering. Four proposals, one from each sector except for aeronautics, have been selected and work started in 2013.

Following the success of the *Knowledge Alliances* pilot calls in 2011 and 2012, the call for proposals on Knowledge Alliances in 2013 was organised as part of the Lifelong Learning Programme with a budget of around EUR 5 million. The Knowledge Alliances are designed to provide structured partnerships for collaborative projects between higher education and the business/industrial sector.

On the specific and crucial area of e-skills, the Commission launched in March 2013 a *Grand Coalition for Digital Jobs*[59] to address up to 900 000 job vacancies expected to exist in Europe by 2015. Its aim is to increase the overall supply of digitally skilled professionals and to better match the supply of and demand for digital skills.

BUILD UP Skills[60] is a new strategic initiative under the Intelligent Energy Europe (IEE) programme to boost the education and training of craftsmen and other on-site construction workers and systems installers in the building sector. It addresses skills in relation to energy efficiency and renewable in all types of buildings.

As Europe struggles to overcome the biggest economic crisis in its recent history, it has become ever more imperative to convert the potential of an increasingly higher-skilled workforce into job-rich growth. Along with a substantial pool of idle workers finding it difficult to get a job, the skills of about a third of the European workforce are currently under-utilised.[61] At the same time, employers in Europe continually draw attention to skill gaps and shortages that constrain their productivity and competitiveness. Efficient implementation and enhancing synergies between EU-led actions and Member States' industrial policies in the area of human capital and skills are therefore crucial components in the overall delivery of the EU Industrial Policy Strategy and in reversing the declining industry trend from the current 15.1 % of EU GDP (Q1 2013) to as much as 20 % by 2020.

58 http://ec.europa.eu/education/apprenticeship/index_en.htm

59 http://ec.europa.eu/digital-agenda/en/grand-coalition-digital-jobs-0.

60 http://www.buildupskills.eu/en/about.

61 SWD(2013)2 final – Volume VIII/IX, Employment and Social Developments in Europe 2012.

3 Overview of progress by policy area in Member States

Member States are continuously implementing reforms. In the area of 'Business environment and entrepreneurship", 771 reforms took place in the EU in the period 2001-08 and 351 in the period 2009-11. Hence national reforms have accelerated since the crisis from about 100 per year in the first period to about 120 per year in the second.

Yearly average number of Member States reforms in business environment and entrepreneurship

	Annual average 2001-08	Annual average 2009-11	Change in%
Administrative regulation	35.3	44.7	26.7%
Access to finance	8.5	25.0	194.1%
Business support services	15.4	14.3	-6.8%
Business taxation	12.6	11.3	-10.2%
Reducing administrative burdens for start-ups	8.0	8,0	0.0%
Access to finance for start-ups	10.3	5.0	-51.2%
Efficiency of the legal system	2.9	4.3	50.7%
Rules for a second start	2.1	3.7	72.5%
Transfer of ownership	1.4	0.7	-51.5%
Total	**96.4**	**117.0**	**21.4%**

Source: MICREF database of the Commission (Database tracking microeconomic reforms in the Member States developed by the European Commission. In the database, reforms are organised in three broad policy domains: Open and competitive markets, Business environment and entrepreneurship and Knowledge-based economy.)
See: http://ec.europa.eu/economy_finance/db_indicators/micref/index_en.htm

Over a third of the reforms concern administrative regulation (which includes measures to rationalise and reduce costs, improve quality and promote e-government) and this has increased slightly over the two periods. The big change concerns measures to improve access to finance. While generic measures improving access to finance have increased markedly after 2008 (about 20 % of total in 2009-11 against less than 10 % before 2008), measures aimed at improving access to finance for start-ups have seen a relative decline (about 10 % prior to 2008, falling to half this percentage afterwards). This signals the shift of attention in Member States from financing growth and innovation to easing the overall financing of businesses in a context of tightening bank credit (for instance through guarantee schemes). This shift away from support for innovation in a broad sense can also be seen in the relative decline of measures aimed at reducing the administrative burden for start-ups. Other areas where reforms remain scarce are improving the efficiency of the legal system (less than 5 %) and transfer of ownership (1 %). The increased attention on rules for a second start since 2009 can also be explained by the on-going structural change.

3.1. Innovation and sustainability

3.1.1 Innovation

3.1.1.1 Main trends in innovation in 2012-13

Successful investment in research and innovation drives long-term productivity and economic growth. It also fosters structural change towards high value-added and knowledge-intensive economic activities. The EU produces high-quality science, and has many competitive and innovative industries. It captures the largest share (25 %) of income generated in global manufacturing value chains.[62] The EU is continuing to improve its innovation performance and has closed almost half the innovation gap with the US and Japan.[63] Meanwhile, China is rapidly catching up and South Korea has already become a global innovation leader.

Within the EU, most Member States have improved their innovation performance since 2008. However, nine countries[64] have become less innovative since the launch of the Europe 2020 Innovation Union flagship initiative in 2010. The convergence process has come to a halt, signalling the risk of an innovation divide within the EU.[65]

The EU has maintained its strategic target of investing 3 % of GDP in research and development (R&D) by 2020. Although the total spending on R&D increased from 1.85 % in 2007 to 2.03 % in 2011, it has stagnated since 2009. The US invested 2.7 % and South Korea 3.74 % of GDP in R&D in 2011, with the latter targeting 5 %. Japan aims for 4 % by 2020 and reached 3.67 % in 2012, while China's higher level of investment in recent years has taken it to 1.97 %.

Although public R&D investment in Europe held steady in the early years of the financial crisis, it fell slightly in 2011. Despite the difficult economic outlook, R&D investment by businesses grew from 1.18 % of GDP in 2007 to 1.27 % in 2011. However, there are large differences between Member States, and between industries. If we compare against global competitors, US businesses invest more than their EU counterparts, while the public R&D expenditure of the EU and the US are roughly at the same level.[66] Venture capital markets in particular, which are essential for the growth of new innovative firms, are generally less developed in Europe than in the US.

Public R&D spending in Sweden, Germany, Denmark, Finland and the Netherlands was high, at around 1 % of GDP in 2011. The same countries plus Austria and Slovenia saw high levels of private R&D investment, which is crucial for competitiveness, at around 2 % of GDP. Although Finland reduced its public R&D investment, it still had the highest R&D intensity in the EU (3.78 %) in 2011. Denmark exceeded its 2020 target of 3 %. Germany is approaching its target (3 %), and it has been recommended to increase it to 3.5 %.[67] R&D investment in France and Italy has not grown and was at 2.25 % and 1.25 % respectively in 2011. Spain and Portugal have seen a slight decline to around 1.3 % and 1.5 %. Private R&D investment has fallen since 2007 in the Netherlands, Luxembourg and Romania.

For many Member States with less developed R&D systems, European structural and investment funds offer a major and stable source of R&D funding. In Greece the crisis has affected innovation budgets only slightly, and the country finds it difficult to absorb all the available funding. The aim of the new smart specialisation strategies under the European structural and investment funds is to align the priorities for the 2014-20 programming period with

62 Figure from 2011, 'State of the Innovation Union 2012: Accelerating change"; and WIOD database.
63 Innovation Union Scoreboard 2013.
64 UK, PL, CZ, HU, PT, RO, EL, BG ,MT.
65 For a detailed analysis, see EC (2013), 'Research and Innovation performance in EU Member States and Associated countries, Innovation Union progress at country level, 2013", http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf.
66 Funding Research and Innovation in the EU and Beyond 2010-12.
67 Expertenkommission Forschung und Innovation http://www.e-fi.de/gutachten.html.

investment objectives under the EU industrial policy.

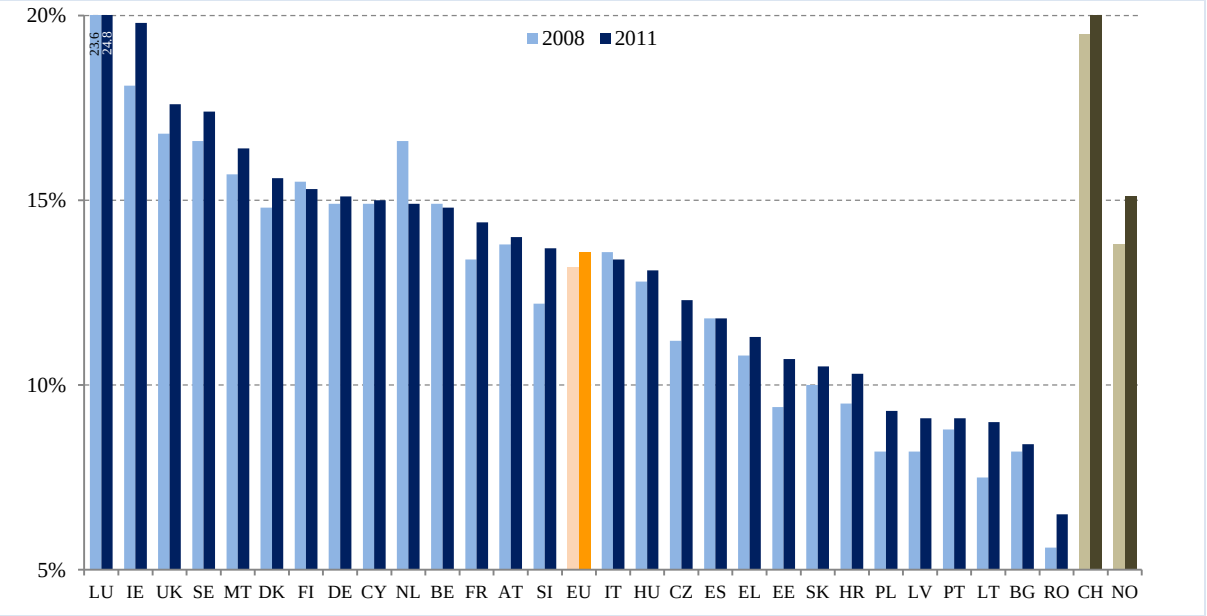
A strong entrepreneurship culture and access to venture capital are crucial for the growth of new businesses. Only the UK, Sweden, Finland, Denmark, the Netherlands, France and Belgium have reasonable venture capital markets (investment of around 0.1 % of GDP in 2012).

There were no major shifts in innovation policy in the EU in 2012 despite R&D policies being under budget pressure. Many Member States have focused on getting more value out of research and innovation investment, including by prioritising by theme or sector. Such policies emphasise better commercialisation of knowledge, science-business partnerships, and unlocking businesses' growth potential. At the same time, they help create synergies by linking innovation with broader policies on entrepreneurship, the business environment, education and skills.

3.1.1.2 *Improving innovation output and policy implementation*

Many Member States have focused their research and innovation policies to try to have the greatest effect on growth and job creation. There are large differences between Member States: Germany, Denmark, Finland, Ireland and Sweden have been able to benefit most from innovation.

Figure 3.1: Employment in knowledge-intensive activities (manufacturing and services) as % of total employment



Source: Innovation Union Scoreboard 2013

The share of knowledge-intensive employment in manufacturing and services has risen since 2008 in a majority of Member States. This reflects the relative resilience of knowledge-intensive jobs in times of recession, while sectors with lower added value saw weaker activity and higher unemployment. [68]

One of the tools to improve the effectiveness of national innovation systems is to monitor and evaluate them. Several Member States, including Austria, Belgium, Denmark, Estonia, France, Romania, Slovenia and the UK have recently evaluated some aspects of their innovation systems. Although Sweden performs very strongly in innovation, an evaluation[69] identified the 'Swedish paradox', whereby high R&D expenditure is not

[68] Innovation Union progress at country level 2013, http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf#view=fit&pagemode=none.

[69] Ett ramverk for innovationspolitiken, 2012; Braunerhjelm, Eklund, Henrekson.

being fully translated into high levels of growth. In Denmark, businesses think that the innovation support system is too complex.[70] The evaluation of the French 'Competitiveness clusters 2.0'[71] noted its positive impact on innovation in SMEs. The evaluation[72] recommended strengthening the role of the regions and focusing the next cluster policy even more closely on SMEs. Finland is implementing recommendations set out in the report of a high-level group on information and communication technologies (ICT) competitiveness ('Frictionless Finland').

Policy example: Denmark's new national innovation strategy

In 2012, Denmark initiated its new innovation strategy '*Denmark — a nation of solutions*'. Its main objective is to translate Denmark's knowledge and business strengths into more jobs, growth and welfare, and to make the national R&D system simpler and more flexible. It supports a more goal-oriented approach by targeting innovative solutions to global societal challenges such as the green economy. With 27 policy initiatives in research, innovation and education, the strategy promotes better collaboration between science and industry, both at home and abroad. It is also looking to achieve a cultural change within the education system, putting a greater focus on innovation and value creation.

The assessment of Estonia's research and innovation policies has found them to be fragmented, and the government has committed to focus its efforts using smart specialisation.[73] The review of Slovenia's innovation policy highlighted the absence of a long-term policy, which gives rise to a lack of continuity in innovation support and to multiple measures with overlapping objectives.[74] In the Netherlands, specific innovation subsidies have been largely transformed into generic R&D tax incentives,[75] including tax deductions for the wages of R&D workers. The evaluation[76] of this scheme noted the positive impact it has had on private R&D expenditure, with a successful focus on SMEs. Italy has established a new framework[77] to support innovative start-ups, with evaluation parameters built in.

Policy example: Finland's evaluation of SHOKs

Finland has six public-private partnerships called *Strategic Centres for Science, Technology and Innovation* (SHOKs). These aim to cultivate breakthrough innovation, for instance in the bio-economy, forestry and health. The centres were evaluated in 2013 and the conclusion was that, so far, they have not fully lived up to their promise.[78] The managers of the centres (private companies) are taking steps to sharpen the centres' focus, enhance networking and competition for funding.

Improving coordination, in particular between federal and regional authorities can improve efficiency and Austria, Spain and Belgium have taken steps in this direction.

3.1.1.3 Prioritising R&D investments and rationalising innovation support

To increase the efficiency of their innovation support, many countries have reduced the number of funding instruments to prioritise certain sectors, themes or specific technologies. While only 31 % of support measures in 2012 had a thematic or sector-specific focus, most Member States increased their focus, with 66 % prioritising energy, 55 % ICT, 55 % sustainable development and 50 % new materials and technology.[79]

Many Member States, including Denmark, Finland, Germany, Sweden and the UK as well as the Flemish region of Belgium, have shifted the orientation of their innovation policies towards meeting societal challenges. Specifically

70 ERAC, 2012.
71 Les pôles de Compétitivité 2.0 was implemented in 2009-2012 and supported 71 clusters.
72 http://competitivite.gouv.fr/l-evaluation-de-la-2e-phase/le-rapport-complet-de-l-evaluation-888.html.
73 ERAC, 2012.
74 OECD, 2012.
75 http://www.agentschapnl.nl/programmas-regelingen/wbso-research-and-development-rd-tax-credit.
76 http://www.rijksoverheid.nl/documenten-en-publicaties/rapporten/2012/04/02/hoofdrapport-evaluatie-wbso-2006-2010.html.
77 Innovative start-ups are companies that: invest more than 30% of costs in R&D; employ researchers representing more than 30% of workforce; and produce industrial property rights.
78 http://www.tekes.fi/u/Licence_to_SHOK.pdf.
79 Funding Research and Innovation in the EU and Beyond 2010-12.

technology-oriented approaches are also widely used. An example of this is Germany's *'High-Tech Strategy 2020'*[80] that concentrates R&D funding on key enabling technologies that help address global challenges. Estonia is focusing its R&D support on ICT.

Some countries have a more broad-based approach. For instance, Ireland has 14 key areas for public investment in research, development and innovation. In France, funding is focused on projects with immediate market potential, on technology transfer, and on increasing the reach of digital and key enabling technologies. Austria, Belgium, Bulgaria, the Czech Republic, Estonia, Hungary, and Latvia also pursue a more generic innovation policy.

Policy example: UK's Catapult centres and focus on disruptive technologies

The UK's Technology Strategy Board focuses on disruptive technologies that have high growth potential. The UK has also introduced Catapult Centres to house leading businesses, scientists and engineers, allowing them to work side by side on late-stage research and development projects. Four centres are already operational (focusing on high value manufacturing, cell therapy, offshore renewable energy, and satellite applications) and three others (connected digital economy, future cities, and transport systems) are set to start operations in 2013.

Finland has decided to move its main innovation support institutions to joint premises to increase synergies and to provide a variety of support instruments from a single location. France has created the *Banque Publique d'Investissement* (BPI), merging three existing entities[81] that financed innovation and SMEs. The newly created bank's task is to support businesses at all stages of development. Portugal has rationalised its clusters to foster competitiveness and exports. It is focusing on international high-growth sectors,[82] and on natural endogenous resources.[83]

3.1.1.4 Facilitating private research

Many Member States have increased incentives for businesses to invest in R&D. These include new or revised tax exemptions in Belgium, France, Finland, Romania, Slovenia and the UK. Innovation vouchers have been launched in Belgium, Lithuania, Latvia, Slovenia, Slovakia, Romania and the UK. These vouchers can be exchanged for innovation services like external studies or hiring researchers. Ireland focuses on attracting foreign investment with a large R&D component.[84] In Germany, the *Central Innovation Programme for SMEs*[85] assists SMEs in developing innovative products, processes and services; over 10 000 companies have been supported. Poland has adopted the *Strategy for Innovation and an Efficient Economy 2020*[86] that has modernised the regulatory and financial framework for stimulating innovation.

Spain has introduced new rules for researchers in public institutions. They can now take leave of absence for up to five years to work in private companies on R&D projects and return to their previous career more easily. Germany lifted some restrictions on foreign researchers in specific areas of technology. Belgium has a payroll tax incentive to cut R&D personnel costs and a special tax regime to attract highly skilled foreign professionals. In France, young innovative firms can benefit from reduced social charges and taxes through the *Jeunes Entreprises Innovantes* (JEI) scheme.

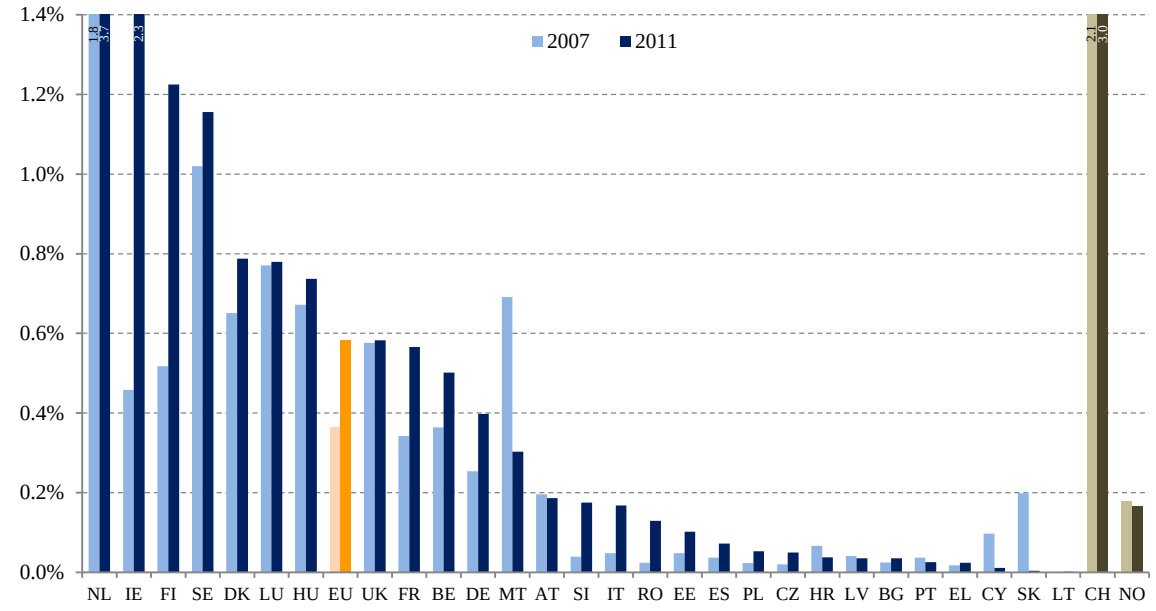
3.1.1.5 Commercialising research through academia-business partnerships

Many Member States have recently adopted measures to improve the commercialisation of research and innovation. For example, Sweden has increased funding and has made access to early-stage finance easier through business incubators and risk funds.[87] Malta has launched a new *Commercialisation Programme* to assist innovative companies in bringing their technologies closer to market. In Poland, the *Top 500 Innovators* initiative

80 http://www.hightech-strategie.de.
81 Oseo, Fonds Stratégique d'Investissement, CDC Entreprise.
82 Such as ICT, health, advanced manufacturing fashion and engineering.
83 Such as wine, the sea and natural stone.
84 Innovation Union progress at country level 2013.
85 *Zentrales Innovationsprogramm Mittelstand;* Chamber of Industry and Commerce identified the scheme as a 'best practice'.
86 Programme for the Development of Enterprises.
87 Innovationsbron, Industrifonden, Almi.

provides training to researchers and business professionals to improve their technology transfer skills. Portugal has renewed the *US-Portugal partnership* with a focus on innovation and entrepreneurship, and created the *Global Acceleration Innovation Network (GAIN*) to speed up innovation and technology transfer.

Figure 3.2: Licence and patent revenues from abroad (% of GDP)



Source: Innovation Union Scoreboard 2013

The UK supports interaction between academia and business[88] through the *Higher Education Innovation Fund*. This fund backs collaborative projects between higher education institutions, and between academia and businesses. The Czech Republic has set up *Competence Centres* that encourage medium to long-term public-private R&D projects. It has also used European structural and investment funds for a knowledge-transfer pilot project between universities and SMEs. This project has been successful and may be extended. In Latvia, nine national research centres have been established to improve the commercialisation of science results. In Slovenia support is focused on networking, clustering and collaboration between firms and research institutions. Italy has also emphasised public-private partnerships in new initiatives.

Policy example: The Netherland's Top Consortiums for Knowledge and Innovation (TKIs)

The '*To the Top*'[89] enterprise policy aims to improve collaboration between science and business by putting businesses in the driving seat in designing public-private partnerships for innovation. 'Top teams' involving various stakeholders have agreed on innovation contracts, which have, in turn, defined the investment priorities in nine sectors. In 2012, 19 Top Consortia for Knowledge and Innovation (*TKIs*) were founded and started implementing the innovation contracts. Several private investment commitments were also announced.

Lithuania, Latvia and Croatia have improved or expanded their support for clusters. France has a new investment fund for patents that helps public and private research institutions benefit more fully from the value of their patent portfolios.

88 The World Economic Forum ranked UK second in the world in 2011 regarding industry/university collaboration http://www.globalinnovationindex.org/gii/main/fullreport/files/Chap4/5/5.2.1.pdf .

89 Naar de top.

Policy example: Ireland's Intellectual Property Protocol

Ireland has published the Intellectual Property Protocol (IPP), which helps businesses to access R&D performed at Irish universities and public research institutes. A new central technology transfer office hosted by Enterprise Ireland will act as a one-stop-shop for businesses seeking to use intellectual property originating from publicly funded research.

3.1.1.6 Restructuring and reindustrialisation

Some Member States have been less than successful in moving their industrial focus to growing sectors, leading to deindustrialisation through the closure of industrial sites, with a negative impact on employment. To help workers through this re-adjustment process, many countries have designed specific reindustrialisation or adjustment initiatives.

The Czech Investment and Business Development Agency focuses on developing and regenerating industrial sites. Italy has adopted two initiatives to support restructuring and industrial investment[90] and to simplify the regeneration of disused industrial sites. In France, a reindustrialisation programme[91] supports strategic investment projects. Many Member States have also used European structural and investment funds to help upgrade previously industrial regions. Examples include projects to upgrade infrastructure, support innovation and provide training for new skills and qualifications, and entrepreneurship schemes.

3.1.2 Sustainability

3.1.2.1 Energy use and CO2 emissions

Both the EU and the Member States have committed to reduce their energy and carbon intensity[92] by working towards specific targets. Most Member States have taken steps to reduce their energy intensity and to increase the share of renewable sources in their energy mix.

The most ambitious is Denmark as it aspires to have a zero-emission economy by 2050. Countries promote renewable energy production by giving easier access to finance and relatively stable long term support. Austria, for example, targets wind energy in particular. In Germany, energy producers are required to have a minimum share of renewable energy in the total they sell to their clients.

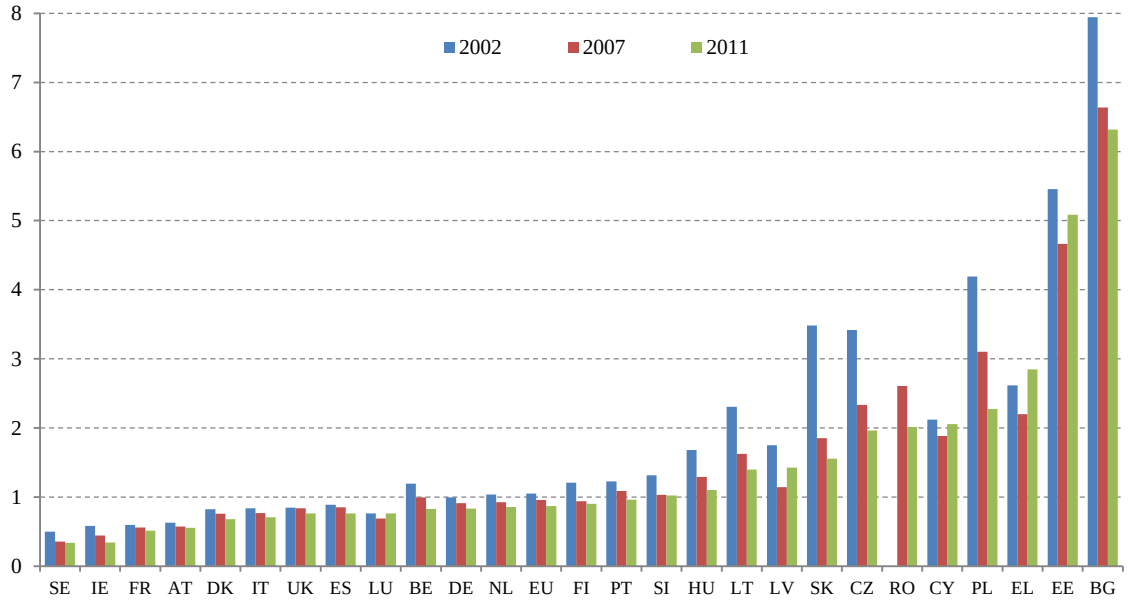
Policies on energy consumption are more mixed. Most Member States have policies to improve the energy efficiency of buildings. However, many also provide tax relief for energy-intensive industries, which go against incentives for energy efficiency.

Policy example: Photovoltaic parks in Cyprus

Cypriots have long paid the highest electricity prices in the EU as all power is generated using imported oil. Cyprus is also below the EU average in terms of energy and carbon intensity. In 2013 the government issued a large tender, comprising 23 projects ranging from 1.5 to 10 megawatts, with a view to tackling both of these issues. The very competitive bidding led to a very low average price of 0.0866 EUR/kWh, about half of current energy price in Cyprus. The companies involved (both Cypriot and foreign) are expected to complete the projects in a relatively short time. They will be able to draw on the experience of the well-developed and large solar panel industry.

90 Progetto di riconversione e riqualificazione industriale.
91 L'aide à la réindustrialisation.
92 For information on their calculation, see the methodological annex.

Figure 3.3: CO_2 intensity in industry



Note: Includes construction, process emissions and solvent and other product use; and the energy sector, kg CO_2 / euro GVA (reference year 2002). Due to lack of data on GVA, for Romania only the period 2007-2011 could be covered by the analysis on CO_2 intensity. No data were available for Malta.

Source: Calculations based on ESTAT data. Countries are sorted by the level of CO_2 intensity in 2011.

3.1.2.2 Resource efficiency

If resources are used efficiently, we can be less dependent on volatile raw material prices, reduce problems in accessing resources, and diminish our environmental impact. Efficient use of resources can also increase the security of supply, as more than half of fossil fuels, 70 % of metals, and almost all rare earths are imported[93] from outside the EU. The Resource Efficiency Roadmap and subsequent studies[94] have shown that the material efficiency of European industry varies widely, even among similar countries and within the same sector. This suggests that policies to support cost-effective solutions for re-using resources are needed. Waste management offers particularly high potential. It is increasingly seen as a source of materials rather than solely an environmental issue, particularly for highly recyclable and costly materials.[95]

Latvia's Waste Management Plan 2013-20 aims to break the link between economic growth and its impact on the environment, specifically by reducing waste generation and increasing reuse. Poland has also introduced recycling targets and Slovakia is looking to move from using landfill sites to waste recycling and recovery.

The scope of national requirements on resource efficiency, for example in Austria, the Czech Republic and the Netherlands is widening from primary raw materials to secondary (recycled) resources. The UK Green Investment Bank will target projects on resource efficiency, waste reduction and management, and on increasing the use of recycled materials. At the same time, certain Member State policies target specific resources, like water in Portugal, or wood in Slovenia.[96]

93 See 'Key messages on material resource use and efficiency in Europe', ETC / SCP working paper 3/2011, European Topic Centre of Sustainable Consumption and Production, EEA.

94 See in particular, 'Resource efficiency in European industry', available at http://www.europarl.europa.eu/committees/fr/studiesdownload.html?languageDocument=EN&file=78395.

95 For a detailed analysis of the materials with the highest recycling potential, see the study performed by the ECSIP consortium for the European Commission 'Waste as a Resource for the EU Industry' http://ec.europa.eu/enterprise/policies/sustainable-business/sustainable-industry/forums/files/sif-2013may27-stig-yding-sorensen-ecsip_en.pdf.

96 The objective of the 'Wood is beautiful' action plan is to improve the competitiveness of the Slovenian wood industry through all stages of production, including sustainable forest management. See http://www.mgrt.gov.si/fileadmin/mgrt.gov.si/pageuploads/DPK/3_Les_je_lep_naslovnica_kazalo_novo_pdf.pdf.

3.1.2.3 Policies on green business models

Many governments have set up policies to encourage green businesses, due to the potential[97] they have to produce economic and environmental benefits. Nordic countries have been at the forefront,[98] both in terms of developing policies and subsequently implementing them. Building on a study,[99] the Commission organised an exchange of good practices from within and outside the EU, focusing on the most important policy lessons.

The most direct way of supporting green businesses is to help the take-up of environmentally friendly products and services. This can be done by making it easier to get access to finance, placing value on the environmental credentials of the product or service, or reducing administrative requirements.

Widely used measures include tax credits, direct subsidies, access to loans at favourable conditions and feed-in tariffs. On the demand side, rules on green public procurement quotas are often used. Another way of levelling the playing field is to oblige environmentally-unfriendly activities to pay for the externalities they produce through mechanisms such as taxes on petrol or airfares, or car registration fees. Many such schemes seem to have been very effective, including in Denmark and Austria, where cars' fuel efficiency and public transport usage have increased. However, additional taxes and fees can encounter stronger opposition than tax incentives.

Policy measures have proven to be particularly effective if they have created a stable and predictable economic and regulatory environment. As renewable energy projects are often long-term in nature and need large-scale investment, backers of such projects need some certainty about the financial and regulatory environment. The Commission's forthcoming guidance on renewable energy support schemes should facilitate improvements in this area.

Projects of industrial symbiosis consist in companies exchanging non-product outputs (for instance, heat or energy) and/or sharing inputs in a mutually beneficial manner, and can thus count on strong economic reasons for their development; however, public authorities often play a vital role in getting them off the ground by building the necessary trust among the actors involved and by providing a clear and long-term regulatory framework. In the case of Kalundborg in Denmark, this role has been played by the city administration; now the gas produced by an oil refinery is used to produce electricity and the excess heat is used for district heating, a fish farm and a pharmaceutical plant.

On a national scale, the British National Industrial Symbiosis Programme has played a similar role. Under this programme, channels to share information and best practices have been developed, and pilot projects have been undertaken and promoted. More than 10 000 industrial companies now participate in it and it has been selected as a best practice in the context of the European Waste Framework Directive. Successful industrial symbiosis cases are most likely to be found in countries that impose high waste disposal standards, such as the UK and Denmark, as these create incentives for the shared use of resources and by-products.

To build green cities and neighbourhoods, many policy areas need to be considered. As an example, congestion charges to reduce the number of cars entering a city and to improve its air quality can only be effective if alternative means of transport are available and have additional capacity. These could include cycle lanes or public transport, but also electric vehicles or vehicle-sharing schemes. Other utilities such as waste management, heating and electricity could also benefit from close coordination. Copenhagen[100] has had an integrated transport and land use policy for decades. This has

97 See the OECD background paper 'The Role of Business Models in Green Transformation' http://www.oecd.org/sti/inno/49224244.pdf.

98 See 'Green Business Model Innovation' by Nordic Innovation http://www.nordicinnovation.org/Global/_Publications/Reports/2012/.

99 Idea Consult et al.: 'Exchange of good policy practices promoting Innovative/Green business models' — Final report July 2013,.http://ec.europa.eu/enterprise/policies/industrial-competitiveness/monitoring-member-states/good-practice/index_en.htm

100 Copenhagen came first in the latest Economist Intelligence Unit's European Green City ranking, and is cited as best practice in the study 'Going green: How cities are leading the next economy' by LSE Cities, available at http://lsecities.net/publications/reports/going-green-3gf-edition/.

made it easier to implement a wider green policy that covers renewable energy, district heating, waste management and the cleaning of industrial areas. Such a policy can create cost savings for both the city and its inhabitants.

Green businesses often need long-term relationships based on trust with their suppliers and with their customers. From a policy perspective, a coherent, predictable and stable regulatory framework is required, but often policymakers also need to act as honest brokers between the parties involved. This can be done through establishing a forum to coordinate activity and to ensure that rules are followed and benefits shared. When customers need assurance about quality as it is difficult for them to control it, standards and labelling schemes have proven to be effective policy tools.

Policy example: FISCH, Flanders Innovation Hub for Sustainable Chemistry

FISCH helps companies to collaborate in order to come up with sustainable chemical solutions for Flemish industrial enterprises, including systemic projects. It is a knowledge centre for chemistry, supported by the Flemish government and brings together various companies in the sector and all Flemish university associations. It is coordinated by Essenscia, the Belgian federation for the chemical industry and life sciences.

3.2. Business environment, services and infrastructure

3.2.1 Introduction: trends in 2012-2013

Over the last five years, half of the EU Member States have slid down in international rankings measuring the legal and regulatory framework for businesses[101] and this trend continued in 2012-13. While Poland and Greece have noticeably improved their rankings in terms of the ease of doing business, many others saw a further gradual decline. This does not necessarily mean that the business environment has worsened in absolute terms but rather that other countries in the world have improved faster. In a global context in which many countries are rapidly improving their business conditions, no country can afford to stand still.

3.2.2 Business environment

The aim of the Small Business Act for Europe (SBA)[102] is to improve the business environment for SMEs. The annual SME Performance Review and the SBA Fact Sheets[103] analyse the situation across the EU and look at initiatives that Member States have taken in the individual priority areas of the SBA. The Commission and the Member States have implemented many actions set out in the SBA to lighten the administrative burden, make it easier for SMEs to get access to finance and to support them in entering new markets. Although much progress has been achieved, further efforts are needed to improve the conditions under which SMEs do business.

Many Member States support the internationalisation of SMEs.[104] Many Member States, including Finland, Greece, Italy, Ireland and Portugal[105] have streamlined and improved the entities responsible for exports and internationalisation. France is opening business incubators (*Maisons de l'international*) in major cities throughout the world (in particular in the United States and Asia) to encourage SMEs to export their goods and services.

101 For example, the IMD Competitiveness Index, the World Economic Forum Global Competitiveness Report and the World Bank Doing Business report.

102 European Commission, Small Business Act for Europe http://ec.europa.eu/enterprise/policies/sme/small-business-act/index_en.htm.

103 European Commission, SME Performance Review http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/index_en.htm.

104 European Commission, Study on Support Services for SMEs in International Business, 2013 http://ec.europa.eu/enterprise/policies/sme/market-access/internationalisation/index_en.htm#h2-1.

105 Strategy board for the internationalisation of the economy.

Policy example: Support for SME internationalisation in Germany

German businesses benefit from a range of measures to support internationalisation. For example, an internet portal gives information on how to expand abroad, including information on key export markets, customs procedures, legal aspects of doing business abroad and information on export financing and credit insurance. The portal also facilitates exchanges between German and foreign companies. Other measures include trade fairs, information campaigns, missions and networking events. Of particular importance is the support provided by diplomatic missions abroad; the German Chamber Network, which is represented in important export markets; the Germany Trade and Invest agency; and other business associations. The development bank 'KfW' uses intermediary banks to provide entrepreneurs with financing at market conditions, including if they wish to expand their business activities abroad. If private export insurance or financing is not sufficiently available, the federal government also facilitates export guarantees and export financing. In recent years, the federal government's 'new target markets' initiative has focused particularly on increasing German businesses' penetration in new emerging markets besides Brazil, Russia, India or China.

In the Entrepreneurship 2020 Action Plan,[106] the Commission proposed a number of actions and encouraged Member States to exploit Europe's entrepreneurial potential. Continuing a longstanding policy of promoting entrepreneurship and helping people to start businesses, many Member States have further improved the conditions for entrepreneurs. In particular, over the last five years, it has become cheaper and much quicker to start a business in many countries, and entrepreneurship education has been introduced in many places. For further details, see the section 3.3.4 on administrative burden below.

Policy example: Encouraging entrepreneurship in the Swedish education system

Promoting entrepreneurial skills is being systematically embedded in the Swedish education system. Since 2009, the National Agency for Education has encouraged entrepreneurship in schools in line with the new steering documents for compulsory and upper secondary school. In 2012, it allocated grants to support entrepreneurial learning in schools at all levels. In total, 72 projects and five programmes were funded to improve the competence and teaching of entrepreneurship. Entrepreneurship has also been integrated in higher education programmes. The measures are seen as helping improve young people's independence, self-confidence and decision-making skills.

3.2.3 Competition and regulation in services and network industries

Services account for about three-quarters of the EU economy, and are closely intertwined with manufacturing. Business-related services[107] account for over a third of the production inputs in manufacturing, and an efficient market in these services can strengthen an industry's competitiveness. The Services Directive was a major step towards making the single market for services a reality as the services it covers account for more than 45 % of EU GDP. Economic analysis showed that the implementing measures are bringing an additional 0.8 % of EU GDP over time; if Member States were to abolish almost all remaining barriers to trade, the total economic gain would raise to about 2.6 %.[108]

A number of Member States have launched initiatives to strengthen access to regulated professions. For example, in 2012, Poland launched reforms of a total of 250 professions. Liberalisation has also continued in Greece, but some key professions are yet to be tackled. The Czech Republic carried out a public consultation in 2012 with a view to reviewing its regulatory framework.

106 European Commission, Entrepreneurship 2020 Action Plan http://ec.europa.eu/enterprise/policies/sme/entrepreneurship-2020/index_en.htm.

107 Business-related services include network industries (energy, telecommunications, transport, etc.), distributive trade and other services such as consulting, engineering, R&D and IT services.

108 European Commission, The economic impact of the Services Directive: A first assessment following implementation http://ec.europa.eu/economy_finance/publications/economic_paper/2012/pdf/ecp_456_en.pdf.

Portugal eased the rules governing access to and exercise of various professional services such as lawyers, accountants and architects. Slovenia started the process of reforming some services, activities and occupations in 2012. Spain announced that it would reassess the existing reserves of activity and requirements for membership of professional bodies.

Telecommunications, energy and transport are important inputs for most industrial firms. The EU regulatory framework for telecommunications has led to the liberalisation of the sector, which has become increasingly competitive. In recent years, liberalisation has led to lower prices, in particular for mobile communications, and a wider range of services being offered to customers. Further efficiencies should be achieved through the Single Telecom Market initiative.[109]

The energy market is not yet fully liberalised, as Member States have been very slow in adapting their national legislation to bring it into line with the Third Energy Package. The Commission has opened several infringement cases against Member States for non-transposition of that legislation. Ultimately, the package should boost competition, increase transparency and make it easier for consumers to switch suppliers. The energy generation market remains highly concentrated in many Member States. In eight Member States more than 80 % of power generation is controlled by the incumbent. There is a particularly high concentration in Estonia (89.0 %), Latvia (88.0 %), France (86.5 %), Luxembourg (85.4 %), Greece (85.1 %) and Slovakia (80.9 %).[110]

The transport sector has seen some progress, but there are still legal barriers to market entry in the majority of Member States. This is especially true in the rail sector, where the lack of competition considerably reduces the efficiency of services. Improvements in the sector could particularly benefit the entire Union when made by large or important transit countries.[111]

Policy example: Reform of regulated professions in Poland

Poland has taken important steps to enhance the registration of property, ensure taxes are paid, enforce contracts and resolve insolvency. The time necessary to register a firm has also been cut further. In addition, Poland has been active in reforming how professional services are regulated. These reforms started in 2012 and aim to reduce or eliminate regulatory barriers of up to 230 professions. The first stage in the reform, covering about 50 professions, was due to be completed in June 2013, and work on the remaining professions has started.

3.2.4 Infrastructure

For businesses, road and rail networks, electricity grids, and communications networks are an essential part of their operating environment, but quality and availability of such infrastructure varies significantly across the EU. Overall satisfaction with the quality of infrastructure is highest in the Netherlands, closely followed by France, Finland and Germany.[112] Over the last decade, improvements have been noted in many Member States, partly as a result of using European structural and investment funds for investment in transport infrastructure. Progress has been slower in Poland, and has decreased Romania, which suffer from underdeveloped road infrastructure and delays in construction projects. In the more mature economies, satisfaction is lowest in Italy and Greece, due in part to how difficult it is to prepare and implement infrastructure investment.

Significant investment in building and more modern infrastructure is still needed in many Member States, as is the support of European structural and investment funds and the Connecting Europe Facility. Some Member States have already invested in modernisation using these funds.[113]

109 Conclusions of the European Council 14 March 2013.

110 European Commission, Key areas: comparing Member States' performances, Energy Networks, http://ec.europa.eu/europe2020/making-it-happen/key-areas/index_en.htm.

111 European Commission, Key areas: comparing Member States' performances, Network Industries — Transport, http://ec.europa.eu/europe2020/making-it-happen/key-areas/index_en.htm.

112 World Economic Forum, Global Competitiveness Report 2012-2013.

113 European Commission, Key areas: comparing Member States' performances, Network Industries — Transport, http://ec.europa.eu/europe2020/making-it-happen/key-areas/index_en.htm.

The EU's energy infrastructure can be outdated and poorly connected, although the situation varies across the EU. Better energy infrastructure would improve security of supply, allow renewable energy sources to be integrated into energy supplies, increase energy efficiency and help consumers to benefit from new technologies and intelligent energy use.[114] The construction of smart grids has accelerated in recent years and over 280 smart grid projects have so far been identified in 30 countries[115] accounting for a total investment of EUR 1.8 billion. However, over 90 % of the projects are in EU-15 countries with the UK, Germany, France and Italy the leading investors.[116] Under the provisions of the third energy package,[117] Member States must ensure the implementation of intelligent metering systems and 14 of them[118] have already decided to roll out smart meters for electricity by 2020, with others following.[119] Thus an estimated EUR 5 billion have so far been invested in smart metering.

Information and communications technologies account for 6 % of GDP and are responsible for a fifth of business R&D spending. These sectors provide other businesses with platforms for growth, including e-commerce, the fastest-growing segment of European retail sales. It is estimated that the internet economy will grow from 3.8 % of EU GDP in 2010 to 5.7 % in 2016.[120] Fast broadband connections are increasingly important for business competitiveness and many Member States are working on improving their infrastructure, although many challenges remain. The level of fixed broadband coverage is below the EU average in Poland, Slovenia, Slovakia, Latvia, Estonia, Bulgaria Romania, Hungary, Finland and Croatia. In many Member States, European structural and investment funds play an important role in supporting investments in broadband infrastructure.[121]

Policy example: Denmark's smart grid projects

Denmark is a forerunner in applying smart grid technology. It spends the most per capita and per KWh consumed on smart grid projects and is involved in numerous R&D projects in this field. In April 2013, it launched a new smart grid strategy to combine electricity meters with variable tariffs and a data hub to enable consumers to use power when it is least expensive. This strategy should bring Danish consumers much closer to managing their own energy consumption. In addition, a funding programme has supported a large number of small-scale projects, to help develop environmentally friendly power generation technologies and connect them to the grid.

114 European Commission, Key areas: comparing Member States' performances, Energy networks, http://ec.europa.eu/europe2020/making-it-happen/key-areas/index_en.htm.

115 The EU-28, Switzerland and Norway.

116 European Commission, Smart Grid projects in Europe: Lessons learned and current developments — 2012, http://publications.jrc.ec.europa.eu.

117 Third Energy Package, available at: http://ec.europa.eu/energy/gas_electricity/legislation/legislation_en.htm

118 Austria, Denmark, Estonia, Finland, France, Greece, Ireland, Italy, Luxemburg, Malta, Netherlands, Spain, Sweden and UK.

119 Poland and Romania.

120 European Commission, Digital Agenda: Broadband and E-communications, http://ec.europa.eu/europe2020/pdf/themes/11_digital_agenda.pdf.

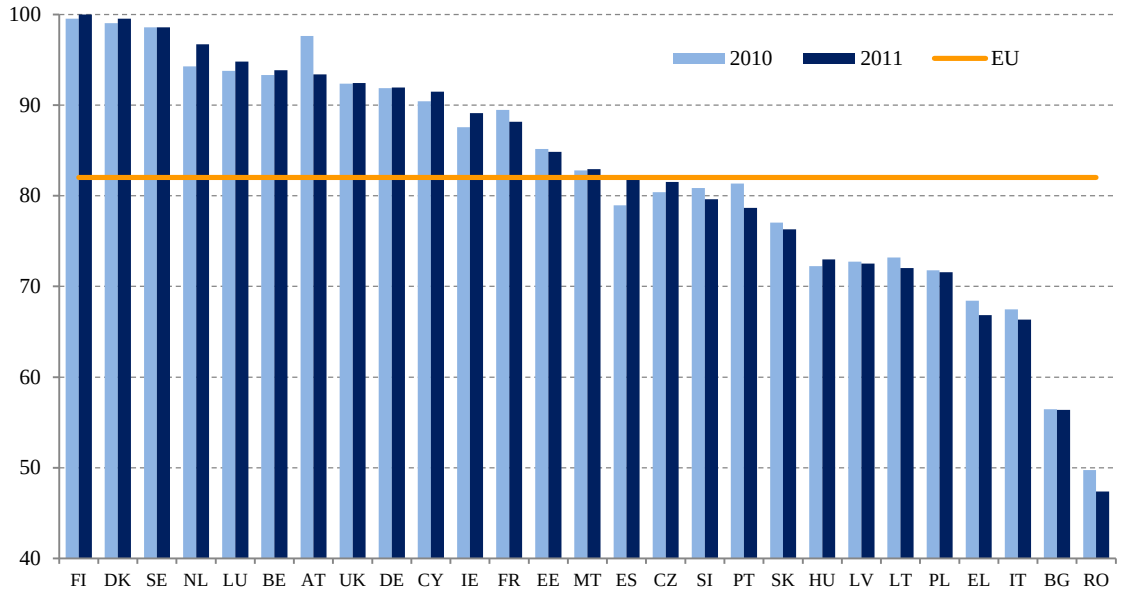
121 European Commission, Key areas: comparing Member States' performances, Digital Agenda, http://ec.europa.eu/europe2020/making-it-happen/key-areas/index_en.htm.

3.3. Improvements in public administration

3.3.1 Introduction: trends in 2012 - 13

Weak administrative and judicial capacities and legal uncertainty make the achievement of policy goals difficult. Restoring growth and competitiveness requires more strategic, effective, client-oriented and forward-looking public administrations across the EU. For this, public administrations need to improve their risk management capacities, take a systematic approach to innovation, introduce practical tools to manage resources better, improve policy coordination and a commit more strongly to implement agreed policies.

Figure 3.4: Government effectiveness



Note: EU level for 2010 is the same as 2011
Source: World Bank – Worldwide Governance Indicators (2010; 2011).

In terms of overall government effectiveness, data[122] shows on average a visible difference between EU-15 and EU-12 countries, masking, however, large variations within these groups. The latest data shows that while many Member States either maintained or improved their position relative to 2010, ten countries' ranking fell (Austria, Croatia, France, Greece, Italy, Lithuania, Portugal, Romania, Slovakia and Slovenia). Four Member States — Greece, Italy, Bulgaria and Romania — are performing very poorly.

3.3.2 Policy improvements

Reforms of public administration and judicial systems in Member States have been focused on those aspects covered by the country-specific recommendations of the European Semester. Other innovative measures, especially to reduce administrative burden through widespread use of e-government have also been adopted. Reforms in the internal functioning of administrative bodies have also improved their capacity to act. Some countries have strengthened the corporate governance of state-owned enterprises and improved their judicial systems.

3.3.3 Administrative modernisation

3.3.3.1 Planning and management

Effective and strategic policy-making, budget planning and policy coordination are fundamental to deliver high standards in public policy. While some Member States — Finland, Ireland, the Netherlands and the United Kingdom — use performance-based budgeting and management

[122] World Bank, *Worldwide Governance Indicators*.

systems, others have only recently started to integrate policy and financial planning to improve prioritisation and policy direction.

Strategic and effective human resources management is essential for efficient and professional administrative staff. Streamlining of public administration has often been accompanied by reforms in human resources management. The tools used by Member States differ significantly but some practices, such as introducing performance management and merit-based systems, are common. For example, Bulgaria has adopted a legislative framework for performance-based remuneration for civil servants; Denmark recently introduced a new performance management system; and Ireland has made significant changes to its own system.

Some Member States have improved their recruitment processes, either by updating requirements (France, Malta and Portugal) or standardising procedures (Italy, Lithuania). Many countries pool services such as procurement, finance and payroll functions (Estonia, the Netherlands, Portugal, Spain, Sweden and the United Kingdom). As demands on public services grow, effective management is particularly important to ensure the appropriate skills are available to cope with future challenges. Nevertheless, a survey by the OECD[123] shows that many Member States still lack a forward-looking planning system.

Policy example: The workforce planning framework in Ireland

In Ireland, the Department of Public Expenditure and Reform has developed a workforce planning framework for the 16 government ministries. The approach is to promote staff development in a broader context of performance budgeting to align resourcing policies more closely with business needs and longer term strategy.

3.3.3.2 Governance issues

Efforts in many countries to decentralise and streamline municipalities and state bodies have shown that managing governance levels is a challenging task. The Czech Republic, Denmark and Slovakia, for example, have created regional levels to deliver public services that require a large population base (health care, economic development, territorial planning, etc.).

The competences of national and sub-national authorities — and the rules governing their relations — are key factors in providing efficient services. Coordination is required both vertically, i.e. across administrative levels, and horizontally, i.e. between units on the same administrative level.

Many countries use legislation and binding standards to regulate their vertical and horizontal cooperation. In the Netherlands, cooperation between municipalities, provinces and other sub-national public bodies is regulated by a law on mutual agreements. Denmark and the United Kingdom set standards to ensure similar levels of service quality across levels of government. Mutual contracts can be used in multi-level governance relations.[124]The merging of municipalities is used to help pool resources to deliver cheaper and more efficient services. Estonia is encouraging voluntary mergers of municipalities by providing financial support and by allowing mergers between municipalities without a common border. In Portugal, the number of municipalities has been reduced by about 25 %, and France and Finland are using municipal cooperation as an alternative to mergers.

3.3.3.3 Regulations and services

Improving the quality of legislation and facilitating compliance is vital for SME-friendly business environments. Both the EU and Member States continually seek opportunities to simplify, reduce costs, and scrap obsolete measures.[125] A recent example is *REFIT – EU regulatory fitness at EU*

123 OECD, *Survey on Strategic Human Resources Management in Central Governments of OECD countries* (2010).

124 This is the case, for example, with *Contrat de Plan État Région* in France, *convenios* in Spain, joint tasks in Germany, and *accordi* in Italy. See Charbit, C. and M. Michaun (2009) *Mind the gaps: Managing Mutual Dependence in Relations among Levels of Government, OECD Working Papers on Public Governance, No 14*, OECD Publishing, OECD.

125 COM(2012) 746 final http://ec.europa.eu/governance/better_regulation/documents/com_2013_en.pdf.

level[126] seeking to improve the regulatory framework. At the same time, lighter regulatory regimes for SMEs are being looked at,[127] including exemptions for micro-enterprises.[128] The United Kingdom, for example, no longer requires routine health and safety checks on premises, such as small shops, considered to be low risk.

Policy example: Common commencement dates

To increase the level of predictability and legal certainty, the Netherlands, Slovakia, Sweden and the United Kingdom have implemented a system of common commencement dates, whereby all new or amended regulations come into force on a limited number of pre-defined dates each year.

The use of impact assessments, competitiveness proofing, SME tests, and fitness checks are essential to clarify the impacts and costs of regulation for businesses. Although impact assessments of new regulations are being applied by all Member States, the methodology used, the content and the level of detail vary significantly, especially on the analysis of policy options and stakeholder interests. Only a few Member States (Belgium, Denmark, Finland, Germany, Poland, Slovenia, Sweden and the United Kingdom) have integrated an SME test into their national decision-making approach.[129] Austria, France and the United Kingdom have recently taken steps to improve their impact assessment systems.

Policy example: 'One-in, two-out' in the United Kingdom

To reduce the number of new regulations for businesses, the government has operated a 'one-in, two-out' rule since January 2013. Every new regulation that imposes a new quantifiable burden on firms must be offset by removing or modifying an existing regulation to save double the costs. This rule applies to all domestic regulations affecting businesses and voluntary organisations. This policy replaces the 'one-in, one-out' rule that was effective from January 2011 and which saw net costs for business reduced by almost GBP 1 billion.

3.3.3.4 E-government

Although the eight basic business-related e-government services have been available in half of the Member States, many continue to expand their use of e-government (Austria, Croatia, Cyprus, the Czech Republic, Germany, Ireland, Latvia, Poland, Portugal, Slovenia and the United Kingdom), and have focused on the use of information and communication technologies (ICT) to reduce administrative burden. Points of single contact enable businesses to complete procedures easily. Austria is implementing an online business service portal to reduce administrative costs by about EUR 200 million and has created points of single contact that help service providers to establish a business in Austria or to provide cross-border services into Austria.

While most Member States have now e-enabled some government services for businesses (social contributions, VAT and corporate tax declarations), more advanced service provision is lagging behind. This includes the use of information technology in courts for case management and communication with parties.[130] Procedures linked to business services are not always easily available.[131] A further challenge is the low take-up by SMEs.[132] More interactive and transactional e-government requires reorganising services to get them online, and using common technical platforms and data exchanges. As an example, Denmark has made digital reporting and processing mandatory at all government levels by 2015. In the United Kingdom, all information or transactional services must be 'digital by default' by 2015.

126 http://ec.europa.eu/governance/better_regulation/documents/com_2013_en.pdf

127 Some EU legislation leaves it to each Member State to decide whether it wants to introduce lighter regimes for SMEs, for example in the area of information and consultation of workers, food hygiene, waste and annual accounts.

128 COM(2013) 122 final, http://ec.europa.eu/governance/better_regulation/documents/1_EN_ACT_part1_v4.pdf.

129 COM(2011) 78 final http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0078:FIN:en:PDF.

130 The EU Justice Scoreboard 2013.

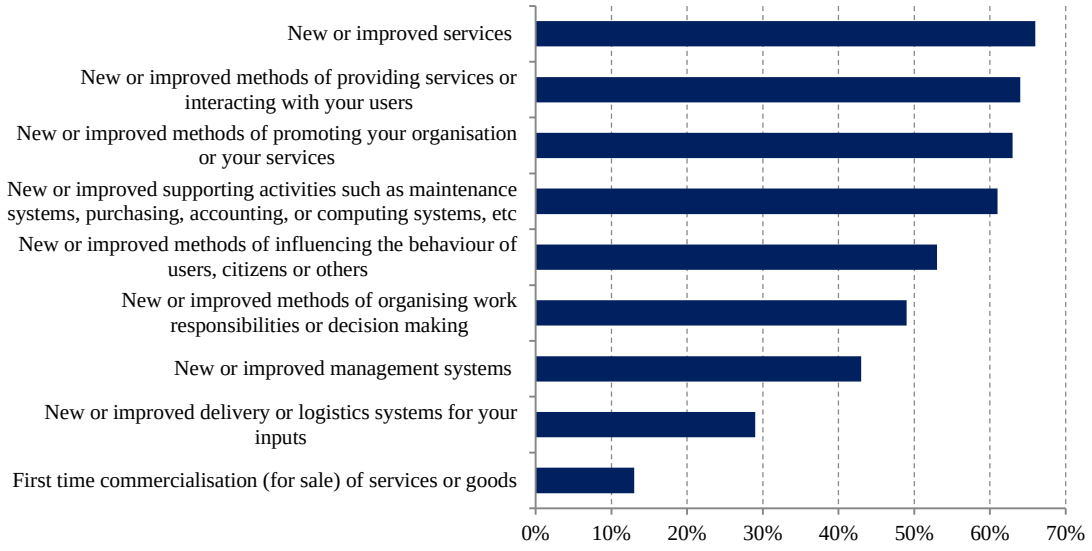
131 Eurostat — *Community survey on ICT usage and e-Commerce in enterprises* (2011).

132 According to Eurostat (see footnote 1), 85 % of small businesses in the EU used the internet to communicate with public authorities in 2012. Internet use by small businesses for communications with public authorities is below the EU average in Bulgaria, Germany, Hungary, Italy and Spain. Romania lags behind all other EU countries (59 %, 18 percentage points below the second last).

3.3.3.5 *Innovation in public administration*

The results of the 2013 pilot European Public Sector Innovation Scoreboard show that innovation in public administration has positive effects on user access to information, user satisfaction and faster delivery of services. Although the public sector in Europe is innovative, it does face a number of obstacles. The majority of innovations have been in relation to services and to communication with users. Management systems, organising work and decision-making have also been improved in many public organisations.

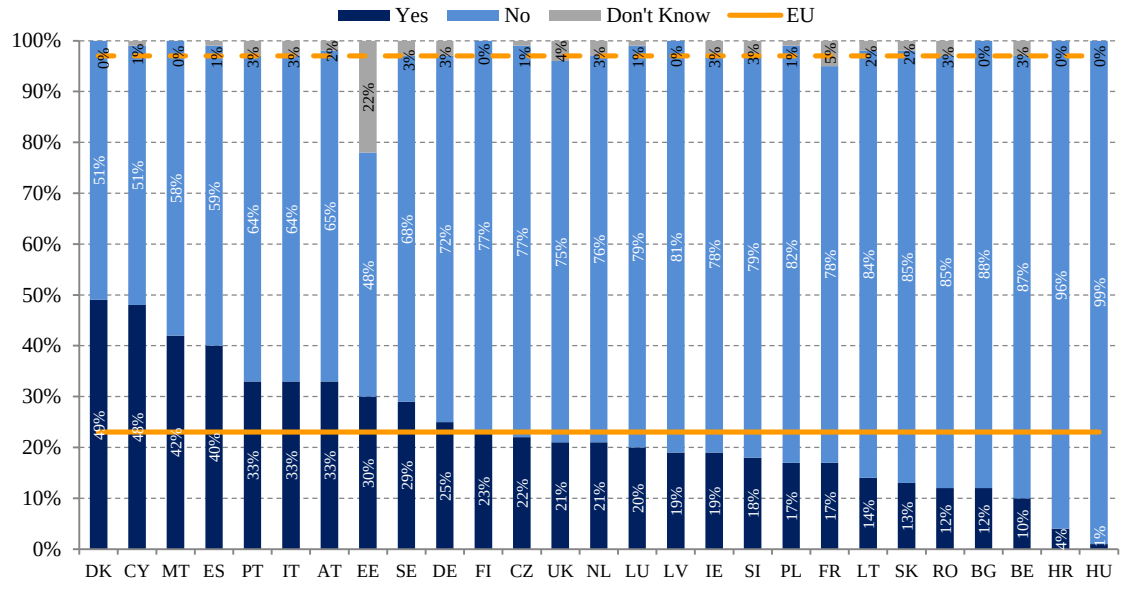
Figure 3.5: Incidence of innovations in public administrations, by type (%)



Sources: European Public Sector Innovation Scoreboard 2013 based on Innobarometer 2010 (A pilot exercise)
http://ec.europa.eu/enterprise/policies/innovation/files/epsis-2013_en.pdf

Public procurement can also contribute to increased efficiency in the government sector. Overall, almost 24 % of EU companies have sold innovative products and services to the public sector since 2009. The countries that see high levels of innovation in public procurement are Denmark (49 % of companies), Cyprus (48 %) and Malta (40 %), while Hungary has only 1 % of companies selling innovative products or services to the public sector.

Figure 3.6: Government procurement as driver of business innovation



Sources: European Public Sector Innovation Scoreboard (2013) based on Innobarometer 2010

In Spain, public authorities must spend 3 % of their budgets on innovative products and services. France has set an indicative objective of 2 % of total public procurement to be purchased from innovative SMEs by 2020. Italy began a programme in 2013 for innovation procurement in southern regions while Germany launched a support programme for public procurers of innovation in early 2013.

3.3.3.6 State-owned enterprises

State-owned enterprises are facing a difficult operating environment and cannot always rely on support from the state. Governance challenges also arise from undue political interference. Several Member States have addressed problems through capital injections, writing off debts, restructuring or privatisation.[133] Strengthening the corporate governance of state-owned enterprises, in particular by separating the state's ownership and regulatory functions, has also been pursued by Cyprus, Lithuania, Portugal, Romania and Slovenia.

Policy example: Strengthening corporate governance of state-owned enterprises in Lithuania

In 2011, Lithuania had 149 state-owned enterprises employing 40 000 people, with revenue of EUR 2 billion and a net profit of EUR 32 million. An ambitious reform programme to improve corporate governance was launched in 2010. Features of the programme included: attracting private sector professionals; linking pay to performance; increasing transparency (e.g. through quarterly reports); separating ownership and regulatory functions; and setting clear objectives on performance and financial results. The reform is being implemented following OECD guidelines on the management of state-owned enterprises; and setting clear objectives on performance and financial results. The reform is being implemented following OECD guidelines on the management of state-owned enterprises.

3.3.4 Reducing administrative burden

The EU had a goal to reduce the start-up time and costs for new businesses — to three days and EUR 100 — by 2012. A target was also set for the time needed to obtain licences: a maximum of three months by the end of 2013 and one month by the end of 2015.[134]

However, there are still large differences between Member States. The average time to start a business in the EU is close to 14 days and the average cost is 5 % of income per capita. The time is shortest in Belgium, the Netherlands and Portugal whereas Malta and Spain score less well. The cost is lowest in Denmark, Ireland and Slovenia with Greece and Italy performing less well.

Policy example: Simplifying industrial licensing in Portugal

Portugal is implementing a comprehensive programme to tackle excessive licensing procedures. The new industrial licensing regime classifies industries in three groups according to the risk they pose to citizens and the environment. Those in the low or medium category (more than 90 % of all industries) will be subject to a system of ex-ante declaration with ex-post control. At the same time, licensing procedures for industries in the highest category will be speeded up.

The time and costs to start a business have improved over last the five years.[135] Thirteen Member States have cut the time needed to start a company and start-up costs have gone down in 22 Member States. Although there has been progress in the EU, other countries have been improving their business environment at an even faster rate.

133 European Commission Staff Working Document *Guidance Paper on state aid-compliant financing, restructuring and privatisation of State-owned enterprises*, SWD(2012) 14 final.

134 SBA Action Plan (SBA Fact Sheet 2012).

135 World Bank, *Doing Business* report (2013).

Figure 3.7: Time and cost required to start a company

Source: World Bank – Doing Business (2013)

Many Member States, including Denmark, France, Hungary, Malta, the Netherlands, Slovenia and Spain, have reduced administrative burdens on businesses. These programmes cover issues such as property registration, declarations to authorities, and 'one-in, one-out' rules.

Policy example: 'Express licence' for retail outlets in Spain

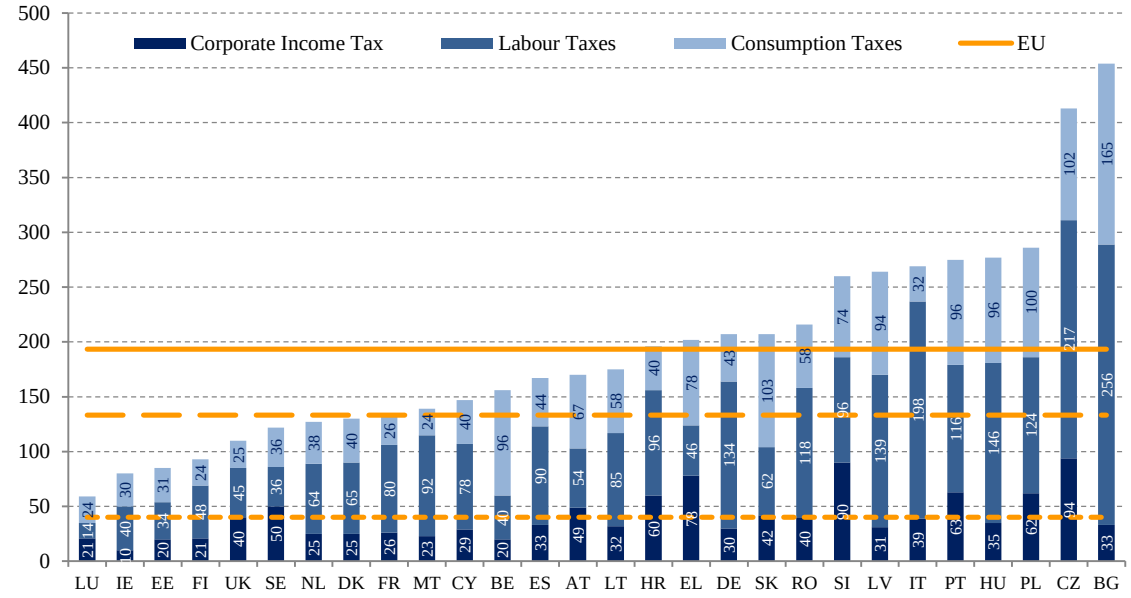
In 2012, Spain launched an express licence regime for retail outlets. This permits retail businesses of up to 300 m^2 to start operating without any local authorisation. Instead, businesses only have to provide the administration with a declaration confirming their compliance with relevant legislation and requirements. The government now plans to extend this regime to businesses of up to 500 m^2.

3.3.5 Facilitating tax payments

The time firms spend on complying with tax rules is driven by the number and complexity of taxes and the administrative procedures used to calculate and pay them. Electronic filing of VAT and social contributions is used by more than 70 % of firms,[136] and by 54 % for corporate tax.

[136] Eurostat — *Community survey on ICT usage and e-Commerce in enterprises* (2011).

Figure 3.8: Number of hours needed to comply with tax return rules across the European Union



Sources: Chart adapted by the Commission based on the PwC study Paying taxes 2013, The Global Picture

The chart above shows the average number of hours required by a company — operating under the same conditions — to comply with taxes in 2011. Compared with the previous year, the average number of hours fell by almost 7 % to 193.5, mainly due to improved electronic filing and payment capabilities and more effective tax administration. The time needed to comply with tax rules is shortest in Luxembourg and longest in the Czech Republic and Bulgaria. However, these two improved the most from 2010 to 2011, followed by Latvia, Slovakia, Greece and Spain.

The Czech Republic is planning to introduce a single tax collection point and Cyprus is making tax payments easier with simpler forms and fewer VAT instalments. Croatia is helping major taxpayers, and Poland has simplified forms and electronic submission. In Romania, the number of payments has been reduced and the rules for VAT chargeability have been changed.

Policy example: The e-paying office in Latvia

In 2012, Latvia introduced an e-paying office 'eKase' (eCash). Changes to the electronic payment system of the budget made the administrative procedures for entrepreneurs easier. The authorities no longer require entrepreneurs to declare a bill with a blue stamp as proof of the paid services, tax and duty payments to national authorities. Due to these simplified requirements, the time needed for payment of taxes has been cut from 290 to 264 hours.

3.4. Finance and investment

3.4.1 Introduction: trends in 2012-13

The financial crisis continues to affect the ability of Europe's financial sector to channel savings to businesses. Debt financing has become more expensive and difficult to obtain, in particular for SMEs and in economies that have been under financial stress. In the new Capital Requirement Regulation (CRR),[137] a wider scope of SME exposures will be subject to a favourable treatment either through a specific supportive factor for SME exposures or by proving that their SME lending

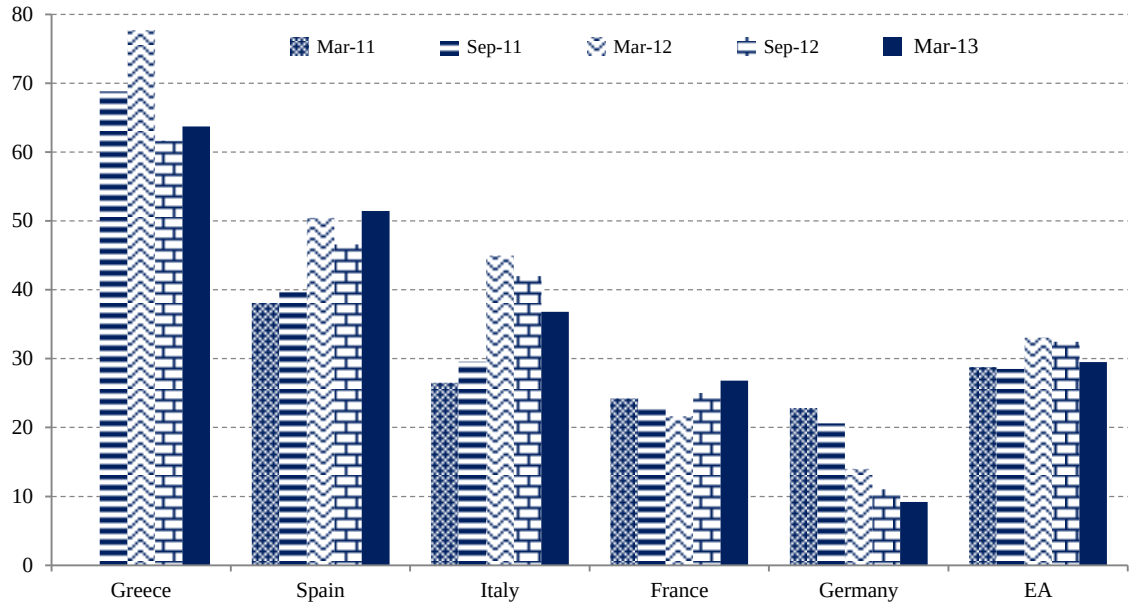
[137] The new legislation (which will come into force by 2014) divides the CRD (Capital Requirements Directive) into two legislative instruments: a directive (CRD IV) governing the access to deposit-taking activities and a regulation (CRR) establishing the prudential requirements institutions need to respect.

policies have a lower loss history, leading to a lower risk weighting.

Even though lack of access to finance has dampened domestic investment, the EU remains the largest destination for global foreign direct investment (FDI) flows, explained by the size of the EU market, its openness and the economic integration among Member States. However, over the past decade, the share of global FDI destined for the EU has declined substantially.

3.4.2 Moving towards market-based finance

Figure 3.9: Financial obstacles of SMEs for receiving a bank loan across Euro Area Countries



Source: ECB

As described in section 1.3.1, access to finance remains difficult for businesses in many Member States, as they have been severely affected by the tightening of bank lending.[138] These difficulties are exacerbated for SMEs, as they are more dependent on external financing, and have fewer financing alternatives through debt and equity markets.[139] The flow of new bank loans has dropped sharply in many Member States. Although it is difficult to separate these factors, there are indications that supply factors have played a critical role in Member States under financial stress, such as Italy, Portugal, Slovenia and Spain. Improvements in capital market-based financing would seem necessary to restore the flow of finance to the economy. While public resources have been mobilised to ease access to finance, their impact has been limited given the sheer volume of bank lending, budgetary constraints and the long-term nature of some measures.

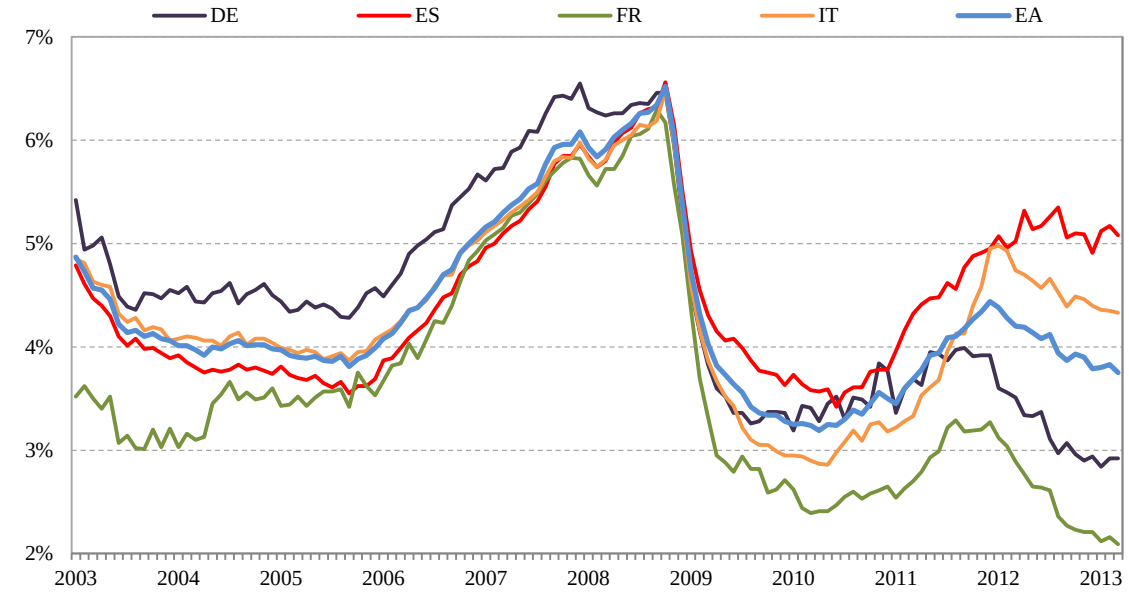
In its *Survey on the Access to Finance of Small and Medium-Sized Enterprises*, the ECB reported a decrease in the percentage of Eurozone's companies facing financing problems for the period between October 2012 and March 2013. However, the differences across Euro Area member States are stark: while German SMEs were experiencing a continuous softening in bank lending conditions, in other countries the percentage of SMEs facing financing obstacles reached 51 % in Spain and 64 % in Greece in the period between October 2012 and March 2013.

138 Bank financing remains the most important source of external financing for SMEs and the second source for large corporations (after leasing & factoring). The banking sector provides about 80 % of total debt financing to the non-financial private sector in the euro area, compared with less than 50 % in the US. Source: European Central Bank, *Survey on the access to finance of SMEs in the euro area*; European Commission, *Quarterly report on the euro area*, volume 12 (2013) issue 1.

139 In 2012, SMEs reported a continued deterioration in the availability of bank loans, overdrafts and credit lines. However, the pace of this deterioration seems to have slowed in the second half of 2012. Cf. *Survey on the access to finance of SMEs in the euro area*, ECB.

Interest rate differentials have continued to widen since the start of the crisis, reflecting the increasing fragmentation of the banking sector and financial markets along national borders. This negative development is hampering the recovery and rebalancing efforts in the countries most affected by the crisis. Their businesses, in particular SMEs, are finding it more difficult and more expensive to finance growth and internationalisation.

Figure 3.10: Interest rates for one-year loans up to EUR 1 million



Sources: ECB/Commission

At the same time, spreads between interest rates for SMEs and large companies remain wide,[140] but again there are substantial differences between Member States: the spread is below 50 basis points for SMEs in France and Belgium, but above 250 for those in Ireland, Slovakia and Spain.[141]

Member States have sought to use all means available to ease bank lending, with varying results. The most popular measure has been the extension of credit guarantees to SMEs,[142] but in some Member States this has been limited by budgetary constraints.

A recent development is the conclusion of bilateral agreements to ease SME financing in the countries most affected by the crisis. For instance, Germany agreed in June 2013 to grant EUR 1 billion to support Spanish SMEs and to provide technical support to Portugal. Finland and Portugal are proposing to deepen the links between their SME promotion agencies.

Member States have also adopted several measures to combat payment delays in order to alleviate businesses' liquidity constraints.[143] Portugal, Greece, Spain and Italy have all adopted plans to deal with the stock of arrears.

Policy example: Clearance of arrears in Spain

In 2012, Spain set up a fund to provide loans to regional and local governments to pay their arrears. This fund has been financed by financial institutions backed by a government guarantee. As a result, businesses received an immediate injection of liquidity. Over EUR 27 billion was disbursed through the payment of 5.6 million invoices, of which 98 % were from SMEs. Spain has extended this mechanism in 2013 with an allocation of EUR 2.7 billion, to include some invoices originally excluded from the scheme.

140 Loans up to EUR 250 000 with a one-year maturity are considered as a proxy for loans to SMEs, while those over EUR 1 million with a one-year maturity are considered as a proxy for loans to large enterprises.

141 Source: ECB Statistical Data Warehouse (April 2013).

142 All Member States have in place state-guaranteed credit lines.

143 Twenty-three Member States have notified the transposition of the Late Payment Directive which had to be transposed by 16 March 2013.

As countries have injected funds to recapitalise their banking sectors,[144] this should free the banks to resume lending, although it will take time to see the full effects of these measures. Meanwhile, other initiatives are being taken to expand lending. Last year, for example, the UK introduced an innovative scheme whereby banks and building societies that increase lending to households and businesses are able to borrow from the Bank of England at less than market rates. Furthermore, new state-owned financial institutions, with a mandate to support lending to SMEs, are being launched in France and the UK.

In parallel, growing attention is being paid to the potential role of SME loan securitisation[145] in unlocking credit supply. This market has been dormant since 2007[146] although the securities issued have performed relatively well during the crisis and have had low default rates.[147] In addition to reviewing the details of regulatory treatment, other measures may help revive investors' interest and confidence. Spain, for example, is planning to guarantee the availability of securitisation funds for loans to SMEs.

3.4.3 Alternative financing mechanisms

In periods of bank financing constraints, the ability of businesses to find alternative sources of financing could be an important mitigating factor. However, only the largest firms in Europe have been able to tap the capital markets to meet their financing requirements. The market for less creditworthy borrowers, especially SMEs, has been extremely thin, leaving them with fewer alternatives.

Many Member States, such as Denmark, Estonia, Italy and Portugal, are trying to support the development of a corporate bond market. However, the issuance of standard corporate bonds is a viable alternative only for firms with an external rating and large borrowing needs.[148] This excludes the majority of SMEs.

Furthermore, for SMEs at the early stages of their development, there seems to be a constant structural 'equity gap' in the market for financing, aggravated by the deteriorating economic outlook and the sovereign debt crisis.[149] In times of stress, private investors and fund managers tend to focus on fewer, larger investments in established businesses, leaving small businesses with growth potential without access to equity finance.

The average European venture capital fund is still too small to make a real impact and to nurture firms through the necessary financing rounds.[150] To help venture capital markets to develop, most Member States have put measures in place, in particular setting up venture capital funds with public funding. For example, the Czech Republic, Germany and Spain are launching new public venture capital funds, while Portugal has consolidated existing funds in order to maximise their impact. In addition, various Member States, including Estonia, the Netherlands, Poland and Spain, are setting up 'funds of funds' to promote the emergence of a true venture capital market with numerous privately managed venture capital funds. France has announced a five-year tax relief for

144 In addition to the countries covered by programmes, other Member States have injected funds to recapitalise their banking sectors since the start of the crisis. These include Denmark, Italy, Sweden and the United Kingdom.

145 Securitisation is the transfer of a portfolio of assets from a bank — or any other financial institution or corporation — to the capital market.

146 Overall securitisation activity has been high during the crisis, but volumes were almost exclusively due to the eligibility of asset backed securities (ABS) as collateral for ECB liquidity operations.

147 European Investment Fund, *European small business finance outlook*, December 2012.

148 In view of the fixed transaction costs involved when tapping market financing, the issuance of a bond requires a minimum amount to make economic sense.

149 The amount of venture capital as a percentage of GDP has fallen in most Member States, although there are significant differences between countries. The situation is especially acute in Bulgaria, Greece and Slovakia. At EU level, in 2012, the total amount of venture capital raised (EUR 3.6 billion) and the amount of investment (EUR 3.2 billion) fell on an annual basis, by 31 % and 14 % respectively. As regards exits, trade sale, write-off and sale to another private equity firm were the three most prominent types; Initial Public Offerings (IPOs) were almost non-existent. Source: Eurostat, European Private Equity and Venture Capital Association (EVCA), *2012 Pan-European Private Equity and Venture Capital Activity*.

150 Economic studies show that venture capital funds can make a real difference to the industries they invest in once their size reaches approximately EUR 280 million, whereas the average venture capital fund in the EU has approximately EUR 60 million. See Josh Lerner, Yannis Pierrakis, Liam Collins and Albert Bravo Biosca, *Atlantic Drift — Venture Capital performance in the UK and the US*, NESTA research report June 2011, see section 4.1; K. Raade and C.T. Machado, *Recent developments in the European private equity markets*, Economic Papers 319, April 2008.

equity investments in start-ups. Since 2013, a new programme in Germany has provided private investors — particularly business angels — with additional financial incentives to invest in young and innovative companies.

Recent years have also seen the emergence of stock markets specialised in listing SMEs and high growth companies, such as New Connect in Poland and MAB (*Mercado Alternativo Bursatil*) in Spain. France is also planning to launch a stock market specifically for SMEs in 2013. However, the impact of these stock markets has been limited by their size, lack of liquidity, and the costs and requirements associated with listing. Some countries, such as Spain, are trying to ease these requirements in order to promote SME listings. The SME growth market labelling proposed by the Commission[151] should raise the visibility of SMEs and profile and help lead to common pan European regulatory standards for such markets.

Finally, crowdfunding[152] — an expanding field of internet-based financing of new projects still in its infancy — could help businesses to raise capital or secure loans to supplement traditional funding sources. Given the variety of funding mechanisms on offer and the nascent form of the models, the regulation of crowdfunding is work in progress. Austria recently proposed limited changes to its legal framework to facilitate crowdfunding, Italy is adopting an equity crowdfunding law and the UK is regulating peer-to-peer lending.

Policy example: Crowdfunding for innovative start-ups in Italy

Italy has been one of the first countries to adopt a new law on crowdfunding for equity. In particular, the new regulation 'Decreto Crescita 2.0' introduces 'equity crowdfunding' for innovative start-ups. It allows raising limited risk capital through online portals managed by banks, investment firms and other registered financial intermediaries.

151 Part of the Commission's MiFID proposal; see 3.4.2.

152 Crowdfunding can be defined as the collective effort of many individuals who network and pool their resources to support efforts initiated by other people or organisations. This is usually done with the help of the internet. Individual projects and businesses are financed by small contributions from a large number of individuals, allowing innovators, entrepreneurs and business owners to utilise their social networks to raise capital.

3.4.4 Attracting foreign direct investment

FDI in Europe has concentrated on business services, the software industry and the automotive sector. These sectors topped the lists for numbers of FDI projects and jobs created.[153]

Measures to facilitate FDI include investment promotion and incentives, and Member States' investment promotion agencies providing project planning assistance for firms seeking investment. In particular, when domestic investment is low, FDI is considered essential for employment, growth and productivity. For many countries, further benefits include transfers of technology and skills.

Policy example: Slovakia's focus on investments

The Slovak Investment and Trade Development Agency (SARIO) seeks to attract new investment in sectors with higher value added. The focus of the agency has shifted towards fast-growing markets such as Russia, China, South Korea and south-east Asia. In line with the objective of Slovakia's cohesion policy, FDI support programmes favour the less developed eastern regions of Slovakia.

To help Member States attract FDI successfully, a study on the exchange of good practice[154] identified three key ingredients in building good policies: successful targeting of FDI activities; better cooperation among investment promotion actors; and more efficient working methods and internal organisation.

Experience shows that investment promotion agencies can enhance their effectiveness and efficiency by devoting resources to a limited set of sectors and countries. A study has clearly demonstrated a link between targeting sectors and increased FDI inflows. The importance of an overarching investment strategy, endorsed by key stakeholders, was also highlighted as contributing to success in attracting FDI.

153 http://www.ey.com/GL/en/Issues/Business-environment/2011-European-attractiveness-survey

154 Exchange of good practice in foreign direct investment promotion, Ecorys 2013. http://ec.europa.eu/enterprise/policies/industrial-competitiveness/monitoring-member-states/good-practice/index_en.htm

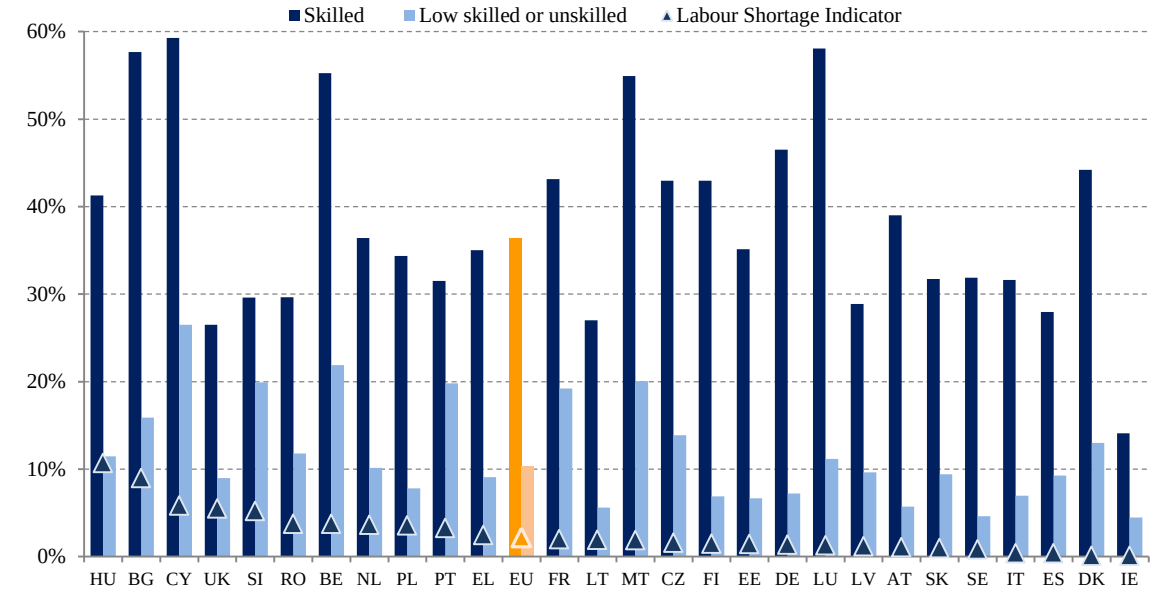
Post-investment care — systematically applied — is imperative to maintain viable projects. One good example of good policy practice comes from the Dutch investment promotion agency, which has signed an agreement with 16 partners, including regional and city development agencies, port development companies and provinces. The agreement focuses on providing direct support to existing investors and bringing to the attention of relevant authorities any obstacles in the national and local investment climate.

New developments in communication practices demand an active online presence, including for investment promotion. In this context, social media is becoming more and more important to reach out to investors.

3.5. Skills

Although there is a steady increase in the numbers of higher education students in the fields of manufacturing and engineering, it is difficult to predict how many will choose to work in these sectors of the European economy once they have graduated.

Figure 3.11: Skill and labour shortages in European manufacturing companies



Note: no data available for Ireland
Source: European Companies Survey, Eurofound (2009) and European Commission's Business Survey (2009).

A 2009 survey[155] noted that just over 36 % of EU manufacturing companies experienced problems when recruiting staff for skilled jobs. There was significant variation between Member States (see figure below). An alternative labour shortage indicator[156] shows the proportion of manufacturing companies that consider labour shortages, regardless of skill level, to be a factor so severe that it may limit their production. In 2009, 2.2 % of European manufacturing companies considered labour shortages so severe as to limit their production. Eleven countries were above this EU average, with Hungary (10.2 %), Bulgaria (9 %), Cyprus (5.9 %), the United Kingdom (5.5 %) and Slovenia (5.2 %) having the highest labour shortage indicators.

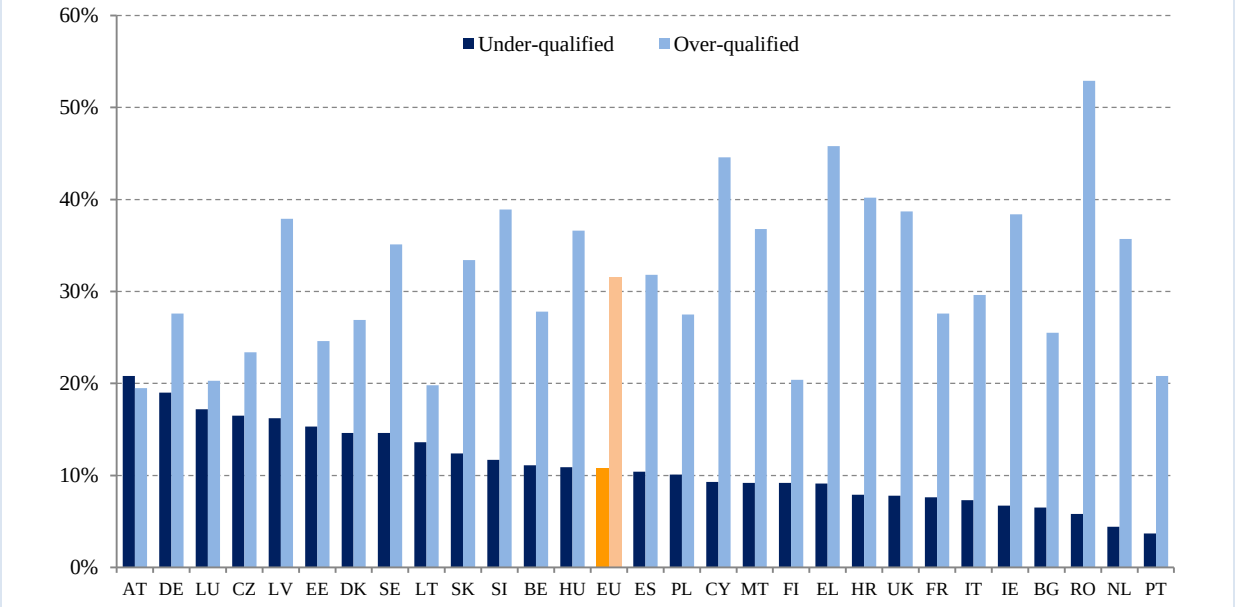
A recent report on the evolution of skills needs across 19 sectors in Europe highlights that there is a general need to improve skills and increase educational levels across all sectors to improve

[155] Eurofound, *European Company Survey 2009*, with a sample size of 27 160 interviews across 30 countries.
[156] The Commission's *Business survey*.

competitiveness. This is regardless of structural developments in the production and service sectors,

In terms of raising skills in the existing manufacturing workforce, a rapid decline in demand for workers with middle and lower skills and increased demand for higher skills may give rise to skill gaps.

Figure 3.12: Proportion of workers in the manufacturing who feel under- or over-qualified for their current duties in 2005 and 2010



Source: Eurofound (2010), Fifth European Working Conditions Survey

The latest survey[157]suggests that the proportion of workers employed in the manufacturing sector across the EU who feel that they are under-qualified has fallen from 12 % in 2005 to 10.8 % in 2010. In comparison, the proportion of those who feel over-qualified has fallen slightly faster from 35 % in 2005 to 31.6 % in 2010. However, the situation varies considerably between Member States (see figure above).

One explanation for the difference between Member States could be the degree to which the transformation from resource-based to knowledge-based manufacturing is implemented and managed. This transformation requires organisational competences in knowledge and innovation management. Soft skills become more important as organisations are increasingly globally networked and flexible. Teamwork, networking, intercultural literacy, interdisciplinary thinking, high worker autonomy, and mobility and flexibility are all crucial skills required in knowledge-based businesses.

Member States have implemented various measures to match the supply and demand of labour. Students are encouraged to choose areas of study where employment prospects are good. The Maltese authorities support students working to achieve the qualifications and certifications required by industry: those completing courses in engineering, ICT and finance are given tax credits of up to 80 % of the cost of education. Estonia and Poland also award student scholarships in those technical fields where demand is highest.

The Dutch 'Techniekpact'[158] not only targets students, but also seeks to raise and update the technical profile of existing workers, and encourages them to choose fields with the largest skills shortages. It also maximises the benefits of the cooperation of educational institutions, employers, workers, young people, sector

157 Eurofound, *Fifth European Working Conditions Survey* (2012).

158 http://www.techniekpact.nl/.

associations, regions and central government. Such models are also becoming more common elsewhere.

Cooperation between the public and private sectors is particularly evident in the case of traineeships, apprenticeships and vocational training, where many Member States have introduced reforms and action plans to increase the involvement of employers. The goal is to increase the matching of vocational training provision with the skills needed in the market. Greece, Italy, Poland, Portugal and Slovakia have all introduced measures to this effect.

A dual education system that combines apprenticeships in a firm with education at a vocational school has proven to be very effective, particularly in Germany, and is being introduced or strengthened in other countries, including Cyprus and Spain.

Another way of achieving similar results is the UK 'Employer Ownership of Skills' pilot, where the government and employers pool resources to raise the skills of employees, having for effect that education providers will in turn become more attentive to the needs of the economy.

For its part, Ireland is seeking to address skills shortages in the ICT sector and aims to double the number of graduates in this sector by 2018. It is also providing reskilling and conversion programmes for workers with qualifications and skills in related disciplines. Currently 55 % of ICT posts are filled by non-nationals, which is a quick fix solution compared to producing new graduates.

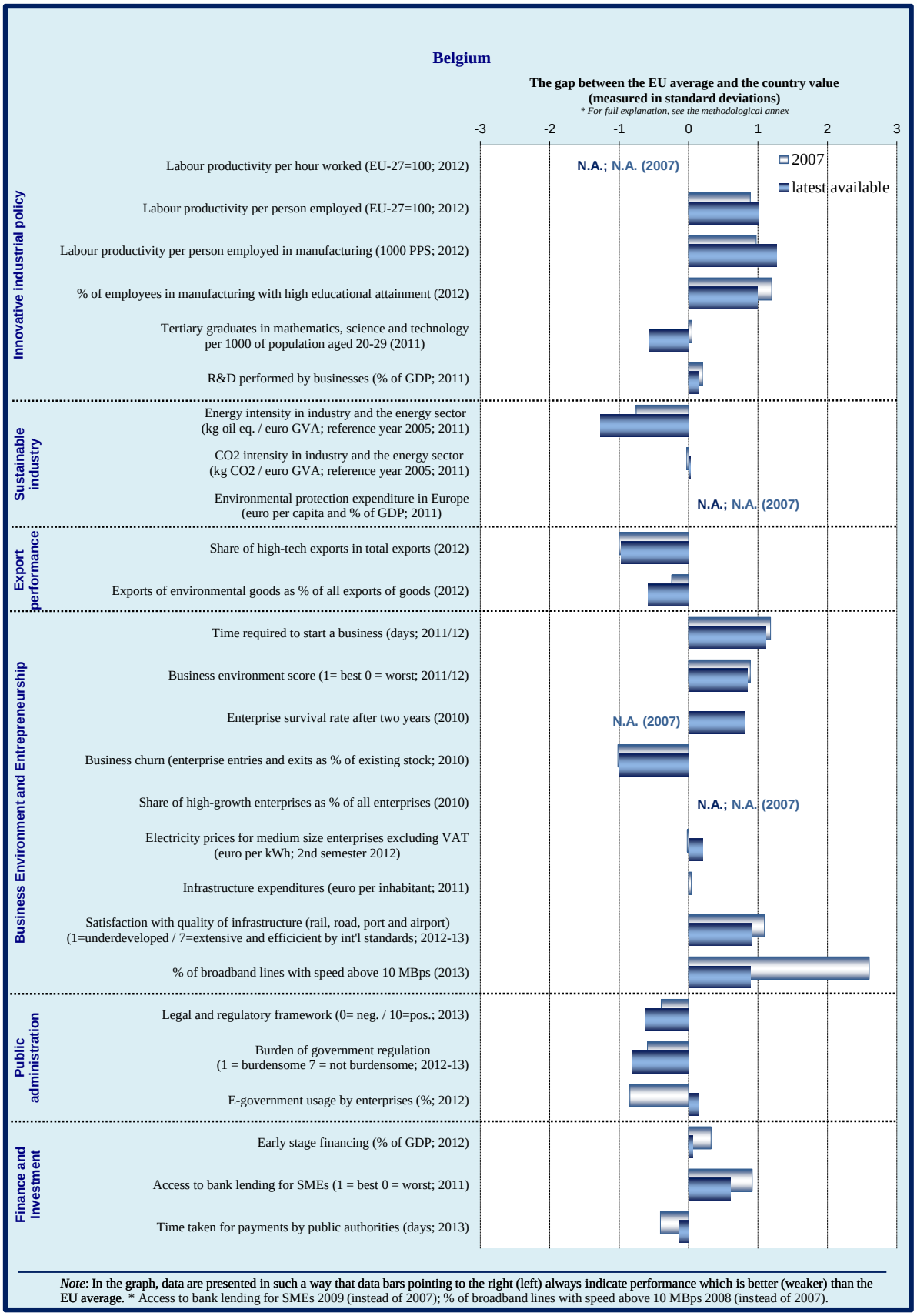
To attract highly-skilled migrants, Austria has introduced the Red-White-Red Card, and Estonia has simplified procedures for hiring foreign workers. These solutions are, however, only feasible when the political conditions are right, and even then the actual numbers attracted can remain small.

Emerging skill shortages are becoming an increasing concern in Germany. An initiative on skills[159] recognises that mobilising domestic labour potential will not be sufficient to address these shortages. The long-term success of the German economy will therefore depend on the ability to attract skilled workers from other EU and non-EU countries, and a wide range of policy measures are already being taken at both federal and regional levels

Member States are also seeking to provide doctoral candidates with the skills they need for careers in business in line with the 'Principles for Innovative Doctoral Training'. Denmark has inspired the introduction of 'European Industrial Doctorates' of the Marie Sklodowska Curie Actions under the Seventh Framework Programme.

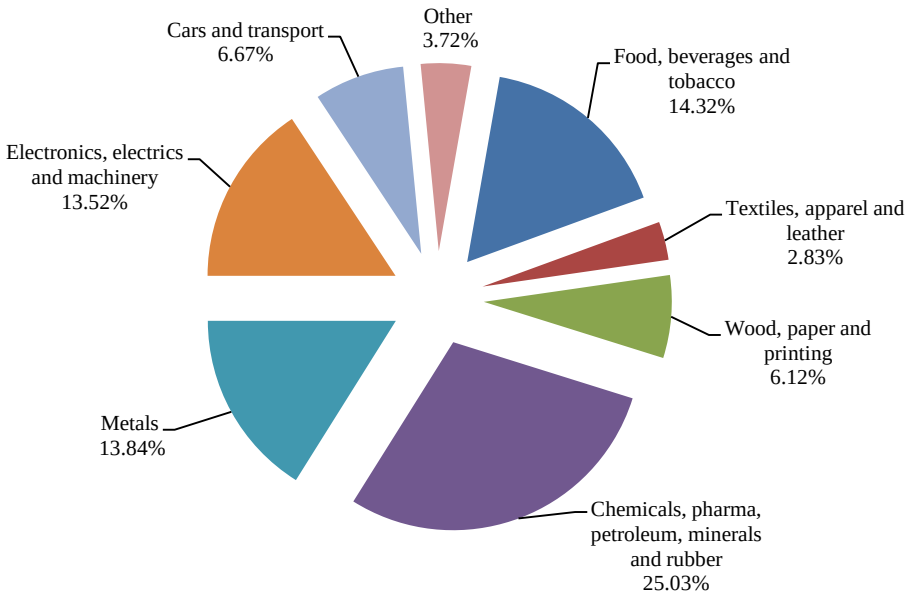
[159] Bundesarbeitsagentur *Perspektive 2025: Fachkräfte für Deutschland*, http://www.arbeitsagentur.de.

4.1. Belgium



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.1: Manufacturing sectors – Belgium (2010)



Note: No data available for sectors C12 (tobacco products), C15 (leather and related products), C21 (manufacture of basic pharmaceutical products and pharmaceutical preparations)
Source: Eurostat

4.1.1 Introduction

In relation to manufacturing industry by individual sector, Belgium is specialised in capital-intensive industries, such as fabricated and base metals, chemicals, food and electronic equipment. At the more aggregated sector level, it is specialised in sectors featuring medium-high educational and innovation intensity, such as chemicals, petroleum industries, and textiles. Overall, in 2012, manufacturing produced 13.3 % of total value added, as compared with the EU average of 15.3 %. Belgium is more service-oriented than the average EU economy, as services represent over 77 % of value added (EU average: 73 %) and contribute over 75 % of employment (EU average: 69.1 %).

While, in absolute terms, Belgium still has among the highest productivity levels in the EU, productivity growth has been weak in recent years. In 2011, for instance, labour productivity declined by 1.3 %, while the euro area as a whole increased productivity by 1.2 %. However, the average number of hours worked per person in Belgium was higher than the EU average.

Given Belgium's low productivity growth, emphasis should be placed on factors promoting non-cost competitiveness such as infrastructure, innovation and human capital.[160] In terms of infrastructure, Belgium would benefit greatly from effective measures to reduce road congestion which is a considerable burden on the Belgian economy. With regard to innovation, the key challenge for Belgium is to broaden its innovation base and to strive for a broader distribution of business R&D expenditure across a wider range of sectors.

Belgium has already a relatively qualified workforce and its 2020 target for people aged 30-34 completing higher education is 47 %, which would be a 3.1 percentage point increase compared to 2012. Nevertheless, the number of graduates in science, mathematics, engineering and technology is lower than the EU average and labour market mismatch hampers growth. Measures have been taken at federal, regional and community levels to support professional training and increase linkages between the education system and the business sector.

[160] SWD (2013) 351.

4.1.2 Innovation, skills and sustainability

Innovation

According to the Innovation Union Scoreboard 2013, Belgium is an 'innovation follower' with a performance above the EU average. Its relative strengths are in the indicator categories 'open, excellent and attractive research systems', 'linkages and entrepreneurship' and 'innovators'. Relative weaknesses are in 'finance and support' and 'intellectual assets'.

The business enterprise sector, the main contributor to R&D, reduced its investment from 1.51 % of GDP in 2001 to 1.37 % in 2011, although this is still above the EU average. This decrease was mainly due to three factors: the economy becoming more service-oriented;[161] a reduction in R&D activities in the telecommunications and chemicals (excluding pharmaceuticals) sectors; and the shift of R&D activities to other countries. Services are dominant and are growing at a faster rate than manufacturing, which would justify specific measures to improve the knowledge intensity of the service sector.[162] Despite a slightly positive trend since 2005,[163] Belgium is unlikely to reach its 2020 R&D expenditure target of 3 % of GDP. Business R&D is highly concentrated in only a few sectors, and in a small number of large companies and multinationals.

A challenge for Belgium is how to speed up the transition towards a more knowledge-intensive and innovation-based economy by fully exploiting the strengths of its research and innovation systems, including by translating R&D results into innovative products and services. This requires further improving the support to clusters, and better conditions for the growth of innovative firms. Moreover, despite the availability of highly-qualified human capital, there appears to be a mismatch between labour demand and supply in some sectors. Shortages of skilled professionals, particularly in sciences and engineering, could become a major barrier to improving the innovation performance of the Belgian economy.

The authorities have acknowledged that innovation is essential for productivity growth and for improving the competitiveness of the economy. This is reflected in budgetary decisions taken by all political entities in recent years.[164] Federal level measures include a payroll tax incentive to decrease R&D personnel costs and a tax credit to decrease the costs of R&D investment, and more flexible conditions for tax exemptions on royalty income from patents.[165]

The Belgian regions have developed strategic innovation approaches covering all major aspects of a comprehensive innovation strategy. In the Walloon region, the focus has been on supporting a limited number of competitiveness poles (a cluster approach); in 2012, EUR 40 million was allocated to R&D projects on competitiveness clusters under the '*Plan Marshall 2.Vert*'.[166] New approaches have been developed under the 'Creative Wallonia' programme to support market take-up of new products and services (whether technology-based or not), and the promotion of cultural and creative industries. In the Flemish Region, a main driver of research and innovation policy is to address major economic and societal challenges through innovation. For instance, five living-labs platforms were set up to facilitate innovation in the area of electric vehicles. In the Brussels Capital region, an updated innovation strategy, including a 'smart specialisation' approach, was launched in 2012. The region is intending in 2013 to implement innovation vouchers to support financing for innovation. The communities and the regions continue to support excellence in science and they have increased participation in EU cooperation initiatives such as joint programming or the European Strategy Forum on Research Infrastructures. Initiatives are developed to foster better coordination of the efforts made by the

161 From 2000 to 2009, the services share under business expenditure increased from 26 % to 33 %.

162 For details see "Research and Innovation performance in EU Member States and Associated Countries, Innovation Union progress at country level, 2013".

163 In the period 2005 to 2012, private expenditure on research and development (R&D) increased from 1.24 % to 1.37 % of GDP. In the same period, public R&D expenditure increased from 0.56 % to 0.65 % of GDP.

164 Public R&D budgets increased from EUR 2.29 billion in 2009 to EUR 2.47 billion in 2012.

165 The existence of a research centre constituting a separate activity branch is no longer a condition to exempt 80 % of royalty income from patents.

166 *Plan Marshall 2.Vert* is an action plan to take up the economic, social and environmental challenges facing Wallonia, with a budget of EUR 2.75 billion for the period 2009-14.

communities, regions and federal government on R&D, and technological innovation.

Skills

Although participation in higher education is high, and while Belgium pursues ambitious targets in this field, there are skills mismatches in terms of levels and relevance to labour needs, which makes it more difficult to tackle unemployment and support growth. There are skills shortages for technical and future-oriented occupations at all levels of education. The number of graduates in science, mathematics, engineering and technology is lower than the EU average, as in 2010, there were 12.2 graduates per 1 000 in the age group 20-29 compared to 15.2 in the EU.

There are concerns on the level of entrepreneurship. According to the latest Eurobarometer[167] survey, the proportion of people who would like to be self-employed is lower than the EU average.[168] Entrepreneurship readiness has been an issue for some time, and policies will have to be maintained to achieve a shift in attitudes, especially among young potential entrepreneurs. Although there is a need to increase occupational and interregional mobility, adult participation in lifelong learning is below the EU average (6.6 % vs. 9 % in 2012), notably for older and low-skilled[169] workers, and has declined recently.

In Flanders, a project to reform secondary education and vocational training was initiated in 2010. An agreement on an orientation note aiming at a profound reform of secondary education was reached in 2013 with the final decision to be taken by 2016. The francophone community has also taken measures to reform its vocational education, with a draft decree on higher education modernisation currently under debate.

Sustainability

The high energy use of industry and the low energy efficiency performance of households make the economy highly energy-intensive, although some progress is being made in reaching the 2020 targets. The target of increasing the share of renewable energy in energy consumption is likely to be met but probably not for greenhouse gas emissions in sectors like buildings, transport and farming. Road transport and energy are the largest sources of greenhouse gases.

The high energy use of industry is explained by the importance of energy-intensive metals and chemicals production. These two activities represent one-fifth of all industrial value added[170] and consume almost two-thirds of all final energy used in industry.

There is a series of measures on energy efficiency that cover most sectors, with a particular focus on the refurbishment of existing buildings. The economy's emissions intensity is high in some significant sectors (such as heavy industry or residential heating), but this is mitigated overall by the importance of nuclear energy production. In particular, emissions from road transport have increased over the past two decades, whereas most other sectors have cut emissions. In 2010, road transport produced 17.7 % of all greenhouse gas emissions, indicating that it should be a central part of future emission reduction policies.

4.1.3 Export performance

Exports of goods and services have been growing at a lower rate than exports from the euro area (23.9 % from 2006 to 2012 compared with 28.02 % for the euro area).[171] Exports consist mainly of intermediate goods to the euro area, in particular neighbouring countries. Export specialisation is in low and medium-technology goods, for which price competition is higher and which are easier for other countries to copy or replace. Over the past decade, there has been increasing specialisation in intermediate goods. It should be noted that although the proportion of high-tech exports has increased since 2000, it is still relatively small.

The range of destinations of exports has become more diverse. In 2012, 69 %[172] of exports of goods and services were directed to other EU member

167 Flash Eurobarometer 354, 2012 http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf.

168 At 30.4 % this figure is much lower thatn the EU average of 45 %.

169 Learning participation rate of adults is 7.1 %, older workers 3.9 %, and low-skilled 3.1 % - Eurostat 2011.

170 'Greenhouse Gas Emissions and Price Elasticities of Transport Fuel Demand in Belgium', OECD Economics Department Working Paper No 955 p.9.

171 L'Institut des Comptes Nationaux (ICN).

172 L'Institut des Comptes Nationaux (ICN).

States (notably Germany, France and the Netherlands) but the share of exports going to the largest emerging markets (China, Brazil, Russia, India, Mexico, Indonesia and Turkey) has increased from 4.7% in 2000 to 8.4% in 2011. Exports outside the EU accounted for 28.8% of the total in 2011 and 30.6% in 2012.[173] It is worth noting that Belgian exporters have benefited indirectly from new markets through exports to Germany.

Belgium appears to be losing some share of goods exports — partly as a result of delocalisation of the production of certain goods — but it is performing better in services. The share of goods exports as a proportion of total EU exports has decreased slightly in the past six years.[174] However, the share of services as a proportion of total EU service exports has increased from 4.5% in 2006 to 5.1% in 2011. Services may be partially replacing goods in international trade, but their contribution remains small. Hence, increasing the competitiveness of Belgian goods exports remains a challenge.

4.1.4 Business environment and public administration

Business environment

In general, the business environment is considered to be good. The World Bank ranks the country 33rd out of 185 for doing business. The World Economic Forum views Belgium as one of the 20 most competitive economies in the world. It was also ranked 13th by Bloomberg's *Best Countries for Business* in 2013.

Strengths of the business environment include the short time it takes to start a business, the ease of enforcing contracts and resolving insolvency, although the ease of obtaining business licences differs between regions.[175] However, the picture concerning competition is mixed, as there continue to be operational constraints in the retail sector. Competition could be improved by easing procedures for obtaining authorisations for commercial premises. In general, though, business operations are characterised by high levels of professional management and sophistication.[176]

Infrastructure is well-developed and the country is ranked 21st in the world by the World Economic Forum. The penetration rate of fixed broadband in January 2012 was 32.4% of the population (EU average 27.7%). However, mobile broadband penetration is still among the lowest in the EU, and the rollout of mobile networks is slow, hampered by administrative obstacles.[177]

Some indicators, such as the procedures for property registration in Belgium, signal that there are further weaknesses.[178] Belgium has fallen two places in the *Global Competitiveness Report* and is now ranked 17th. There are some concerns regarding government inefficiency and the tax system; the country would benefit from shifting taxes away from labour to less growth-distortive areas such as environmental taxes.[179] The macroeconomic environment also suffers from persistent deficit spending and high public debt.

Public administration

According to the World Bank's government effectiveness indicator, Belgium continues to do better than the EU average for overall public administration performance. The perceived quality of public services is considered to be good, and the rule of law prevalent.[180] There has been some reduction in the administrative burden in the last decade but inefficient government is still listed as one of the three major problems for doing business,

173 l'Institut des Comptes Nationaux (ICN).

174 From 5.6 % of total EU exports to 5.5 %.

175 Brussels Capital Region and Wallonia have one-stop-shops while Flanders is lagging behind. Sources: Commission assessment on Belgium's National Reform Programme, SWD(2013) 351; and World Bank — *Doing Business.* Note that information on the time needed to resolve litigious civil and commercial cases for Belgium has not been made available for the EU Justice Scoreboard 2013.

176 Commission assessment on Belgium's National Reform Programme, SWD(2013) 351; and World Economic Forum, *The Global Competitiveness Report 2012-13.*

177 Commission assessment on Belgium's National Reform Programme, SWD(2013) 351.

178 The World Bank's *Doing Business* report ranks Belgium 176th out of 185 for registering property.

179 This was captured by the 2013 country-specific recommendation no 5: "Establish concrete and time-specific proposals for shifting taxes from labour to less growth-distortive tax bases, notably by exploring the potential of environmental taxes, for example on diesel, heating fuels and the taxation of the private use of company cars. Simplify the tax system by reducing tax expenditures in income taxation, increasing VAT efficiency and improving tax compliance by closing existing loopholes." http://register.consilium.europa.eu/pdf/en/13/st10/st10623-re01.en13.pdf.

180 Government Efficiency Index, World Bank.

and other countries have improved more. The use of tools such as ICT solutions to improve public administration could be more widespread. Belgium is, however, one of the forerunners in the recent European 'e-government benchmark', in particular in back-office automation.

A package has been introduced to modernise public procurement legislation and initiatives have been taken at federal level to simplify investment procedures. Examples include the introduction by the Flemish government of a single permit integrating environmental and urban planning licences, and the implementation of the administrative simplification plan by Wallonia and the French community. Further measures have also been taken to extend the confidence principle — i.e. streamlining administrative procedures by replacing documents with a declaration of honour and the use of internal sources to locate data.

4.1.5 Finance and investment

Small and medium-sized enterprises (SMEs) rely mostly on bank loans for accessing external sources of finance. According to the European Commission's 2012 Small Business Act (SBA) fact sheet, access to finance is on average better than in the EU. According to the survey, SMEs continue to have greater access to public financial support (including guarantees) than similar firms in other EU countries. Also, the share of loans to SMEs is higher than the EU average. On venture capital, there continues to be strong flow to early-stage investments, running at the level of almost three times the EU average.

The World Bank ranks Belgium 70th of 185 for obtaining credits. In particular, the strength of investors' legal rights is slightly below the EU average, as is the availability of credit information.

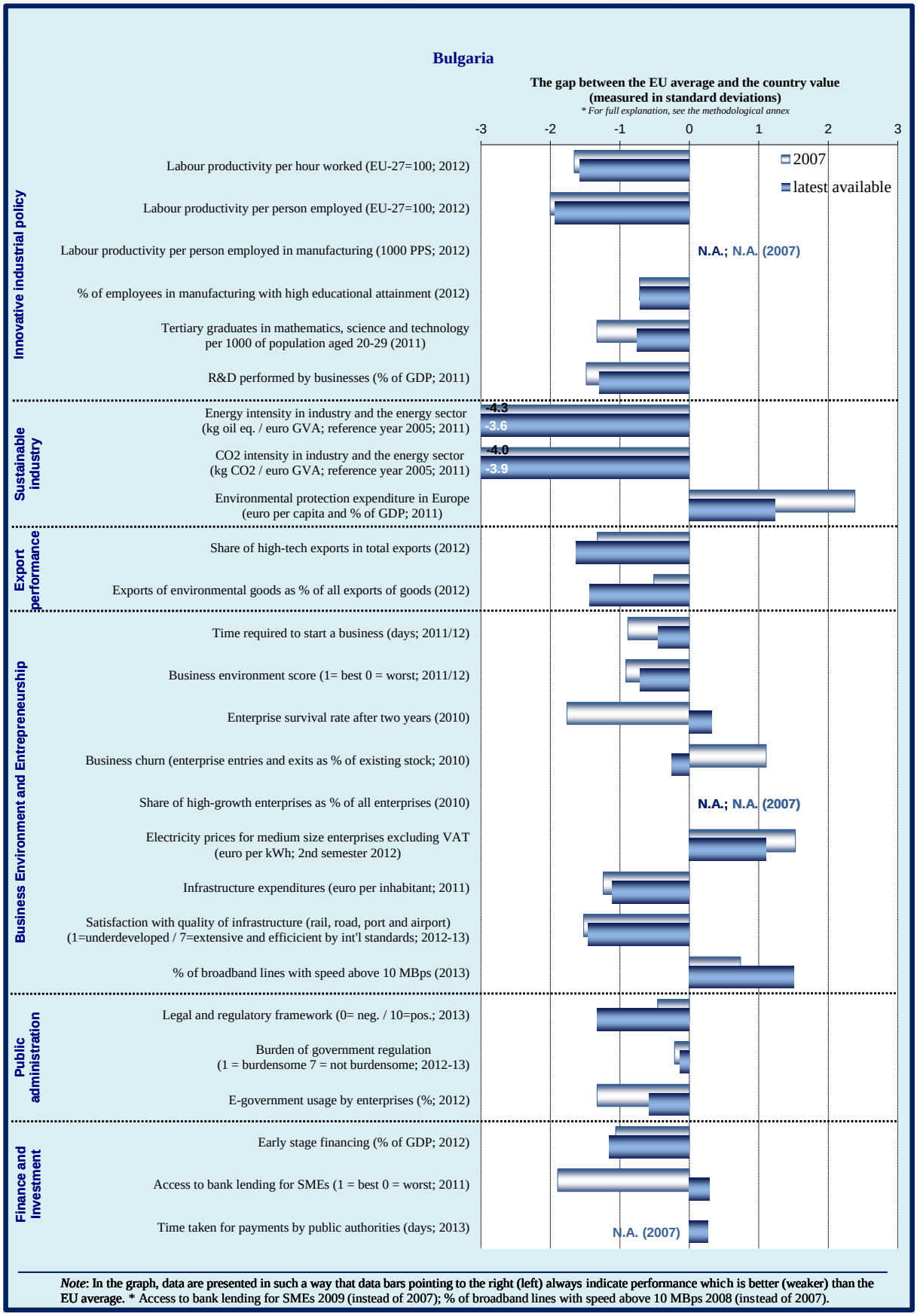
The federal level and the regions have taken measures to stimulate access to finance for SMEs. Examples of measures taken by the federal government include the *Initio* scheme providing loans to small enterprises and aiming to finance the launch of companies. The Brussels Capital region has developed the *Brussels Regional Investment Company* to offer financial support for firms to start, reorganise or expand in the region. Flanders has provided guarantees through the *Gigarant* programme totalling EUR 203.9 million. The Flemish government has approved a banking sector plan that proposes a number of ideas to bolster the economy and channel funding to the real economy. In 2011, Flanders introduced a consultancy service that gives entrepreneurs the opportunity to present their projects to a panel of financial experts who will advise them on the optimal financing mix for their specific situation. Wallonia offers a variety of financing schemes through its specialised SME financing institutions, including micro-credits. Furthermore, the Walloon government, in partnership with the banking sector, has set up an automatic guarantee scheme (up to 75 % of a loan) to a limit of EUR 25 000, with the possibility of additional funding (up to 50 %). The measure targets micro-enterprises, the self-employed, artisans and freelance workers.

4.1.6 Conclusions

In many ways, the competitiveness profile of Belgium reflects the average of the northern EU Member States. The good competitive position has been deteriorating in recent years, in particular because exports are mainly composed of low and medium-tech goods, facing international competition from lower-cost countries. The exports are mainly oriented towards the EU market.

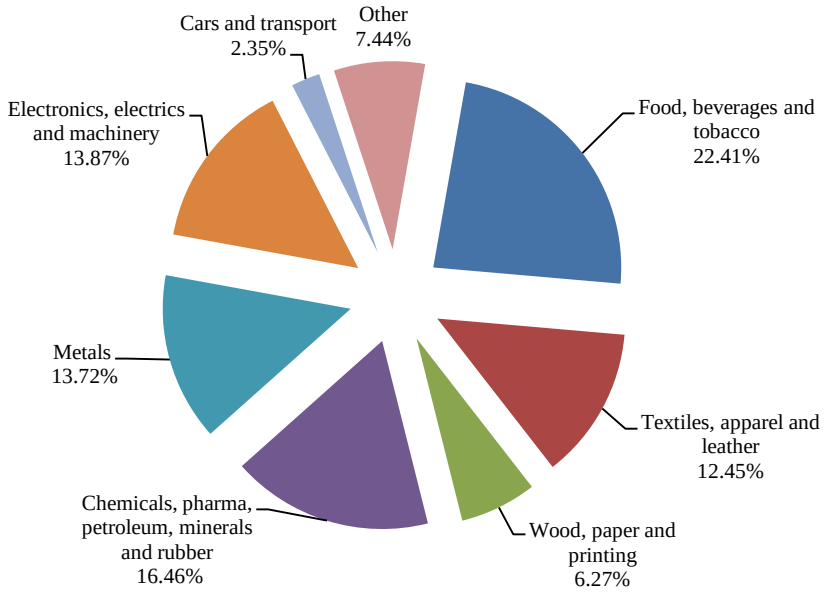
The key challenge ahead, therefore, is to regain both cost and non-cost competitiveness, and to speed up the transition towards a more knowledge-intensive economy by increasing and improving the use of innovation, and addressing the skills mismatch. The implementation of burden-reduction initiatives at the federal and regional levels is important to accelerate the simplification and streamlining of procedures.

4.2. Bulgaria



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.2: Manufacturing sectors – Bulgaria (2010)



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

4.2.1 Introduction

Despite relative progress between 2007-11 Bulgaria is still characterised by low productivity and dominance of low-tech and medium-low-tech industries, with food, beverages and tobacco as the biggest sector. The transition from a resource-based to an innovation-based economy is a challenge. However, high- and medium-high-technology firms produce 29 % of the total value added and employ 21 % of the labour force in manufacturing.

4.2.2 Innovation, skills and sustainability

Innovation

The Innovation Union Scoreboard 2013[181] ranks Bulgaria in the 'modest innovators' group. Weaknesses exist in particular in open, excellent and attractive research systems; finance and support; firm investments; and linkages and entrepreneurship. Only 17 % of SMEs have introduced marketing or organisational innovation (EU average 39 %), and only 21 % have introduced a new product or a new process (EU average 34 %).[182]

Under the Europe 2020 strategy, Bulgaria aims to invest 1.5 % of GDP in R&D by 2020, which is an ambitious target as current R&D intensity is slightly above 0.5 %. While R&D investment by business has increased slightly to 0.3 % of GDP, some of this is due to a change in accounting practices.

The World Economic Forum ranks Bulgaria 97th out of 144 countries in innovation and sophistication; although in efficiency enhancers it is 59th out of 144 countries.[183] Relative strengths in the completion of tertiary education and upper secondary education lay the basis for improvement. Recent policy initiatives include measures to improve competitiveness in science; identifying and promoting projects that would be suitable for commercialisation; and supporting private sector capacity for research and innovation. Further initiatives have been taken to improve the linkages between academia and businesses, but the legislation was delayed by the government's resignation in February 2013 and the subsequent general elections.

A National Innovation Fund was set up in October 2012, and should be up and running by the end of 2013, with the overall objective of promoting research and carrying out feasibility studies on new

181 Innovation Union Scoreboard (Apr 2013).
182 Eurostat (Community Innovation Survey) (2008).
183 Efficiency enhancers comprise higher education and training, the efficiency of goods and labour markets, the status of financial market development, technological readiness and market size.

or significantly improved products or processes. Two grant schemes to support research and innovation activities by SMEs either in-house or in partnership with R&D organisations were set up in 2011. Seventy-seven grant agreements were signed for research, and 110 start-ups received innovation support in 2012.

Skills

Labour productivity in Bulgaria is low, and the percentage of employees in manufacturing who have completed higher education is below the EU average. To increase competitiveness by enabling specialisation in higher value added sectors, Bulgaria needs to improve the education system and introduce basic business training.

Unemployment varies across the regions, with the national unemployment rate at 12.3%. Youth unemployment has been increasing constantly since 2010, and in the fourth quarter of 2012 reached 28.4%.[184] This has to be seen in the context of a structural labour market mismatch: the annual demand for graduates with engineering and technical skills has been estimated at 64000, against 23000 available graduates with those skills. At the same time, there are 46000 graduates in business and economy against a demand of 23000, and 24000 humanities graduates with an estimated need of 2000. Investment in education is below EU average at 3% of GDP against 5.6% for the EU. The gap between the supply of graduates and labour market demand worsens structural unemployment and hampers the development of high-value, innovative sectors. Implementation of the reform of higher education, effective governance and sufficient investment would help to promote growth and competitiveness.

Sustainability

The Eco-Innovation Observatory ranks Bulgaria seventeenth in the EU on its eco-innovation scoreboard,[185] although only a quarter of SMEs have introduced environmentally friendly innovations or received public support for their resource efficiency measures. A grant scheme is in place to help SMEs to improve the efficiency and productivity of environmentally friendly technologies.

Bulgaria is heavily dependent on a single source of energy and energy system liberalisation and modernisation has not been completed. Energy prices have remained regulated as they are seen to have an impact on economic and political stability.

Although a large majority of SMEs have taken resource-efficiency measures, there is room for improvement, especially in the energy front. Benefiting from very low electricity prices, industry is Bulgaria is the most energy intensive in the EU;[186] and the CO2 intensity is also the highest. Reducing energy intensity should also increase energy independence.

Bulgaria is committed to reaching its goal of renewable energy sources representing 16% of its final energy consumption, and 10% in transport, by 2020. In 2010, the renewables accounted for 13.8%, which exceeded the first interim target of 10.7% set for 2011.[187] In the transport sector, renewables accounted for 0.4% in 2011. The law on renewable energy sources was amended in February 2013 to introduce a mandatory share of bio-fuels in the fuel mix used for transport.[188]

The political developments in January and February 2013, with the resignation of the government and the general elections, were partly prompted by flawed energy sector liberalisation and a resulting rise in the price of electricity. Energy-sector reform and strategic targeting of energy and resource efficiency, along with improvements in household energy intensity, are essential to economic development, and will have beneficial effects on both competitiveness and political stability.

The energy efficiency law requires certificates for all buildings, industrial, public or private. An amendment reduced the minimum size from 1000 square metres to 500 square metres as from March 2013.[189]

4.2.3 Export performance

In 2012, total exports of goods and services increased to 68.8% of GDP from 47.5% in 2009, and were 163% of the 2006 level, indicating a recovery after a fall of over 20% between 2008 and 2009. Extra-EU exports rose by 40% between 2010 and 2012 while intra-EU exports rose by 28%, but the EU is still the destination for 63.4% of total exports.

184 Eurostat, Unemployment Statics, April 2013.

185 Eco-innovation in Bulgaria, EIO Country Profile 2012.

186 Eurostat and EAA data figures indicate that industry in Bulgaria is the most energy intensive in the EU, at 0618 kg oil eq./EUR GVA against 0184 for the EU-27. CO2 intensity is also the highest at 5998 kg CO2 eq./EUR GVA against 0919 for the EU-27.

187 Renewable energy progress report (COM/2013/0175 final).

188 Law on energy from renewable sources, published in the Official Journal, No 35, 03.05.2011, as amended on 15 February 2013.

189 Law on energy efficiency, published in the Official Journal, No 24, 12.03.2013.

Exports of non-financial knowledge-intensive services and high-tech manufacturing rose by almost 156% between 2007 and 2012. Exports in these two categories represent only 3.8% of the total value of exports, which rose by 144%. In 2013, the time required for imports was 17 days, and for exports 21 days, against an EU average of 11.

Support for SME access to international markets is provided by the agency for the promotion of SMEs. Available schemes include participation in international professional fairs and trade missions. A national export portal has been part-funded by the ERDF and provides export strategies for 18 sectors.[190] The Bulgarian Development Bank provides loans of between EUR 250 000 and EUR 3 000 000, and loan guarantees, for export-oriented companies.[191]

4.2.4 Business environment and public administration

Business environment

Bulgaria's ranking in the World Bank's Doing Business report fell in 2013 to 66th out of 185 countries, largely due to the stagnation in institutional modernisation.[192] The World Economic Forum's 2012 Global Competitiveness Report indicated an improvement in its global competitiveness index, at 62nd out of 144 countries in 2012-13 (as compared to 74 out of 142 in 2011-12). The country is characterised as efficiency-driven, and its performance as better than many other countries in this group, except for the 'institutions' ranking of 108th out of 144.[193]

Recent measures to improve the business environment include lowering the starting capital requirement; introducing e-government services to facilitate tax compliance; enabling tax payments using a single account and internet banking; and lowering bank charges.[194] Tax compliance remains burdensome, although the average total compliance time fell from 500 hours in 2010 to 454 in 2011.[195]

A package of 24 measures was adopted in August 2013 aiming at reducing time, cost and number of documents to be provided. These concern for instance administrative services provided by local authorities, and by the food safety and maritime agencies. Further 70 measures are announced for adoption in autumn 2013.

Corporate income tax is charged at a flat rate of 10%, and there is the possibility to take advantage of a shorter period for VAT refunds and apply self-billing for VAT on imports of equipment for investment projects worth over EUR 5 million with maximum duration of two-years that create at least 50 jobs. This is designed to attract foreign direct investment. An automotive cluster[196] was set up in July 2012 with more than 20 multinational and local businesses, complementing the existing Electromobil industrial cluster.[197] A national action plan for sustainable automotive transport, including electronic vehicles, has also been adopted.[198]

The licensing complexity index, measuring the economic impact of legal and administrative procedures for post-registration licensing, is 25% higher in Bulgaria than elsewhere in the EU.[199] It is easier to start a business than last year, as both the time needed, and the cost have fallen.

Investment in infrastructure could unlock wider growth and investment, particularly in railways and ports, but also in multimodal hubs, as these would allow Bulgaria to exploit its geographical location at the crossroads of EU, the Balkans and Turkey.

A national programme 'Digital Bulgaria 2015' was adopted in 2012.[200] Although fixed broadband covers about 90% of homes, the take-up is 51%, which is below the European average of 73% of homes. Broadband infrastructure is still lacking, in particular in rural areas.[201] Equipment providers and infrastructure operators have suffered delays in payment by the public authorities, although the late payments directive should change this.

Overall, businesses would benefit from more transparent and simpler regulations and procedures. The results of the action plan to reduce the administrative burden (2012-14) that was adopted in June 2012 remain to be seen.

190 See export.government.bg.

191 See http://www.bbr.bg/bg/кредити-по-програма-партньори.html

192 Doing Business 2013; Bulgaria ranked 57th in 2010 and 59th in 2011.

193 The 'institutions' indicator measures bureaucracy and red tape, overregulation, corruption, dishonesty in dealing with public contracts, lack of transparency and trustworthiness, inability to provide appropriate services for the business sector, and political dependence of the judicial system.

194 National reform programme 2013.

195 PWC Paying Taxes 2013: The Global Picture.

196 http://www.automotive.bg/?go=news

197 http://www.emic-bg.org/content/item/1

198 http://www.emic-bg.org/files/files/SAP-NPD_EV_2012-2014-final.pdf

199 SBA (Small Business Act) Fact Sheets 2013.

200 Decision of Council of Ministers No 953, 16.11.2012.

201 Digital Agenda for Europe Scoreboard, 2013.

Public administration

Government effectiveness is below the EU average[202] and deficiencies in administrative capacity limit the absorption of EU funds. However, improvements have started to be made. The recent incorporation of management of the competitiveness Operating Programme in the Ministry of Economy and Energy is aimed at reducing the administrative burden on beneficiaries and could simplify reporting obligations. Legislative improvements to public procurement have been introduced, but require sound implementation, including broader ex-ante control of procedures. Further amendments were proposed by the Government in summer 2013, with the stated objective of improving transparency and access to public procurement markets, including by SMEs.

Transparency International's 2012 corruption perceptions index[203] ranks Bulgaria 75th. To improve the stability and competitiveness of the business environment, the government has made tackling corruption a major objective.

The EU Justice Scoreboard[204] shows that the judicial system has improved, as the disposition time of civil cases has shortened to 67 days in 2010 from 148 days in 2008. The clearance rate is 99 %, with a slight increase in pending cases.

An integrated strategy for the prevention of corruption and organised crime has been drafted. Further action on the independence of the judicial system and on the efficiency of the legal framework in settling disputes would be warranted, however. Strengthening customs performance would also help to protect national and EU financial interests.

4.2.5 Finance and investment

The financial system is stable but the operating environment is challenging, with low growth and decreasing asset quality. Innovative start-ups and SMEs have problems in accessing finance, in particular bank loans, because banks' balance sheets adjustments and the upward trend in non-performing loans (rising from 6.4 % in December 2009 to 16.9 % in June 2012).

A new funding scheme was adopted in 2012 to support start-ups,[205] and Structural Funds are being used for SME finance under the Jeremie scheme. Further, a new initiative has been announced this year to support SMEs in rural areas with investment in areas such as technology. However, there are some doubts about the effectiveness of the government schemes.[206] The World Bank is providing technical assistance to help to absorb the Structural Funds.

More progress has to be made in improving the insolvency procedure and to fight the upward trend in non-performing loans. The time needed to wind up a business has remained constant at 3.3 years.[207]

4.2.6 Conclusions

Bulgaria faces considerable challenges in improving its competitiveness. In the short term, industry needs to move towards products and services with higher added value, and labour productivity needs to be improved. Higher productivity should also be pursued in service sectors, including tourism.

A national strategy for SMEs 2014-20 is being prepared. It indicates that Bulgarian authorities are grasping the problem, as the draft aims to improve Bulgarian competitiveness by covering issues concerning both SMEs and industrial sectors .

These require a favourable operating environment for businesses, particularly with regard to the administrative burden on businesses; improved energy and resource efficiency; and access to finance. In the medium term, the move towards a more knowledge-oriented economy requires improvements in the quality of infrastructure, in education, and in research and innovation.

202 Excellence in Public Administration for Competitiveness in EU Member States, 2013.

203 Transparency International Corruption Perceptions Index 2012.

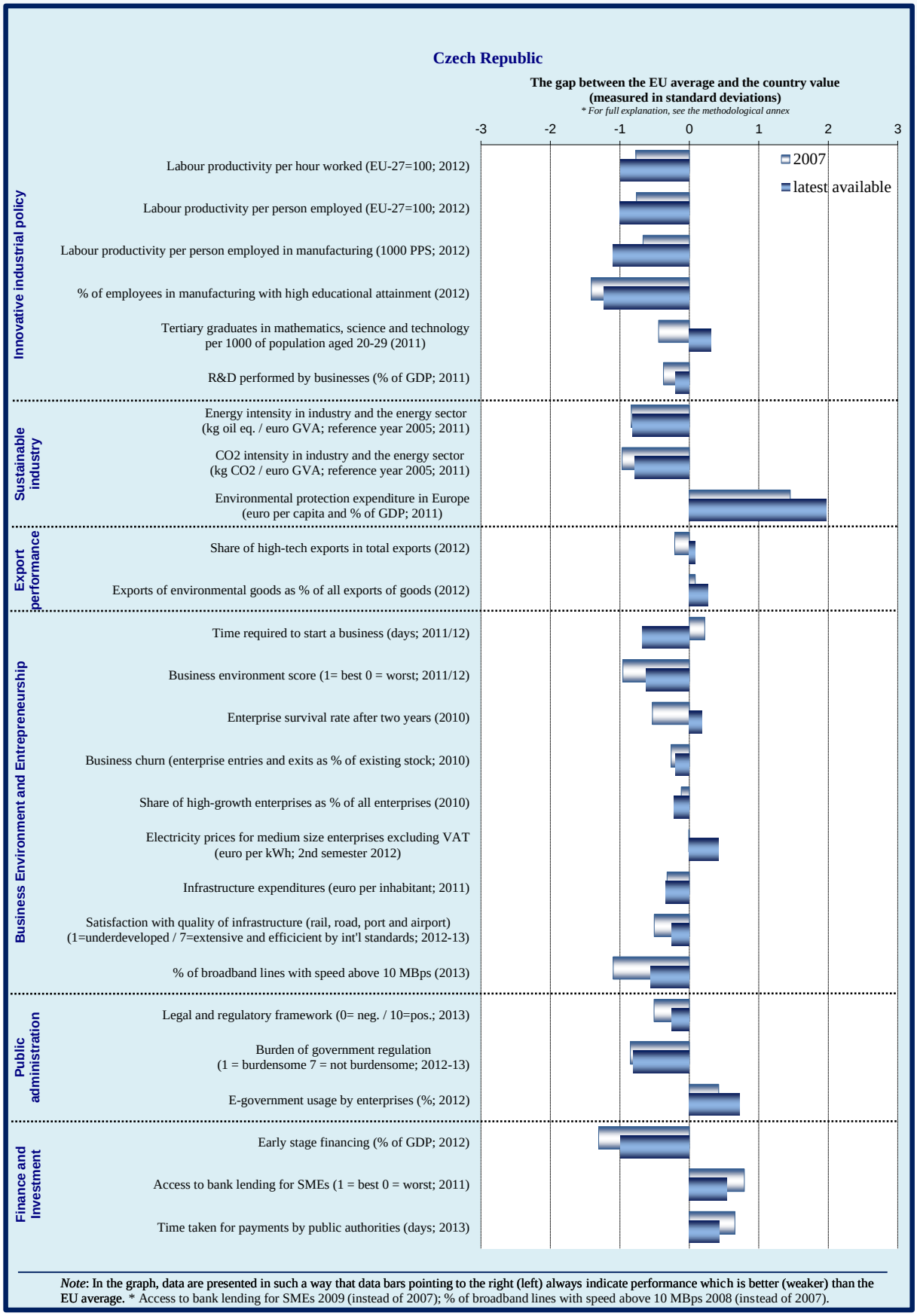
204 EU Justice Scoreboard 2013.

205 The Entrepreneurship Acceleration and Seed Financing Instrument, worth € 21 million, is currently operating with investment in innovative projects, mostly in ICT.

206 Economist Intelligence Unit (2013): 'Country report: Bulgaria', World Bank (2013), AECM (2013).

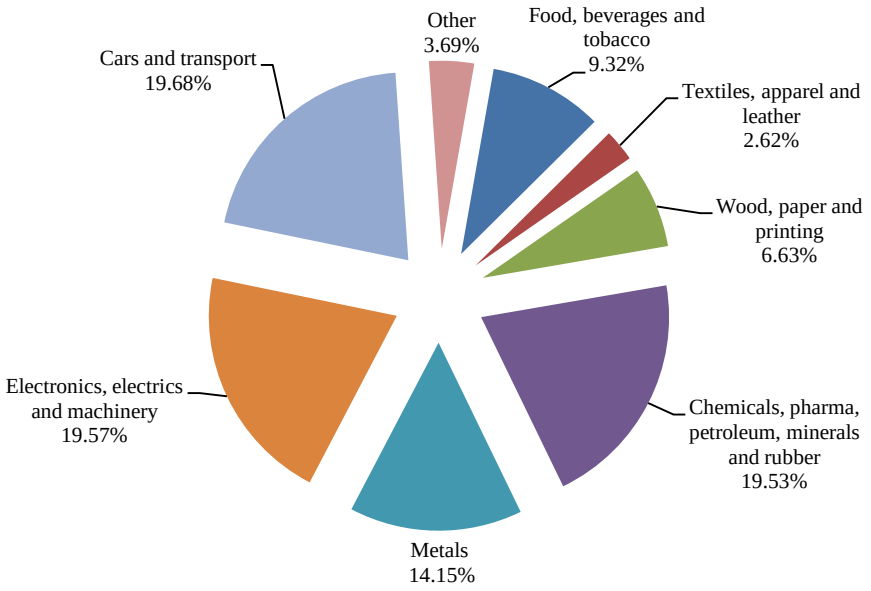
207 World Bank (2013): 'Doing Business: Bulgaria', European Commission (2012): 'SBA Fact Sheet: Bulgaria', Minutes of the meeting between the European Commission Secretariat-General and the Bulgarian Ministry of Finance (February 2013).

4.3. 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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.3: Manufacturing sectors – Czech Republic (2010)



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

4.3.1 Introduction

The Czech economy contracted in 2012, having continued to shrink for four consecutive quarters. Domestic demand has been significantly hit by increases in energy and food prices, continued fiscal consolidation and weak wage growth. The outlook for 2013 is one of stagnation, with domestic demand expected to remain weak. The industrial sector represents an important segment of the economy, measuring approximately 38 % of the Czech economy and employing around 40 % of the active population.

The manufacturing sector plays a very important role in the economy, representing 24.7 % of value added in 2012, compared to the EU average of 15.3 %. The main sectors of importance are the chemicals, pharmaceuticals, petroleum, mineral and rubber sector, accounting for approximately 20.4 %; the electronics, electrics and machinery sector, representing 19.1 % and the cars and transport sector, with approximately 17.3 % of the total for 2009.

Data from 2010 shows that labour productivity per person employed has been declining and was again negative in 2012. The 2013 Global Benchmark report also shows that labour productivity in 2012 was below OECD and Eurozone averages, and that growth in labour productivity in 2008-12 was almost negligible.

4.3.2 Innovation, skills and sustainability

Innovation

According to the 2013 Innovation Union Scoreboard,[208] the Czech Republic is classified as a moderate innovator. R&D (research and development) intensity has been increasing steadily between 2009 and 2011. In fact, business related R&D as a percentage of GDP increased to 1.11 % in 2011 compared to 0.96 % in 2010 and 0.88 % in 2009. The relatively good performance of the research and innovation system is largely due to a strong manufacturing sector with industrial specialisation in innovative sectors such as motor vehicles and electrical equipment along with an increasing level of R&D financed from abroad.[209]

However, the R&D investment faces a number of challenges. These are to increase the motivation and competencies of businesses to move to become

208 http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index_en.htm.

209 For details see "Research and Innovation performance in EU Member States and Associated Countries, Innovation Union progress at country level, 2013".

innovation leaders in their markets; to achieve or maintain excellence in selected areas of research; to enhance the quality of education system; and to set up an appropriate institutional framework. There is no overall authority effectively to govern the R&D and innovation system. While there is a research, development and innovation council, which acts as an advisory body, there is a lack of back-office support to implement strategies. There is also still little co-operation between research institutions and businesses, which is hindering economic progress. The international competitiveness strategy 2012-20 is trying to address these shortcomings, and the government has proposed practical training for students of upper secondary and higher education.

Competence centres have been set up, aiming at encouraging medium to long-term partnerships between the public and private sectors on research and innovation. A first call was undertaken in mid-2012, with a significant amount of proposals being submitted and 22 projects being selected. A second call was undertaken in March with 12 to 16 projects aimed at being supported.

Most research and innovation support for businesses are grants, in particular through the Alpha programme, which has the largest available financial resources, the Beta and Omega programmes which are administered by the Czech Technology Agency. Other useful programmes include the TIP (technology, information systems and products) programme and the operational programme entrepreneurship and innovation. During 2011 and 2012, a number of projects were successfully carried out under the knowledge transfer partnership pilot project, introduced in 2009, to support the transfer of knowledge between universities and SMEs. The Government is currently considering whether this project should be extended on a larger scale in the next programming period.

In addition, there is an R&D tax incentive which has been recently amended to extend the scope of eligible expenses to outsourced R&D, but this is not yet in force. Finally, while the Government has set an R&D target of 1 % of GDP by 2020 for public expenditure, which increased from 0.58 % in 2010 to 0.78 % in 2011, it is has not set an overall R&D target to cover both private and public R&D.

Skills

The quality of compulsory and tertiary education is currently an issue, and as such it has been the scope of a country-specific recommendation from the Council. While performance is better than the EU headline target regarding early school leaving, measuring 5.5 % in 2012 as compared to the EU target of 10 %, its tertiary attainment rate is significantly lower than the EU average. Nevertheless, from 2006 to 2012 it has nearly doubled to 25.6% (EU average of 35.7%), covering some distance towards the national 2020 target of 32%, which is likely to be achieved.

On ICT skills, 51% of 16-24 years-old have high computer skills (2012), above the EU average of 40 %.[210] With respect to entrepreneurship, only 39.2 % of Czechs believe that they have the required knowledge, skills and competence to set up a business which is rather low compared to other EU countries.[211] There have also been calls from stakeholders for more attention to be given to support entrepreneurship in schools, notably at university level.

The Government is preparing a revision of the higher education act which aims at amending the accreditation procedure from 2016, notably to help develop more professionally-oriented bachelor degrees to improve the labour market relevance of higher education. Another goal is to link funding of higher education institutions to their performance. Generally students at schools are obtaining results comparable to international educational achievements, but in mathematics and science the outcomes have worsened over time. In response, the authorities are developing minimum standards and a national computer-based testing. Another set of measures aim at improving the quality and attractiveness of teaching through increasing initial salaries and developing a new career system and in-service training for pedagogical staff from 2015.

Sustainability

In the last decade, industrial production has decreased and there has been a continuing decline in electricity generated from coal-burning power plants. However, given the significant share of

[210] Eurostat ICT household survey.
[211] 2011 Global Entrepreneurship Monitor.

industry in the national economy, the country remains highly energy intensive. In fact, data for 2010 shows that industry accounts for approximately 34.2 % of energy consumption in the economy, while transport accounts for approximately 24.6 %.[212] When compared to other Member States, data for 2011 shows that it is the one of the most energy and carbon intensive Member States in the industry and energy sector. As a result, the energy intensity of the economy is still amongst the highest in the EU. Nuclear power and solid fuels account for almost 90 % of gross electricity consumption. In 2012, a proposal for an update of the state energy strategy was adopted by the Government.[213]

The share of renewable energy in gross final energy consumption for 2011 measured 9.4 %.[214] The renewable energy target is 13 % by 2020, with a 10 % target of renewables in all modes of transport. Investment has been made in wind and photovoltaic generation over the past years. The national renewable energy action plan seeks to develop renewable energy sources but these are not considered to be strong in all sectors, particularly in transport and grid reinforcements.[215]

An updated raw materials policy, also covering secondary raw materials, was prepared in the summer of 2012 but has not yet been approved. Amongst the goals of this policy is to create the conditions to secure reserves and sustainable extraction of raw materials and to support material saving technologies.

The most prominent eco-innovation areas are waste management, small scale hydropower technologies, and specific developments in nanotechnologies. There are initiatives on improving energy efficiency of buildings and development of cleaner vehicles. It is pertinent to note however that the Czech Republic has still not set its energy efficiency target under the Europe 2020 strategy which was due in April 2013.

By the end of 2013 the Government is aiming to present a waste prevention programme. Some goals of the waste prevention plan will be part of the newly prepared waste management plan. Currently the country relies significantly on landfilling of municipal waste.

4.3.3 Export performance

Exports accounted for approximately 75 % of GDP in 2012, with approximately 6 % annual growth rate in 2008-12, which is higher than the OECD and Eurozone averages.[216] The total value of exports from the Czech Republic has steadily increased from 2009 with the internal EU market representing approximately 83 % of the total in 2011.[217] Germany is a particular important destination. The share of high-tech exports in total exports measured 16.2 % in 2011.

The Czech export strategy 2012-20 remains the Government's strategic document aimed at improving export performance. The strategy focuses mainly on SMEs, aiming at increasing the number of SMEs exporting to third markets by 50 % by 2020. An annual progress report was also prepared. CzechTrade is the Government agency responsible for export promotion with over 30 offices worldwide. It is envisaged that a one-stop-shop for exports will be set up to offer information to interested entrepreneurs in various regions.

4.3.4 Business environment and public administration

Business environment

The ownership of the competitiveness strategy 2012-20 has moved to the Office of the Government from the Ministry of Industry and Trade, which should allow for improved execution given the co-ordination role of the Office of the Government.

The SME support strategy for 2014-20 was launched and adopted by Government in December 2012. The strategy sets out 50 specific measures and defines the priority areas for support for the 2014-20 programming period. The four policy

212 Country factsheets of DG Energy (2012): http://ec.europa.eu/energy/observatory/countries/doc/2012-country-factsheets.pdf.
213 Government Resolution no 803/2012.
214 Eurostat data.
215 Europe2020 Staff Working Document for the Czech Republic.
216 Global Benchmark Report 2013.
217 Czech Statistics Office.

priorities are enhancing business environment; development of enterprise based on R&D and innovation; SME internationalisation; and sustainable energy management and development.

According to the World Bank Doing Business Report 2013, the Czech Republic ranks 65th on ease of doing business out of 185 countries. Some of the main bottlenecks for businesses identified relate to starting a business,[218] getting electricity, protecting investors and paying taxes.

As in many other Member States, the tax rates change often, placing additional administrative burden on businesses. The establishment of a single tax collection point for personal and company income taxes should start operating in 2015, focusing on the collection of direct taxes and health and social insurance contribution in one place. This should help to reduce the administrative burden of paying taxes, even though it is not cover all types of taxation.

There are also a number of services which aim at assisting businesses, in particular SMEs, such as the points of single contact (PSC), SOLVIT centres and the contact point for products that have been integrated into a single platform through the internet portal for entrepreneurs.[219]

In 2012, the Government carried out a successful pilot project on the introduction of common commencement days. The project foresees the introduction of the majority of legal acts concerning the business environment on two days only, namely 1 January and 1 July, thus decreasing uncertainty and administrative burden. The evaluation of the pilot project should be submitted to the Government for a decision on whether the common commencement days will be introduced on a broader scale.

There have been a number of legislative acts recently which may have a positive effect on the business environment, such as the new act on business corporations, which is to be effective from 2014. This act should provide improvements for limited liability companies. There have also been amendments to the trade licensing act. Moreover, a new law on investment incentives extended the five-year reduction in corporate tax rate to a 10-year period.

Services account for approximately 58 % of the total value added.[220] The importance of services is also reflected in the fact that according to data for 2011, export of services as a percentage of total exports accounted for 16.3 % as opposed to 6.6 % of goods accounting for total exports.

The Czech Republic is the Member State with the highest number of regulated professions. A public consultation on the review of the regulatory framework for professions has been conducted in 2012 and results are to be presented in 2013.[221]

The transport infrastructure faces challenges with respect to its quality and functionality and as such it hinders possible economic growth. As highlighted in the 2013 national reform programme, the completion of backbone infrastructure, and connecting remaining regions and main industrial centres to Czech and European routes is a pre-requisite to improving the business situation.

The transport system suffers from a lack of interconnectivity between railways and other forms of transport. Given the difficult economic climate, the completion of planned rail and highway projects is now uncertain. The government intends to adopt a new transport policy for 2014-2020, as well as a medium-term plan of transport infrastructure development, both of which should improve the strategic planning in transport development.

Public administration

Issues relating to public administration and corruption are some of the most pressing issues for the Czech Republic. In June 2013, a draft public servants act was approved by the Government (an act had been approved in 2002 but entry into force was postposed). In the effort to ensure a stable,

218 World Bank Doing Business 2013 calculates that it takes 20 days to start a business in the Czech Republic. The Czech Republic disputes this figure, stating it takes 10 days to start a business.

219 Businessinfo.cz.

220 OECD Economic Survey Czech Republic November 2011.

221 The 2013 country-specific recommendations for the Czech Republic included "Drawing on the on-going review, proceed with a reform of regulated professions, by reducing or eliminating entry barriers and reserves of activities where they are unjustified." http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm

more transparent and professional public service, it should be noted that a strategic policy framework for reinforcing the administrative efficiency with several elements to be put in place and in the process of being implemented is known as ex-conditionality for the use of EU funds in 2014-20.

Another important area of action is to ensure the appropriate enforcement of the public procurement act which was substantially amended on 1 April 2012. The adoption of this amendment was a good example of wide consultation between government, businesses and NGOs. While Government advisory and support services for bidders currently exist, the time taken to respond to requests is still quite long (in particular the capacity of the office for the protection of competition is not sufficient). Further administrative capacity at local and regional level would be useful.

The Czech Republic also permits anonymous shareholding, whereby a lack of transparency of ownership of shares can lead to issues related to corruption, money laundering and tax evasion. A legal act to address this has been approved by Parliament.[222] According to it, bearer shares will now be permitted to exist, but only if they are deposited in the collective depository of a securities trader, the records of which allow for the identification of share ownership, with access limited to selected public authorities. Measures will enter into force in 2014.

There is a two-year anti-corruption strategy, with the strategy for 2013-14 building on that of 2011-12. While a number of measures have been completed, a significant amount of legislative proposals from the previous strategy were transferred to the new strategy. Even though monitoring is done on a quarterly basis, the department dealing with this strategy within the Office of the Government has limited resources and limited political clout when measures are not fulfilled.

The administrative burden on businesses has been reduced by 23 % by the end of 2012, when compared to 2005 levels, narrowly missing the 25 % target. An eco-audit exercise is being continued which aims at reducing unjustifiable administrative and finance burdens on businesses with respect to environmental legislation. Efforts were also undertaken to consult with the business sector on the most troublesome issues for entrepreneurs.

Finally, in July 2012, the basic registry system, i.e. the unifying of fragmented data stored by public authorities, came into operation. As a result there has been a rise in e-government use to 92 % of businesses in 2012.

4.3.5 Finance and investment

SMEs tend to suffer the same difficulties in access to finance as in other Member States, including difficulties to obtain credit due to lack of collateral, short business history etc. Moreover, the current economic climate is causing banks to be more risk-averse, leading to banks tightening credit. Banks have recently launched a guarantee facility for innovative start-ups. These types of projects tend to be aimed towards companies with a high return and have been taken up by solar energy, ICT, and machinery sectors.

However, there is also a lack of seed and growth capital, and so equity financing has been limited. The Government, however, is to launch a venture capital fund financed through the operational programme enterprise and innovation. The fund will have EUR 53 million at its disposal and financing will go towards early stage financing and growth capital. EUR 31.7 million will be dedicated to early-stage funding, while the remaining EUR 21 million will go to growth capital, for more developed companies. Private co-financing will consist of 30 % for those applying for the seed financing and 50 % for the growth financing. There is significant interest from SMEs to take up these funds. The aim is for the funds to become operational at the end of 2013.

With respect to foreign direct investment, the inflow was the highest in the last five years. Investors have increased mostly reinvested profits but also equity of their companies.[223] The strong inflow of direct investment has resulted in a significant surplus in the financial account of the balance of payments.

222 Law No 134/2013 Coll.

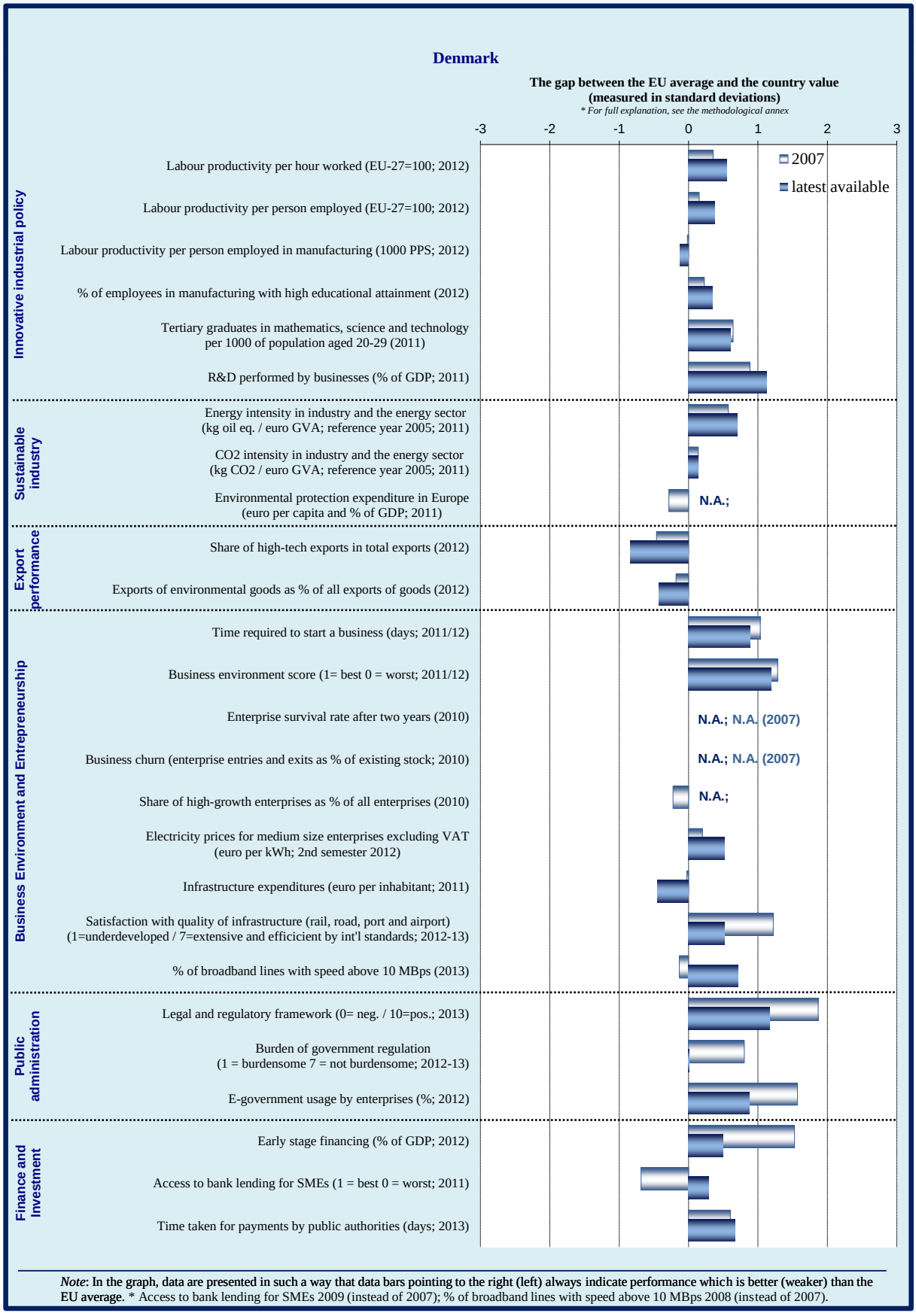
223 Czech Statistical Office.

4.3.6 Conclusions

Issues pertaining to public administration, such as an effective implementation of the anti-corruption strategy and a robust public servants act, are some of the major challenges. Sustainable industry and improving the quality of education and skills are also areas where there are significant challenges.

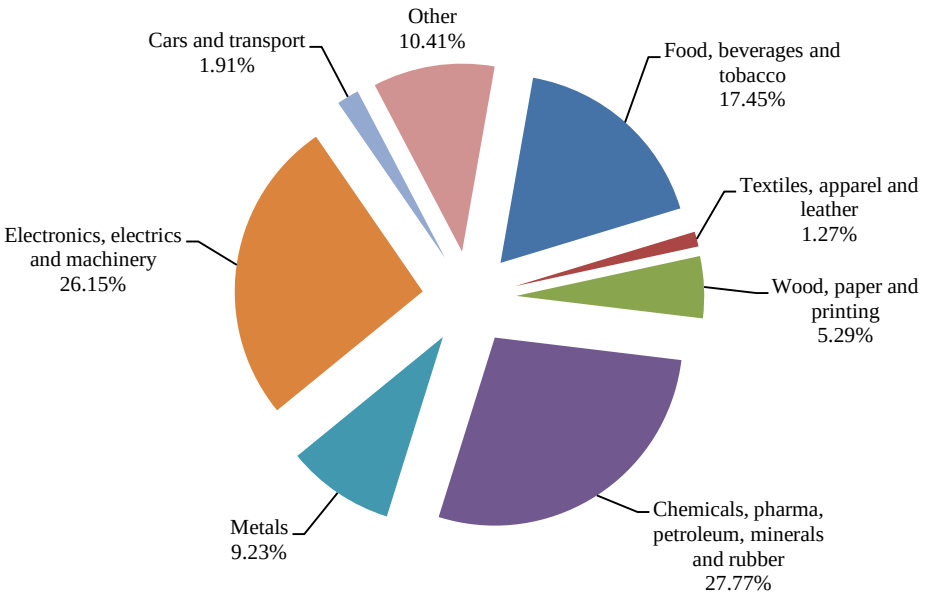
On the other hand, with respect to business environment, it is encouraging that a venture capital is being set up by the Government, given the lack of such instruments in the past. There is keen interest in this by enterprise and is likely to be taken up rapidly.

4.4. 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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.4: Manufacturing sectors – Denmark (2010)



Note: No data available for sectors C15 (manufacture of leather and related products) and C19 (coke and refined petroleum products).
Source: Eurostat

4.4.1 Introduction

Denmark is a small and wealthy[224] open economy that is also very competitive. Its GDP contracted 0.5% in 2012 but the outlook for 2013 and 2014 is positive, although the wider prospects for the EU economy will strongly influence this. The three largest Danish manufacturing sectors represent both knowledge-intensive (electronics, electric and machinery, chemicals and pharmaceutical), and traditional sectors (food).

Competitiveness has deteriorated in the past decade. Real wage growth has exceeded productivity growth and unit labour costs have increased by around 20%. The need to improve competitiveness and productivity has been the topics of considerable debate and the government set up a productivity commission[225] to identify the major drivers and the main barriers. The mandate of the committee lasts until the end of 2013, but it is issuing policy recommendations along the way. The commission has confirmed that productivity growth in the domestic Danish services sector has been slower than in countries like Germany, Sweden and the Netherlands. Productivity growth in manufacturing is in line with global developments, as Danish businesses operate in competitive markets.

To improve the conditions under which businesses operate, the government has also set up business-government task forces (growth teams) to make recommendations in eight key sectors where Danish businesses have traditionally been strong. These are tourism, food, energy and climate, health and welfare solutions, creative industries, water/bio/environmental solutions, ICT, and maritime industries. So far the task forces have made proposed initiatives in the areas of regulating better, improving public-private partnerships, attracting more foreign investment and focusing on export and branding.

4.4.2 Innovation, skills and sustainability

Innovation

The Innovation Union Scoreboard 2013 classifies Denmark as an innovation leader. The national research intensity target is 3%, of which 2% should come from the private sector, and 1% from the public purse. The same target was in place in 2006-12 and has been reached. The research and innovation system functions well, with dedicated councils and funding schemes, ranging from basic

[224] GDP per capita is 56 147 USD; 'Global Competitiveness Report 2011-12', World Economic Forum.

[225] Produktivitets Kommissionen, http://produktivitetskommissionen.dk/publikationer.

research to commercialisation and entrepreneurship.[226]

The new innovation strategy that was launched in December 2012 aims to improve effectiveness and increase productivity. The strategy involves moving to a simpler and more flexible research and innovation system, in particular through the integration of the existing research bodies. It also focuses on research and development (R&D) initiatives to support advanced manufacturing, such as automation and robot technologies. By 2020, the policy aim for Denmark is to be among the top five OECD countries in terms of the proportion of innovative firms, level of business investment in R&D, and the proportion of firms that employ highly-skilled workers. Reaching this goal would require strong, consistent and long-term policies

Commercialisation of research is one of the weak points of the Danish research and innovation system, in particular taking new technologies into marketable products. Stronger links between research and businesses and more effective knowledge transfer could help in combining business skills to research and innovation competencies. In practice, work along these lines is progressing, and some of the Danish research centres provide good examples of effective cooperation.

Skills

On skills and education, Denmark has already met[227] its two headline objectives of the Europe 2020 strategy, as early school leaving rate was 9.1 %, and tertiary attainment rate was 43 % (2012). However, the education system could be more cost-effective, there is a lack of apprentice places, and drop-out levels are high. Denmark is above the EU targets in reading, mathematics and science, but the performance in mathematics worsened significantly between 2006 and 2009, whereas the share of low-achievers in reading and science fell during the same period.

To address the deficiencies, the main skills initiatives are the youth package of August 2012 and the reform of the public school system launched in December 2012. The youth package finances job rotations and apprenticeship programmes to help young people improve their skills to match industry demand.

The aim of the school reforms is to reduce early school leaving through more hours spent on core subjects such as Danish, maths and English, and more emphasis on practical training.[228] Furthermore, a committee of experts, including representatives of trade unions and employers, is due to make proposals in autumn 2013 to find a solution to the problem of a lack of private apprenticeships and high drop-out rates. There are discussions on introducing flexible, shorter vocational training cycles for the most vulnerable learners. Denmark is one of the EU leaders in adult participation in lifelong learning with a rate of 31.6 % in 2012 against an EU average of 9 %.

Sustainability

The national energy efficiency action plan sets out the energy efficiency policies required to reach the 2050 target of achieving independence from fossil fuels. Steps have been taken to increase the energy efficiency of public buildings, increase green procurement and make energy consumption and energy savings more transparent. A long-term roadmap sets out how the minimum energy performance standards of buildings will be improved. Some of the policies that apply to industry include energy saving obligations and higher tax rates for energy. Cars are also subject to a high tax rate, as part of the 'green transport' policy.

4.4.3 Export performance

Danish exports are characterised by the large proportion of food and beverages, albeit with a focus on the higher value segments of these markets. Exports of high-tech, higher value added products have grown, although at a slower pace than in many competing countries.

Between 2000 and 2012, Denmark lost export market share in goods, partly reflecting the

[226] ERAC Peer Review of the Danish Research and Innovation System Outcomes Report 2012.

[227] 'Rethinking education', European Commission 2013.

[228] The country-specific recommendation no 2 of 2013 specifically concentrated on the Danish education system. http://ec.europa.eu/europe2020/making-it-happen/country-specific-recommendations/index_en.htm.

deteriorated competitiveness.[229] More than two thirds of exports go to other EU countries. Certain sectors, including renewable energies and pharmaceuticals, are likely to benefit from increasing demand from outside Europe. However, exports to the BRIC countries (Brazil, Russia, India, and China) have not grown in line with the opportunities provided by these countries, and the government developed strategies to improve trade and investment cooperation with them. It is also focusing on its strengths and competencies in fields such as climate and energy, architecture, research, education and food.[230]

4.4.4 Business environment and public administration

Business environment

An annual survey of investors[231] tries to identify the features of the economy that are the most attractive for foreign businesses. The latest survey cited the competent workforce as the most important reason for investing in Denmark. Other reasons were R&D competence, market access to Nordic countries and to the EU in general, the flexible labour rules, and the quality of infrastructure and services. The high level of taxes and the high living costs were investors' main concerns.

The national regulatory framework is being examined with a view to making life easier for SMEs. A business forum advises the government on how to reduce the administrative burden, and an on-going impact assessment programme seeks to ensure a net reduction in that administrative burden. Furthermore, the Danish authorities have established a market development fund to promote growth, employment and exports, help SMEs to bring new products to market and make it easier for public institutions to purchase innovative products and services.

The low level of competition in services and construction lowers productivity growth and innovation. For construction, one reason seems to be the national building standards that make it difficult for foreign competitors to enter the market. The government is seeking to address the issue by enforcing competition legislation better, modernising authorisation schemes and reforming the national standards.

The Danish Competition and Consumer Authority has identified four service markets that should be further reformed, namely telecommunications, postal services, taxis and pharmacies. The competition policy package of October 2012 consisted of initiatives to tighten up the competition law, including in public procurement. Options for the liberalisation of pharmacies, taxis and plumbing services are being analysed, and the extent of the reforms remains to be decided. A new competition act came into force in March 2013 that introduced the possibility of custodial penalties and increased fines in cartel cases.

The wholesale energy market was liberalised in 1999 and Denmark is part of the Nordic electricity pool, with continuous spot trading. Since 2003 consumers have been able to switch their electricity supplier, although only about 20 % have done so. This has been due in part to regulations restraining competition,[232] in particular fixed retail prices that do not fluctuate with the wholesale price. A number of initiatives are expected to increase competition and the government is considering abandoning the regulation of the retail electricity prices. In 2014 the network operators will become wholesale suppliers of transport capacity, which implies that consumers will only have to pay one bill regardless of whether they have switched supplier or not. Smart meters will be supplied to more than 50 % of users in the next couple of years, and the government has recommended that every consumer should have a smart meter installed before 2020. With smart meters, consumers will be able to choose a price that fluctuates with the wholesale price. Taken together, these measures are expected to increase competition in the retail electricity market.

The tax reforms of 2009 and 2012 are gradually lowering taxes on labour. In 2013, the government announced that it would gradually reduce the corporate tax rate from 25 % to 22 %, reduce excise

229 'In-depth review for Denmark', 2013, European Commission.

230 'Aftale om Danmark som vækstnation.' Danish Government (2011). http://www.fm.dk/Nyheder/Pressemeddelelser/2011/05/~/media/Files/Nyheder/Pressemeddelelser/2011/05/Vaekstnation/Aftaletekst_danmark%20som%20vaekstnation.ashx.

231 'Invest in Denmark', Danish Ministry for Foreign Affairs.

232 'Detailmarkedet for elektricitet', Danish Competition and Consumer Authority, 2011.

duties on energy and packaging, and lower the costs of waste water, and reintroduce previous tax credits for construction work in private homes. These measures have the potential to contribute to stimulating demand, including for small-scale construction work.

While it is relatively easy to start a company in Denmark, stakeholders complain that the administrative burden increases at the later stages of firm life. This may be having an effect on the survival rate of firms, as about half of them cease operations within five years.[233]

Public administration

The public administration system performs well. The indicators on government effectiveness, corruption and fraud, business start-up and ease of acquiring licenses, public procurement, tax compliance and administration and civil justice are all better than the EU average.[234] Denmark ranks sixth in the EU in terms of payment delays from public authorities, with an average payment period of less than 15 days.[235] Widespread use is made of ICT applications, modern human resources management techniques and evidence-based steering and planning instruments.

However, public procurement rules and practices could be improved, as the burden on firms participating in tenders is slightly above the EU average, both in terms of costs and time needed. In civil justice there seems to be room for improvement as regards the costs of contract disputes, including court costs, enforcement costs and average legal fees.

4.4.5 Finance and investment

The financial sector is stable and banks are well capitalised, but despite this, it seems unlikely that lending to SMEs will get back to the pre-crisis level in the near future.[236] In 2012, the volume of outstanding loans to non-financial corporations fell by 2 % and the cumulative decrease since 2008 amounts to almost 5 %.[237] Access to loans has become increasingly difficult for SMEs since the beginning of the economic crisis and the rejection rate for loan applications is 20 %, as against an EU average of 15 %. The cost of credit for SMEs is 50 % higher than for large companies. This is likely to deter SMEs from investing in research and innovation, which will not help in solving the identified problems with commercialising research.[238] Many newly established businesses find it particularly difficult to find financing to build proofs-of-concept, stage technological demonstrations, and develop pilot lines. Another potential concern as regards access to finance is that Danish SMEs are often not well known, making it difficult for them to attract investment.

The authorities have launched several initiatives[239] to tackle the issue of access to finance. In particular, loans to new businesses with high growth potential are administered by *Vækstfonden*, a fully state-owned investment fund. Second, there is a credit guarantee scheme for smaller bank loans of up to DKK 2 million for 2013-15. Third, the Export Credit Fund will provide guarantees to help finance export-oriented production facilities in Denmark.

Furthermore, in the budget negotiations of 2013, an agreement was reached to establish a special green guarantee scheme of up to DKK 350 million. The purpose of this scheme is to improve the conditions and provide support to SMEs to finance new green investment in resource efficiency and resource recycling.

The latest initiative being launched by the Danish government is the Growth Plan DK (April 2013) that aims to improve the conditions under which businesses operate. Several of the plan's initiatives target access to finance for SMEs, including boosting the small growth guarantees by an additional DKK 350 million. A new type of loan will target skilled entrepreneurs with solid business projects, providing additional funding of about

233 http://erhvervsstyrelsen.dk/file/291799/Ivaerksaetterindeks-2012-endelig-version.pdf.

234 'Excellence in public administration for competitiveness in EU Member States', European Commission (2011-12).

235 'Industrial policy indicators and analysis — April 2013', European Commission.

236 Danish Business Authority (ERST).

237 European Commission, Small Business Act Fact Sheet 2012.

238 As set out in the 'Member States' Competitiveness Performance and Policies' report of (European Commission, 2012).

239 'Danish Growth Capital Fund' (Dansk Vækstkapital, a partially owned state investment fund), the 'Development Package' (Udviklingspakken, March 2012) and a 'Credit Package' (Kreditpakken, November 2012).

DKK 1 billion in 2015-17. The guarantee capacity of the Export Credit Fund has been increased, with a further DKK 15 billion made available to finance export projects and investment.

The government is also preparing a legislative proposal to improve the Danish corporate bond market. Legislation will be presented this year that would allow the use of a representative ('trustee') for bond issues. The government will also give banks more opportunities to securitise corporate loan portfolios.

4.4.6 Conclusions

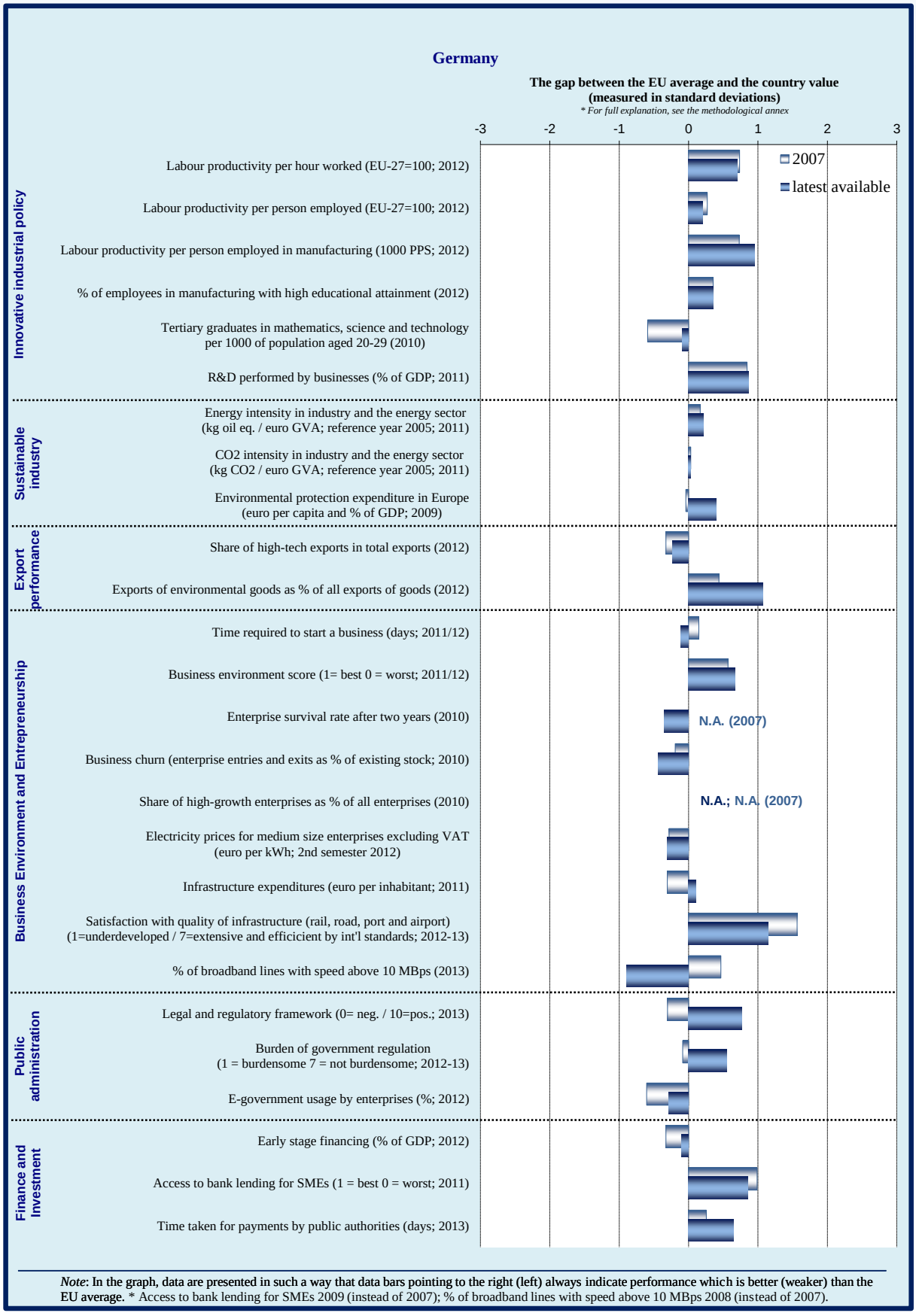
Denmark is one of Europe's most competitive economies, with highly skilled workforce, strong research and innovation capacity, flexible labour rules and high-quality infrastructure as its strong points. Danish exports are diversified, and government policies seek to build on the identified strengths. However, in the longer term, some weaknesses in the education and training system could endanger its position.

There is scope for improvement in the research and innovation environment, as better links between research and businesses could help investment in research and innovation to be more effective. In this spirit the new innovation strategy that was launched in December 2012 aims to improve effectiveness and increase productivity. Further, the low level of competition in services and construction restricts productivity growth and innovation and measures are being taken to enforce competition legislation and removing obstacles from competition.

The Danish public administration works well and widespread use is made of ICT applications, modern human resources management techniques and evidence-based steering and planning instruments.

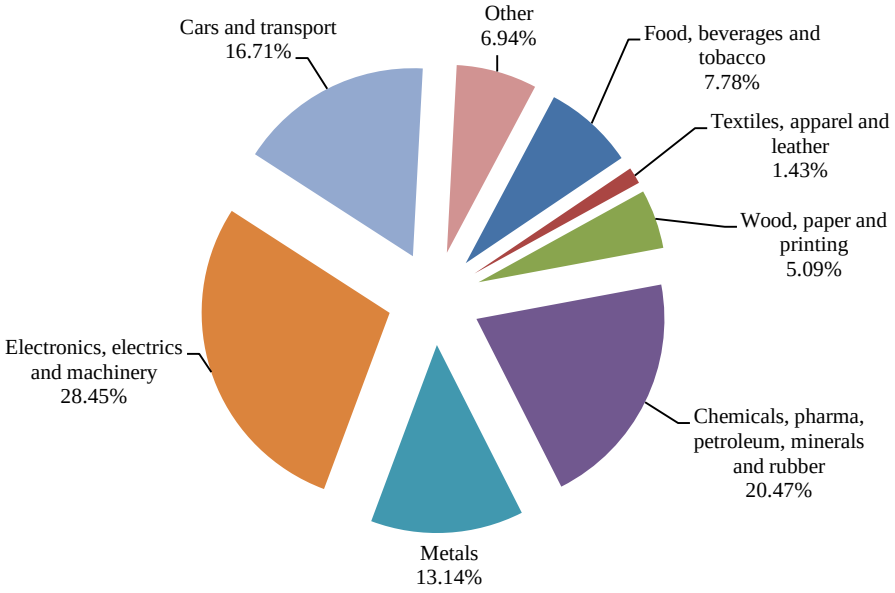
In line with other Member States where access to finance is a problem, the government has taken measures to improve the provision of publicly funded financial instruments for SMEs and widen the potential financing sources, in particular for SMEs.

4.5. 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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.5: Manufacturing sectors – Germany (2010)



Source: Eurostat

4.5.1 Introduction

Manufacturing plays an important role in the German economy and contributes 22.3% to the total value added, as compared with an average of 15.3% in the EU as a whole.[240] Germany is particularly specialised in technology-driven and capital-intensive industries. The World Economic Forum's *Global Competitiveness Report* ranks the country in fourth place.[241] 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 EU average and about 11 percentage points above the euro-area average.[242] Overall, industry is very competitive, although it faces important challenges in securing its competitive position in both the medium and long term.

4.5.2 Innovation, skills and sustainability

Innovation

The Innovation Union Scoreboard 2013[243] confirmed Germany's position among the 'innovation leaders' of the EU.[244] Despite the overall good performance, a decline was observed in non-R&D innovation expenditure and sales of new-to-market and new-to-firm innovations. 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. Innovation strategies of small and medium-sized enterprises (SMEs) often concentrate on high value added and high-quality products in niche markets. The resulting innovations are often modifications or further developments, and not so much real market innovations.[245]

240 Eurostat data for 2012.
241 http://www.weforum.org/issues/global-competitiveness.
242 Eurostat data for 2012.
243 Innovation Union Scoreboard 2013, http://ec.europa.eu/enterprise/policies/innovation.
244 Together with Denmark, Finland and Sweden.
245 KFW Economic Research, *To be the leader of the pack? Innovation strategies in the SME sector*, November 2012 https://www.kfw.de.

Germany is close to achieving its R&D expenditure target of 3% of GDP,[246] but some leading economies are investing even more in research and innovation, and emerging markets are catching up in traditional areas of competence. The Expert Commission on Research and Innovation appointed by the federal government has recommended increasing the R&D expenditure target to 3.5%.[247] Moreover, significant disparities exist at regional level in terms of R&D investments as well as innovation performance.

The *High-Tech Strategy 2020*[248] defines the central goals of research and innovation policy. It concentrates public R&D resources for scientific and technological research in areas that face particular global challenges.[249] The strategy also supports the development of key enabling technologies, which act as drivers of innovation and provide the basis for new products, processes and services. Some stakeholders consider that the strategy could be further strengthened, including by increasing awareness and involvement of SMEs.[250]

The *Central Innovation Programme for SMEs*[251] has been a success in helping SMEs, in particular in enhancing their research and innovation efforts to develop new products, processes and services. Over 10000 companies have been supported so far.[252]

Skills

Skill shortages are emerging in various sectors and regions; these are becoming an increasingly important obstacle to future growth and innovation performance, in particular for SMEs.[253] A way to alleviate these shortages would be to labour market participation through better the education and training.[254] Current initiatives on skills have recognised that mobilising domestic labour potential will not be sufficient and that economic progress will also depend on attracting skilled workers from other EU and non-EU countries. The introduction of a nationally standardised system for the assessment of qualifications acquired in foreign countries helps in this respect.[255]

A recent report noted some positive developments but also highlighted that further progress will be necessary.[256] Measures include an information campaign[257] and a web portal[258] to provide information on job opportunities and the conditions for taking up employment in Germany. The University Pact aims to better use all available capacities; the "Qualitätspakt Lehre" improves teaching; and the "Ausbildungspakt" has been extended until 2014 to ensure additional 60 000 training places a year. A competence centre has been established to support SMEs in attracting and retaining skilled employees.[259] Moreover, a new employment regulation aims to make it easier for medium-skilled people to work in Germany, supplementing the 'blue card' for highly-qualified workers introduced in 2012.

Sustainability

Overall, the environmental performance of industry can be characterised as good, but further improvements should still be possible. Green technologies, products and services play an increasingly important role. In 2012, about 34% of companies offered green products or services, compared to 26% in the EU.[260] In 2012, a resource

246 R&D intensity in 2011: 2.9% of GDP with about two-thirds by the private sector (Eurostat).

247 *Expertenkommission Forschung und Innovation (EFI),* '*Jahresgutachten zu Forschung, Innovation und technologischer Leistungsfähigkeit Deutschlands 2013*'. http://www.e-fi.de/gutachten.html.

248 High-Tech Strategy 2020 for Germany http://www.hightech-strategie.de.

249 These include energy and climate protection, health and nutrition, mobility, security and communication.

250 http://www.e-fi.de/gutachten.html and http://www.dihk.de/innovationsreport.

251 '*Zentrales Innovationsprogramm Mittelstand'* http://www.zim-bmwi.de. For 2013, the planned annual budget is EUR 500 million, which is estimated to finance about 5000 new applications.

252 The Association of German Chambers of Commerce and Industry identifies the programme in its '*Innovation Report 2012*' as a 'best practice' example; http://www.dihk.de.

253 See also the Staff Working Document '*Assessment of the 2013 national reform programme and stability programme for Germany*', http://ec.europa.eu/europe2020.

254 Commision Staff Working Document to assess the National Reform Programme 2013.

255 Bundesarbeitsagentur '*Perspektive 2025: Fachkräfte für Deutschland'*, http://www.arbeitsagentur.de.; Berufsqualifikationsfeststellungsgesetz (2011).

256 '*Fortschrittsbericht 2012 zum Fachkräftekonzept der Bundesregierung*' http://www.bmas.de.

257 '*Fachkräfteoffensive*' http://www.bundesregierung.de.

258 http://www.make-it-in-germany.com.

259 '*Kompetenzzentrum Fachkräftesicherung, Unterstützung für kleine und mittlere Unternehmen*' http://www.kompetenzzentrum-fachkraeftesicherung.de.

260 Flash Eurobarometer 2012, European Commission, http://ec.europa.eu/public_opinion.

efficiency programme[261] was adopted, aimed at further improving the environmental performance of industry. The dependence on high quality raw materials of many industry sectors, and further price increases, could weigh on the competitiveness of German industry in the future.

The new energy strategy opens the door to new growth opportunities for German industry, but it also involves significant challenges. Electricity prices are already among the highest in Europe.[262] If the energy strategy is to be successful, overall economic costs need to be minimised, including by increasing the cost-effectiveness of renewable energy, by stimulating competition in energy markets, by further enhancing energy efficiency and by improving the coordination of its energy policy with neighbouring countries. The timely deployment of the required infrastructure is an important prerequisite for achieving the strategy's objectives.[263]

Due to its size, the public procurement system has considerable potential to support the deployment of environmentally friendly products. Public procurement is increasingly integrating innovation and sustainability aspects.[264] For example, current legislation requires high standards of energy efficiency performance.[265] Since 2012, a competence centre has assisted federal, regional and local administrations in integrating sustainability aspects in their procurement processes. In addition, in early 2013, a competence centre for innovative public procurement was launched.[266]

4.5.3 Export performance

Overall, Germany accounts for 23.6% of EU exports.[267] In 2012, motor vehicles and their parts were the main export products (accounting for 17.3% of exports), followed by machinery (15.0%) and chemical products (9.5%). About 69% of exports went to European countries. The second most important sales market was Asia (about 16%), followed by the Americas (about 12%). In 2012, exports increased by 3.4%.[268] Compared with the EU average, German SMEs tend to be more active internationally[269] and their relatively strong presence in emerging markets indicates further growth potential.

The federal government supports the internationalisation of businesses, especially SMEs, through a wide range of measures, including by providing information about key export markets and customs procedures, but also through trade fairs and export credit guarantees.[270] Of particular importance is the support provided by chambers of commerce and other craft and business associations, both in Germany and abroad. The iXPOS internet portal[271] serves enterprises as a one-stop shop for information on how to expand their business abroad. In recent years, the initiative 'new target markets'[272] has focused on increasing the presence of German businesses in new emerging markets beyond the BRIC countries.

4.5.4 Business environment and public administration

Business environment

In general, the business environment is favourable, encouraging the competitiveness of enterprises, although there may still be scope for further improvement in some areas. It scores particularly well for overall satisfaction with the quality of infrastructure, while it is around average for the administrative burden of the regulatory framework.[273]

The business environment is also favourable for entrepreneurial activities, and there are federal and regional programmes in place to support the development of SMEs through a broad range of services. Due to low unemployment, emerging skill shortages and demographic trends, however, the

261 *'Deutsches Ressourceneffizienzprogramm (ProgRess)'*, http://www.bmu.de.

262 DG Energy, Market observatory & Statistics: http://ec.europa.eu/energy/observatory/index_en.htm.

263 See also the Staff Working Document *Assessment of the 2013 national reform programme and stability programme for Germany*, http://ec.europa.eu/europe2020.

264 *Allianz für nachhaltige Beschaffung*, http://www.bmwi.de.

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

266 http://bmwi.de/DE/Themen/Technologie/innovation-beschaffungswesen.html.

267 Eurostat, 2012.

268 Statistisches Bundesamt, https://www.destatis.de.

269 Small Business Act Fact Sheets, European Commission, http://ec.europa.eu/enterprise/policies/sme. .

270 http://www.bmwi.de/DE/Themen/Aussenwirtschaft.

271 http://www.ixpos.de.

272 *Initiative Neue Zielmärkte* http://www.bmwi.de/DE/Themen/Aussenwirtschaft.

273 Germany is ranked 20th of 185 in the World Bank *Doing Business 2013* report.

number of entrepreneurs[274] is expected to decline further, which could hamper Germany's future growth and innovation performance. Moreover, women still represent only one-third of entrepreneurs, indicating further untapped potential. A systematic integration of entrepreneurship in the school curriculum could contribute to reversing this trend.

Germany is systematically assessing the administrative burden associated with newly proposed regulations at federal level. An expert committee scrutinises new legislative proposals and publishes an index of estimated overall changes in compliance costs.[275] According to this index, overall compliance costs have increased by EUR 1.3 billion since 2011. So far, not all the simplification measures agreed by the federal government in December 2011 have been implemented.[276] Defining a new target for additional simplification measures could help stimulate this process. Recently, there has been progress in defining standards for e-government and electronic invoicing.

Overall, the tax system is relatively complex. While Germany still scores slightly better than the EU average in terms of the tax compliance burden, SMEs in particular would benefit from further simplification. Despite the complexity of the tax system, the corresponding administrative costs are less than the EU average.[277]

There is scope for further increasing competition in the services sector.[278] While competition has increased noticeably in telecommunications, it seems to be making less headway in other sectors, including in particular postal and railway services.[279] In 2012, the long-distance bus transport market was partially opened up, which may in time contribute to stimulating competition in the passenger transport sector. Market transparency agencies are currently being set up to ensure better monitoring of competition and pricing in the fuel, gas and electricity sector.[280]

Public administration

Overall, Germany has an efficient and transparent public administration[281] and the perceived quality of public services is ranked above the EU average. Nevertheless, there is still scope for further improvement in certain areas.

In general, enterprises benefit from relatively short payment times by public authorities.[282] Also public procurement processes seem to be well-organised and transparent, although they often remain complex and the value of the contracts published under EU procurement legislation is below the EU average.[283]

Although the online availability of both information and basic public services seems satisfactory, small enterprises still use e-government services less often than their counterparts in some other Member States.[284] While the time required and costs for starting a business and for obtaining the necessary licences are broadly in line with the EU average, there may still be room for further simplification. Moreover, the single points of contact differ across *Länder* in terms of procedures and information provided, indicating possible scope for further improvement.

4.5.5 Finance and investment

German businesses mainly rely on bank loans. At the moment, access to bank finance is good and, given the current level of interest rates, firms (including SMEs) benefit from very favourable financing conditions.[285] While the availability of risk capital is broadly in line with the EU average, there is potential to do better in this respect.[286] Risk

274 *DIHK-Gründerreport 2012*, http://www.dihk.de.
275 http://www.normenkontrollrat.bund.de.
276 *Eckpunkte zur weiteren Entlastung der Wirtschaft von Bürokratiekosten*, 14 December 2011 http://www.bundesregierung.de.
277 *Paying Taxes Report 2013*, World Bank. Costs measured as a percentage of tax receipts: Germany 0.8%, EU average 1.3%.
278 See also the Staff Working Document *Assessment of the 2013 national reform programme and stability programme for Germany*, http://ec.europa.eu/europe2020.
279 www.monopolkommission.de.
280 www.bundeskartellamt.de.
281 European Commission, *Excellence in public administration for competitiveness in EU Member States*, http://ec.europa.eu/enterprise/policies/industrial-competitiveness/monitoring-member-states.
282 European Payment Index, Intrum Justitia.
283 European Commission, *Cost and effectiveness of public procurement in Europe*, http://ec.europa.eu/internal_market.
284 Survey on ICT use, 2012, Eurostat.
285 European Central Bank (2013), *Bank lending survey* and *Survey on the access to finance of SMEs in the euro area*.
286 European Commission, SME Access to Finance Index, http://ec.europa.eu/enterprise/policies/finance.

capital is particularly important for fast-growing, innovative start-ups in the ICT and other high-tech sectors.[287] Publicly funded programmes provide new firms with a range of financing instruments to start and develop their business, and a number of additional measures were introduced in 2012 and 2013.[288] It remains to be seen if these additional measures can further stimulate the relatively under-developed risk capital market. While changes in the regulatory framework may further contribute to promoting private investment, market characteristics and cultural aspects also seem to be important factors.

The Germany Trade and Investment Agency[289] provides international investors with a wide range of information and support services. Of all FDI stocks, 76% originate from within the EU. North America accounts for about 10%, while Asia holds a 5% share. Investments from outside the EU, especially Asian countries, continue to grow.

4.5.6 Conclusions

Overall, Germany ranks among the top performers in many of the competitiveness indicators of the Industrial Performance Scoreboard and the manufacturing sector remains one of the key drivers of value added and employment. Firms benefit greatly from a favourable and stable business environment, a strong competitive position, and the global reach of Germany's external trade. While the regulatory environment is generally good, there is room for improvement and SMEs in particular would benefit from further simplification.

Despite the currently favourable conditions, industry faces important challenges in securing its competitiveness in the medium and long term. In particular, demographic challenges may act as a brake on growth and innovation in the future. Moreover, the declining number of entrepreneurs could have an increasingly negative impact over time. At the global level, Germany is in danger of losing ground as emerging markets are catching up in its traditional areas of competence. In order to remain at the technological frontier and to secure its competitive position in the future, continued investments in education, R&D and innovation are essential.

The new energy strategy is creating growth opportunities for many sectors, but also presenting considerable challenges in terms of energy costs, and timely deployment of the required infrastructure.

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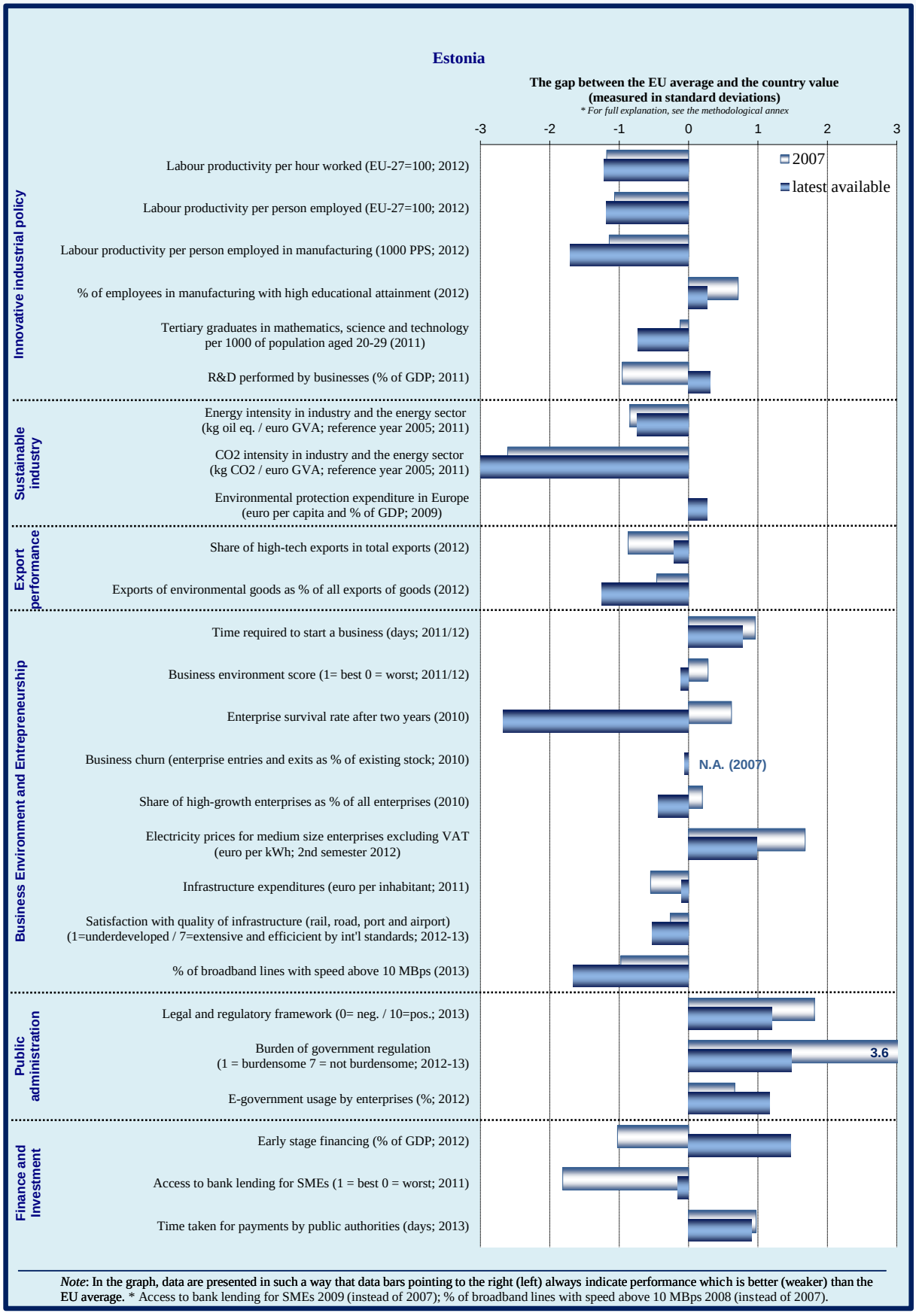
287 *Studie über schnell wachsende Jungunternehmen (Gazellen)*, February 2012, Federal Ministry of Economics and Technology, http://www.existenzgruender.de.

288 The most important existing programmes which provide financing for start-up companies include the *High-Tech Gründerfonds*, the *ERP Startfonds* and the various programmes under the EXIST initiative.
In 2012 the *European Angels Fund Germany* was launched in cooperation with the European Investment Bank. Since March 2013, the *WIN programme* by KFW Bank can provide additional later stage financing of up to EUR 5 million per company. Finally, since May 2013, the new programme *Investitionszuschuss Wagniskapital* has been able to provide private investors — particularly business angels — with financial incentives of up to 20% of their investments in young and innovative companies.

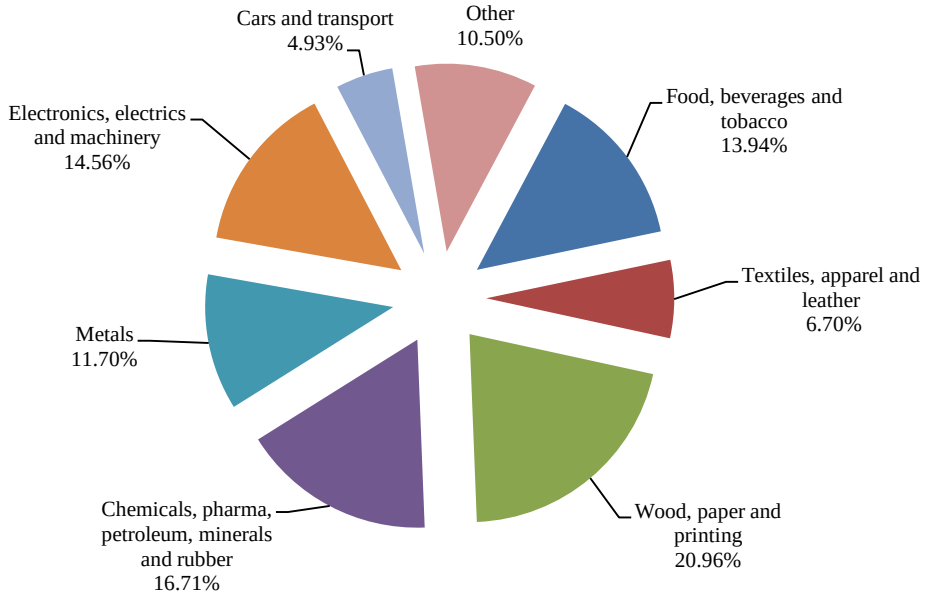
289 Germany Trade and Invest, http://www.gtai.de.

4.6. Estonia



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.6: Manufacturing sectors – Estonia (2010)



Source: Eurostat

4.6.1 Introduction

Estonia is a small and open economy specialising in export-driven manufacturing, such as electronics, machinery and wood products. Manufacturing represented 16 % of gross value added in 2012, slightly more than the EU average of 15.3 %. According to national data, which is more recent than the harmonised Eurostat data presented in the graph above, the higher value-added sectors are increasing their share of total manufacturing output. This confirms Estonia's long-term trend towards convergence with its Nordic neighbours. While the gap with other Nordic countries may not close completely in the near future, the trend appears to be consistent, and is confirmed by the improvement in labour productivity per person employed. This went up substantially between 2001 and 2011, from about half to two thirds of the EU average according to Eurostat, and with a shift towards higher value-added activities.

4.6.2 Innovation, skills and sustainability

Innovation

In the 2013 Innovation Union Scoreboard[290] Estonia scores slightly below the EU average, but is improving at a much faster pace than any of its EU peers. In particular, expenditure on research and development (R&D) has increased considerably[291] (from around 1% in 2005 to 2.4% in 2011), with total private investment doubling between 2010 and 2011. Much of this increase is due to large scale investments by the oil-shale related industry in the development of technology for extracting fuel and lubricants from oil-shale. These investments are not only targeted at the exploitation of Estonian reserves, but also aim to export the technology to countries that are geologically similar, like Canada and Jordan. R&D expenditure would have increased by 20% even without this project, and the dynamism of this field can be seen in the high number of innovative SMEs and the improving quality of academic research.

The goal of the country's research, development and innovation strategy 2007-13 was to move

290 http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf .

291 Source: Statistical Office of Estonia.

upwards in the international value chain. Recent data has rewarded this decision: highly skilled, high value-added industries have weathered the crisis better and have recovered faster. Furthermore, as the labour pool is set to shrink in the future, a shift from labour-intensive to innovative and capital-intensive sectors will be necessary. Estonia is unlikely to be able to compete on the basis of labour costs in the long term.

Support programmes for innovative enterprises are continuing, although with a more targeted approach. In 2014-20 the government will focus on market segments that appear more promising (smart specialisation), and on key companies (based on their importance to the economy and their growth potential). The segments identified are ICT as a key enabling technology, i.e. with the potential to support other sectors; health and medical technologies; and the efficient use of resources. The latter category includes healthy food, smart housing, materials science, shale oil and chemistry. Targeted support makes it easier to access finance but also to tap into skills and knowledge, such as through strategic partners. The strategy is mostly being implemented by Enterprise Estonia, which will gradually move from being a simple grant provider to playing a more strategic and active role. Rather than just financing a project, it will help to shape it in a way that increases its chances of success. The Estonian development fund will monitor the smart specialisation process; the strategy could be further enhanced by stronger inter-ministerial cooperation.

Skills

One of the priorities for the economy is to reduce the skills mismatch,[292] as these lead to the coexistence of unemployment and unfilled positions. Also the longer-term demographic challenges require adaptations. Areas where skills are lacking include the high-tech sectors, management, and specialised crafts. To improve the situation, Estonia has modernised its vocational education and training[293], and has undertaken other initiatives, for example on ICT skills.[294] Lifelong learning capacity has been strengthened but there is room for further improvements.[295] A task force was set up in 2012 to investigate the situation, draw up forecasts of future demand for skills, target the right sectors and groups, and provide the necessary support and financing. The government will provide a quantitative forecast of demand for skills, and the Estonian Qualifications Authority will map the occupational fields and develop the required qualification standards. The first steps are a register of competencies in the state register of occupational qualifications, and a link between online registers, with full implementation of the scheme foreseen for 2014-15.

One of the main bottlenecks in the economy is a dearth of trained managers who have experience in customer management and can call on a network of contacts. The current initiatives to increase the supply of qualified technical personnel, such as scholarships for students in the technical fields where the demand is greatest, are unlikely to solve this problem. Estonian companies have indicated that it is easier for them to produce interesting technology than to find a market for it, or to find the managerial skills needed to grow and internationalise a business. Training providers and the government are aware of the issue, and are trying to remedy it. However, this is a long-term project; in the short term, many companies are forced to bring in expertise from abroad. This solution might lead to companies leaving the country, as foreign managers can be less committed to Estonia, but can still have positive effects: for example, Skype kept development in Estonia despite the headquarters being moved elsewhere.

Procedures for hiring foreign workers in sectors with high demand have been streamlined. Foreign workers are able to enter and work in Estonia before the paperwork has been completed, instead of waiting abroad.

[292] The parliament is discussing a VET Institutions Act and the government is studying a Life-Long Learning Strategy for 2014-20.

[293] The VET Institutions Act to be adopted and implemented by September 2013.

[294] Updating the ICT skills of students and teachers; "Õppiv Tiiger" - The Learning Tiger Programme 2008-13 in general as well as vocational education and the "Tiigriülikool" Tiger Programme 2009-12 in higher education.

[295] Adult participation in lifelong learning has increased from 6.5 % in 2006 to 12.9 % in 2012. But it remains much lower for the 50+ age group and the population of Russian origin. A new national LLL Strategy for 2014-20 is under discussion.

Sustainability

As regards the sustainability of its industrial policy, Estonia lags behind the EU average in terms of the energy intensity of GDP. This is largely due to the oil shale industry, which accounts for a high proportion of the energy mix. In addition, the district heating system uses energy inefficiently. The government is developing plans to reduce energy consumption and to let efficient users sell the resulting CO_2 permits, as successfully done with the creation of an electric car pool (500 cars) for social workers, a project including also purchase grants for private persons and a quick charging network to cover the whole country. The related CO_2 permits have been sold, and the project had also a spin-off effect, as Mitsubishi established a research project on electric car batteries and their performance in cold climates. The most advanced new project is for upgrading street lighting.

Given the low energy efficiency of residential buildings and businesses, there is potential for economically sound environmental policies. However these need to be supported with the necessary technical skills. To achieve this, a certification system for energy auditors is planned. This should improve the technical expertise through government-approved training schemes. However, there are financial constraints to be overcome. SMEs tend to have a short time horizon and limited funds, and therefore might not be interested in investing in energy efficiency even when their payback time is relatively short. Therefore, KredEx[296] will provide loans to support such investment.

Road transportation has very low energy efficiency, but for now there is no political will to introduce vehicle taxation to foster the use of smaller and/or more energy-efficient cars or to favour energy-efficient alternatives, as this would be unpopular among Estonians. Noticeable progress has been made with upgrades to the public transport fleet under the national environmentally-friendly investment programme for 2007-14. The passenger train fleet will gradually be replaced, with the first units already operating. The Tallinn tramway and bus infrastructure is being renovated, with new trams and buses purchased. Many buses operating elsewhere under public service contracts have been replaced.

The green innovation programme will help to create and distribute green products and services, with a strong focus on ICT. The programme is supported by a EUR 6 million grant from Innovation Norway, and is managed by Energy Estonia. However, effectiveness of these measures is hindered by the fact that share of trips made by public transport continues to drop in Estonia.

4.6.3 Export performance

Estonian exports have one of the highest shares of GDP in the EU and how exports perform is correspondingly important. The recovery that followed the 2009 recession was mainly driven by exports as domestic demand remained weak. Recently manufacturing production has continued to increase relatively strongly, growing 2.7 %[297] in April 2013 year-on-year, but it has been partly driven by a surge in domestic demand. Consequently, the current account balance has deteriorated, moving from 3.2 % of GDP in 2010 to -3.1 % of GDP in 2012, and is expected[298] to stay negative in 2013 and 2014 as well.

The policy of moving up the value added chain seems to have brought results. In 2012,[299] the proportion of medium- to high-tech exports increased substantially, with electronics and electrical equipment representing 33.4 % of the total. Some of these exports reflect sub-contracting by multinationals and are not a sign of local technology development, but still add value. As international firms move more sophisticated functions to Estonia, goods produced by or for them will add more and more value.

Exporters are supported by two main agencies, KredEx and Enterprise Estonia, with the first focusing on credit insurance and the other on finance. Enterprise Estonia also offers information and skills development services, including specific

296 The Estonian SME finance institution.

297 Source: Eurostat data reported in the Euro area monthly note on industrial production available at http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/4-12062013-AP/EN/4-12062013-AP-EN.PDF.

298 EU spring forecast, as well as Eurostat data, both available at http://ec.europa.eu/economy_finance/eu/forecasts/2013_spring_forecast_en.htm

299 Source: Statistical Office of Estonia.

services for selected target markets. The penetration of the support measures appears to be excellent. According to government estimates, companies accounting in total for 50 % of exports are clients of Enterprise Estonia, while KredEx clients account for more than 5 % of private sector employment.

4.6.4 Business environment and public administration

The regulatory environment is cost-effective and business-friendly, and scores particularly well on e-government as the availability and use of e-government tools are exceptionally high. Electronic filing is used by almost all taxpayers (97 %), and all procedures can be completed without visiting the tax authority's offices. The authority reports that there were substantially fewer such visits last year, dropping from about 300 000 to 200 000. A EUR 25 million project to improve public services was launched with support from the European Social Fund. Since standard software for e-procurement was introduced, its use has increased significantly, from 5 % in 2011 to 25 % now and an estimated 50 % by the end of 2013. Some 7 % of all invoices are electronic, but a common standard still has to be developed.

The government is also looking to improve its insolvency procedure, one of the few areas[300] where Estonia lags behind its EU peers. The goal is to facilitate an agreed debt restructuring, to find alternative ways of dealing with insolvencies (i.e. through out of court resolution), while raising the competence of judges that deal with such cases.

Rationalising the municipalities, which are often small and lack the resources to provide certain services, could increase the efficiency of public administration. Moreover, the financing system of municipalities does not currently include incentives for local governments to support entrepreneurship and job creation. However, as such a reform would be politically challenging, the goal is instead to coordinate their activities and pool resources to achieve many of the benefits of rationalisation with less opposition. At the same time, incentives are being set for their merger on a voluntary basis.

The administrative burden on businesses appears to be reasonable; in December 2012 a methodology to assess the impact of legislative acts has been adopted, which should increase their quality and transparency. There is an electronic system for consulting on new laws and regulations, but some stakeholders report that the minimum time of two weeks is insufficient, and is sometimes not respected. Further, a more robust assessment of the costs and benefits of new regulations could be useful, as in some case the costs imposed on businesses may be disproportionate. This could be the case for the increase in the amount of information collected on sales, which is a measure to enhance VAT collection and fight the black market. This requirement has resulted in an additional burden on 75 000 payers, but has only resulted in EUR 25 to 30 million more being collected.

In some cases the government's preference for a small number of simple rules may have negative consequences. In particular, social charges on labour cannot be lower than a minimum contribution based on the minimum wage, with no exceptions for part-time workers. At the same time the government also needs to be alert to VAT fraud, as it estimates that 22 % of the 18 000 new companies founded in 2012 were involved in such activities. The government is working on extending a warranty system that has been successful in reducing fraudulent claims in the fuel sector.

4.6.5 Finance and investment

Access to finance has shown signs of improvement, but remains a priority for Estonian firms. Since the onset of the crisis, access to sources of financing such as the stock and bond markets has been limited. Some large firms, especially utilities that enjoy steady cash flows, have continued to access bond markets, but this has not been possible for SMEs. Many larger firms have been forced to tap foreign markets, mainly London.

The government is considering the possibility of supporting a local stock and bond market, but this would be a medium to long-term project. For SMEs, there is little alternative to bank lending. The banking sector is doing well with rising numbers of clients, deposits, foreign transactions, leasing contracts and card usage. The growth of their loan portfolios that started in 2012 continued

[300] See http://ec.europa.eu/enterprise/policies/industrial-competitiveness/monitoring-member-states/improving-public-administration/index_en.htm .

at a moderate speed in early 2013 with the corporate loan portfolio increasing by 5 %[301].The composition of the loan portfolios is also changing, with little lending going to real estate. This suggests that firms in other sectors are getting better access to loans, although the loan approval criteria continue to be strict.

Entrepreneurs often use their own assets as collateral to get loan approval. The growth of leasing can be an indication of a preference for collateralised loans. Such risk aversion can lead to constrained credit and lower growth. On the other hand, it also guards against excessive leverage. Firms have adjusted to the situation by becoming more efficient, reducing their need for capital, and limiting their exposure to external financing. This makes them more resilient, but also curbs their ability to grow.

KredEx, Enterprise Estonia and the Estonian development fund are the government's tools to support firms. The development fund is being reformed and made more project-based. Two new organisations were established in 2012 to facilitate access to seed and equity capital. EstBAN is a network of angel (early stage) investors with 25 members, offering investment in sizes from EUR 20 000 to 500 000. These investors expect to invest in 10-15 firms to a total of EUR 1 million in 2013. Although the amounts are low, the effect of such 'smart money' investment should be more than proportional to their size, since recipients will benefit from the experience of the investor, and the funds will be channelled to firms with rapid growth potential.

Another new institution is the Baltic Innovation Fund, a EUR 100 million fund of funds which will invest in private equity and venture capital funds in the Baltic countries. The EIF is investing EUR 40 million, along with EUR 20 million each from the different national promotional agencies. Foreign direct investment focuses on five priority sectors[302] (metals/machinery, electronics, ICT, shared services and logistics), and grew from 27 investments in 2011 to 35 in 2012.

4.6.6 Conclusions

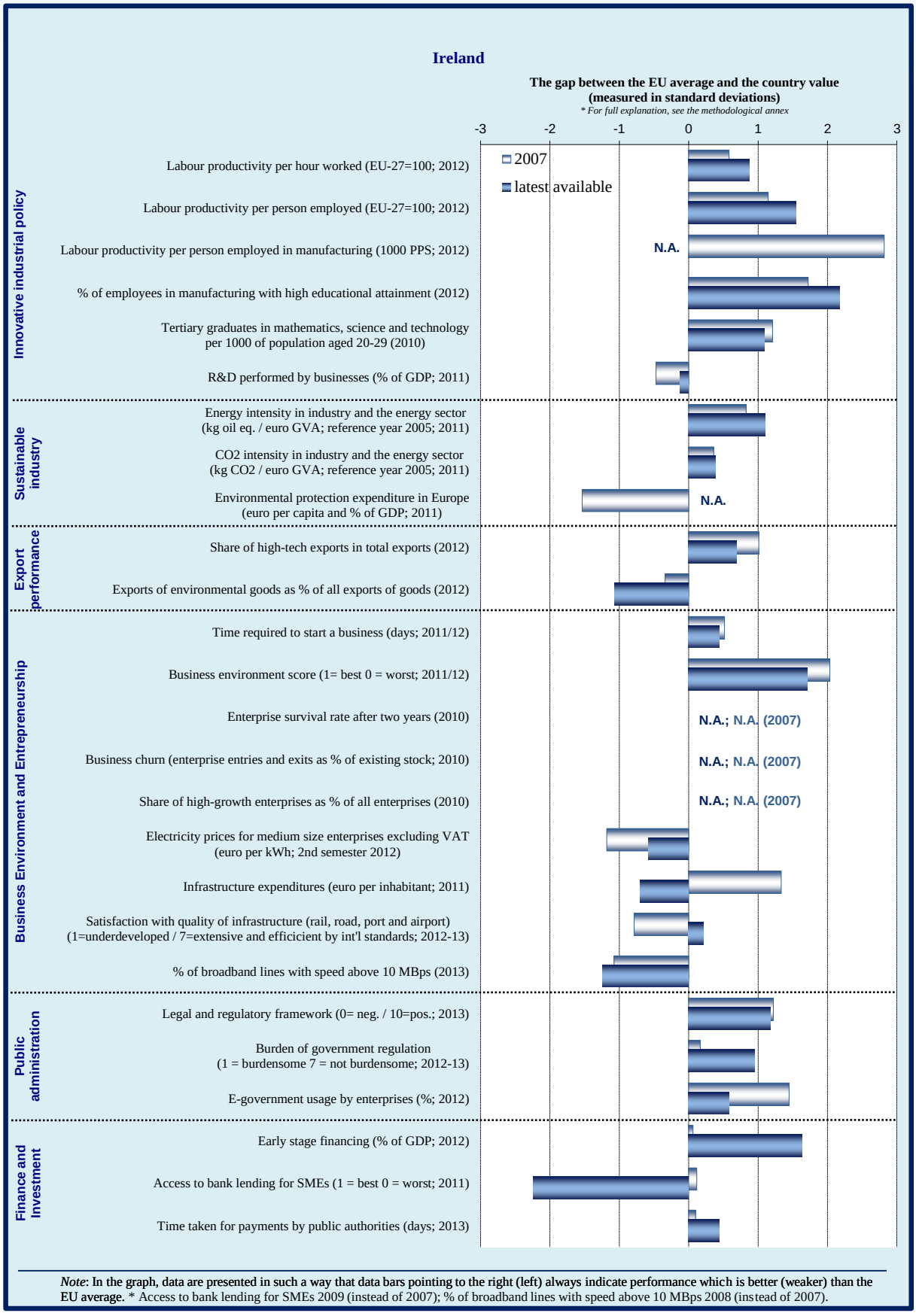
Estonia has recovered quickly from the crisis of 2008-09. Although the growth rate has slowed somewhat, the country is still outperforming the EU average. It is also improving its position in the international value chain, moving towards more innovative and knowledge-intensive sectors and benefiting from growing investment in research and development.

However, efforts will be needed to keep this positive trend going. Particular efforts need to be made to address the high energy intensity of the economy, and the shortage of skills necessary for further growth. Although there have been signs of improvement, many companies, especially new ones, find it difficult to get access to finance. The good business environment is to be admired, and is being further improved.

[301] Financial Stability Review 1/2013, Bank of Estonia. Available at http://www.eestipank.ee/en/publication/financial-stability-review/2013/financial-stability-review-12013.

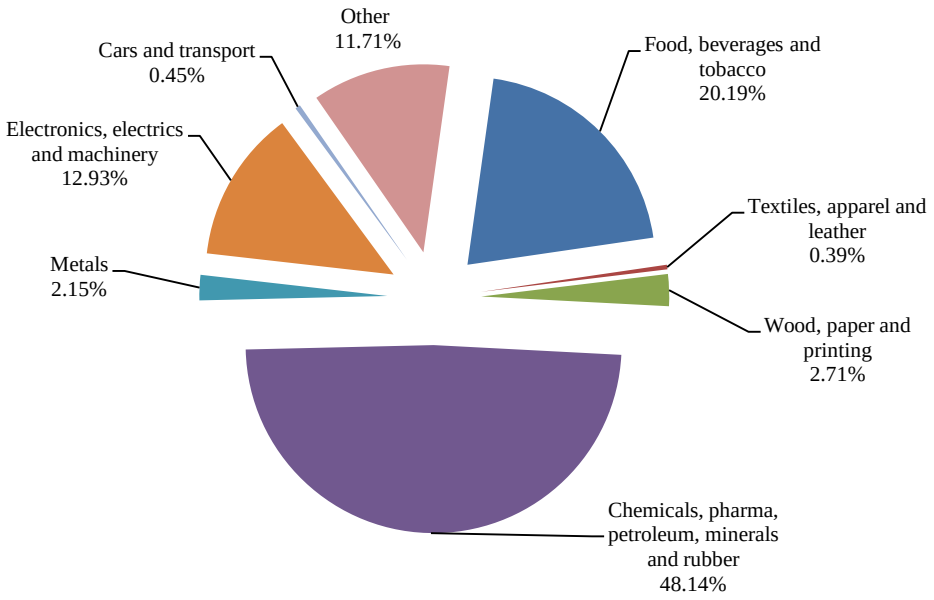
[302] Data from the Estonian Investment and Trade Agency (a branch of Enterprise Estonia).

4.7. Ireland



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.7: Manufacturing sectors – Ireland (2010)



Note : No data available for sectors C12 (tobacco products), C19 (coke and refined petroleum products), C30 (manufacture of other transport equipment) and C31 (furniture)
Source: Eurostat

4.7.1 Introduction

Ireland has done relatively well in carrying out the necessary reforms as prescribed under the financial assistance programme. The main focus of the programme has been to restore financial market confidence by reducing the government deficit and shrinking the banking sector, while reforming the economy at the same time. Real GDP growth figures show that Ireland is rebounding from the crisis with 2.2% growth in 2011 and 0.2% for 2012.[303] Ireland's efforts at economic reform would suggest that it may be ready to exit the programme at the end of 2013, as was originally foreseen.

The Irish economy is principally based on SMEs, which account for 99.7% of companies. Microenterprises account for the bulk of these, representing 89% of enterprises. However, while only roughly 0.3% of companies are large enterprises, they account for approximately 31% of employment and 48.5% of Ireland's value added.[304] Ireland has a large foreign multinational sector with comparative advantages in sectors such as pharmaceuticals and chemicals. In fact, this sector accounted for 51.8% of manufacturing in Ireland in 2009. The other main sectors were the food, beverages and tobacco sector, at 17.4%, and the electronics, electrics and machinery sector, registering 13.7% of the total. The services sector is also becoming increasingly important, in particular high-technology and knowledge-intensive services.

The Irish economy ranks second highest with respect to labour productivity per person employed and ranks first with respect to labour productivity per person employed in the manufacturing sector. However, this data should be treated with caution, given the effect of the large number of foreign multinationals and their use of adapted transfer pricing.

4.7.2 Innovation, skills and sustainability

Innovation

According to the 2013 Innovation Union Scoreboard,[305] Ireland is an innovation follower with an above average performance.

The 'Strategy for Science, Technology and Innovation 2006-13' has been the main tool used for achieving the goal of making Ireland a leading knowledge economy. In 2012, the government

303 Revised national Accounts data; European Commission Spring 2013 Economic Forecasts.

304 Ireland SBA Fact Sheet 2012: http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/countries-sheets/2012/ireland_en.pdf.

305 http://ec.europa.eu/enterprise/policies/innovation/facts-figures-analysis/innovation-scoreboard/index_en.htm.

adopted the report of the Research Prioritisation Steering Group. The group identified 14 priority areas, along with six underpinning platform technologies and infrastructures that will become the focus of the majority of competitive funding in research for the next five years.

Ireland has an R&D target of 2 % of GDP by 2020. This stood at 1.72 % in 2011 with business R&D accounting for 1.17 % of the total. R&D investment by firms does not appear to have been seriously affected by the crisis, to the extent that business R&D investment in real terms continued to increase until 2010 and remained constant in 2011. The provisional estimate of gross domestic expenditure on R&D (GERD) financed from abroad stood at 19.2 % in 2011.[306] This reflects the policy of attracting foreign investment with a large R&D component.[307] The key areas of focus are the food sector, agriculture and fisheries, medical technologies, and nano and bio-technologies. Ireland is also strong in ICT compared to the EU and also to the US.

Fiscal measures play an important role. R&D tax credits were established in 2004, providing a 25 % tax credit on incremental expenditure and a 25 % volume-based credit for eligible capital expenditure. This was complemented with an expansion of tax credits in 2010 to enhance investment in intellectual property by excluding royalty income from withholding tax. The 2013 budget stated that credit would be reviewed with the objective of ensuring that tax credit remains 'best-in-class' internationally and represents value for money for taxpayers.

An Intellectual Property Protocol (IPP) was published in June 2012 as part of the Action Plan for Jobs 2012. The protocol aims to help industry access R&D done in Irish universities, institutes of technology and other public research institutions. It also aims to commercialise IP generated from such research. Among the measures included in the protocol is a new Central Technology Transfer Office which will be hosted by Enterprise Ireland. It will act as a one-stop shop for businesses seeking to use IP from public-funded research. While this has not yet become fully operational, work has commenced on setting up a portal.

However, Ireland also has a number of challenges in research and innovation, in particular the relatively low number of patent applications as well as a decline in the number of innovative SMEs.

Skills

One of Ireland's strengths has always been its well-educated workforce. This is reflected in the fact that it ranks as top among Member States with respect to the percentage of employees in the manufacturing sector with high education attainment levels. Moreover, it currently has the highest tertiary education attainment rate in the EU at 51.1 % (2012), with a target of 60 % for 2020. Ireland is also making progress in the early school leaving target of 8 % by 2020, reaching 9.7 % in 2012.

Nevertheless, increasingly long-term unemployment and high levels of youth unemployment are a source of concern. In an effort to return to growth, the government is seeking to up-skill, re-skill and provide education and training opportunities to the unemployed. With this goal in mind, a series of education and training programmes have been set up, such as Momentum, Springboard and Youthreach. In 2010, there were 2 385 Youthreach participants that achieved certification, of which 15% progressed to employment, while 52% continued to further education and training. The development of new training opportunities, in particular the up-skilling of the work force and of the unemployed as well as re-entry into education, is essential to ensure that long-term-unemployed jobseekers do not become permanently excluded from work.

The National Skills Bulletin 2012 pointed to skills gaps, mainly in science, engineering and IT. A joint government-industry ICT action plan was launched in 2012, including the doubling of ICT graduates by 2018. The ICT graduate skills conversion programme has also been developed to tackle this shortage. This is particularly important given the importance of the IT sector in Ireland.

Sustainability

Ireland is the best performer in the EU for both energy intensity and CO_2 intensity. The reason for this is the importance of services and high value-added manufacturing. The key environmental challenges are inefficient building stock, fossil-fuel-

[306] Eurostat estimated EU average for 2010 stood at 8.9 % of GDP.

[307] Ireland country report — Research & Innovation Performance in EU Member States and Associated countries 2013: http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2012/innovation_union_progress_at_country_level_2013.pdf.

based electricity generation and a culture of car dependency.[308]

As part of the Action Pan for Jobs 2012, the government published the policy document 'Delivering Our Green Potential' aimed at developing the green economy. According to this report, 18 750 people were employed in six key sub-sectors of the green economy in 2010[309] and the value of sales of low-carbon environmental goods and services was estimated at approximately 4 % of GDP in 2010-11.

The report mentions firms that have developed innovative clean-tech products in areas such as insulation materials, efficient heating equipment, energy management systems and energy-efficient lighting. As envisaged under the policy, a consultative committee involving the ministry and key stakeholders has been established. The committee meets on a quarterly basis to examine key thematic areas of the green economy with a view to identifying opportunities and activities to address barriers and help enterprises take advantage of opportunities. The identified actions may be included in the Action Plan for Jobs in subsequent years.

There are a number bottlenecks preventing business from improving the uptake of cleaner technology, mainly related to access to finance. For smaller companies, another factor is a lack of awareness of low-cost solutions. In an effort to address this problem, a number of specific programmes are being offered to businesses, as is mentoring.[310]

In March 2013, the government also announced that it was setting up a new energy-efficiency fund, worth EUR 70 million (EUR 35 million to be made available by the government with the rest coming from the private sector), as part of the second National Energy Efficiency Action Plan. The fund provides finance to energy-efficiency projects across all sectors of the economy. It is envisaged that lending will start in 2013.

4.7.3 Export performance

Exports account for over 100 % of GDP and Ireland has the largest share of exports as a percentage of GDP, given the significant number of international companies. While the recession has had an extremely negative effect on the economy, it has recovered in part due to the strength of exports by firms in the high-tech sectors. These firms are mainly affiliates of multinational enterprises.

Data for 2012 shows that the current-account surplus surged to 4.9 % of GDP in 2012, reflecting not only a contraction in domestic demand, but also competitiveness gains achieved through increased productivity, inflation below the euro-area average, and cost-cutting measures, including on wages. Persistent weakness in trading-partner demand is nevertheless affecting demand for merchandise exports, which contracted on a quarterly basis in the last two quarters of 2012, as a result of the anticipated expiry of pharmaceutical patents. However, the rise in services exports, which have expanded by around 10 % in annual terms every quarter since the second half of 2010, has however substituted for weak goods export developments.[311] In fact, 2012 was a notable year in that it was the first year that the value of exports of services exceeded that of goods, and that services exports exceeded services imports.

The Action Plan for Jobs plays a role by helping indigenous companies to export. In 2012, a new potential exporters division within Enterprise Ireland started to provide assistance and guide clients in their international export strategies. A new microenterprise and small business division has also been established within Enterprise Ireland. As of 2013, local enterprise offices will be established to provide support to small and microenterprises on behalf of Enterprise Ireland.

4.7.4 Business environment and public administration

Business Environment

Ireland remains one of the most attractive places to do business in Europe, ranking fifth in the EU and fifteenth globally.[312] Its strengths include protecting investors, paying taxes and resolving insolvencies. It scores relatively low in dealing with construction permits and obtaining electricity. It is also ranked as the easiest place to start a business in the EU and it achieves two of the three main goals of the May

308 Eco-innovation Report on Ireland 2011: http://www.eco-innovation.eu/index.php?option=com_content&view=article&id=474&Itemid=62.

309 Taken from the Expert Group on Future Skills Needs (EGFSN) the sub-sectors being renewable energies; efficient energy use and management; water and waste water treatment; waste management, recovery and recycling; environmental consultancy services; and Green ICT applications/software.

310 Such as www.cleanerproduction.ie; www.begreen.ie; www.seai.ie/Your_Business.

311 European Commission Spring 2013 Economic Forecasts.

312 World Bank Doing Business Report 2013.

2011 Competitiveness Council recommendations, as it takes approximately two to five days to open a business at a cost of EUR 50.[313]

The Action Plan for Jobs contained 270 individual actions for 2012, with over 90 % of these being completed. The plan covered a series of small measures aiming to improve the research, innovation and skills base; measures to help SMEs to enter new markets and access finance; attracting entrepreneurs from the diaspora to Ireland; and focusing on some of the most promising sectors.

A new Action Plan for Jobs 2013 has been launched, building upon previous initiatives, but including 333 actions. The new plan is more ambitious, including projects that require cross-government collaboration. Nonetheless, there are still issues of concern for local businesses, in particular for SMEs. While cost competitiveness has improved over recent years, small businesses still face relatively high electricity prices. In fact, Ireland has one of the highest costs of electricity in the EU, because it depends on imported fuel and has under-invested in distribution networks.

Services have become increasingly important in recent years. These mainly consist of high-technology services, such as computer services, and knowledge-intensive services, such as financial services, insurance and other business services. In fact, it has been estimated that while the services sector accounted for 21 % of all exports in 2000, for the third quarter of 2012, services accounted for 50 % of total exports.[314]

Legal services remain expensive,[315] and the high price is hampering cost and external competitiveness. The Legal Services Regulation Bill, which is a programme requirement, addresses many of these issues, in particular by establishing a new Legal Services Regulatory Authority. The bill is expected to be enacted by the end of 2013.

Public Administration

While tax compliance burden is among the lowest in the EU, SMEs see VAT compliance as a major burden. In the 2013 budget, the government increased the VAT cash receipts basis accounting threshold from a turnover of EUR 1 million to EUR 1.25 million to help companies with cash flow. However, many businesses felt that doubling the threshold to EUR 2 million would have been more useful. The government has also launched a consultation concerning taxation of microenterprises in an effort to identify ways of easing the administrative burden of tax compliance.

The government is pursuing a public-service reform plan which aims to maximise new and innovative service delivery channels. This includes the e-government strategy 2012-15, which is the main policy tool for pushing e-government so as to reduce the administrative burden on businesses and consumers. In all, 91 % of enterprises currently use e-government services (2012).

As regards the administrative burden and the goal of achieving a 25 % reduction by 2012, a reduction of approximately 20 % across all ministries has been achieved. The goal is to reach the 25 % target by the end of 2013. This will include creating a business portal where retailers can register once and apply for all licensing requirements. The aim is complete this portal by October 2013.

On the issue of corruption, according to Transparency International, the corruption perception index for 2012, Ireland ranks 25th in the world and 10th in the EU. While this is a relatively good score, since 2009 there has been deterioration in the perception of corruption in Ireland.

4.7.5 Finance and investment

One of the major challenges facing SMEs remains access to finance. This is due both to generally weak demand for credit in a deleveraging environment and to supply side constraints. A recent report[316] noted that access to finance was the third largest problem facing SMEs, after finding customers and competition.[317] Loan rejection rates are among the highest in the EU[318] and the general perception among SMEs is that banks are not lending.[319] This may be due to the fact that many of those who are refused credit do not agree with the reasons for the refusal, or are not given any reasons. Moreover, long time lags for processing can add to firms' difficulties.

Improving access to finance is one of the key objectives of the Action Plan for Jobs 2013 with a

313 The conclusions of the Competitiveness Council of 31 May 2011 are namely to create a one-stop-shop for starting up a business, and a call to Member States to reduce the start-up time for new enterprises to 3 days and EUR 100 by 2012. DG Enterprise and Industry data.

314 Irish Central Bank Report, Quarter 1 2013.

315 The World Bank Doing Business 2013 report estimates that as a percentage of the value of a standardised claim in a commercial dispute, the enforcement cost is 26.9 % in Ireland, as opposed to an OECD average of 20.1 %.

316 By the Economic and Social Research Institute (ESRI).

317 'SME Credit Constraints and Macroeconomic Effects', Gerlach-Kristin, O'Connell & O'Toole, ESRI, April 2013.

318 Access to Finance Report, ECB April 2012.

319 Irish Department of Finance Report on SME Credit Demand Survey September 2012.

number of initiatives being undertaken. The objectives are governed by a cross-departmental steering group, known as the SME State Bodies Group, which oversees the activities related to SME bank and non-bank access to finance.

Another government initiative was the establishment of the Credit Review Office (CRO) in 2010. It is designed to resolve disputes between banks and their SME clients about loan refusal, with a power to overturn loan decisions. Leading banks have been set lending targets of EUR 4 billion each in 2013. Banks are required to process loan applications within 15 days, although the average time is 29 days.[320] Banks also need to enhance their capacity to assess SMEs creditworthiness based on cash flow rather than property collateral.

SMEs are used to working with bank overdrafts and tend to renew or restructure bank overdraft facilities. There are also skills gaps, in particular among microenterprises, when it comes to presenting the necessary business plans required by banks. While banks have prepared a joint guidance plan to help businesses in this regard, further assistance by government may be warranted. A one-stop website[321] for Irish business has been useful and is jointly supported by banks, businesses and government.

Ireland has an active seed and venture capital market and the Seed and Venture Capital Programme 2013-18 will provide up to EUR 175 million in funding. The majority of these funds will be invested in high-growth innovative firms in fast-growing sectors such as ICT, life sciences, high-tech manufacturing and the green economy. The government is aiming for an additional EUR 525 million in funding from the private sector, which will mean a total of EUR 700 million for investment throughout the lifetime of the programme.

In 2012, a credit guarantee scheme and a microfinance scheme were launched. The former will facilitate access to up to EUR 150 million in additional lending. The latter will provide for an additional EUR 90 million in lending. However, the take-up of these schemes is relatively low. Innovation Fund Ireland has been created to increase the availability of capital for early-stage and high-growth companies. Moreover, the National Pensions Reserve Fund has undertaken to put funds in place to help meet SME financing needs.[322]

Foreign direct investment was provisionally estimated at EUR 22.8 billion in 2012, a significant increase in relation to the 2011 level of EUR 8.2 billion. This is a significant improvement following a decline in inflows between 2010 and 2011. It was also estimated that inflows for 2012 accounted for 14.3 % of Irish GDP.[323]

4.7.6 Conclusions

Ireland is slowly returning to growth, which is also becoming more broad-based. The economic adjustment programme has been implemented consistently, which has had a positive impact, including restored competitiveness.

However, some key challenges remain. The fight against high unemployment, in particular youth and long-term unemployment, is a priority for the government and the 'Action Plan for Jobs' has been at the heart of efforts to foster job creation.

The skills mismatches resulting from structural changes in the economy over the past years also present a significant challenge. Thus, ongoing reforms to provide appropriate further education and training are crucial. Access to finance, in particular for SMEs, is yet another challenge. Although cleaning the banking system has been going on for quite a while, it has not yet reached its conclusion, and further deleveraging of the whole economy would help to establish the credit flows again restore the health of domestic banks, thereby restoring normal lending channels to the economy.

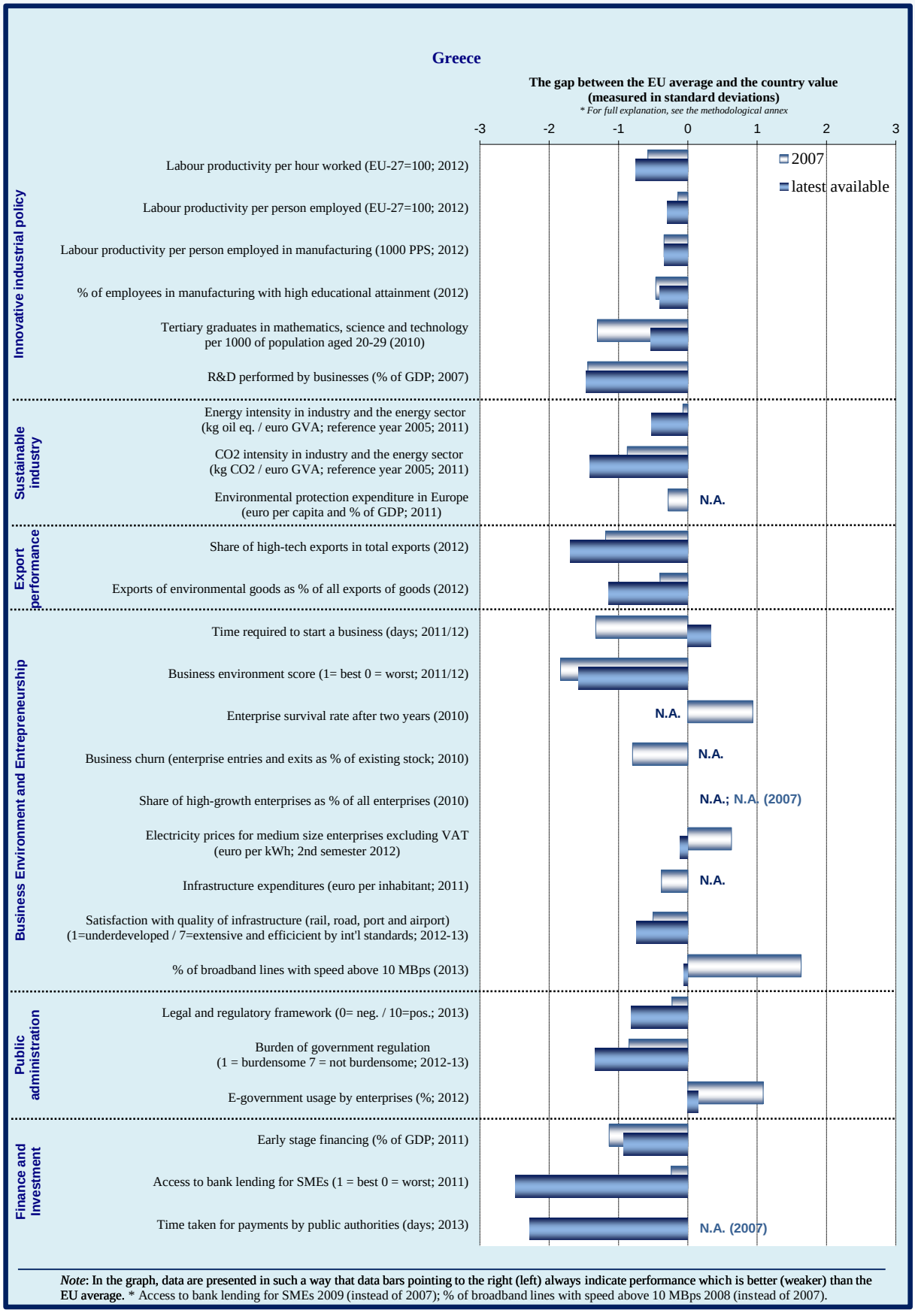
320 Irish Department of Finance Report on SME Credit Demand Survey September 2012.

321 www.smallbusinessfinance.ie.

322 Namely, the SME Equity Fund, the SME Turnaround Fund and the SME Credit Fund.

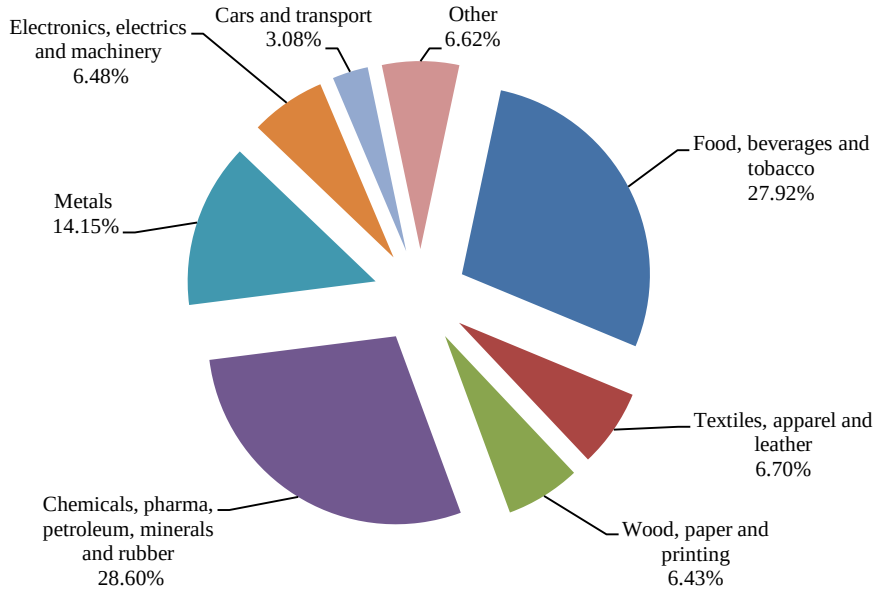
323 http://www.oecd.org/daf/inv/FDIinfigures.pdf.

4.8. Greece



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.8: Manufacturing sectors – Greece (2009)



Source: Eurostat

4.8.1 Introduction

The Second Economic Adjustment Programme for Greece was approved in March 2012, financed by the European Financial Stability Facility (EFSF). The programme foresees financial assistance of EUR 164.5 billion by the end of 2014.

The economy saw a drastic decline in competitiveness following an increase in labour costs of more than 50% in 1999–2009. In 2012, GDP decreased by 6.4%, and the forecast for 2013 is a decrease of around 4%. However, competitiveness is currently being restored through increased wage flexibility and low inflation. According to the figures from the Hellenic Statistical Authority, labour costs have been reduced by 20% over the past three years.

The services are the biggest sector in the Greek economy, and tourism is a major part of that in terms of both importance to the economy and employment. Manufacturing contributes close to 10% of the total value added (the EU average is just over 15%). Greece specialises in food processing (manufacture of vegetable oils; processing and preserving of fruit and vegetables). Other important sectors are metals, chemicals, cement and textiles.

4.8.2 Innovation, skills and sustainability

Innovation

There are challenges ahead for the innovation system, as the country needs to transform itself into a stable environment for entrepreneurship and create conditions for growth. According to the Innovation Union Scoreboard 2013, Greece is one of the moderate innovators, with a below-average performance. Innovation performance declined at an average annual rate of 1.7% between 2008 and 2012.[324]

In the past decade R&D expenditure has stagnated, at 0.58% of GDP.[325] In 2011 Greece set an R&D intensity target of 2%, to be achieved by 2020, but the National Reform Programme for 2013 revised this target downwards to 0.67% of GDP, which is considered as more consistent with current trends and with the economic outlook.

The objective of Greece's innovation strategy is to promote innovation in all sectors as a key driver for restructuring the Greek economy and for the transition to a knowledge-based economy. EU programmes play a major role in the funding of

[324] Innovation Union Scoreboard 2013, p. 6.
[325] Eurostat.

innovation initiatives, but the level of funding available exceeds the amount that the business sector can absorb. Besides the general economic environment, financial constraints can play a role, as many eligible companies cannot provide bank guarantees to receive an advance payment.[326] The commitments to specific innovation policy initiatives for 2010-12 amounted to EUR 596 million and are aimed at programmes supporting technological and knowledge transfer, cluster cooperation and the creation and growth of enterprises.[327] Despite the progress achieved in recent years, further efforts would help, in particular closer links between researchers and industry, and improved technology transfer.

Although policy is emphasising the use of new financial instruments, including funds dedicated to supporting innovation, there are substantial difficulties as almost no national co-finance and no private investment is available. Consequently, subsidies continue to be the main type of support for R&D, though tax incentives are also used. In an effort to boost development through R&D, the government has recently adopted new legislation[328] that further enhances tax incentives for enterprises engaged in R&D.

Skills

Greece faces many challenges to improve its skills base through improvements in education and training aiming to better adapt to labour market needs. This includes in particular teacher training and the quality and relevance of vocational education and training as well as lifelong learning. Reforms in tertiary education are only partially implemented. Among other issues, these reforms would include better use of universities to provide lifelong learning opportunities to local and regional populations and better monitoring of inputs and outputs.[329]

An action plan to support youth employment and entrepreneurship was adopted by the Greek government in January 2013. It has been allocated a budget of EUR 600 million, EUR 517 million of which is provided through the European Social Fund and the European Regional Development Fund. The plan comprises a set of programmes that should benefit 350 000 young people in the age group 15 to 35. The objective is to target employment and entrepreneurship for young people in the two age groups of 15-24 and 25-35. The plan stresses apprenticeship, traineeship and the transition from education to employment.

Active labour market policies seek to facilitate the transition of workers between sectors; improve the quality of training, and promote the employment of vulnerable groups. Further opportunities for apprenticeships and vocational training are due to be introduced over the medium term, with stronger links with employers to increase graduates' chances of professional integration.[330]

Sustainability

Between 2005 and 2010 Greece cut by 10 % the emission of greenhouse gases that are not part of the EU emissions trading system. The reduction seems to be a result mainly of the economic slowdown. Projections show that Greece will increase emissions by 3 % by 2020 and will not achieve its reduction target.

Progress has been made on renewable sources of energy. Under the renewable energy Directive,[331] Greece is required to produce 18 % of its final energy consumption and 10 % of the transport use from renewable sources by 2020. In the national renewable energy action plan Greece committed itself to 20 % instead of 18 %. In 2011 the share of renewable energy sources in gross final energy consumption was 11.5 %. Greece has over recent years granted generous tariffs in particular for photovoltaic installations; as a result 97 % of the capacity has been installed over the past three years.

4.8.3 Export performance

Although the economy as a whole remains oriented towards the domestic market, export performance continues to improve, albeit from a low base. The national export strategy has set ambitious goals for boosting exports of goods to 16 % of GDP by 2015.

326 Innovation Policy trends in Greece, 4/9 2012.
327 Ibid.
328 Law 4110/2013.
329 Assessment of the 2013 national reform programme for Greece; SWD(2013) 358
330 Assessment of the 2013 national reform programme for Greece; SWD(2013) 358
331 Directive 2009/28/EC.

Greek exports in 2012 were EUR 27.6 billion or 13.8 % of GDP, itself a record.[332]

The national export strategy seeks to improve the international competitiveness of Greek companies through export promotion and export facilitation. It is based on three pillars:

1. Enlarging the export base by formulating industry-specific policies to encourage companies to produce and offer internationally competitive goods and services.
2. *Trade and promotion of foreign direct investment* by integrating economic diplomacy efforts, building a national brand and overall support for companies to engage in international trade networks and find trading partners abroad.
3. *Trade facilitation.* The national trade facilitation strategy was announced in November 2012. It features 25 measures aimed at reducing the time needed for export by 50 % and costs by 20 % by 2015. The strategy is focused on simplifying the cumbersome pre-customs and customs procedures. Some changes have already been made to the customs procedures:
    a. electronic submission of customs clearance declaration for exports (April 2012);
    b. mandatory presence of a customs broker for customs clearance formalities repealed (December 2012);
    c. free access to the customs broker profession (December 2012);
    d. indirect representation for customs clearance (December 2012).
    e. customs operations launched 24/7 or double-shifts for exports in the pilot offices of Athens airport and Piraeus Port (June 2013);
    f. simplified pre-customs and customs procedures for kiwi and feta cheese (June 2013).

In an effort to strengthen entrepreneurship and the internationalisation of SMEs, a programme was launched, co-funded by the EU structural funds under the action 'Internationalisation and competitiveness of SMEs'. In total 746 projects have been selected with a total budget of EUR 143 million.

4.8.4 Business environment and public administration

Business environment

The difficult economic conditions and continuing uncertainty have taken a heavy toll on Greek businesses and the government is grappling with the challenge of balancing budget cuts with structural reforms to spur growth, as economic reforms are fundamental for sustainable growth. The high level of regulation and bureaucracy, as well as corruption, have been a constraint on businesses and hampered entrepreneurship. In addition, the lack of competition has held back productivity and competitiveness.

In the context of the Economic Adjustment Programme, steps are being taken to tackle many of the structural barriers and regulatory failings that have traditionally restricted business. Efforts undertaken in a number of areas are starting to show results, which were reflected in Greece's improved ranking in the World Bank's 'Doing Business' indicators. Greece was up from 100th place in 2012 to 78th, which is proof that the efforts made to improve the business environment are starting to bear fruit. In particular, there was progress in reducing the time required to get construction permits; more transparency for and protection of investors; and an improved process for resolving insolvent firms. The government has also adopted ten measures in the areas of starting a business, registering property, dealing with construction permits and protecting investors.

The EU Task Force for Greece provides technical assistance for a wide range of projects to improve the business environment. Projects are on-going in areas like the simplification and streamlining of licencing and permit systems for investment, trade facilitation and customs reform, export promotion, and the screening of administrative burden for business. EU structural funds are seen as key to

[332] Greek national export initiative.

boosting the economy; the available funds came to EUR 20.4 billion for the 2007-13 financing period.

Well-known deficiencies in the business environment have been addressed over recent years. Important measures have been taken to ease the creation of companies and to simplify licence procedures and investment authorisations. The time needed to set up a business is now below the EU average (11 days in Greece against the EU average of 14). Starting up a company and registering property remain expensive, and the cost and time for exports and imports need to be further reduced. It is still four times more expensive to start a business in Greece (% of income/capita) than the EU average, and it is more costly to register property.[333]

The full entry into force of the law on simplifying and accelerating the licencing of manufacturing activities[334] and its implementing acts provide an integrated institutional framework for the modernisation and simplification of licencing procedures, covering technical professions, manufacturing and business parks. On technical professions, the right to provide certain services was expanded, while the total number of licences was reduced. As regards manufacturing, there has been a reduction of up to 75 % in the time and cost needed to obtain an operating licence for low-nuisance activities.

With support of the OECD, the authorities are reviewing laws and regulations for harmful effects on competition in tourism, retail, building materials and food processing; as well as for administrative burden on businesses in 13 sectors. The government has also presented a strategic vision to streamline and unify investment licenses and strengthen self-compliance with standards and controls. The strategy will be implemented in 2013 and 2014.

SMEs have been hit hard by the crisis, and there are fewer enterprises in 2013 than there were in 2005. The size distribution of firms deviates from the EU average, with the number of large enterprises only half the EU average. Also, SMEs are heavily weighted towards the small end, with microenterprises accounting for 96.6 % of all enterprises. In total, SMEs employ 85.2 % of the labour force in private employment, whereas the EU average is 67.4 %. This reflects the fact that Greeks are more likely than the EU average to be self-employed.[335] The SMEs are more oriented towards trade than elsewhere in the EU, and the share of SMEs specialising in high-tech manufacturing or knowledge-intensive services is only 18 %, whereas the EU average is one-third.

Greece does not always 'think small first', as the authorities perform less well than their EU peers in terms of communication and simplification of rules and procedures, and impose a higher burden on companies. However, steps are being taken, including simplified provisions on entrepreneurship and a new private company status with a capital of one euro, seeking to facilitate the life of SMEs. [336]

The *General Electronic Business Registry* (GEMI) is being complemented with a self-registration option for companies. This is a state-owned electronic database hosted by the chambers of commerce. Data stored in GEMI include key personnel, annual accounts, tax identification number, company status, company number and relevant court decisions. To date 76 000 companies have been started through GEMI. The registry is linked to the one-stop shop for business start-ups that was launched in 2011.

A new, more flexible, corporate form for private limited companies (IKE) was adopted in July 2012.[337] Judging by the number of firms using this form, it seems to be a success. The advantage compared to other limited companies is that IKEs have a minimum capital requirement of only EUR 1, whereas for regular limited companies it is EUR 4 500.

Reforms to the *public procurement procedures* are being planned. The aim is to promote sound public procurement by making the newly created single Public Procurement Authority fully operational. The establishment of an e-procurement platform is expected to lead to less bureaucracy, prevention of corruption, more transparency and better participation of economic operators. It should also reduce the time and cost of procurement.

333 SBA Fact Sheet 2012.
334 Law 3982/2011.
335 Ibid.
336 SBA Fact Sheet 2012.
337 Law 4072/2012.

The contribution of services to GDP was 71.7% in 2011,[338] which makes them the most important sector of the economy. Tourism alone contributes 18.2% of GDP[339] and over 7% of total employment[340] (over 18% if indirectly supported jobs are counted). The shipping industry is another important sector for the economy, as Greek firms have 16.2% of the world's shipping capacity measured in deadweight tonnage.[341]

Public administration

Greece's overall public administration performance, as measured by the World Bank's government effectiveness indicator, is well below the EU average. The perceived quality of public services, including quality of the civil service and policy implementation, is low (a score of 0.52 compared to 1.18 in the EU).[342]

Public services are also less likely to be available online.[343] E-government use by small enterprises in 2012 was slightly above the EU average (86% and 85% respectively) whilst e-government use by citizens in 2013 was below the EU average (43.8% and 52.5% respectively).[344] The duration of payments by the public authorities is above the EU average (174 days compared to the EU average of 66 days).[345]

With the support of the EU Task Force for Greece, technical assistance is provided for reforming the public administration. A high-level transformation steering group under the prime minister has been set up to supervise the reform of the central administration.[346]

The Greek judicial system is inadequate and, in particular, the length of judicial procedures is long in all areas, including in civil and commercial justice. The rate of resolving cases is low, resulting in increasing delays and a significant case backlog. ICT systems for the management of cases and for communications between the courts and parties, which could help improving the management of cases, are poorly developed. In addition, the perceived independence of justice in Greece gets the fourth worst rating in the EU. [347]

In the framework of the Economic Adjustment Programme, Greece has committed to reforming the judicial system. These include reviewing the civil code, introducing an administrative review of cases, improving the organisation of the magistrates' courts, developing e-justice applications, bringing the insolvency legislation and practice in line with best practice and promoting alternative dispute resolution mechanisms.

4.8.5 Finance and investment

Bank credit to the corporate sector is contracting, making it increasingly difficult to finance production and investments. The main factors contributing to this are the difficulties of the bank sector, state arrears to suppliers (standing at around 4.4% of GDP at the end of 2012), the drop in the market value of collateral assets (real estate), and the country risk, that makes any financing of large businesses by foreign banks almost impossible. In the ECB survey on SME access to finance (March-September 2012), only 36% of Greek SMEs said they had received the loan requested (Eurozone 61%).

To facilitate the financing of the Greek economy, the government with the support of the task Force for Greece has analysed the extent of credit financing gaps in view of setting up an "Institution for Growth".[348] The main findings show that:

- There is an equity funding gap and a structural debt funding gap of the order of EUR 5-10 billion each;
- The current situation in the banking market leads to insufficient supply of project finance, working capital and import/export financing;
- Greece suffers from a lack of specialised financing institutions;

338 Eurostat.
339 http://www.investingreece.gov.gr/default.asp?pid=36&sectorID=37&la=1.
340 OECD Tourism trends and policies 2012 http://www.oecd-ilibrary.org.
341 United Nations conference on trade and development, Review of Maritime Transport 2011, p.41, accessible at http://unctad.org/en/Docs/rmt2011_en.pdf.
342 European Commission (2012),'Excellence in public administration for competitiveness in EU Member States'.
343 SBA Fact sheet Greece 2012.
344 Eurostat.
345 European Payment Index by Intrum Justitia, 2012.
346 Task Force for Greece, Quarterly Report of December 2012.
347 EU Justice Scoreboard 2013.
348 TFGR Quarterly Report, April 2013.

- A financing vehicle, such as a specialised financing institution for growth, could help to improve the situation, at least partially.

Government efforts to ease financing conditions have focused on the European Investment Bank (EIB) lending to Greek commercial banks so that they can lend to SMEs. Further efforts have been made to provide banks with risk-sharing and additional liquidity facilities. In March 2012, the Greek government and the EIB signed an agreement for the creation of a dedicated guarantee fund supporting lending to small and medium-sized enterprises. It will guarantee EIB loans to SMEs via partner banks, up to EUR 1 billion. The first disbursements under this fund (EUR 150 million) took place in December 2012. Another EUR 212 million of SME loans were lent by the EIB to Greek banks separately in the same month. In December 2012 the EIB launched a pilot project under which it would (counter-) guarantee up to EUR 500 million of export financing for Greek SMEs and mid-caps.

The Hellenic Fund for Entrepreneurship and Development (ETEAN), a wholly owned state corporation, was created in February 2011 with start-up capital of EUR 1.7 billion. It manages and runs projects financed via various channels: the state budget; the public investment programme; an operational programme (on competitiveness and entrepreneurship) under the EU's national strategic reference frameworks; the European Regional Development Fund; and the European Fisheries Fund (EFF). ETEAN provides guarantees for loans, or letters of guarantee, in favour of small and medium-sized enterprises for banks and other financial institutions (such as leasing and venture capital companies). It also co-invests in other funds and uses financial engineering instruments, and has thus far created three funds for energy conservation with a grant of EUR 200 million from the European Union's national strategic reference frameworks; for fisheries promotion with a support from the European Fisheries Fund (EFF) grant of EUR 35 million; and for entrepreneurship with a grant of EUR 460 million, likewise from the national strategic reference frameworks.

ETEAN recently announced the creation of two new funds, operating through the entrepreneurship fund; (a) the fund for business restarting; and (b) the fund for island entrepreneurship. Both aim to support SMEs' access to working capital for development activities.

The second Economic Adjustment Programme for Greece contains detailed provisions regarding the recapitalisation of Greek banks, which should be completed by the end of June 2013.

Net capital inflows were EUR 2.3 billion in 2012 (vs. EUR 1.3 billion in 2011). The total inflows of foreign direct investment in Greece fell in 2010-12 and are today at the same level as in 2003-05. Between 2003 and 2012, fully 69 % of all foreign direct investments were made in the services sector.[349]

A new law on the *creation of a development-friendly environment for strategic and private investments*[350] aims to accelerate and simplify procedures. It includes provisions on developing the seaside front of Attica and improving the institutional framework for the founding and operation of seaplane ports. For strategic investments, there are proposals for simplified licencing procedures through the General Directorate for Licencing, which will handle all strategic investment requests. The time restrictions for the submission of investment plans (previously every April and October), have been removed, and such plans can now be accepted throughout the year.

4.8.6 Conclusions

The Economic Adjustment Programme has sought to adjust the imbalances in the economy. Greece has started the process of transformation, from an economy based on consumption to one with a bigger focus on investments and exports. Exports have already increased over recent years but, as a result of the recession and the credit crunch, investments are still disappointing.

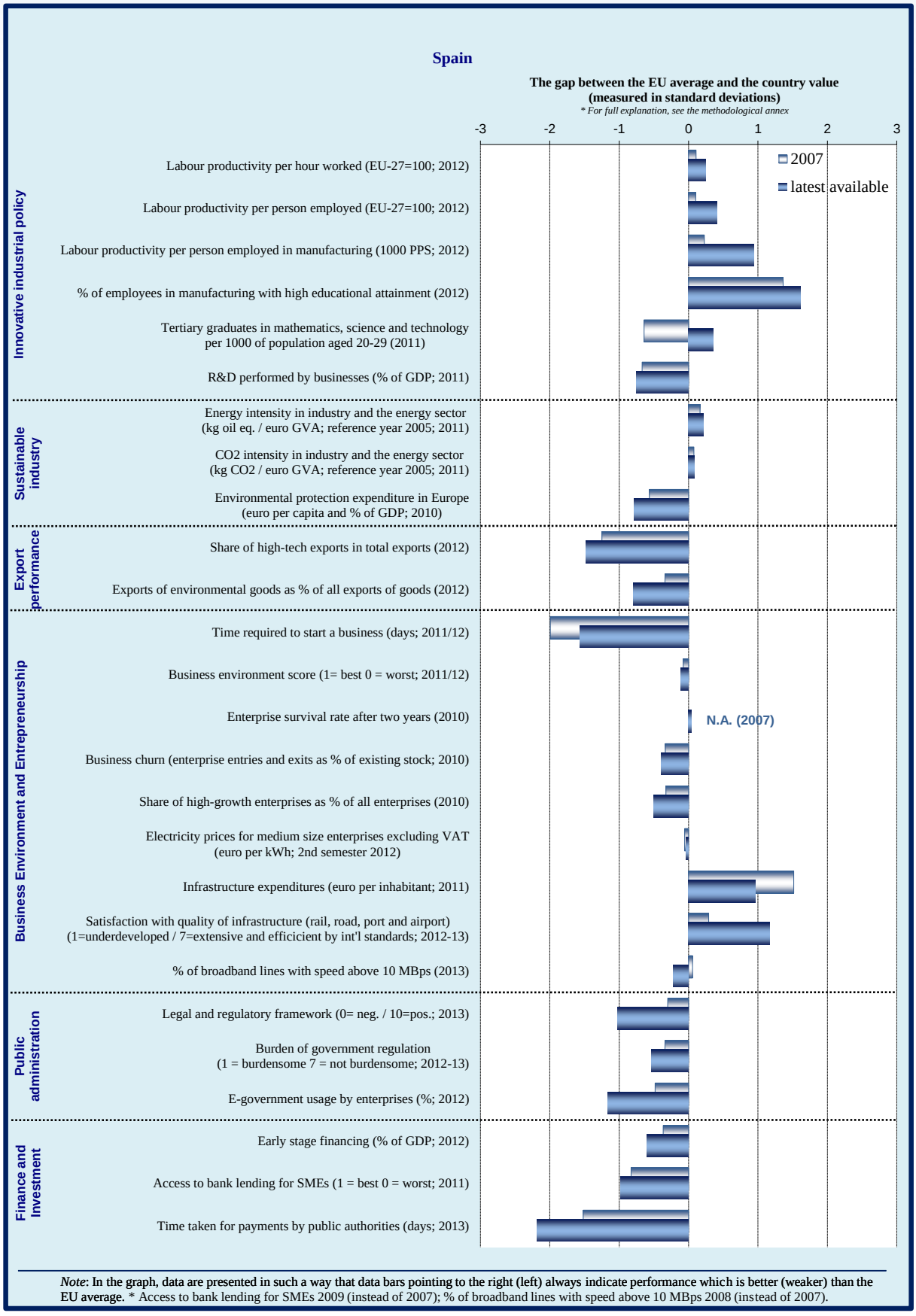
The regulatory environment has constrained businesses and entrepreneurship, and these, combined with the lack of competition, have led to lacklustre productivity and competitiveness. However, steps are being taken to tackle many of the structural barriers and regulatory failings. Encouragingly, many efforts are starting to show

349 http://www.investingreece.gov.gr.
350 Law 4146/2013.

results, and the ranking of Greece in the World Bank's 'Doing Business' indicators has improved. Further significant measures have been taken to ease the creation of companies, and to simplify licensing procedures and investment authorisations. With the technical assistance of the Task Force for Greece, cumbersome export procedures are being simplified.

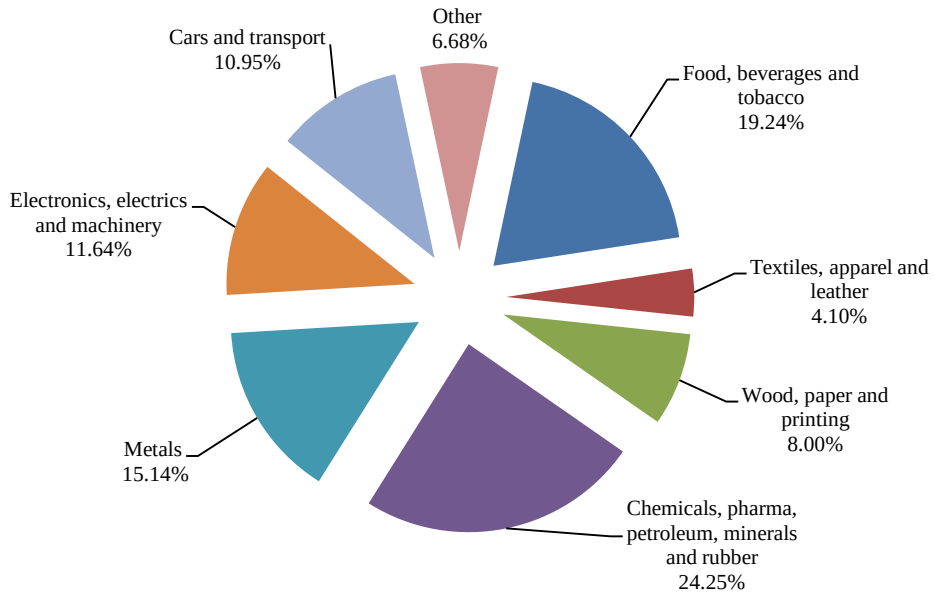
The difficult economic conditions, continuing uncertainty, and in particular the credit crunch continue to make conducting business difficult, in particular for SMEs. Economic growth is one of the top priorities of the government, and in this context, reforming the public administration remains central in terms of securing the capacity and competence to implement newly adopted legislation and to improve the business environment. Reforming the economy must remain a priority in order for the required changes to take place. A dynamic corporate sector is crucial to re-starting the economy and achieving growth. By tapping the entrepreneurial potential of citizens and creating the right business environment, Greece can overcome its difficulties and achieve sustainable economic and employment growth.

4.9. Spain



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.9: Manufacturing sectors – Spain (2010)



Source: Eurostat

4.9.1 Introduction

Manufacturing plays a slightly smaller role in Spain than in the EU on average (13.3% of total value added versus 15.3% for the EU). Spanish firms are specialised in low-tech manufacturing (manufacturing of food products and beverages, textiles and wearing apparel, etc.) and less-knowledge-intensive services (trade, accommodation and food services, travel agencies, etc.). High value added sectors such as high-tech manufacturing and knowledge intensive services are still under-represented in terms of the number of firms, employment and value added.

Spain continues to adapt to the correction of imbalances that started in 2008. In the last couple of years it has recovered about half of the cost competitiveness lost between 2000 and 2008,[351] although this is partly as a result of massive labour shedding in low value added sectors, and longer working hours. The adjustment of current account deficit, investment in construction, and credit growth has progressed. Restoring sustainable external equilibrium requires a move to a sizeable current account surplus, backed by reallocation of resources to the tradable sector. Some improvement is apparent in various indicators, including strong export performance.

4.9.2 Innovation, skills and sustainability

Innovation

Over the last decade, efforts have been made to improve research and innovation performance. However, the impact seems to have been limited, as there has been little movement towards a more knowledge-based economy. Research and innovation suffer from low R&D investment by the private sector and the increasingly regional dimension of innovation policy. These challenges have been aggravated by the crisis, with a fall in public investment in R&D[352] and a significant loss of technologically innovative firms.[353]

The latest Innovation Union Scoreboard places Spain, as before, in the group of moderate innovators with performance below the EU average. In that group, the country had the second-lowest growth rate in the period 2008-12, and has

[351] Measured as Unit Labour Cost and based on data from Eurostat and European Central Bank calculations.

[352] In relative terms (as percentage of GDP), Spain has managed to overall maintain its level of expenditure with a slight decrease in 2011 to 1.33% (versus 1.39% in 2010 and 2009, and 1.35% in 2008). Source: Eurostat. .

[353] Spain accounted for 44888 technologically innovative SMEs in 2007, compared to only 25461 in 2011. Source: Ministry of Economy and Competitiveness, Spain.

been unable to catch up with 'innovation followers' and 'innovation leaders' – in addition, regional innovation performance is uneven and, taken separately, the regions range from innovation leaders to moderate innovators.[354] Spain's relative strengths are seen in research (scientific publications); in the percentage of population aged 30-34 with tertiary education; and in the commercialisation of innovation. The main weaknesses lie in the low level of private R&D investment; the small number of innovative SMEs; and the low licence and patent revenues from abroad. The diminishing number of tertiary students in sciences (-27.3% over the last ten years) is a problem for the innovation potential.

The authorities are addressing these challenges with a new 'Spanish strategy for science, technology and innovation' and the implementing 'State plan for scientific and technical research and innovation', both adopted in February 2013. The new strategy seeks to increase business R&D expenditure, ease the transfer of knowledge between actors, and foster smart specialisation at regional level. The proposed reforms cover the governance system, the quality of human resources, the funding allocation system, knowledge transfer, strengthened public-private cooperation, key challenges for society, and the internationalisation of the system. Although the aims of the strategy are laudable, the impact of the strategy will depend on its effective implementation through the state plan and the regional plans for scientific and technical research, and innovation.

The government has also announced new fiscal incentives to foster private investment in R&D and the transfer of technology.[355] In particular, R&D deductions that are not applicable to a financial year could be recovered subject to the creation or maintenance of employment, and a bigger part[356] of the income that originates from the transfer of certain intangible assets, such as patents, will be exempted.

Skills

The most pressing issues are the difficult transition from education to work, the high rate of early school leavers, and the skills mismatches between education and labour market. Indeed, the Spanish labour market is characterised by a mix of workers with high skills and even over-qualification[357] (especially among young people) as well as a high proportion of low-skilled workers.[358] This reflects the dominance of construction and tourism activities. The over-qualification points to skills mismatch and lack of relevance of education[359] and training, and poor transition from school to work. Further, the education system puts insufficient focus on entrepreneurial skills.

The labour market reform of 2012 significantly amended the system for training and apprenticeship. This was followed by the launch of a dual vocational training system[360] to better adapt the training supply to business needs, as well as the Entrepreneurship and Youth Employment Strategy 2013-2016. The percentage of 18-64 olds believing they have the right skills and knowledge to start business is above the EU average.[361]

In May 2013 the government approved a reform of the education system that is now waiting for parliamentary approval. It seeks to introduce entrepreneurship-related content in the secondary school curriculum.. The main goal is to reduce the number of early school leavers and to improve the transition from school to working life.

Sustainability

Various measures were adopted in 2012 to contain the so-called tariff deficit[362] of the electricity sector, including a single tax rate (7%) on all power generation. In addition, premiums for new

354 Source: Regional Innovation Scoreboard 2012, European Commission.

355 This measure will be part of the forthcoming law to support entrepreneurs and their internationalisation.

356 60 %, instead of the current 50 %.

357 22 % of all employees in Spain are over-qualified for their post. In the case of young people (25-34), 38% of them are over-qualified for their position. Source: Social Developments Employment and in Europe 2012, European Commission.

358 The employment rate of people with pre-primary, primary and lower secondary education was 48.2% in 2012 (versus 61.2% in 2007).

359 About 40% of young people between 25 and 34 years old with a tertiary education degree are not employed in occupations that typically require this qualification. Source: OECD Economic Surveys Spain 2012.

360 Royal decree law 1529/2012 of 8 November.

361 Global Entrepreneurship Monitor.

362 Access tariffs to the electricity system do not cover regulated costs (e.g. transportation costs, distribution costs, subsidies for renewable energy production or adjustment services). As a result, a so-called tariff deficit is generated within the system at the expense of utilities. The cumulative tariff debt is EUR 29 billion (equivalent to almost 3% of GDP).

renewable projects were withdrawn.[363] To complete these measures, the government has also presented a plan for a comprehensive reform of the electricity sector. There are several projects with France[364] and Portugal[365] that aim to double the capacity of the electricity interconnections with these countries.

The Government has also taken steps[366] to promote efficient use of energy, including through environmental taxes;[367] the suppression of some exemptions of the tax rates for gas and coal; and the establishment of a fee for the use of water for producing electricity. Further new measures are in the pipeline to reduce carbon emissions, including the adoption of green taxes, a law to promote calculation of the carbon footprint, and the national framework plan for waste.

Finally, the government is working on a new bill on environmental impact evaluation with the aim of simplifying procedures and bringing together existing legislation on strategic environmental evaluation and on the evaluation of environmental impact.

4.9.3 Export performance

Exports have grown considerably since 2009, although the pace of growth decelerated in 2012.[368] This comes on top of a decade-long strong performance, as the export share stayed relatively stable in spite of sustained losses in price competitiveness, and the rise of emerging economies. However, exports as a share of GDP are below that of other European economies, and the share of knowledge-intensive service exports with high added value is well below the EU average.[369]

The recent export dynamism reflects improvement in both cost and non-cost factors. As unit labour costs have decreased, product and geographical diversification have helped to sustain export performance. Indeed, exports of services have grown more rapidly than goods, and now account for about one third of the total. In addition, the services exported have become more diversified, and besides tourism they include transport and business services. There has also been some reorientation towards emerging markets, which has limited the negative impact of the weakness in Europe.

Spain lags slightly behind the EU-average in most indicators on SME internationalisation.[370] The costs of trading are higher than the EU average, although this does not appear to influence the time required to import or export, which is shorter than in the EU.[371] Moreover, almost 88 % of exports in 2012 were by the largest 10 % of exporters,[372] suggesting a dichotomy between a small number of very competitive large exporters and a large number of less competitive exporting firms.

In 2012, two previous programmes for export promotion[373] were merged into a new programme called ICEX-next, which provides tailored advice and financial support for the internationalisation of SMEs.[374] There are also plans to develop new export markets[375] in 2013, with a focus on Asia. Spain has also strengthened the links between internationalisation and innovation by integrating the external network of the Centre for industrial technological development[376] into the ICEX network.

363 Royal decree law 1/2012 suspended temporarily all new renewable capacity registration.

364 A study on the viability of the routes for the proposed interconnections will be finalised in 2013. The aim is to duplicate the current capacity to 2 800 MW in 2014 and 4 000 MW in 2020.

365 Spain is working on two projects to reach an interconnection capacity of 3 000 MW, which would be in force in 2014 and 2016 respectively.

366 Law 15/2012 of 27 December 2012.

367 A single tax (7 %) on the value of electrical production, a tax on the production of nuclear fuel and waste, and a tax on the storing of nuclear waste and fuel.

368 Spanish exports grew 3.8 % in 2012, 15.2 % in 2011 and 16.8 % in 2010 in current prices according to customs data.

369 The weight of exports in Spain's GDP has risen from 23.9 % in 2009 to 32.2 % in 2012 but remains below the EU average (42.6 %). Source: World Bank, OECD and Instituto Nacional de Estadística.

370 For further details, see SBA factsheet 2012, Spain. European Commission.

371 Source SBA fact sheet for Spain 2012, European Commission.

372 Source: ICEX statistics.

373 APEX was a programme to raise awareness of the benefits of internationalisation among SMEs with no or minimal exporting experience; and ICEX PIPE provided consultancy services and economic support to new exporters.

374 Around 8000 have benefited from ICEX PIPE over the last 7 years. ICEX-next is expected to support around 400 enterprises per year in the short term, and 500 to 600 per year in the medium term.

375 'Planes integrales de desarrollo de mercado'.

376 The Centre for industrial technological development (CDTI) is a public entity which fosters the technological development and innovation of Spanish companies

As part of the forthcoming law to support entrepreneurs and their internationalisation, the government plans to strengthen support bodies, as well as to improve financial instruments for this purpose and firms' access to foreign public procurement of international financial institutions. Further, the government plans to adopt a new law on chambers of commerce to enhance their role in supporting internationalisation.

4.9.4 Business environment and public administration

Business environment

The legal and regulatory framework remains very burdensome, despite improvements over the years. In particular, it is difficult to start a business.[377] Although the time needed has come down from 47 to 28 days, it remains above the EU average. The licensing system is very complex, and the time needed to obtain an operating licence is the longest in the EU, at 116 days.[378]

However, the government has generalised the use of the 'express licence' regime, whereby a declaration is enough to launch the economic activity, in the case of small and medium retail and other services. The government now plans to extend this regime to larger outlets and other types of activities as part of the forthcoming law to support entrepreneurs and their internationalisation. Promotional activities in retail have been liberalised; the requirements for road transport firms simplified; and the opening of petrol stations facilitated. Liberalisation of passenger rail transport has started with the long-distance tourist train segment that has been opened to competition.

In February 2013 the government announced an 'Economic stimulus plan and support for the entrepreneur'. The first measures[379] included facilitating access to finance; a flat rate of EUR 50 for social security charges for new self-employed persons during the first six months; reconciling unemployment benefits with self-employment for up to nine months; and lower taxes for new firms and self-employed persons for two years. Other measures are planned for 2013, including a law on market unity, and the omnibus law to support entrepreneurs and their internationalisation that should be adopted by the parliament in 2013. This would include the creation of a 'limited liability entrepreneur'; the establishment of new out-of-court settlement mechanisms for bankruptcies; fiscal incentives;[380] measures to facilitate access to finance;[381] exempting more activities from local licences; removing barriers to accessing public procurement; measures to foster the internationalisation of the economy;[382] and measures to reduce the administrative burden.[383]

The draft law on market unity[384] aims at addressing the regulatory fragmentation of the domestic market, which hinders competition and prevents businesses from taking advantage of economies of scale and scope. If effectively implemented, it could facilitate the movement of goods and services, as well as simplify licensing requirements. In parallel, the government has launched a review of the existing regulatory framework in the interests of simplification, rationalisation and coherence. According to the authorities, about 5 000 pieces of legislation have already been identified for revision. Moreover, the government is working to reduce red tape in the fields of restoration and electronic communications.

Finally, the delayed reform of professional services is scheduled for 2013. The government plans *inter alia* to reassess the activities restricted to a selected

through channelling the funding and support applications for national and international R&D&I projects of Spanish companies.

377 In the World Bank's 'Doing Business' Indicators for starting a business, Spain ranks 136th for this specific area, while its overall ranking is 44th.

378 Source SBA fact sheet for Spain 2012, European Commission.

379 Through the Royal decree law 4/2013, of 22 February.

380 In particular, tax deductions for the reinvestment of profits and investments in R&D, a special VAT voluntary regime for SMEs to defer the payment of VAT to the State until the invoice has been collected, and tax incentives for providing capital to start-ups in the form of income tax reductions and partial exemption from taxation of capital gains.

381 Including the elimination of charges linked to the issuance of corporate debt, and new instruments for financing the internationalisation of businesses.

382 Including a new visa regime for attracting talent and investment, and the formulation of an internationalisation strategy for Spain.

383 This includes speeding up and simplifying certain procedures necessary to start up a business, reducing statistical and accounting requirements, and establishing a 'one in one out' clause guaranteeing that at least one burden of equivalent cost is removed for each administrative burden introduced.

384 Adopted by the Council of Ministers in July 2013.

group of professions and the rules on membership of professional associations.

Public administration

The government set up a commission for the reform of public administration whose final report was issued in June 2013. The report included proposals to be implemented between 2013 and 2015 around the following four axis: reducing the overlap between central and regional governments; streamlining and rationalising public bodies; merging of horizontal services (e.g. procurement); and administrative simplification. In parallel, the reform of local administration will clarify competencies to avoid any overlap with other levels. The government plans to set up a body to report back every quarter on the implementation of the proposed measures.

The law on transparency currently being debated by the parliament will establish good governance requirements for public administration, contributing to simplification of administrative burden and easing access to public information.

The areas of concern in the judiciary include low clearance rates, a high case backlog and relatively lengthy proceedings,[385] but reforms aim at tackling some of these issues. The reorganisation of the courts and judiciary is scheduled for the end of 2013. Information and communication technologies for the judiciary are not yet readily available everywhere.

4.9.5 Finance and investment

Access to finance remains one of the most problematic areas for SMEs,[386] including the need for working capital. They rely heavily on bank lending for their financing needs, but loans are not readily available[387] despite the improvement in bank balance sheets. This has been in particular due to the difficult macroeconomic and firm-specific outlooks, and the stress in sovereign debt markets. The stresses have been reflected in higher interest rate differentials compared to other countries. Meanwhile, alternative sources of financing remain limited, due to lack of both demand and supply.

The authorities are implementing a comprehensive strategy aimed at restoring the credit flow. This is based on restructuring the financial system and fostering non-bank intermediation. The government is redirecting support towards working capital needs, as this is seen as a higher priority than investment. Despite this, the necessary deleveraging of the private sector weighs on economic growth and defaults are soaring, especially in the construction and real estate sectors, although the number of non-performing loans with a public guarantee remains stable.

The counter-cyclical role of the Public Credit Institute (ICO) has become more important. In 2012, over 10 % of business financing for maturities over one year was granted through ICO credit lines.[388] It has simplified its facilities, focusing on two actions: boosting funding for firms and entrepreneurs, and financing internationalisation. The credit lines for 2013 have been supplemented with additional EUR 11.5 billion.

The restructuring of the banking sector[389] has led to the disappearance of some savings banks that were merged with or acquired by other entities. This has left some SMEs, in particular smaller firms, without their traditional banker, increasing the costs caused by information asymmetry at a time when banks are generally reluctant to lend. The government is reinforcing the mutual guarantee companies by increasing the capital of the public counter-guarantor. Its budget for 2013 has been increased to EUR 32 million, an increase of 67 % compared to

385 EU Justice Scoreboard 2013 – Note that there was a country-specific recommendation on these issues in 2013.

386 27 % of SMEs point to access to finance as the worst problem of all. Source: survey on the access to finance of SMEs in the euro area, April to September 2012, European Central Bank.

387 79 % of SMES consider that the situation has deteriorated (37 %) or remained unchanged (41 %) over the previous 6 months, while only 8 % consider that it has improved. The level of interest rates increased (76 %) and other costs of financing (80 %), collaterals (61) increased, while the available size of loans remain unchanged (42) or decreased (45). Source: Survey on the access to finance of SMEs in the euro area, April to September 2012, European Central Bank.

388 ICO granted EUR 11.5 billion through second-floor facilities (which ICO provides through Spanish Credit Institutions) to over 160 000 SMEs.

389 In June 2012, Spain formally requested financial assistance for the recapitalisation of the Spanish financial institutions. The assistance was granted in July in the form of a programme for the repair and reform of the Spanish financial sector. The core of the programme involves sufficient recapitalisation of Spanish banks, where needed, for which up to EUR 100 billion were made available by EFSF/ESM.

2012. It has also increased the coverage rate of loans for working capital (up to 60 %) and the internationalisation of SMEs (up to 75 %).

The government has also adopted measures to promote alternative financing mechanisms, including the launch of a 'Spain start-up co-investment' targeting early-stage equity and mezzanine finance. Further, it seeks to reduce the credit requirements for asset securitisation funds, and launch an incubator programme with a budget of EUR 50 million. As regards venture capital, other developments include the launch of the 'Isabel la Católica' fund, with a budget of EUR 30 million, and the creation of a fund of funds with EUR 1 200 million to invest. In addition, an Alternative Bond Market should become operational in 2013. The existing support programme for the operating costs of business angel networks will also be extended.

The government also intends to introduce an 'Elevator Law' to facilitate transition from the regulated stock market to the alternative market and vice versa. In addition, planned regulatory changes will facilitate the operations of venture capital funds. The omnibus law to support entrepreneurs and their internationalisation includes a number of measures to facilitate access to finance, like tax incentives, amendments to the regulatory framework for out-of-court refinancing settlements, and new instruments to promote export credit. Finally, the JEREMIE scheme of the European Regional Development Fund (ERDF) has been restructured to ease SMEs' access to credit, with EUR 320 million from the ERDF.

The liquidity problems of firms have been aggravated by long delays in receiving payments, in particular from the public sector.[390] To ease this situation, the government has approved a set of measures aimed at regularising the arrears that regional and local governments have built up.[391] This provided about EUR 27 billion[392] of liquidity to firms in 2012, and has been extended to 2013 with an allocation of EUR 2.7 billion. In parallel, the government set up in June 2012 a voluntary scheme for the centralisation of public debt issuance, to provide liquidity to regional governments. This mechanism provided EUR 17 billion to regional administrations in 2012, of which EUR 6.7 billion constituted payments to SMEs. Further, the late payments directive[393] has been transposed, and effective implementation is crucial to avoid new arrears.

There has been increased interest in investing in Spain from emerging economies (Brazil, Mexico, India and China). The main incentives for such investment are infrastructure, the level of technology, and the structural reforms. The promotional structures have been streamlined and the focus is on attracting foreign direct investment and helping firms to finance their expansion. A new directorate on financing and investor relations has been set up to offer services to businesses that seek international investors. 'Invest in Spain' is also linked with the 'Marca España' project, which seeks to improve the image of the country abroad. Finally, the omnibus law to support entrepreneurs and their internationalisation will reform visas and residence permits to attract talent and investment from abroad.

4.9.6 Conclusions

Spain is undergoing a profound structural adjustment to correct the large internal and external imbalances built up during the housing and credit booms. Firms are still struggling with the impact of the recession and the worsening credit conditions. The government's reform agenda has focused on two key areas, easing access to finance, and improving the business environment.

Lack of access to credit remains one of the biggest concerns of SMEs. Bank credit for SMEs is relatively costly and difficult to attain, and the interest rate differential is high compared to other

390 Spain remains one of the Member States with the longest payment delays attributable to public authorities, well above the EU average. At European level the public sector pays its bills, on average, after 65 days, about 13 days later than the private sector (52). National averages are however very different, and in some countries, in some sectors (health, constructions) the bills are settled after more than six months. At national level Spanish public authorities are paying their invoices after 160 days on average. In business to business commercial transactions it takes an average of 97 days to be paid. European Payment Index 2012. Intrum Justitia.

391 Royal decree law 4/2012 of 24 February, and Royal decree law 7/2012 of 9 March.

392 5.6 million invoices were paid for a total amount of EUR 27.3 million, of which 98 % constituted payments to SMEs. All debts had been paid by end of November 2012.

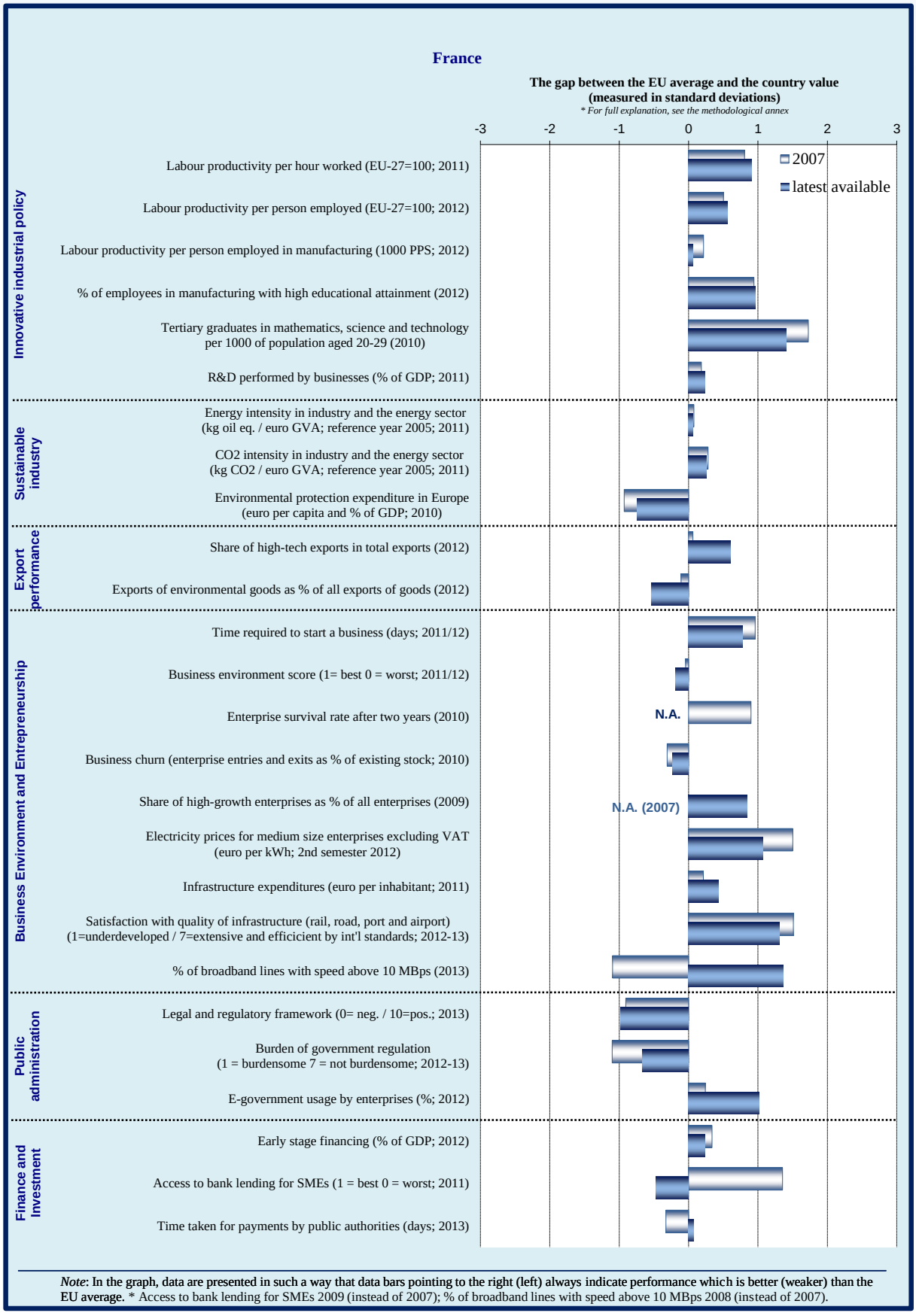
393 Royal decree law 4/2013 of 22 February.

Member States. Although measures adopted under the banking sector recapitalisation programme should ultimately help to alleviate this situation, for now there are no signs of significant improvement. The government is trying to ease credit constraints through financial instruments, in particular loan guarantees, and promoting alternative financial instruments.

Measures have also been adopted to simplify the business environment. Overall, progress has been slow and some flagship reforms are still pending, such as the law to support entrepreneurs and their internationalisation; the reform of professional services; and the law to guarantee the unity of the market.

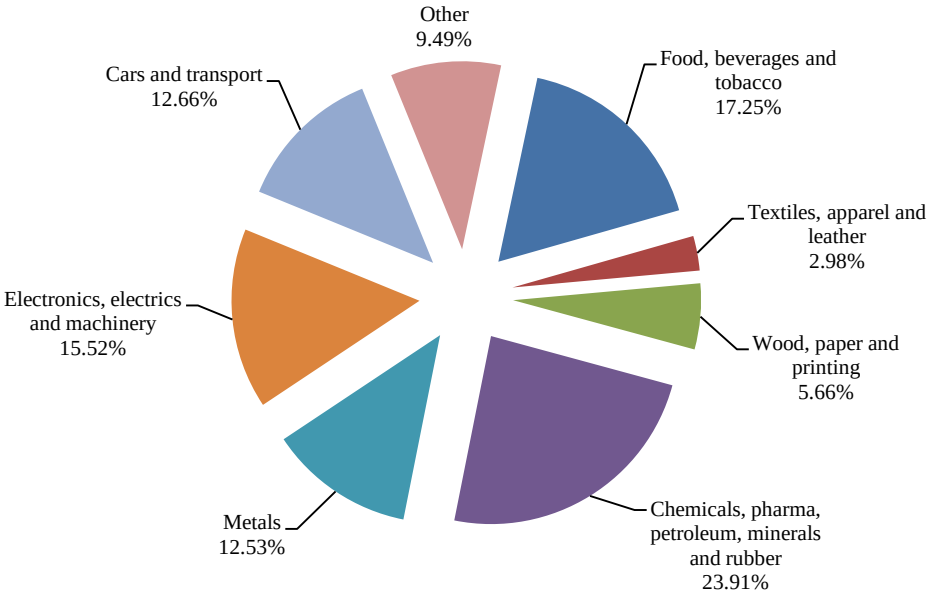
The structural reforms need to be completed before their full impact on growth and competitiveness is felt. In particular, this applies to improving the business environment, and to enhancing non-cost competitiveness.

4.10. France



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.10: Manufacturing sectors – France (2010)



Source: Eurostat

4.10.1 Introduction

Manufacturing plays a smaller role in France than in the EU as a whole (10 % of value added vs. 15.3 % for the EU in 2012). In terms of the sectoral breakdown, France is specialised both in technology-driven (aerospace) and marketing-driven industries (luxury). Most of the goods and services belong to the category of medium-high innovation, but there is less activity in high innovation sectors.

Although productivity is high, the competitiveness gap vis-à-vis the best performers is widening, driven by both cost and non-cost factors, also in the context of a deteriorating external position and high public debt.[394] To restore competitiveness, the government adopted in November 2012 an overarching strategy — the *Pact for Growth, Competitiveness and Employment* — structured around eight competitiveness policy levers and 35 decisions aimed at lowering taxes and business costs, facilitating access to finance, supporting innovation, and ensuring a simpler and a more stable regulatory, administrative and tax environment. Further, in April 2013, a set of ten enterprise-friendly measures were announced following the *Assises de l'entrepreneuriat*, most of which will take effect in 2014. The government has also announced a complementary set of measures to further reduce red tape and administrative cost for companies.

4.10.2 Innovation, skills and sustainability

Innovation

The Innovation Union Scoreboard 2013 classifies France as an innovation follower, although R&D intensity has grown from 2.08 % in 2007 to 2.27 % in 2009, and was stable in 2010 and 2011, leaving it well below the national target of 3 %. In particular business R&D intensity, which has increased slightly despite the crisis, from 1.31 % of GDP in 2007 to 1.42 % of GDP in 2011,[395] remains significantly below the 2020 target.

The level of business R&D intensity is relatively low compared to the innovation leader countries. Besides a few highly innovative and exporting firms, many small firms are not investing in innovation, particularly in non-R&D innovation, as the percentage of SMEs innovating in-house and introducing product or process innovations is below

394 In-Depth Review, COM(2013) 199 final.

395 Business R&D intensity progressed from 1.33 % of GDP in 2008 to 1.40 % in 2009 and to 1.43 % of GDP in 2010 and 2011.

the EU average.[396] While France is a net exporter of services, the share of knowledge-intensive services with high added value is well below the EU average. There is potential to draw larger benefits from the science and technology base, besides making technology transfer more efficient. In particular, non-technological innovation (marketing, branding, product customisation, advanced customer support) and non-breakthrough innovation (e.g. embedded software) provide high added value and contribute to firm growth, promoting competitiveness.

The competitiveness pact identified innovation as the route to improved competitiveness, and a set of measures has been announced, including further public support for innovation by businesses by extending the research tax credit beyond 2013, retargeting the *Pôles de compétitivité* to better focus on projects with market potential, increasing the transfer of public R&D, spreading digital and key enabling technologies, steering public procurement towards innovative goods and services, and setting up a working group at national level to reflect on the various levers of innovation (economic sectors, taxation, innovation culture, support schemes). Also, the *Investment for the future* programme is expected to facilitate investment in innovation through disruptive technologies, including by SMEs. Further, the tax credit for innovative new companies should allow about 2 600 companies (*jeunes entreprises innovantes*) to enjoy full exemption from social security contributions for eight years, with a broader definition of eligible expenses.

Overall, the innovation system would benefit from a stable and clear environment for business research and innovation, and where redundancies and overlaps would be limited.

Skills

The share of the population with tertiary education is above the EU average. However, the skills acquired do not seem to fully match the needs of businesses, in particular for ICT engineering and management skills.[397] Moreover, participation in lifelong learning is low compared to EU average, which may further aggravate the skills mismatch. The 2013 reforms of compulsory and higher education, and the research system, seek to adapt to the digital age.[398]

The guidance available does not seem sufficient to allow students to identify courses offering the greatest employment opportunities despite major reforms since 2007 that have introduced measures to support more informed choice and guidance for students.

Increasing the availability of support services to enhance the capacity of SMEs to anticipate their employment and skills needs, and to manage restructuring would help to manage structural change and improve the use of human capital. A bill on further decentralisation of national competencies would increase the role of regions in training, and improve the match with regional skills needs.

Sustainability

Energy intensity in industry and the energy sector is slightly lower than the EU average, and due to the energy mix, carbon intensity is one of the lowest in the EU. In addition, electricity prices for mid-sized enterprises are well below the EU average. However, increasing energy demand, and the plans to reduce the use of nuclear power, mean that other energy sources will have to be developed. This could lead to higher electricity prices for industrial consumers in the medium term, in particular for energy-intensive industries. However, the electricity generation market remains very concentrated and a commitment to further open it to competition could mitigate price developments.

To reach the Europe 2020 target,[399] significant investment will be necessary in renewables. This may create potential for French suppliers to specialise in technologies such as offshore wind

396 Research and Innovation Performance in France: Country profile 2013.

397 29 % of employers report recruiting difficulties, which is the second highest in Europe. EU skills panorama 2012, http://euskillspanorama.ec.europa.eu/KeyIndicators/Country/NationalData.aspx?lookupid=10&.

398 The first one encompasses the setting up of a 'public service for digital education 'and legal measures to facilitate the use of OER by teachers. The bill on higher education (HE) and research foresees the provision of OER by the public HE institutions as well as related services.

399 23% of renewable energy in final energy consumption (13.1% in 2011).

and tidal power, or to develop activities such as maintenance and recycling.

A new tax on lorries (above 3.5 tonnes) has been announced and is due to enter into force in October 2013. It is expected to increase the cost of freight by 5% and lead to optimisation of road freight (e.g. a higher load factor). A significant shift to rail freight remains the long-term objective, but this would require significant investment in infrastructure and an appropriate competition framework.

4.10.3 Export performance

As underlined by the in-depth review,[400] France has a growing trade deficit, which reflects the long-term decline in export market shares: the trade balance has been deteriorating since 1997 and showed a deficit of 2.5% of GDP in 2011. The market share of exports fell by 11.2% between 2006 and 2011. In 2012 the current account improved because of slow domestic demand and larger exports (in particular in aerospace).

This situation is due to persistent losses in cost and non-price competitiveness. Unit labour costs in business services are higher than in comparable Member States, and the cost of services is an important part of production costs in manufacturing. Compared to Germany, unit labour costs are higher for companies below 1000 employees. At the same time, the structural weaknesses in areas such as taxation, labour rigidities, the regulatory environment, regulated professions, and competition in product markets slow down productivity growth and weigh on the profitability of firms.

France remains the third largest exporter of goods in the EU, accounting for 10.7% of EU exports to non-member countries.[401] France exports mainly aircraft, food, chemicals, industrial machinery, iron and steel, electronics, motor vehicles and pharmaceuticals. The share of high-tech exports in total exports is the fifth highest in the EU.

The competitiveness pact sets a national target to achieve a trade surplus by 2017, excluding energy. Supplementary measures to stimulate exports were announced in December 2012, for example accompanying a limited number of SMEs and mid-caps with high export potential on foreign markets or promoting France as a quality brand abroad.

4.10.4 Business environment and public administration

According to various competitiveness rankings, France scores well but has slipped back slightly compared to previous years.[402] While the infrastructure is the fourth best in the world, the labour market appears relatively less flexible than in its peers, and the tax regime is considered as particularly distorting.[403]

The procedures for starting up a business are less complex in France than in the EU on average, and the cost of starting a company is lower — as is the cost of enforcing contracts. France is close to the EU average in the availability of business-related e-government services, the use of evidence-based instruments and the administrative cost of taxation. However, the perception of the legal and regulatory framework by businesses still scores clearly below the EU average, ranking 17th among the Member States.

The complexity of the legal and regulatory environment was acknowledged in the competitiveness pact and a 'simplification shock' was included in the national reform programme. Several measures have been announced, including some streamlining of public subsidies to enterprises (including state aid), some reduction in the existing 'gold-plating' of EU legislation, and the inclusion of an SME test in the impact assessment methodology.[404] Other measures include the target to eliminate ten information obligations by 2016,

400 COM(2013) 199 final (under Regulation (EU) No 1176/2011).

401 Eurostat, International trade in goods (July 2012).

402 In the 2013 World Bank Doing Business Report, France ranks 34th (out of 185 countries), slightly down on previous years (32nd in 2012 and 28th in 2011). According to the Global Competitiveness Index, France ranked 21st in 2012-13 (out of 144 economies), losing three places compared to 2011-12 mainly due to falling confidence in public and private institutions (down four places) and the financial sector (down 13 places in trustworthiness).

403 Global Competitiveness Report 2013-14.

404 Detailed guidance is available to Ministries since 2009. Although the impact assessment methodology is not publicly available, many impact assessments are now published. Their content and level of detail varies significantly, not least as regards the analysis of policy options and of stakeholder interests.

and a moratorium on new rules (one-in, one-out policy).

The taxation system remains highly complex because of multiple exemptions and derogations, and constant changes. This leads to a lack of transparency for businesses, especially SMEs and foreign investors. The tax wedge on labour is high,[405] and the overall tax burden on businesses has substantially increased since 2010.

However, new measures like the tax credit for competitiveness and employment[406] are expected to decrease the tax burden on labour for companies by EUR 20 billion. The impact of this measure will mostly be felt from 2014 onwards, although a pre-financing has been set up for SMEs, and it is too early to assess its impact on corporate investment in the medium term, particularly in manufacturing. In any case, this tax credit will only partially offset the increases in the tax burden on companies enacted since 2010. Further steps would help in shifting the tax burden from labour to other forms of taxation that weigh less on growth and external competitiveness.[407]

Despite the absence of minimum standards of stakeholder consultation, such as minimum consultation deadlines, stand-alone processes such as the *Assises de l'entrepreneuriat* or the consultation during the preparation of the *Gallois report*, have offered significant opportunities for business stakeholders to express their views and have led to something of a consensus on the nature and causes of competitiveness losses, if not on policy priorities and appropriate remedies. A permanent consultation of enterprises on simplification has recently been announced.

In April 2013, as a result of discussions within the *Assises de l'entrepreneuriat*, a set of enterprise-friendly measures were announced, most of which will take effect in 2014. The measures include the encouragement of a second chance in the event of failure (by abolishing the blacklist for single business failure); dedicated funding through the Public Investment Bank to help business start-ups in disadvantaged areas; special visas for foreign start-up investors; tax relief over five years for equity investments in start-ups; the creation of business incubators (*Maisons de l'international)* in major cities throughout the world (in particular in the United States and Asia) to encourage French SMEs to export their goods and services; the introduction of a student entrepreneur scheme enabling anyone setting up a company after completing their studies to continue to benefit from their student status; and introducing entrepreneurship and innovation learning in secondary school.

If fully implemented, such measures can have a positive impact on the business environment. However, in order to boost competitiveness, it would be helpful to address the challenging structural weaknesses, in particular the competition framework. The cost of services could be lowered by increasing competition. As highlighted by the Commission and the Council in the country-specific recommendations, unjustified barriers persist in several areas, including regulated professions (in particular the legal form, shareholding structure, quotas and territorial restrictions); retail trade (spatial planning restrictions, authorisation procedures for retail outlets); network industries, in particular the electricity market (high concentration with only limited connections to neighbouring countries); and rail transport (no competition in domestic passenger transport).

Public administration

In terms of overall government effectiveness as measured by the World Bank, France performs just above the EU average, but not as well as in the previous year.

Coordination among administrative levels and communication with enterprises could benefit from further improvement. There is no single contact point at local level for enterprises on state aid or other public support. The creation of the Public Investment Bank is expected to provide a single contact point for public loans, guarantees and export financing, and may enable the rules for access to be harmonised. The management of other forms of public financial support, including state aid, remains scattered between numerous local authorities (municipalities, 'inter-municipal' bodies, 'departments', regions, future 'metropoles'). Policies on economic development

405 OECD Economic Surveys: France, March 2013.
406 *Crédit d'impôt pour la compétitivité et l'emploi.*
407 France is among the EU countries with the lowest share of environmental taxes and VAT in GDP.

and innovation are adopted and implemented by several layers of government. The draft law on decentralisation provides for the creation of 'conferences' to coordinate activities between all local authorities.

4.10.5 Finance and investment

The amount of overall outstanding credit to enterprises remained stable in 2012, with variations between sectors and types of firm. In December 2012, the amount of outstanding credit had increased by 0.8% compared to December 2011.[408] Outstanding credit to SMEs, excluding individual entrepreneurs and real estate activities, grew by 2.5% year-on-year. Credit to the building (+7.5%) and retail (+5.4%) sectors increased, while that to the manufacturing sector decreased by 3.3%. However, short-term cash facilities tightened by 3.5%.

As a whole, greater non-price competitiveness would require significant additional investment by businesses, not least in R&D and human resources, while the profitability of non-financial companies is declining and at its lowest level since 1985. Most firms are dependent on credit, particularly in the manufacturing sector, as self-financing capacity has tended to deteriorate in recent years, while alternative sources of financing such as venture capital, business angels, equity markets and other equity funding remain limited, in particular for SMEs. In addition, payment times have not improved sufficiently to help to address this lack of financing. However, the situation in France is much better than in many other Member States.

The competitiveness pact has identified these challenges and included several commitments to improve access to finance, in particular through additional public schemes (guarantees and loans); measures on savings taxation (including tax incentives to encourage investment in stocks and corporate debt issued by SMEs and mid-cap firms); and measures to facilitate access to equity markets by SMEs and mid-caps (including the creation of a new stock exchange).

Although the regulated savings accounts are not meant for the financing of enterprises, one option is that a small part could go to the new public investment bank, *Bpifrance*, for equity financing of (non-listed) SMEs and mid-caps. Similarly, a new life insurance contract could be created to allow insurance companies to invest more in listed companies and corporate bonds, which could mainly benefit larger companies. A new specific savings account has also been planned to favour investment by banks in (listed) SMEs. The take-up of pre-financing provided by the *Crédit d'impôt pour la compétitivité et l'emploi* seems to benefit microenterprises that need immediate cash flows. Such measures could improve the external financing of businesses, in particular SMEs, but the impact depends on their effective implementation.

As regards foreign direct investment, the inward stock amounted to 35% of GDP in 2011 compared with 29% in 2000. Overall, foreign companies account for a third of exports and 20% of business expenditure on R&D. The Invest in France Agency is the official body that provides information and support to foreign investors in France and promotes France's business image and attractiveness abroad.

4.10.6 Conclusions

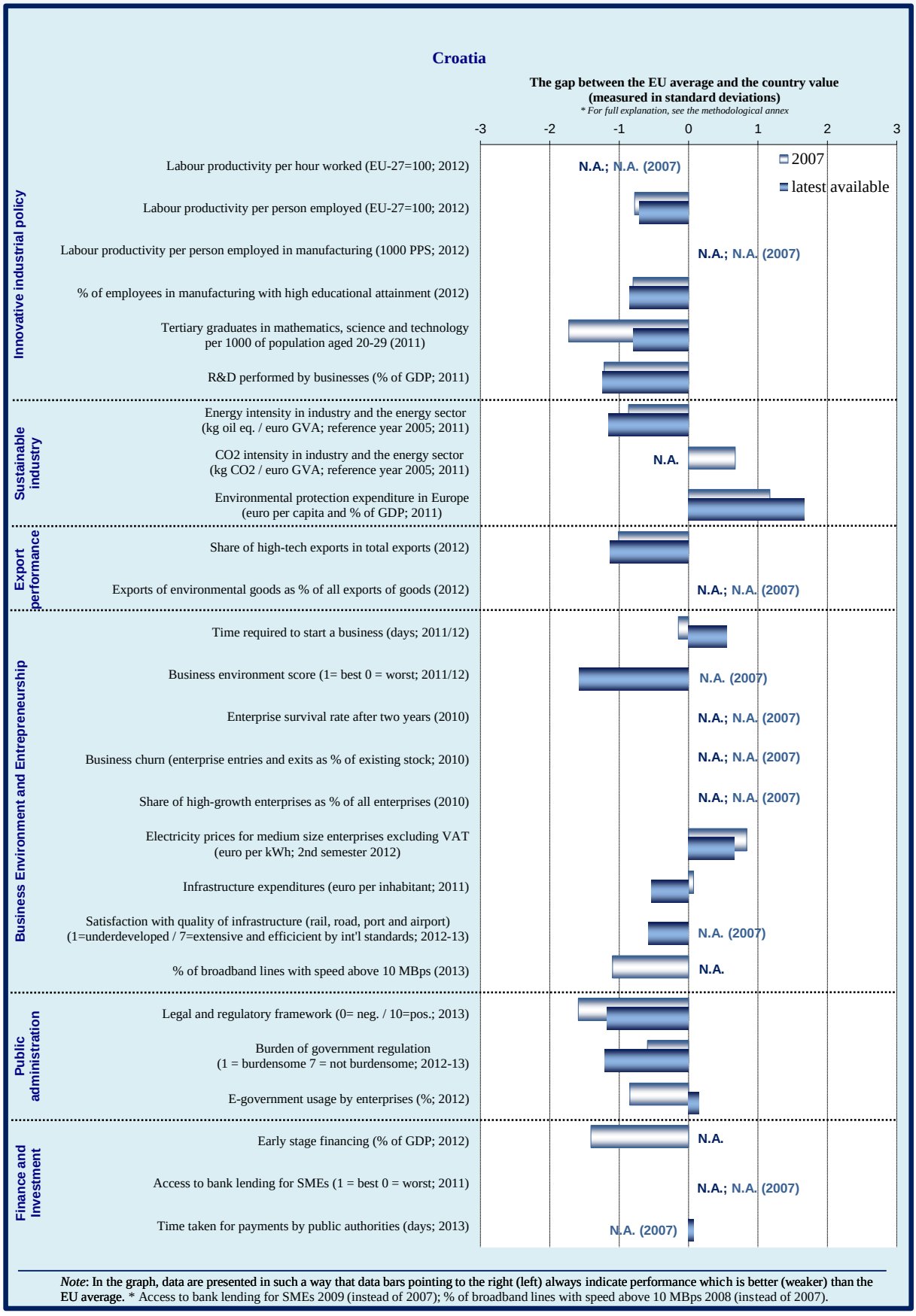
Improving competitiveness has become the key challenge of the French public reform agenda and a number of measures have been announced, notably as part of the competitiveness pact, and following the suggestions of the *Assises de l'entrepreneuriat*. These initiatives relate to better access to finance, improved support for innovation, encouraging entrepreneurship and improving the regulatory and administrative environment.

While the measures announced would represent steps in the right direction, most of them still have to be effectively implemented. The final impact depends on how effective this implementation is, and how well the measures are coordinated, with a view to avoid overlaps and further complexity, and to maximise synergies.

To achieve a significant improvement in competitiveness, it would be necessary to supplement these reforms with measures removing the structural weaknesses that slow down productivity growth and hamper the profitability of firms, in particular labour market rigidities, regulatory burden, complex taxation and limited competition.

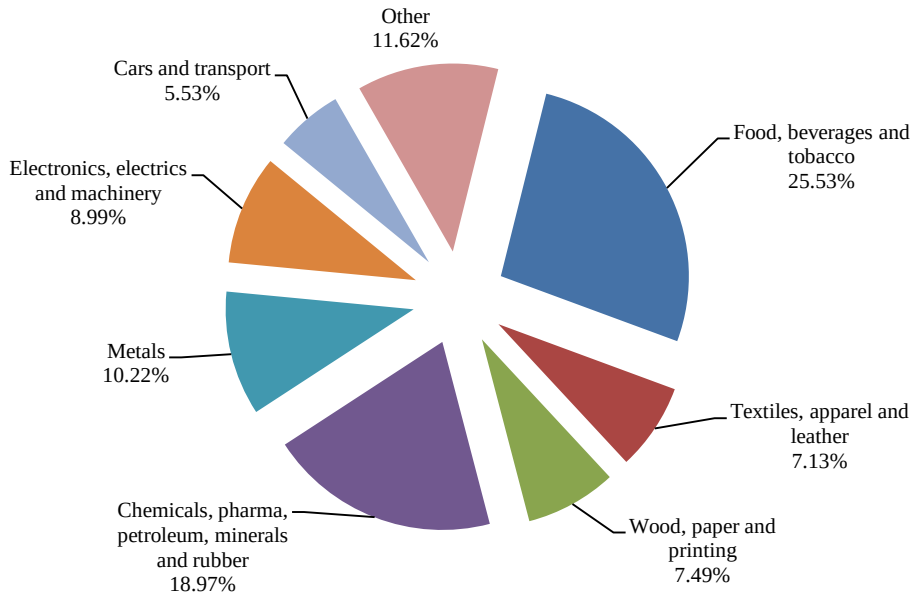
[408] Source: Banque de France.

4.11. Croatia



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.11: Manufacturing sectors – Croatia (2010)



Note: No data available for sectors C12 (tobacco products), C19 (coke and refined petroleum products) and C26 (manufacture of computer, electronic and optical products)
Source: Eurostat

4.11.1 Introduction

In recent years, economic developments in Croatia have been dominated by two issues: recession — GDP growth averaged 4 %[409] in 2000-08, but under -2 % since, and EU accession, which has involved increasing political support, technical assistance and commitment to reform. These factors have had an effect on all aspects of competitiveness. Also, the country is characterised by a problematic degree of regional disparity, with significant differences in performance between Zagreb and peripheral regions.

As part of the process of EU accession, a number of long-term strategies have been developed that did not exist previously. While the final shape of all of these strategies is not yet clear and their effect will depend on proper implementation and enforcement, they present an opportunity to improve competitiveness. One example is the industrial strategy covering 12 priority industry sectors: food and wood processing, automotive, pharmaceuticals, medical equipment, ICT, textiles, defence, the creative sector, chemicals, maritime technologies, and civil engineering. This list immediately raises a number of issues — not only are there too many sectors for a proper focus to develop, but the sectors are largely low in value added and knowledge intensity, indicating a lack of smart specialisation.

Currently, manufacturing accounts for 16.2 % of GDP. While employment in industry in 2009 (at 25.8 %) was slightly higher than the EU average (22.9 %), the value added (23.2 %) was below the EU average (25 %).[410] The main industries were food, beverages and tobacco, chemicals, pharmaceuticals, petroleum, minerals and rubber, and metals. These reflect specialisation in low and medium technology.

In 2012, labour productivity per person employed was 80.2 % of the EU average.[411] The gap has narrowed narrowed considerably since 2007 — including a significant setback after 2008.

409 http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00115.

410 Eurostat (2013) NACE Section C.

411 Eurostat http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00116.

4.11.2 Innovation, skills and sustainability

Innovation

According to the 2013 Innovation Union Scoreboard, Croatia is a below-average moderate innovator, one of the ten worst performers when compared with the EU-27 Member States. However, a set of measures are being implemented to strengthen research and innovation capacity.[412] Expenditure on R&D is 0.75% of GDP, business expenditure on R&D 0.34% (EU average 1%) — the 2020 target is 1.4%. The country's relative strength is in human resources – it has had the fastest improvement in the proportion of secondary education attainment – but this has not translated into improved performance. The research system and intellectual assets are rated low, and industrial value added is also low. High-tech manufacturing accounts for 0.4% of total employment and knowledge-intensive services 2.3%, as compared with 1.1% and 2.7% respectively for the EU.[413] There is a high degree of regional disparity, with Zagreb clearly ahead of the rest of the country.

Since 2004, the Ministry of Economy, Labour and Entrepreneurship, and since 2011 the Ministry of Entrepreneurship and Crafts, have been operating a system of grants for innovation, distributing EUR 7 million to 1 407 projects, 77% of which has gone to small and medium-sized enterprises (SMEs). In recent years, R&D investment has decreased due to the recession, spurring the government to launch a number of reforms aimed at increasing innovation.

In the first half of 2013, the government plans to complete the national innovation strategy, which aims to strengthen cooperation between industry and research institutions. The strategy includes a plan for a network of competence centres in the 12 priority industries, of which three are already operational. The aim is to promote advanced technologies and market innovative solutions, including in nanotechnology in wood processing. Stakeholders agree that some of the priority industries, in particular ICT and chemicals, have growth potential. The strategy also seeks to improve the quality of research through an industrial PhDs fund, providing scholarships for post-graduate doctoral studies, in coordination with the private sector.

Skills

Tertiary education attainment is low, at 23.7% (well below the EU average of 35.8%).[414] There is a brain drain issue; while Croatia performs well on human capital, especially at secondary school level, its economy suffers from low research quality and lack of knowledge intensity. There are also problems of skills mismatch and low participation in lifelong learning. The recession has led to a reduction in the already low provision of training. As unemployment increases the supply of available labour, employers have fewer incentives to train their workforce.

In 2012, the government started to implement a skills needs verification system, monitoring the structure of the economy (by region and sector), integrating results from three surveys (covering employers, entrants to unemployment and education) and forecasts. The system has identified skills gaps and surpluses at regional level, especially deficits in tourism-related service skills in peripheral regions and technical skills for industry.

Reforms are being implemented to improve the links between the education system and the labour market. The Croatian qualifications framework is geared to increasing the quality and flexibility of the education system. It will also link higher education funding to output indicators.

Sustainability

Croatia scores relatively well on energy intensity and the use of renewable energy sources. Energy intensity is better than the EU average and improving at a similar pace. Between 1995 and 2010, there was general improvement, including in manufacturing.[415] In particular, the renewable energy sector has potential for further growth. In

412 Assessment of the 2013 economic programme for Croatia, SWD(2013) 361.

413 http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=File:Statistics_on_employment_in_high_-_tech_sectors,_EU-27_and_selected_countries,_2010.PNG&filetimestamp=20120207155622.

414 Eurostat (2013) t2020_41.

415 Odyssee Mure (2012), *Energy Efficiency Policies and Measures in Croatia*.

2010, hydroelectric power accounted for 19.4 % of primary energy supply and biomass a further 3.9 %, while other renewables contributed 0.5 %.[416] The target for electricity generation from renewable sources is 20 % by 2020.[417]

Investments in the transmission and distribution network will be necessary to accommodate an increasing uptake of intermittent electricity in the system. The liquidified natural gas terminal and its connecting pipelines are a very important element of the North-South gas corridor and as such a security of supply asset for the region.

The Croatian Cleaner Production Centre was established in 2000 to promote efficient and environment-friendly solutions for industry, services and the state administration. Its activities include training 204 environmental management system experts and implementing 146 cleaner production projects.

A number of legislative projects are currently being planned that may influence the sustainability of Croatian industry. The Sustainable Waste Management Act is due to be adopted in 2013. Electricity grid operators will propose plans for the development of smart grids in 2013. A climate change adaptation strategy, aimed at controlling greenhouse gas emissions, is planned for 2014.

The plan is for the industrial strategy to include incentives for sustainable production and the development of a green economy; measures include the introduction of sustainability criteria in public procurement and the creation of an environmental protection logo.

4.11.3 Export performance

In 2011, exports accounted for 42 % of GDP.[418] Between 2000 and 2008, Croatian exports more than doubled in nominal terms and grew 15% from 2011 to 2012.[419] The main exports are transport equipment, machinery, textiles, chemicals, foodstuffs and fuels. As Croatia's main trading partner, the EU is the destination for 63 % of its exports.[420] The trade balance has been in deficit, but has improved slightly since 2008 due to falling domestic demand.[421]

The Croatian Chamber of Economy and Chamber of Trades and Crafts represent Croatian exporters' interests abroad. The Entrepreneurial Impulse initiative in 2012 was aimed at raising the international profile of Croatian businesses through international fairs and in new markets. 83 projects received EUR 2.3 million in support. A new export strategy is also being developed, the previous one having run its course.

With Croatia's accession to the EU, trade is likely increase, even though most barriers have already been removed. Exports of services are significant — mainly as regards tourism but also software development and business process outplacement.

4.11.4 Business environment and public administration

Business environment

Croatia's business environment is one of the major problem areas for competitiveness, but also a major area of reform. The World Bank's *Doing Business 2013* report ranks Croatia 84th globally, behind all EU countries except Malta. Although the position has improved significantly since 2005, making the country the 14th fastest reformer in the world (faster than any EU country), its position worsened as compared with the previous ranking. Two aspects of the business environment are especially problematic: access to finance, and inefficient public administration plagued by corruption. The former is largely due to the effects of the recession on growth, export performance and the investment climate. The latter can be traced back to the prolonged transition to a market economy, combined with ageing infrastructure systems, decentralised public administration with many decision-making competences at local level, and the existence of monopolistic state-owned enterprises.

416 Hrvoje Pozar Energy Institute (2010) *Country Energy Profile — Croatia*, http://www.eihp.hr/hrvatski/projekti/unece/pdf/bibilioteka/Energy%20profile%20-%202010.pdf.

417 Eurostat http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators

418 World Bank Indicator for 2011.

419 http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tec00110.

420 Eurostat 2009.

421 Eurostat http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&language=en&pcode=tec00043.

The World Bank has emphasised the need for reform in dealing with construction permits, registering property, protecting investors, and trading across borders.

In 2012-13, the government has implemented a number of reforms aimed at improving the business environment. The procedures for registering a company have been simplified. Registration times and costs have been reduced, in particular by introducing a two-day online procedure for crafts, and a five-day procedure for limited liability companies. The public-private dialogue, a forum for consultation on aspects of legislation affecting SMEs, has been set up. Also, an SME observatory has been established to collect and provide information.

Furthermore, because of issues raised as part of the EU accession process, the role of the state in the economy is being reduced. The privatisation contract for the Brodosplit shipyard was signed in February 2013 and it is expected that the privatisation process for the Brodotrogir shipyard will be completed in time for Croatia's accession.[422] Further privatisation, albeit slow, is planned.

Adopted in September 2012, the Act on Investment Promotion and Development of the Investment Climate established a working group to monitor the implementation of investment projects and identify and remove administrative obstacles. Businesses can also submit direct requests to the working group to investigate specific barriers.

Significant investment (backed by EU funds) is planned for developing railway infrastructure, sea ports and inland waterways, as improvements are needed, in particular in peripheral regions. The programme for the development of broadband access infrastructure is also being developed, which is necessary as Croatia is below the EU average in all areas on the Digital Agenda Scoreboard.[423]

There are plans to adopt in 2013 the Strategy for Entrepreneurship 2020, aimed at further improving the business environment and promoting SMEs' use of R&D and innovation. Plans to reform the public procurement system include introducing non-price criteria and reducing the size of tender lots in order to attract more SMEs.

Public administration

Dealing with the public administration remains a major burden for businesses, especially because of corruption. A 2013 report by Ernst and Young ranks Croatia as the second most corrupt of the EU-28 countries, with 90 % of respondents saying corruption is widespread in business.[424] Transparency International ranks Croatia 62nd, the 5th most corrupt of the EU-28 countries.[425] It seems that corruption has been reduced in recent years at central level, but remains a problem at the regional and local levels.

Although the compliance burden of the tax system is a relative strong point,[426] significant work remains to be done to ensure uniform and competent application of the tax code throughout the country, for which the tax administration needs more and better training. The VAT rate has been increased from 23 % to 25 %, while healthcare contributions lowered from 15 % to 13 %.

Reforms were implemented in 2012-13 to make the tax system more business-friendly, and the Office for Large Taxpayers was established to provide targeted services and improve tax governance. Amendments to the General Tax Act have established a standard tax declaration form and made it possible to submit forms online.

In February 2012, a Freedom of Information Act was adopted, aiming to make public administration more transparent and efficient, and creating the post of Information Commissioner.

A reform of the judiciary has included a mediation and conciliation process to facilitate insolvency and contract enforcement procedures. Further changes to the civil code and bankruptcy legislation have also promoted alternative dispute resolution. A new Enforcement Agency has been established. Despite this, a large backlog of unresolved cases remains, although case resolution has improved – the clearance rate for enforcement cases was 93.7 % in

422 http://europa.eu/rapid/press-release_IP-13-252_en.htm.

423 Digital Agenda Scoreboard http://digital-agenda-data.eu/index.php?scenario=4&year=2011&countries[]=HR.

424 Ernst and Young (2013) *Europe, Middle East, India and Africa Fraud Survey 2013*.

425 Transparency International (2012) Corruption Perceptions Index cpi.transparency.org/cpi2012/results/.

426 Croatia ranks 42nd on the PWC Paying Taxes report.

2010. However, the length of proceedings is very high compared to the majority of Member States. Shortcomings in the functioning of the justice system undermine the confidence of citizens and businesses in the public institutions and weigh on Croatia's business environment.

4.11.5 Finance and investment

Access to finance is a major problem area for competitiveness. The investment climate has worsened considerably since 2008 and there has been a marked fall in the accessibility of commercial bank loans. Interest rates have increased, with SMEs facing rates of over 8 %,[427] and banks are demanding higher collateral. Alternative funding sources, such as venture capital, remain essentially unavailable — in 2008-11, fewer than 1 % of SMEs used equity finance.[428] A report by the Croatian SME Policy Centre described in detail the available funding options (banks, microfinance, venture capital funds, business angels, government incentive programmes and subsidised credit lines), concluding that the dominance of traditional banking products is a systemic problem.[429] The report also criticised government financing programmes for insufficient coordination and lack of evaluation. Again, access-to-finance conditions are significantly worse in peripheral regions.

Two state agencies provide financing for enterprises: the Croatian Bank for Reconstruction and Development (HBOR) and HAMAG Invest. HAMAG provides microloans and loan guarantees, and issues letters of intent for SMEs with a good business plan but no credit history. The HBOR provides loans on favourable terms – 1 352 in 2012, 27 % more than in 2011. Its 2013 budget for SME loans is EUR 603 million. Currently, only two Croatian financial institutions channel EU funds from the Competitiveness and Innovation Framework Programme to SMEs.

Under a new programme being introduced in 2013 on the basis of a venture capital investment fund with a budget of EUR 46 million, 25 % to 50 % stakes will be purchased in projects in the 12 priority industrial sectors. The HBOR is also exploring the possibility of establishing a venture capital fund of EUR 134-201 million for export businesses.

The Act on Investment Promotion and Development of Investment Climate provides incentives for job creation and training, especially in areas of high unemployment, and eases access to incentive measures for micro-entrepreneurs and foreign investors. It concentrates on innovative sectors, manufacturing and high value-added services, including tourism.

Historically, foreign direct investment has played an important role. From 1993 to 2012, this amounted to EUR 26.1 billion, concentrated in the financial sector and the wholesale and retail trade.[430] However, since 2008, FDI inflows have decreased by over 75 %.[431] In May 2012, the government responded by establishing an agency for investments and competitiveness. Active promotion programmes aimed at improving the image of Croatia as a safe place for investment include the targeted investors campaign, which presents comprehensive business plans to potential investors. Croatia operates a network of 13 free economic zones.

4.11.6 Conclusions

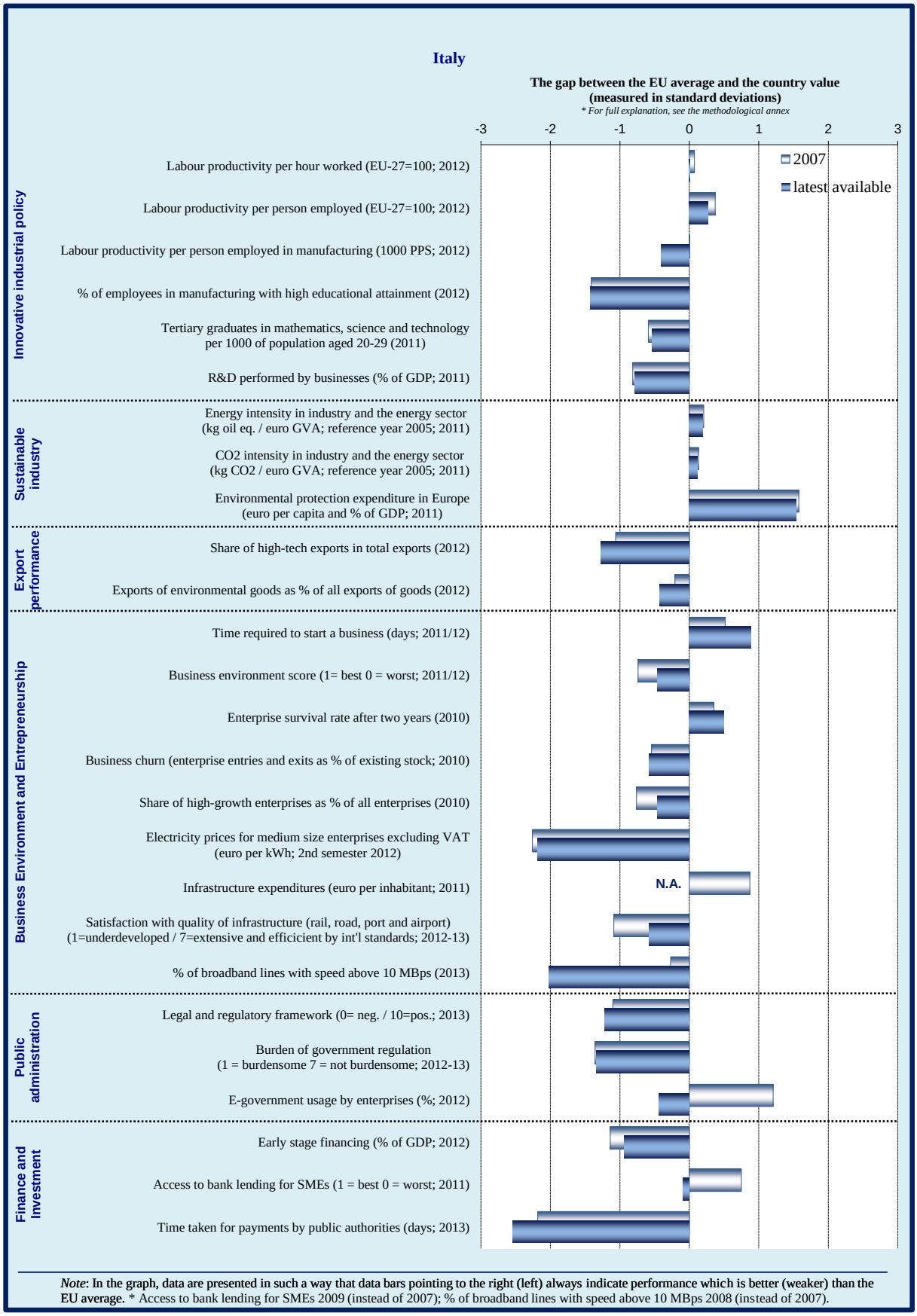
Croatia has recently implemented a considerable number of reforms. In the framework of EU accession, it has completed all the reforms called for in its progress reports, including those concerning the judiciary and privatisation. Many weaknesses have been acknowledged by the authorities and are partly reflected in the already adopted measures, and in reform intentions.

However, large obstacles remain as regards access to finance, corruption (especially in business), the efficiency of public administration, and the innovation infrastructure. The action plans currently being drafted therefore need to be of high quality and properly implemented. Full implementation of reform plans already adopted is a precondition for better competitiveness.

427 Croatian Ministry of Entrepreneurship and Crafts.
428 DG ENTR, EC (2011), SME's Access to Finance Survey 2011.
429 CEPOR (2011), *SME Report for Croatia 2011*.
430 Croatian Ministry of Entrepreneurship and Crafts.
431 World Bank Indicator for 2003-12.

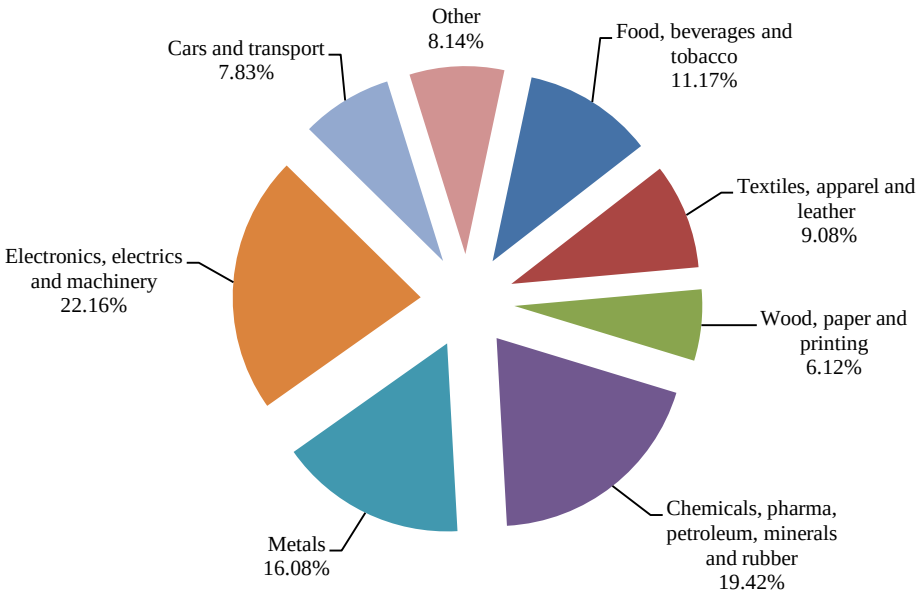
While Europe's economy continues to suffer, Croatia is likely to experience limited access to finance, depressed demand for exports, lagging competitiveness and lower foreign direct investment. In the medium term, the benefits of joining the single market and the impact of EU funds could contribute considerably to the growth of the Croatian economy.

4.12. Italy



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.12: Manufacturing sectors – Italy (2010)



Source: Eurostat

4.12.1 Introduction

Manufacturing accounts for 15.5% of total value added in the economy, which is slightly above the EU average (15.3%). It is relatively concentrated in low and medium-low technology sectors, including clothing, leather, textiles, wood and metals, while the share of more innovative high and medium-high tech sectors is smaller than in other EU economies. Beyond sectoral specialisation, the uneven performance of Italian industry has its roots in the fragmentation of the industrial structure, as Italy has the largest number of enterprises in the EU, with more than four million SMEs, twice as many as in Germany.

In terms of average unit labour costs, Italy's competitiveness has eroded considerably over the last ten years, due to an increase in nominal gross wages combined with sluggish productivity growth. However, real wages have remained almost stable, highlighting the importance of addressing the productivity gap while better aligning wages on productivity. Alleviating the tax wedge on labour would also help.

Italy is experiencing a real deindustrialisation, as the industrial production index has lost 20 percentage points since 2007. This development seems to be attributable both to subdued activity due to the downturn, and to the closure of many plants in some industrial basics (petrochemicals, steel, and biofuels). In order to deal with as many as 150 plant closures, the government has overhauled the relevant legislation to help plant conversion and regeneration of industrial sites.

4.12.2 Innovation, skills and sustainability

Innovation

In 2011, Italy invested a total of 1.3% of its GDP in research and development. This keeps the country close to its national target of 1.5% by 2020, but well below the current EU average (2.0%) and far behind the R&D intensity of countries at the technology frontier. Although the share of public R&D is largely in line with the country's main competitors, the contribution of the private sector to R&D intensity is particularly low (0.7% of GDP). The Innovation Union Scoreboard[432] points to major weaknesses in the Italian system, in particular the limited availability of finance for corporate research and innovation, and the insufficient commercialisation of the results. Thus, the innovation policy would benefit most from focusing on instruments that could enhance technological specialisation, and that would be

[432] http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf.

oriented towards the commercialisation of innovation.

This is the logic behind the bottom-up approach of the 'smart cities and communities' platform, to which EUR 890 million have been allocated. The Ministry of Research has identified it as a driver of R&D investments in the priority areas for the improvement of urban services: security, ageing, welfare technologies, waste management, health, transport, last mile logistics, smart grids, sustainable architecture, cultural heritage and cloud computing technologies for smart government. Another strand in innovation policy is the development of national technology clusters, identified as catalysts for growth and structural change. Nine priority themes have been identified: green chemistry, agrifood, ambient intelligence and ambient assisted living, life sciences, smart communities technologies, advanced mobility systems, aerospace, innovative energy systems, and intelligent manufacturing.

Italy lags behind in the adoption of information and communication technologies, and the government's growth initiative[433] has created a new digital agency with the task of promoting demand-led innovation, including through innovative and pre-commercial procurement.

One explanation of the limited investment of the private sector in R&D is the preponderance of small firms, as the average size of Italian firms is much smaller than that of other leading European economies. Thus, an important objective would seem to be to encourage firm growth, while at the same time encouraging cooperation in order to increase the capacity to bear the risks associated with R&D activity. The government has addressed this weakness by simplifying the procedures for concluding network contracts,[434] identified as a tool to promote research and innovation. The government has also adopted tax incentives for hiring researchers, but these have not yet been implemented. The European structural funds will also contribute to investment in research and innovation in 2014-2020.[435]

As the venture capital market remains weak, other measures are needed to enhance the equity capital of many firms as the debt/equity ratio is higher than the EU average, which hampers access to finance and investment, in particular in intangibles (see the section on finance and investment below).[436]

Finally, the government has devised a new legal framework to support innovative start-ups.[437] The scheme can provide welcome funding for many firms that have been denied credit due to the risk aversion of the Italian banking system. It should be noted that the framework contains an ambitious scheme on crowdfunding that is one of the first equity crowdfunding frameworks in the world.

Skills

There are observed shortages of skilled labour in the manufacturing sector. In recent years a series of reforms have aimed to strengthen the provision of technical and vocational training to better respond to labour demand. Of particular importance are the certification of skills, and the introduction of post-secondary technical institutes[438] to provide two-year tertiary qualifications focused on key sectors of the economy. Although they still involve only a limited number of students, the 62 institutes have the potential to further develop the vocational higher education system. In the same vein, the government has reformed the apprenticeship system, but at least for the time being, its use remains marginal. Discussions are ongoing about possibilities to improve the attractiveness of the system.

Sustainability

According to estimates,[439] almost one in four enterprises (23.6%) have invested in green products and technologies in the last three years. In the context of overall diminishing fixed investment, these figures show that there is business confidence in the potential of the green economy. Further, over 37% of firms that invested in green technologies

433 The decree is called 'Crescita 2.0'.
434 'Contratti di rete'.
435 European Structural and Innovation Funds for 2014-2020.
436 Also in the Council recommendation on Italy's 2013 national reform programme and delivering a Council opinion on Italy's stability programme for 2012-17: "Promote further the development of capital markets to diversify and enhance firms' access to finance, especially into equity, and in turn foster their innovation capacity and growth."
437 The decree is called 'Sviluppo 2.0'.
438 Istituti Tecnici Superiori.
439 http://www.symbola.net/assets/files/Rapporto_GreenItaly_2012_1358333078.pdf.

were active on international markets (against about 22% of firms that didn't). Such firms tend also to be innovative, as about 38% of firms that invest in the green economy introduced product or service innovations (against slightly more than 18% of firms that didn't). Even when taking into account employment changes in the difficult period in question, these firms proved more resilient than others, as their workforce decreased by 0.7% against 1.4%.

As far as policy measures are concerned, the government has adopted tax incentives for hiring young workers in the green economy. The network contracts referred to above are also helping firms to go green, as out of 458 contracts, 87 are related to sustainability.

4.12.3 Export performance

Italy's share of world trade trended down between 2002 and 2011 (from 3.9% to 2.9%). However, exports increased by 5% in 2012, helping the trade balance to reach its best level since 1999 – although improvements in trade balance are also driven by a decline in imports owing to weak domestic demand. Italy's exports are now back to pre-crisis levels in value terms, but they remain below in volume terms. The export performance is hampered by two constraints. Geographically, exports go to countries whose economic growth has tended to be below average. Italy is also specialised in low-tech sectors, where the competition from countries with a lower cost base is stronger. Clearly, it would be beneficial to move along the international value chains to activities with higher technological and knowledge intensity.

In 2012, the government made a considerable effort, welcomed by the business community, to improve the governance of its internationalisation policy. Primarily it reactivated and rationalised the operations of the *Istituto Commercio Estero*, a government agency for the promotion and internationalisation of firms. In addition to providing business intelligence, consulting services and investment promotion to Italian firms, one of its main tasks is to implement the *National plan for exports 2013-15*.[440] The aim is to increase the value of exports in three years to EUR 620 billion (35-38% of GDP), from EUR 473 billion in 2012, by improving the coordination of internationalisation policies.

The government has also sought to attract more foreign direct investment. To this end it has established *Desk Italia*, which is a one-stop access point for foreign investors on all administrative matters relating to investment projects. In addition, the recourse to the judicial system has been streamlined, as cases involving foreign investors will be dealt with by only three courts (Milan, Rome and Naples), to allow for higher certainty in the decisions.

4.12.4 Business Environment and public administration

Business environment

Overall, Italy ranks 73rd in the World Bank Doing Business, drawn down in particular by construction permits, getting electricity, getting credit, and enforcing contracts. There seem to be too many obstacles to firm growth, as few firms become international players. Although there are policy initiatives to improve its business environment and facilitate the life of SMEs, their implementation is lagging and the administrative burden on businesses remains high. Entrepreneurship issues continue to be problematic, as the relative ranking of Italy worsened in the ease of starting a business,[441] and schools are not able to create an entrepreneurial mindset.[442] Competitiveness may improve if the domestic electricity grid is upgraded to remove existing bottlenecks and new gas storage and import facilities are improved.

Italy has introduced market-opening reforms in many of its product and service market regulations. However, challenges remain in local public services, transport and the energy sector, and there are signs that the reform process is slowing down. High electricity and gas prices reflect limited competition and infrastructure bottlenecks. In many cases the necessary decrees to implement the general liberalisation measures have not been

[440] This plan was established by the '*Cabina di regia per l'Italia internazionale*', a policy body composed of four ministers, the *Conferenza delle Regioni* and social partners (*Unioncamere*, *Confindustria*, *ABI* and *Rete Imprese*).

[441] World Bank Doing Business 2013.

[442] SBA factsheet Italy 2012.

adopted yet. In some cases the liberalisation initiatives have been diluted, and the recent reform of the legal profession seems to backtrack on the previous reform of professions. The implementation of the proposal aimed at eliminating all regulations across the board — except where strictly necessary — is not progressing.

Public administration

Despite the efforts made in recent years, the performance of public administration as measured by the World Bank's Government Effectiveness Indicator is well below the EU average. The main shortcomings include the long proceedings in civil justice, and a burdensome administrative and regulatory framework. The often unclear division of responsibilities between the state and the regions that ensued from the 2001 constitutional reform reduces the effectiveness of simplification measures introduced at the central level.

The regions' exclusive right to regulate economic activities, combined with inadequate inter-regional coordination, has increased differences between regions' administrative requirements. In the same way, the inefficient power-sharing between the state and regions, for example regarding energy, is hampering the development of essential infrastructure. Overall, the administrative complexities place a heavy burden on enterprises. The annual costs of complying with administrative procedures have been estimated at EUR 26.5 billion.

The government has stepped up efforts to reform the judiciary in order to streamline judicial procedures.[443] A geographical reorganisation of courts should be completed by September 2013. For civil cases the right to appeal has been limited to controversial cases. Commercial courts have been introduced for cases concerning intellectual property, limited companies and public procurement. However, they will not have jurisdiction in commercial disputes. The government has adopted a decree-law on the compulsory use of mediation in some private law subjects. Further, a range of measures regarding civil justice have been adopted. Additional staff will help to reduce the case backlog in the Courts of Appeal, and in the courts of first instance; case-handling in the Court of Cassation is being strengthened; and compulsory mediation is being reintroduced with slight adjustments.[444]

4.12.5 Finance and investment

Bank lending to non-financial firms has continued to contract and was in June 2013 down 4.8% year-on-year.[445] This reflects weak demand, higher firm risk and tightening credit standards. The average cost of credit, albeit decreasing, remains 90 basis points higher than the euro-area average. However, survey results[446] point to some easing of the overall financing conditions for SMEs.

The government has sought to mitigate credit risk by strengthening the guarantee fund for SMEs. With its new operational provisions, in many cases the guarantee can cover 80% of funding and the amounts guaranteed can be up to EUR 2.5 million.

Other initiatives have been taken to strengthen the balance sheets of firms. The government has introduced rules to make it easier for SMEs to raise debt, in particular through issuing short-term commercial paper and long-term bonds and similar instruments. The introduction of an allowance for corporate equity allows companies to deduct part of the notional cost of newly injected equity from taxable income.

The introduction of the fund for sustainable growth has been a step away from subsidies. It replaces 43 different support schemes, with an allocation of about EUR 600 million in 2012 and EUR 200 million in subsequent years. The fund is organised along three priorities: research and innovation; strengthening the industrial structure; and internationalisation.

In April 2013, the government acted on one of the major problems for businesses, the payment of an estimated EUR 90 billion in commercial debt arrears owed by the public authorities to businesses.

443 For indicators on Justice see EU Justice Scoreboard 2013 available at http://ec.europa.eu/justice/effective-justice/files/justice_scoreboard_communication_en.pdf.

444 The compulsory mediation had been repealed by the Constitutional Court last October; it has been adjusted regarding the areas concerned, the maximum duration of mediation and the fees due in case of failure to reach an agreement. Decree-law 69 of 21 June 2013, "*Decreto del Fare*".

445 Bank of Italy, Money and banking statistics.

446 European Central Bank Monthly Bulletin, August 2013.

An immediately effective provision clears the payment of EUR 40 billion of arrears over the next two years. If correctly implemented, the measure will have a positive impact on the survival rate of businesses, as according to estimates a third of bankruptcies are due to late payments. Effective implementation of the late payment directive, entered into force in January 2013, could also make firms' management and planning easier and their operations more efficient.

4.12.6 Conclusions

Many of the problems that drag down competitiveness in Italy like low private investment in R&D, lack of innovative start-ups, problems in the supply of skills, lack of equity financing, meagre growth of firms, and internationalisation can be at least partially traced back to the administrative and regulatory constraints of the business environment. In particular, paying taxes and enforcing contracts are particularly difficult. Continuing coherent structural reforms of the public sector are needed for a modern and efficient administration to evolve.

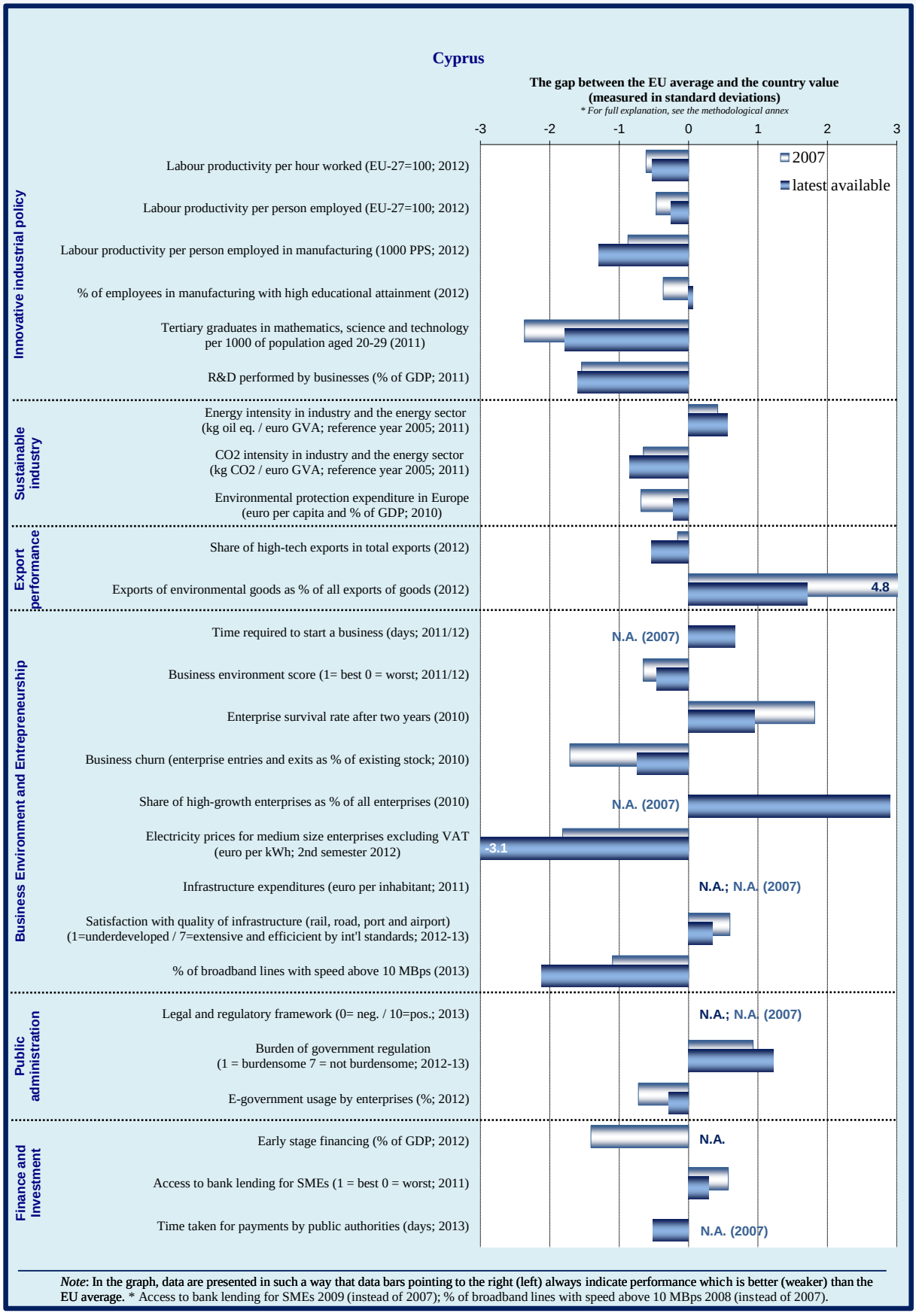
The government has continued to pursue reforms improving the business environment and making it more conducive to growth. The reform of the judiciary system in 2013 has introduced some novel provisions (e.g. reduction of judiciary offices, appointment of new auxiliary staff helping judges), the outcome of which in terms of efficiency of justice still needs to be proven. The anti-corruption legislation that was finalised in 2012 is also a promising step.

Encouraging entrepreneurship has been addressed by allowing the possibility of setting up a business with a capital of one euro and by increasing support for innovative start-ups. The system of subsidies to enterprises has been reformed, even if more radical proposals were dropped, including a plan to restrict the use of subsidies to clear cases of market failure, and to use the savings to reduce the tax wedge on labour.[447] The tax allowance for new corporate equity has potential to enhance growth when the recovery starts. However, these effects are likely to be visible only in the longer run, as operating profits will still be low early on in the upturn.

An important message for policy focus can be found in the performance of firms that have adopted a strategy of innovation and internationalisation. These firms have fared far better in the crisis and it appears that the choice to compete internationally is a key factor leading to innovation. While research shows that this choice ultimately rests on the productivity of the firm, the reform of the governance of the internationalisation system can help reduce the productivity threshold at which a firm may enter the international markets and therefore increase the number of exporting firms. From this point of view, the reform of the governance of the internationalisation system can prove a pivotal step for Italian competitiveness.

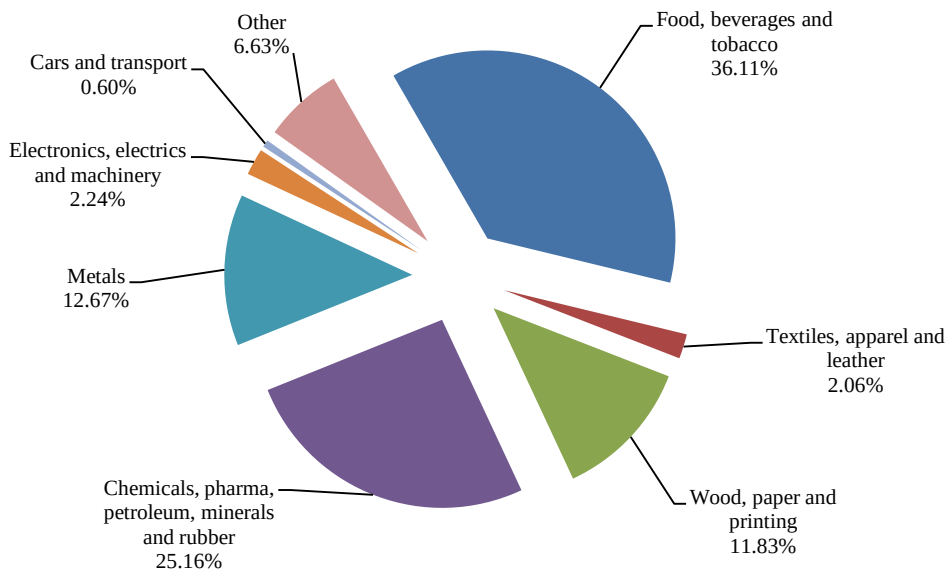
[447] The *Giavazzi Report.*

4.13. Cyprus



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.13: Manufacturing sectors – Cyprus (2010)



Note: No data available for sectors C12 (tobacco products), C19 (coke and refined petroleum products), C26 (manufacture of computer, electronic and optical products) and C27 (manufacture of electrical equipment)
Source: Eurostat

4.13.1 Introduction

Any assessment of microeconomic reforms aimed at enhancing the competitiveness of Cyprus has to take into account the dire macroeconomic environment. Economic activity in industry weakened significantly in 2012, with a real GDP decrease of 2.4%. The introduction of the economic adjustment programme in April 2013, which involves the downsizing and restructuring of the banking sector, will have an effect on day-to-day business transactions and could threaten the viability of many firms and further reduce confidence. In 2013, real GDP is expected to decline by 8.7%. The structural measures and reforms of the economic adjustment programme will support competitiveness and underpin sustainable and balanced growth in the long term, but will have a negative effect in the short term.

Cyprus is a small service-oriented open economy, with tourism, financial services and real estate the most important sectors. The role of manufacturing is less important than on average in the EU (6.1% of value added against 15.4% in the EU as a whole), employing slightly over 10% of the total workforce, the lowest rate in the EU (EU average 17.5%).

The cost competitiveness of the economy has deteriorated significantly since EU accession in 2004. While labour productivity has since grown by seven percentage points, nominal unit wage costs have gone up by 20 percentage points, leading to the gradual decline of the manufacturing sector.

4.13.2 Innovation, skills and sustainability

Innovation

The Innovation Union Scoreboard places Cyprus among the 'innovation followers', with an innovation performance close to the EU average. Cyprus has a very low level of R&D expenditure as a percentage of GDP (0.49%), which is in line with its national commitments under the Europe 2020 Strategy, but far short of the EU average (2.0%). Moreover, the innovation system relies mainly on public expenditure, as business contributions to R&D investment are among the lowest in the EU (0.1% of GDP against an EU average of 1.25%).

However, a closer look reveals a degree of vitality in Cypriot SMEs when it comes to innovation activities. Their level of participation in European research programmes is the second highest in the EU, and the INSEAD Global Innovation Index ranks Cyprus 27th. Still, less than 15% of the

Research Promotion Foundation's budget went to enterprises in 2008-12. According to the Cyprus Association of Research and Innovation Enterprises, this is because firms are discouraged from declaring R&D expenditure by the absence of fiscal incentives, despite several attempts to introduce such measures in recent years.

On the policy side, the crisis and the fiscal austerity measures had led to a considerable reduction in budget allocations to R&D even before agreement was reached on the adjustment programme. A National Strategy for Research has been announced but not yet adopted and it is now expected that nothing will happen until the completion of the smart specialisation strategy for the next Structural Funds programming period. In this context, the Ministry of Commerce, Industry and Tourism (MCIT) is coordinating the bottom-up approach of smart specialisation and has called on enterprises to express their views during public consultation meetings. A web page has been developed where stakeholders can make proposals.

The MCIT has also been charged with managing project grants to enhance business innovation. A scheme with a total budget of EUR 4 million has been set up to support SMEs investing in research and innovation in developing competitive products and services that they plan to bring to market. In the evaluation process, extra points are given to proposals that fall within one of the six priority action lines of the EU's industrial policy communication. So far, proposals have been submitted in the field of sustainable construction.

The creation of five mediation agencies in various universities signals an effort to strengthen cooperation between academia and business, which is one of the major weaknesses of the R&D system. However, the MCIT is aware of the need for a cultural shift in universities, in particular by giving professors the right incentives to build links with local industry.

Skills

Wage indexation has affected competitiveness, but the government has taken steps to reform the indexation mechanism by reducing the frequency with which it is adjusted (once instead of twice a year), introducing a mechanism for automatic suspension in response to adverse economic conditions, and moving from full to partial indexation (50% of past inflation). However, the application of indexation is now suspended in the public sector, while it is expected that the new system will be extended to the private sector under a tripartite agreement. Cyprus also has one of the highest minimum wages in the EU and this has risen in recent years to EUR 870 a month (EUR 924 after six months of employment).

Links between the labour market needs and the educational system are still weak. There is little upper secondary vocational education and training and Cyprus has one of the lowest shares of young graduates in mathematics, science and technology.[448] There is no intermediate level of certification, especially for engineers and IT specialists due to low participation in vocational training (the lowest in the EU), and there is a great need for skills in the energy sector. Adult participation in lifelong learning remains below the EU average, although there is a need to increase occupational mobility and to prepare people for the coming structural change.

The government has sought to address this by creating new post-secondary vocational education and training institutes in 2012, with a view to combating youth unemployment and skills mismatches. A new modern apprenticeship system directed to 14-25 year olds will be fully operational in the 2014/15 academic year. Additionally, an initiative seeks to facilitate the employment of tertiary education graduates, another has accelerated initial training of newcomers, and there is a scheme for the enhancement of youth entrepreneurship.

Sustainability

High electricity prices (the 2012 prices for industry were the highest in the EU) are pushing Cyprus to build a more diversified, secure and sustainable energy system. In particular, Cyprus should ensure the full implementation of the Third Energy Package, particularly during and after the transformation of the energy sector related to the foreseen introduction of natural gas, though it is unlikely that this will improve the situation in the short term as the import of gas is expected to start

[448] The 2011 share of MST graduates among 20-29 years old in CY is 5.1 % versus an EU average of 14.4 %.

in 2015 the earliest. The domestic offshore gas fields will not be exploited before 2018, when a pipeline to shore is scheduled to be completed.

Also promising are the developments in photovoltaic energy generation, where a bidding process was completed in January that resulted in the selection of 23 firms to construct photovoltaic parks for electricity production with a total capacity of 50 megawatts. Once completed, the projects are expected to generate around 80 GWh of energy annually. The offers received led to an average tender price of EUR 0.0866/kWh. Thus, the incumbent state-owned electricity company EAC, which is required to purchase all power from renewable energy sources, might be able to buy the generated power at lower prices and generate savings in the process.

Transport represents more than half of the total CO2 emissions from non-ETS activities in Cyprus, and it is around 75% more energy intensive than EU average. Reversing the trend in CO2 emissions from transport is essential for Cyprus to meet its 2020 targets. The state of transport infrastructure is relatively good. However, the main challenge relates to the excessive reliance on car while public transport, which could contribute to reducing emissions and congestion, is underdeveloped.

4.13.3 Export performance

About 57% of Cyprus' domestic exports go to other EU Member States. The island's main export partners are Greece, Germany, the United Kingdom and also Israel. The main export commodities are pharmaceuticals and photosensitive semiconductor devices. However, despite a relatively strong performance in high-tech and environmental exports, overall the revealed comparative advantage of Cyprus is concentrated in low and medium-to-low technology sectors: food, beverages and tobacco.

Cyprus' trade balance is traditionally in deficit, because it has to import extensively to satisfy domestic demand and depends on oil imports for energy. However, the trade deficit shrank to EUR 4.9 billion in 2011, down from EUR 5.4 billion in 2010, with exports up by 24% and imports down by 4.3%.

On the policy side, the MCIT coordinates efforts to help firms raise their international profile, in particular by participating in international trade fairs, providing financial assistance to SMEs wishing to participate in such events or to carry out market surveys and offering business advice through trade centres in 11 other countries.

4.13.4 Business environment and public administration

According to the World Bank's government effectiveness measure (2012-13), a comprehensive assessment of the overall quality of a public administration, inefficient government bureaucracy is the second biggest problem for those wishing to do business in Cyprus. Along with the wastefulness of government spending and perceived favouritism, particularly complicated areas are services for improved business performance and corporate governance.

Cyprus has failed to address some of the main problems in the business environment. The performance of the judicial system could be considerably improved – the time needed to resolve civil and commercial cases is particularly long as compared with that in other Member States. The trial and judgment period makes up 73% of the total time it takes to enforce a contract. Some of the shortcomings[449] are going to be tackled under the economic adjustment programme,[450] which also contains measures to improve the real estate market, notably the slow pace of proceedings before national courts.

Further, dealing with construction permits is also time-consuming, as it takes six months on average to obtain a planning permit in towns and another six months to obtain a building permit. Once the building has been completed, it takes another 75 days on average for the final inspection to take place and the conformity certificate to be issued.

However, Cyprus has taken steps to reduce by 20% the administrative burden caused by national legislation. A number of proposals have been

[449] See EU Justice Scoreboard 2013 at http://ec.europa.eu/justice/effective-justice/files/justice_scoreboard_communication_en.pdf

[450] Memorandum of Understanding on Specific Economic Policy Conditionality.

submitted in each national priority area, based on a consultant's recommendations and wide consultation of relevant government departments and the private sector.[451] In particular, these concern the promotion of electronic government, simplifying tax return forms,[452] and the reduction of administrative burden on businesses by measuring the time and cost for taxpayers to complete revenue administration procedures, and achieving voluntary compliance to the widest possible extent.

The majority of these proposals (19 out of 23) have already been implemented and it is expected that the remainder will be implemented soon. Those already implemented reduce the administrative burden by around 18%, but their full efficacy remains to be seen. For example, the Nicosia Chamber of Commerce and Industry has complained that some measures, e.g. on e-government, have led only to putting existing services online, while procedures remain the same and there is still a need for integration and coordination between the different services. Although this initiative was announced in the broader context of a better regulation project, improvements to the impact assessment of legislation have yet to be introduced due to budgetary restrictions and a lack of human resources.

4.13.5 Finance and investment

The problems in the banking sector and new restrictions on both domestic and external banking transactions have limited liquidity in the financial markets and led to problems of access to working capital, which may threaten firms' viability. Over 95% of Cypriot businesses have fewer than 10 employees and small firms are less likely to have large reserves of cash and are therefore more vulnerable to any liquidity crisis that may be caused by the capital controls. Thus, there is a high degree of uncertainty about the ultimate effects of banking sector downsizing and capital controls on the real economy, directly and indirectly through business and consumer confidence.

In December 2012, the lending spreads for loans to non-financial corporations were already more than 6.5 pps above the financial institutions' interest rates. Shortage of capital, banks' difficulties in attracting deposits, concerns about the economy and potential loan repayment problems have since further increased loan spreads and margins, without commensurate changes in the respective terms and conditions, i.e. non-interest rate charges and maturity of loans.

Negotiations are ongoing between the Ministry of Finance and the European Investment Fund (EIF) on a National Guarantee Scheme for SMEs, with a total budget of EUR 100 million (50% from the EIF and 50% from the Finance Ministry). The Scheme will involve the creation of a holding fund, to be managed by the EIF, and provide guarantees to commercial banks and subsidised loans to improve SMEs' access to finance.

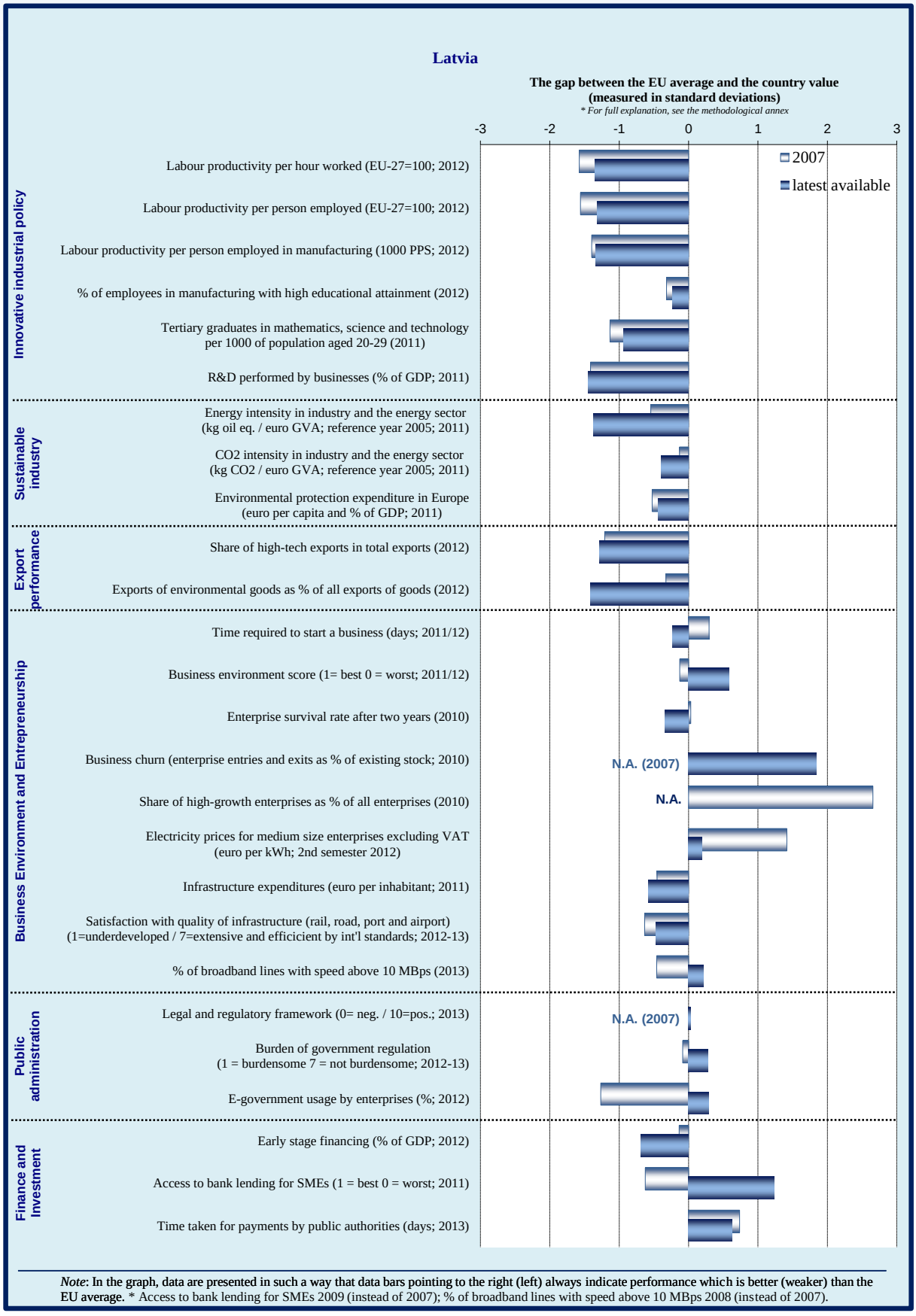
4.13.6 Conclusions

The crisis has revealed the risks of an economic model heavily dependent on financial services. There is now an opportunity to restructure and modernise the economy along more sustainable lines. Advantage could be taken of the negotiations for the new Structural Funds programming period to provide partial funding to develop a more balanced economic model and fund projects in sectors that suit Cyprus' infrastructure and human capital.

[451] Civil Registry and Migration Department, Department of Agriculture, Inland Revenue Department, Department of the Registrar of Companies and Official Receiver, Department of Social Insurance Services, Department of Environment, VAT Service, Cyprus Tourism Organisation.

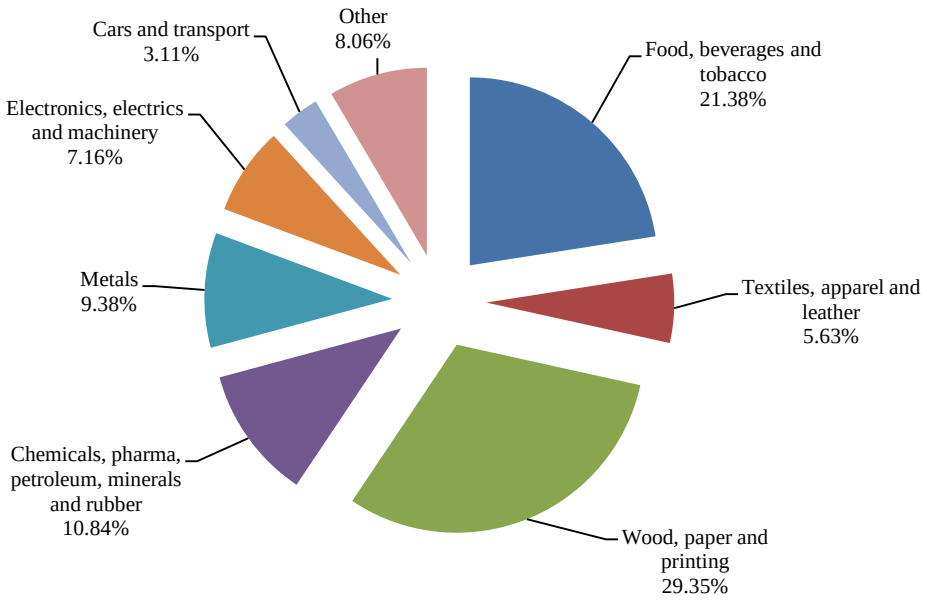
[452] By enhancing the use of e-filling of tax returns and e-payment, and by facilitating information exchange between tax administration entities.

4.14. Latvia



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.14: Manufacturing sectors – Latvia (2010)



Note : No data available for sectors C12 (tobacco products), C21 (manufacture of basic pharmaceutical products and pharmaceutical preparations) and C32 (other manufacturing)
Source: Eurostat

4.14.1 Introduction

Latvia has seen a fast economic recovery due to regained cost competitiveness and improvements in non-cost competitiveness, driving investment, exports and private consumption. Construction and manufacturing were the fastest growing supply components of GDP. Despite some slowdown, the country's economic growth is forecast to remain among the highest in the EU, at 3.8% in 2013 and 4.1% in 2014.[453] Labour productivity has increased in five years from 48.9 % of the EU average in 2006 to 62.4 % in 2011.

Manufacturing is a relatively large part of Latvia's economy (14.5 % in 2012, close to the EU average of 15.2 %),[454] and contributes considerably to growth. Processed products — based on natural resources such as food and wood — constitute a half of all manufacturing. Along with metals and machinery, these also contribute considerably to exports. In 2012, industrial production volumes exceeded pre-crisis levels, with all manufacturing sectors up in volume. The highest growth was achieved in the repair and installation of machinery and equipment, manufacture of basic metals, and manufacture of electrical equipment.

However, the economy faces a number of challenges: despite the improved relative position, the productivity is still low; low-tech (60 %) and medium-low-tech (22 %) industries are too dominant; and there needs to be a transition from a resource-based to a knowledge-based economy.

4.14.2 Innovation, skills and sustainability

Innovation

The 2013 Innovation Union Scoreboard[455] puts Latvia in the 'modest innovators' group. Nevertheless, it is one of the rapid growers, with an average annual growth rate of 4.4 %, and is one of the few moderate or modest innovators that have managed to improve their innovation performance since the launch of the Europe 2020 Innovation Union flagship initiative in 2010.

Latvia's Europe 2020 target for R&D intensity is 1.5 % of GDP. The current level is only 0.7 % and business R&D intensity is the lowest in the EU at 0.19 % of GDP in 2011. Licence and patent revenues are relatively low. SMEs are not

[453] Commission spring forecast 2013.
[454] Eurostat 2011.
[455] Innovation Union Scoreboard 2013. The modest innovators show a low performance level more than 50 % below that of the EU-27.

particularly innovative. Only 17% of SMEs innovate by introducing a new product or a new process, the lowest level (along with Hungary) in the EU.[456]

The main challenges in research are the shortage of qualified staff, a poor and fragmented infrastructure, and a lack of cooperation between research institutions and businesses. This results in an inadequate commercialisation of research results. The Global Competitiveness Report of the World Economic Forum[457] assessed that business sophistication and innovation could be greatly improved, and the Latvian competitiveness report[458] attributed low research performance and limited innovation activity in part to a lack of highly-qualified scientists and engineers. Latvia has one of the lowest numbers of scientific publications in the EU.

Policy measures seek to improve science competitiveness by: involving state scientific institutes in the training of doctoral students and young scientists; promoting international cooperation; developing infrastructure for R&D projects; promoting projects suitable for commercialisation; implementing fundamental and applied research projects; and supporting the development of private sector capacity for research and innovation.

Nine national research centres have been established recently. The centres concentrate research infrastructure and stimulate business-science collaboration and thereby seek to promote scientific excellence and improve commercialisation of science results. A voucher programme for micro, small and medium-sized enterprises is under consideration to support entrepreneurs in the purchase of external services, such as industrial research. In addition, 11 cluster projects are being implemented under the 'cluster programme' (2012-15). These promote cooperation between companies and research and education institutions to increase exports from cluster firms, enhance innovation and develop new products.

Skills

The skills mismatch is high,[459] and there is a problem of over qualification,[460] as institutions of higher and vocational education do not seem to be able to provide the necessary skills for the workforce, and the availability of high-quality work-linked training is limited.

The employment pattern is likely to become more polarised, with large increases both in jobs requiring high qualifications, and in low-skill jobs. Low-skill jobs are projected to be 16% of total jobs in 2020, below the EU average (18%). Employers are pointing to skills shortages in ICT, pharmaceuticals and engineering, as the higher education system has not produced enough graduates in mathematics, science and technology.

To reduce unemployment and to improve the matching of jobs and jobseekers, a legal framework has been developed to make it possible for the long-term unemployed to accept jobs in regions outside their place of residence. A limited pilot project on regional mobility grants is being implemented. Measures to reduce youth unemployment include support for job creation by employers and promoting volunteering in non-governmental organisations.

Sustainability

The goal is that renewable energy sources should represent 40% of final energy consumption, and 10% in the transport sector, by 2020. In 2011, the energy consumption mix had the second-highest proportion of renewables (32.6%) in the EU-27. Although the Government is committed to the target, there has been practically no improvement since 2004. The Government has expressed its intention to develop a new stable, coherent, predictable and cost-effective support framework for renewables, while avoiding changes that affect the legitimate expectations of investors.

Latvia's energy and carbon intensities are more than double the EU-27 averages, with the largest consumers being households and the transport sector. A new law on the energy performance of buildings was adopted in 2012; it also includes rules on certification, inspection of heating and air

456 Research and Innovation performance in EU Member States and associated countries (2013).
457 World Economic Forum *Global Competitiveness Report* (September 2012).
458 Latvian Competitiveness Report 2011.
459 Skills mismatches and labour mobility, http://ec.europa.eu/europe2020/pdf/themes/27_skills_gaps_and_labour_mobility.pdf.
460 See figure 4.15 below.

conditioning systems, and promotion of near-zero-energy buildings.

Ten projects have recently received financing through an aid scheme that supports the construction of co-generation plants utilising renewable energy resources. In 2012, several projects were completed using the climate change financial instrument that promotes energy efficiency, the increase in the use of renewable energy resources in energy production and the reduction of greenhouse gas emissions.

The Eco-Innovation Observatory ranks Latvia 20th in the EU on its eco-innovation scoreboard.[461] It was less likely to introduce resource-efficiency measures than other Member States, and such measures were unlikely to benefit from public support. A programme on green industry innovation that primarily targets SMEs was launched in 2012, with funding from the Norwegian government. The programme is designed to make new and existing businesses greener, and to stimulate green entrepreneurship and environmental innovation.

Waste generation remains low compared to the EU average. However, 88 % of municipal waste goes to landfills and only 10 % is recycled — and many agglomerations do not even collect all waste water. A new waste management plan for 2013-20 is looking to break the link between economic growth and waste generation and its impact on the environment. It seeks to reduce the generation of waste, promote re-use and extended use, and reduce the materials and products used in the production of harmful substances. Water supply and waste water treatment services were upgraded in 2012, and waste management projects concerning landfills and collection were implemented in 2012.

4.14.3 Export performance

Growth has recently been driven by an increase in exports, mainly in goods. The value of exports increased by 15.5 % from 2011 to 2012, and the exports of goods and services were growing faster than imports. The main export partners are the EU (69 %) and the Commonwealth of Independent States (16 %).

Although exports remain to a large extent dependent on low value-added industries with low technology intake, exports of knowledge-intensive goods and services have grown more rapidly than total exports over the last five years.[462] The most important exports are agriculture and food products (20 %), wood and wood products (15 %), metal and metal articles (14 %) and machinery products (14 %). Domestic demand and exports are projected to expand at similar rates in 2013.[463]

To improve access to export markets, export guarantees and advice are available. In addition, the integration of businesses into international supply chains is promoted by encouraging them to participate in international exhibitions and trade missions. The network of Latvian foreign economic representative offices abroad expanded in 2012 and there are currently 14 such offices.

4.14.4 Business environment and public administration

Business environment

Latvia was ranked 25th of 185 countries (8th in EU) in the World Bank's Doing Business report 2013.[464] It increased its global competitiveness ranking from 64th to 55th in the 2012–13 report of the World Economic Forum. Its administration is responsive according to the Small Business Act fact sheets on implementation.[465] Latvia scores substantially below the EU average only in the indicator on the time needed to comply with major taxes, but considerably above the EU average in four indicators: paid-in minimum capital, cost required to transfer property, number of tax payments by year and full online availability of basic public services to businesses.

The joint state and municipal e-services portal (latvija.lv) provides access to 60 e-services, of which 11 were introduced in 2012. The main achievements of the 2012 action plan to improve the business environment have been the

461 Eco-innovation in Latvia, EIO Country Profile 2011.

462 See figure 1.12.

463 EU Economic forecasts, Spring forecast 2013.

464 Doing Business 2013: Smarter Regulations for Small and Medium-Size Enterprises. It should be noted that the adoption of a Construction Law, which will step into force in February 2014, should lead to improvements in the next edition.

465 The SBA Fact Sheets (2012).

introduction of electronic registration of businesses in the commercial register, and an e-treasury (no need to submit a statement as a proof of paid services, state fees and tax payments). Further, amendments were made to the commercial code to protect investor rights. After changes in VAT regulations, the time required to register a business in the state revenue service was reduced from 10 working days to 5 from the beginning of 2013.

Several programmes promote entrepreneurship, in particular the creation and growth of new businesses, especially innovative ones. So far, more than 28 000 businesses have opted for the simplified taxation regime for micro-enterprises introduced in 2010.

A national broadband strategy for a substantial upgrade to broadband infrastructure was adopted in December 2012. In terms of internet connection speeds, Latvia is already ranked the best country in Europe.[466] However, there is room for further improvement in rural broadband coverage. In 2012, a procurement procedure was launched for the 'Next generation network for rural areas' programme, and construction will begin in 2013.

Investments in transport infrastructure have not been sufficient in the last 20 years. EU financing is gradually improving it, but not enough to radically improve the road network quality.

Public administration

The quality of public administration is considerably below the EU average as measured by the World Bank's government effectiveness indicator.[467] Perceptions of the quality of public services were in particular below average. Better than average performance was seen in the use of tools for administrative modernisation. The costs of starting a business are significantly lower than the EU average and licensing procedures are convenient. However, obtaining licences and permits is still problematic in construction.

The 2012 Corruption Perceptions Index ranks Latvia 21st in the EU.[468] The Corruption Prevention and Combating Bureau has identified specific corruption risks in public procurement and utilities, local government and state-owned companies, and also in other areas where legal norms are ambiguous.

According to the 2013 EU justice scoreboard,[469] the Latvian judicial system has lengthy proceedings for civil and commercial first instance cases, and low clearance rates increase the backlog of court cases. The human resource management and professional development within the judiciary could be improved. Recent reforms include amendments to the law on judicial power, and to civil, administrative and criminal procedural law, but it is too early to assess whether they are sufficient to fully address all the shortcomings. The reforms have been proposed or partly implemented, and amendments have also been proposed to certain aspects of insolvency law. Communication between courts and the general public has been improved through information and communications technologies (ICT), which should increase quality and transparency in the system.

To reduce labour taxes, Latvia has a three-year strategy to lower the personal income tax rate from 25% to 20%. The first step (lowering to 24%) came into effect in January 2013. The standard VAT rate, which had previously been increased significantly during the crisis, was lowered by one percentage point to 21% from 1 July 2012.

Since the end of 2011, Latvia has introduced new measures to fight VAT fraud in the fields of construction and scrap metal. Several legislative measures were carried out in 2012 as part of the plan for combating the grey economy and ensuring fair competition for 2010–13. Measures included amendments to the law on taxes and fees, simplification of tax payment regimes, and promotion of closer, more efficient cooperation between taxpayers and the tax administration by reducing administrative burden. Moreover, the new law on individual property declarations and reporting of undeclared income makes it possible to regularise previously undeclared taxable income. It aims to improve oversight of an individual's financial position. The impact of recent policy measures is gradually translating into improved tax

466 Akamai: State of the Internet report Q4 2012.

467 Excellence in public administration for competitiveness in EU Member States.

468 Transparency International Corruption Perceptions Index 2012.

469 EU Justice scoreboard 2013.

collection rates, particularly visible in 2012, when the annual increase in total tax revenue as reported by Eurostat was above GDP growth. According to the World Bank Paying Taxes Report 2013,[470] the costs of tax compliance in Latvia are relatively high despite recent improvements.

4.14.5 Finance and investment

On average, relatively few SMEs indicate that access to finance is their most important problem.[471] Most indicators on access to finance are considerably better that the EU average, including in access to public financial support, the perceived willingness of banks to give a loan, the strength of legal rights and the interest rate difference between loans above or below EUR 1 million. The World Bank[472] ranks Latvia among the top performers for ease of getting credit and for the level of legal rights for borrowers and lenders. An important initiative — long awaited by business organisations — is the creation of a single institute responsible for all support instruments; a one-stop shop for access to finance should be operational by the end of 2013.

Investment incentives include corporate income tax rebates on large-scale investment projects, a beneficial depreciation ratio for new technological equipment, a carry-forward of losses, and several labour-related incentives at different stages of the hiring process. There are also four special economic zones and a corporate income tax rate of 15 %, which is one of the lowest in the EU. Financial incentives include state and EU-supported loans, credit guarantees and venture capital. A recently implemented investment strategy focuses on an alliance between seven major stakeholders from the public, private and academic sectors aiming to promote foreign direct investment in Latvia.

At the end of 2012, investment from EU Member States was 72 % of total foreign investment stock, with Swedish firms the biggest investors (24 %). The main sectors were financial services and insurance (27 %), wholesale and retail trade (14 %), real estate (13 %) and manufacturing (12 %). Efficient company start-up procedures and free tailor-made services are examples of support for foreign investors. The total number of foreign direct investment projects has almost doubled to 90, with initial inquiries tripling to 381 between 2009 and 2012.

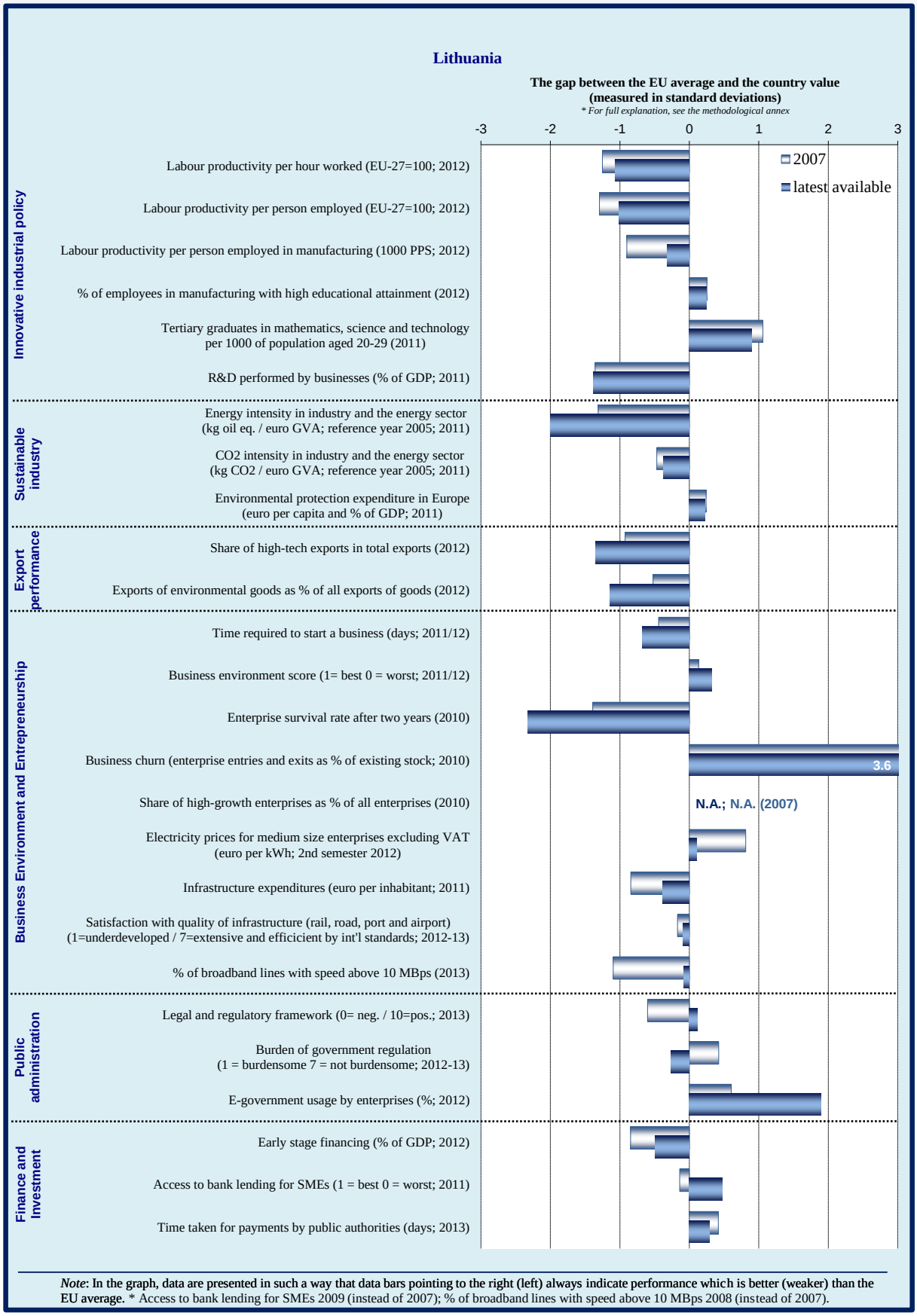
4.14.6 Conclusions

One of the main challenges for Latvia is the transition from low to medium and high technology sectors. This would require investment in research and innovation, but R&D funding and involvement from industry, and the current R&D intensity, are low.

However, Latvia offers an attractive financing environment, and many well-established and export-oriented companies seem to have little trouble accessing credit. Growth is expected to continue to rely on improved competitiveness, driving investment, exports and private consumption.

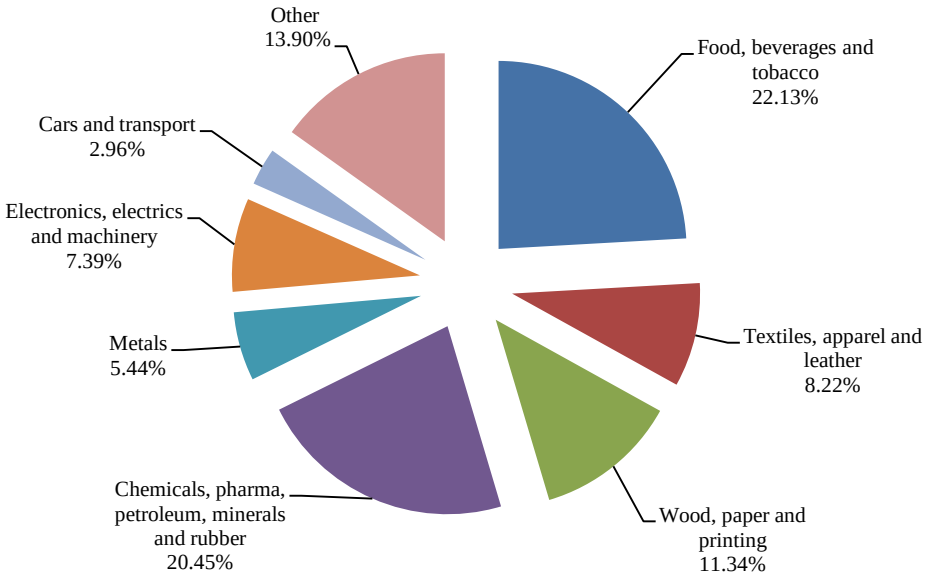
470 Paying Taxes 2013, The global picture.
471 See the SBA Fact Sheet for Latvia 2012.
472 The World Bank *Doing Business* (Oct 2012).

4.15. Lithuania



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.15: Manufacturing sectors – Lithuania (2010)



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

4.15.1 Introduction

Lithuania's relatively large manufacturing sector (about 20% of gross value added) mainly comprised of low-to-medium technology industries. It is specialised in labour-intensive (wood, paper and printing) and marketing-driven (food and beverages) industries in terms of value added and exports. It also specialises in capital-intensive industries (e.g. refined petroleum products). At the more aggregated sector level, low and medium-low innovation and education sectors (clothing, inland transport) and medium-high sectors (textiles, coke and refined petroleum) are a major base for Lithuania's exports.

Labour productivity (output per person employed) in Lithuania is 65% of the EU average.[473] Both nominal and real unit labour costs have fallen since 2009 due to subdued wage levels and rising output. The significant fall in the real effective exchange rate[474] has driven a rebound in exports. Although productivity has continued to grow in line with the long-term trend, there is a risk that these gains could be partially undermined as the labour market continues to tighten. Additionally, the Lithuanian government recently increased the minimum wage by around 25%, which may put further upward pressure on wages. Despite labour market shortages, unemployment remains high and continues to act as a major drag on growth despite falling since 2009.

The services sector is the largest in the Lithuanian economy, accounting for just under two-thirds of GDP and attracting around a half of total foreign direct investment. The Lithuanian government has set a strategic goal to become the northern European service hub by 2015, when services are expected to make up around a half of Lithuania's exports. One of the most important sub-sectors is information and communication technologies (ICT); Lithuania's well-developed ICT infrastructure has helped it attract business outsourcing services from some of the EU's largest corporations.

4.15.2 Innovation, skills and sustainability

Innovation

The Lithuanian economy has been upgraded to 'moderate innovator' in the most recent edition of

[473] Productivity per person employed, based on the latest available figures from Eurostat (2011).
[474] Based on unit labour costs.

the Commission's Innovation Union Scoreboard.[475] Previously, it had been a 'modest innovator' – the lowest performance group – for several years. The upgrading is due to marginal improvements in innovation performance across all eight dimensions measured. Lithuania's innovation performance grew by 5% compared with 2012, exceeded only by Estonia, and the five-year innovation growth rate accelerated from 4.2% to 5%. Lithuania is the growth leader in the group of 'moderate innovators'. However, despite recent progress, Lithuania's innovation performance is still well below the EU average.

The Lithuanian economy is still comparatively weak in the categories of 'open, excellent and attractive research systems', 'linkages and entrepreneurship', 'intellectual assets', 'innovators' and 'economic effects', where it scores well below the EU average. The only category where Lithuania scores above the average is in 'human resources'. As for 'firm investments', weak private sector R&D expenditure is offset by comparatively high non-R&D innovation expenditure. Lithuania's R&D intensity increased substantially in 2011 to reach 0.92% of GDP, after five years of relative stagnation at around 0.8%. However, this is still less than half of Lithuania's target of 1.9% for 2020. Most of Lithuania's R&D investment gap with the other EU countries is due to a lack of business investment, which was 0.24% of GDP in 2011. The Innovation Union Scoreboard also indicates underperformance in collaboration between public research organisations and businesses, knowledge transfer and commercialisation of research results. The composition of Lithuanian industry, which is biased towards less R&D-intensive industries, is a further contributing factor to the gap.

Lithuania's authorities are continuing to implement measures to foster innovative businesses and collaboration between science and industry, in particular, through the development of five clusters ('valleys') which bring together universities, research institutes and businesses. Lithuania has also introduced financial incentives, including R&D tax credits and innovation vouchers, to help businesses procure R&D services and to contract technical feasibility studies from universities and research institutes. Although there has been robust growth in intellectual assets over the last year, this has been from a low base.

Skills

Business organisations have indicated the lack of technical and business skills as a restraining factor on employment growth. Significant skills mismatches hinder labour force adaptability and productivity. This is further aggravated by the low participation in vocational and educational training, apprenticeships and childhood education. Participation in lifelong learning is one of the lowest in the EU[476], further amplifying challenges to equip low-skilled and older workers with the possibility to respond better to labour market needs.

The schools produce relatively weak results in terms of basic skills: 15-year olds' performance on PISA tests remains below the EU average in reading (the share of low-achievers is 24.3% vs. the EU average of 20% in 2009) and maths (the share of low-achievers is 26.2% vs. the EU average of 22.2% in 2009). However, Lithuania reached two European targets in education – tertiary attainment rate was 48.7% and early school leaving was 6.5% (2012). While tertiary educational attainment among women aged 30-34 is high at 53.3%, the figure for men is much lower (37.6%) and the early school leaving rate for men is twice as high (10.6% as compared with 5.0% for women in 2011).

Sustainability

Lithuania is one of the EU's most energy and carbon-intensive economies, with a level of environmental taxation below the EU average. Its energy consumption is more than twice the average and has been increasing over the last decade, mostly because of the emissions-intensive transport sector, but also due to the residential and service sectors. Household heating, particularly in apartment blocks, is inefficient and in need of renewal. Although the quantity of waste per capita in Lithuania is amongst the lowest of EU Member States, the waste management system remains heavily dependent on landfill, and the re-cycling level (6% in 2010) is one of the lowest in the EU.

[475] Moderate innovators are 50-90% of the EU average in terms of innovation performance.

[476] Latvia 5.2 %, EU average 9 %.

The authorities are continuing to consolidate local landfill sites into upgraded regional facilities and have introduced several green waste composting facilities.

4.15.3 Export performance

Lithuania's exports are mainly composed of goods, which make up around 83% of all exports, in line with the slight industrial bias of the economy compared to the EU average. Lithuania's goods exports are mainly concentrated in low-to-medium technology sectors, notably mineral fuels (25%), transport (7%), machinery and mechanical appliances (6%), plastics (6%) and furniture (5%). Exports of high value-added industries, such as electronics, computing, and pharmaceuticals, are comparatively small but growing. The computer and optical equipment sector, the most sizeable high value-added industry, has been able to expand into niche export markets. Lithuanian lasers for scientific research have proven to be competitive in international markets. High-tech exports currently represent 5.6% of overall exports, compared to 15.4% in the EU. Services exports are a small proportion of overall exports, but have been growing rapidly in recent years. The main sectors are transportation (including freight forwarding and warehousing) and tourism, which has been boosted by improved transport links, IT services and construction services.

Lithuania's main export partners in 2012 were the EU and the Commonwealth of Independent States (CIS), accounting for 61% and 30% of exports respectively. Within the EU, Latvia is by far the largest export destination, receiving around 11% of exports, followed by Estonia and Germany. Since 2009, exports to the EU have declined by two percentage points, on account of weak demand, while exports to the CIS have grown significantly by seven percentage points, partly due to an expansionary fiscal policy in Russia. Net exports were the main driver of growth in 2012, aided by a continuing decline in the real effective exchange rate, which has helped sustain a rebound in exports since 2009. Exports rose 15% year-on-year, pulled by strong demand from Russia as well as a bumper harvest that boosted the supply of food exports. The trade balance turned marginally positive in 2012, helped by an improvement in the terms of trade, partly driven by higher cereal prices and lower oil prices.

Export policy is based on various elements: support and advice to businesses provided by the government agency, Enterprise Lithuania, and the network of overseas trade delegations; EU-supported schemes to encourage businesses to forge partnerships with other EU businesses; and guarantees for export credit insurance, provided by the agency Invega, which promotes small and medium-sized enterprises (SMEs). Lithuania is well positioned to take advantage of EU export markets in high value-added industries given its well educated workforce and comparatively low labour costs.

4.15.4 Business environment and public administration

Business environment

Lithuania's overall rank in the World Bank's 2013 Doing Business report fell one place from 26 to 27, compared with 2012. The regulatory burden (e.g. number of procedures and time required to complete them) associated with individual business indicators remained roughly the same, or in some cases showed some slight improvement as compared with the previous year. The cost of completing business procedures fell in most cases, in terms of percentage of income per capita, particularly for 'starting a business'; online registration was implemented for limited liability companies and the need for a notary was removed. The required level of paid-in capital is still comparatively high but fell slightly in 2012. A new category of limited liability company — 'small partnership' — was created in 2012, characterised by no minimum level of paid-in capital, simple and flexible management structure, possibility to register online (in no more than three working days after filing the necessary documents), and lower registration costs (less than EUR 100). Export and import procedures were revised to reduce costs for businesses and administrative delays. Lithuania's rank on 'getting electricity' is brought down by the length of time necessary to complete procedures, even though the costs to businesses associated with the procedures themselves are comparatively low.

Electricity and gas prices for businesses are high compared with the EU average, partly on account of weak interconnectivity. Lithuania has some of the highest electricity network costs in the EU, which account for a significant portion of the price.

Several initiatives to connect with EU gas and electricity networks are on-going and are at contractual and implementation stages. For the gas sector, authorities have launched several projects to improve transmission, interconnectivity and diversification of supply. In June 2012, Lithuania joined the Nord Pool Spot international electricity exchange to increase integration into the EU electricity market. The Lithuanian authorities are also developing a liquefied natural gas (LNG) terminal and plan to construct an interconnector between Lithuania and Poland. For the electricity sector, the Lithuanian and Swedish authorities have recently given their approval to the Nordbalt/SwedLit project, involving the construction of a submarine power cable between Klaipėda in Lithuania and Nybro in Sweden. The project aims to promote trading between Baltic and Nordic electricity markets and increase the security of power supply.

Improving the transport infrastructure, in particular rail transport, could facilitate business transports considerably. Electrification and a north-south link as part of the Rail Baltic project would also help access to European markets.

Public administration

Lithuania plans to introduce systemic changes in its administration by implementing the Public Management Development Programme for 2012-20, which was adopted in 2012. Additionally, the government has pledged to continue improving the efficiency and client orientation of public administration, by simplifying administrative procedures for citizens and businesses, improving impact assessment and public financial management, and increasing public involvement in decision-making processes. Lithuania is undertaking a major regulatory reform project to streamline business inspection institutions. Currently business inspections are carried out by 60 public institutions; the reform aims to consolidate and optimise their functions by 2016. In 2012, authorities began to evaluate the effectiveness of business inspection institutions as part of the exercise. The Lithuanian authorities have also started to review business permits, with the aim of reducing the number of permits for which businesses have to apply. The review should be completed by the end of 2014.

Since 2010, the government has been undertaking a far-reaching reform of state-owned enterprises (SOEs), covering 136 entities engaged in economic activities with a combined asset value of around 25% of GDP. The objective is to restructure corporate governance, increase transparency and enhance competition and efficiency. The reform involves legislative and organisational changes, and performance targets. The legislative aspects of the reform have been completed. Transparency and accountability have significantly improved as reports are now published on a quarterly and annual basis and clear enterprise objectives have been established. The government should continue monitoring progress on implementation of the resolutions adopted.

4.15.5 Finance and investment

The banking sector remains stable with improving fundamentals: the level of non-performing loans, albeit still high, has fallen, capital adequacy has risen and profitability has recovered. Interest rates for private sector loans are at record low levels and the central bank has maintained its commitment to the LTS/EUR currency peg, which continues to underpin euro-based lending. Only a very small number of businesses have reported a negative impact on the supply of lending from the collapse of Bankas Snoras.[477] A second bank, Ukio Bankas, with a share of around 4% of market lending, collapsed in February 2013. The good assets and insured liabilities of the bank have been taken over by Siauliu Bankas, while the bad loans and uninsured liabilities will be offered to the market in the course of bankruptcy proceedings.

There is not expected to be any negative impact on lending to businesses. In spite of these factors, lending to business rose only slightly in 2012 as demand remained weak. This is mainly due to the uncertain economic outlook, while some SMEs have found credit restricted due to the sharp fall in collateral values as a consequence of the crisis. The latest indicators have shown some improvement in confidence, in both manufacturing and service sectors, which may spur credit growth in future. Optimism amongst SMEs is also starting to grow, but they are continuing to reduce their debts

[477] Based on a recent government survey, 1% of businesses reported a negative impact on the availability of finance due to the collapse of AB Bankas Snoras.

(deleverage) and remain cautious about embarking on new investment.

The government continues to support SMEs through EU structural funds.[478] In 2012, the government launched a new Creation Innovation Fund to support innovative start-ups, administered by the national holding fund Invega. A call for tender for a fund manager is currently ongoing. In September, the European Investment Fund (EIF) and the governments of Lithuania, Latvia and Estonia launched a new and innovative investment initiative, dedicated to boosting equity investments in Baltic SMEs. The Baltic Innovation Fund will invest EUR 100 million in private equity and venture capital funds focused on the Baltic States over the next four years. The EIF will require private investors to provide 50 % of the finance, so the total amount of funds available for investments will double to EUR 200 million.

The global financial crisis has had a profound impact on the Lithuanian economy. The level of investment fell sharply in 2009, forcing some restructuring of industry. Partly as a consequence, the economy has undergone a shift to higher value-added services and goods. Investment recovered in 2011, reaching the pre-crisis level of foreign direct investment. Expenditure on infrastructure (euros per inhabitant) is approximately 11 % below the EU average. The weak economic outlook, at home and for Lithuania's main trading partners, has diminished confidence in further expansion. According to business surveys, up to 90 % of businesses consider their production capacity to be sufficient or even excessive.

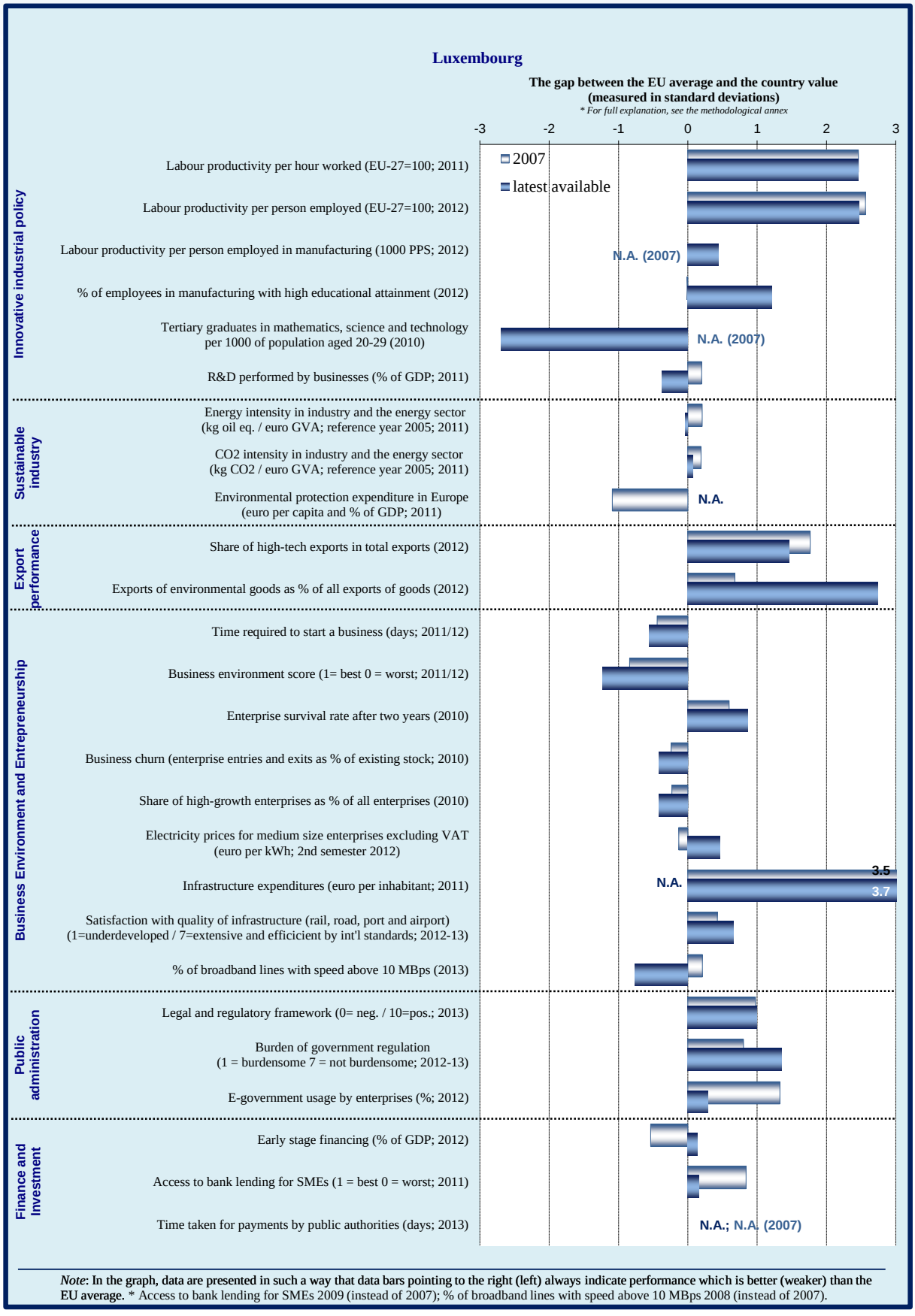
4.15.6 Conclusions

The Lithuanian economy has rebounded quickly from the crisis mainly due to rising exports partly driven by an improvement in price competitiveness. The economy has the potential to continue to grow strongly, thanks to a well-educated workforce, strong trade links and a strategic position. Industry is gradually shifting from low-to-medium to higher value-added manufacturing and Lithuania is developing expertise in knowledge-intensive services, such as IT outsourcing.

Nevertheless, there are challenges remaining. Electricity and gas prices for businesses are high compared to the EU average and Lithuania is one of the most energy and carbon-intensive economies in the EU. Although the administrative burden for businesses has been lightened, there is still room for further progress in several areas, particularly for licences and permits and the number of inspections by government agencies. Businesses still report a lack of technical and business skills and investment remains weak, particularly in R&D, which is restraining potential growth. Finally, reform of state-owned enterprises should be completed to ensure transparency.

[478] There are two holding funds in operation funded by the ERDF with a total allocation of EUR 228 million: the JEREMIE Fund administered by the EIF (EUR 170 million), and a fund administered by Invega (EUR 58 million).

4.16. Luxembourg



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

4.16.1 Introduction

Luxembourg's economy is strongly service-oriented, as manufacturing industries represented less than 7 % of value added in 2012 (15.3 % in the EU). Luxembourg is specialised in capital-intensive industries (basic iron and steel, cement, basic non-ferrous metals), mainstream manufacturing industries (rubber products) and technology-driven industries (media, information and communication technologies). Manufacturing industries employ about 9 % of the labour force (22.6 % in the EU).

Labour productivity is among the highest in the EU, but it has lost some of its price competitiveness over the last decade mostly due to high wage increases coupled with low or negative productivity growth. Economic growth was sluggish in 2012, and this is projected continue through 2013. GDP growth was on average 3.1 % over the period 2000-11. The domestic consumption and export of services, in particular financial intermediation but also transport, communications, insurance and other business services, largely contributed to this result.

The factors that supported employment in 2012, such as labour hoarding or a reduction in the number of hours worked, are projected to have a smaller impact on the labour market in 2013 because of the continuing uncertainty, and unemployment that has already been rising since the second half of 2012 is likely to continue to rise, also due to the growing labour force. Youth unemployment is relatively high at 18.0 % of the total active population in 2012, compared to an overall unemployment rate of 5.0 %. The situation for migrants and young people with low skills remains difficult, despite a number of policy initiatives. Added to the recent slowdown of the economy's main growth engine, the financial sector, the country's vulnerability has become more visible.

4.16.2 Innovation, skills and sustainability

Innovation

The 2013 Innovation Union Scoreboard ranks Luxembourg as an innovation follower with innovation performance above the EU average. Despite an open and attractive research system, relative weaknesses remain in corporate investments (business R&D expenditure, innovation by non-R&D firms) and in the diffusion of innovation (sales of new-to-market products).[479]

Public funding of research and innovation has increased,[480] with the second generation of performance contracts for 2011-13 signed between the Ministry of Higher Education and Research (MESR) and the National Research Fund and Public Research Centres (PRCs), and between the MESR and the Ministry of the Economy and Foreign Trade and Luxinnovation. A contract for 2010-13 has also been concluded between the state and the University of Luxembourg. Under the law that provides subsidies to private-sector R&D and innovation, the goal is to support 240 programmes and projects during 2011-13, compared to 143 in 2008-10. The funds allocated are expected to increase from EUR 46 million in 2011 to EUR 65 million in 2013.

Despites the increase in public R&D funding, the R&D and innovation system faces several challenges. There is a requirement for public research institutions to generate third-party funding as a prerequisite for receiving government funding, and the funding received is expected to generate spin-offs, patents and other forms of IP, these goals have not been met. Further, a critical mass of researchers is needed for R&D in order that enough of the output results in innovation.[481] Third, there is a need to increase participation in international consortia[482] through programmes such as FP7; and fourth, innovation in services should be enhanced[483] (special action plans for the benefit of logistics, health technologies, eco-technologies and eco-innovation are currently being implemented — some of them comprising the development of clusters).

Luxembourg has over the last two decades rapidly built up its public research capacities, from a

479 For details see "Research and Innovation performance in EU Member States and Associated Countries, Innovation Union progress at country level, 2013".

480 Source: PRO INNO Europe.

481 The ATTRACT and PEARL 2008-13 programmes of the National Fund for Research (FNR — *Fonds national de la recherche*) aim to attract researchers to Luxembourg and keep them in the country.

482 Luxembourg already has numerous cross-border cooperation agreements, in particular with other EU Member States.

483 This is one of the priorities of the CORE programme of the National Fund for Research.

situation where, 25 years ago, the public research system was non-existent. The contribution of these efforts to the economy remains limited, in particular in terms of the relatively modest level of cooperation between public research institutions and firms, and taking into account the sharp decline of business R&D intensity (from 1.53 % in 2000 to 0.98 % in 2011). The development of a more focused smart specialisation strategy could play a crucial role in maximising the economic impact of public research funding, in particular through ensuring a more significant leverage effect on private investments. In this context, support for clusters has the potential to play a much more important role in the R&D and innovation policy.

Skills

The situation for workers with low skills (in particular migrants and young residents) is difficult despite a large number of government and business initiatives. Young residents face fierce competition for jobs from non-residents, who are often more skilled. This raises the question of the performance of the education system, as PISA tests[484] indicate it is around or below the EU average. A further challenge are the language requirements that are especially challenging given the high proportion of foreign-born people in the population (40 %) who have an additional family language.

Further, specific skills are required by the highly specialised labour market (in particular in financial and legal services, and in technologically advanced professions). A reform of secondary schools is currently being prepared and new guidance will be given this year for classes from primary education to the lower secondary school. Adult participation in lifelong learning has increased over the last few years and reached 13.6 % in 2011, but an even higher adult participation rate is needed to tackle the country's structural unemployment, as residents are facing competition from a large pool of often highly skilled potential workers from neighbouring countries. Further focus on employability of the population aged 55-64 with a low education level is needed.[485]

Sustainability

Luxembourg has committed itself to reducing its greenhouse gas emissions not covered by the European trading system (ETS) by 20 % in 2020 compared to 2005. It is unlikely to meet the target solely through national measures — based on existing actions, emissions are projected to increase 0.3 % by 2020 compared to 2005, leading to a gap of over 20 percentage points. This issue was included in a country-specific recommendation both in 2012 and 2013.

The transport sector was responsible for 68 % of non-ETS emissions in 2011. In January 2013, the excise tax on diesel was increased from EUR 330 per 1 000 litres to EUR 335. However, the still relatively low fuel taxes weaken incentives to use public transport, and create strong incentives for both private car owners in the region and drivers of heavy vehicles in transit to make a detour to fill up their tanks in Luxembourg. The efficiency of newly registered vehicles improved substantially between 2005 and 2012, but at 138.4 g CO_2/km driven they were still 5 % above the EU average.

The efforts to promote energy efficiency focus mainly on buildings, with various initiatives to reduce energy use in the residential sector. A voluntary agreement is in place with 66 private companies to implement an energy management system and to establish an action programme to conserve energy. The effect is expected to be relatively limited in terms of energy efficiency. Several energy efficiency programmes aim to increase cooperation and sharing of best practices, both within Luxembourg — in the context of the *climate pact* with municipalities — and with its neighbours. Between 2005 and 2011, renewable energy consumption as a proportion of total consumption doubled in Luxembourg to 2.9 %, which is still far from the 11 % target for 2020. The use of renewable energy in transport is lagging behind: in 2011, the share of renewable energy (mainly biofuels) in all energy consumed in transport was only 2 %, some distance from the 2020 target of 10 %.

[484] There has been a negative trend in reading, mathematics and science since 2006.

[485] A White Paper on lifelong learning strategies was published in November 2012. LLL in the private sector will be co-financed by the state at a rate of 20 % instead of 14.5 % (35 % for young unskilled workers and older workers), in line with Euro Plus Pact commitments.

4.16.3 Export performance

Luxembourg has achieved excellent export performance in terms of knowledge-intensive services (about 80 % of total service exports, three quarters of which are financial services) and in high-tech exports of goods (about 30 % of total goods exports).

However, although largely positive in the 2000s, the contribution of the balance of goods and services to GDP has been negative since 2010 — whereas trade has contributed positively to growth both in the EU as a whole, and in the euro area, which is Luxembourg's principal export market. The economy remains very sensitive to the export performance of financial services. Even with a return of growth to the euro area, any further unrest in financial markets worldwide could limit the contribution of trade to growth in Luxembourg.

4.16.4 Business environment and public administration

The results of the World Bank's 2013 Doing Business survey are in line with those of the previous survey. Enforcing contracts and paying taxes remain very strong points. Out of 185 economies, Luxembourg ranks first for the first item and 14th for the second one, thanks to the very short time needed to prepare and file tax returns and to pay taxes. The time required to start-up a company remains 19 days, well above the EU average of 6.5 days.

The Small Business Act 2012 factsheet for Luxembourg highlights that in terms of value added, SMEs contribute much more to the country's economy (almost 73 %) than in the EU on average (58 %).[486] The sector distribution of SME activity clearly underlines the fact that Luxembourg is a service-based economy, where SMEs active in services represent 58 % of all businesses (EU average 45 %), account for 45 % of total employment (EU average 40 %) and contribute two thirds of total value added (EU average 43 %). More than a third (36 %) of all service-oriented SMEs are knowledge-intensive (EU average 28 %). High- and medium-high-tech SMEs represent only 9 % of Luxembourg's enterprises (EU average 12 %) and contribute only 17 % to total value added (EU average 30 %).

Luxembourg's economy remains open and business-friendly. The efforts to provide an environment conducive to SMEs are reflected in the policy measures taken recently, such as the *National action plan for SMEs* (the fourth one being about to be put in place), or the creation this year of a high-level committee for the support, development and promotion of industry. The national SME envoy (appointed in April 2011) has been monitoring delays and advances in the implementation of Luxembourg's third action plan for SMEs and has ensured that the interests of SMEs are taken into account in major pieces of relevant legislation. Hence, the government has demonstrated a strong commitment to the interest of businesses (and in particular SMEs), along with a determination to learn from good international practices. More comprehensive reforms would include the need to further address issues such as insolvency, reforming the rules on second-chance entrepreneurship, transparency of the public procurement system, and a more comprehensive administrative reform.

In terms of overall public administration performance, Luxembourg remains above the EU average. The quality of public services is regarded as high, and the same goes for policy implementation. The take-up of e-government services by citizens and enterprises is one of the highest in Europe. One-stop-shop and e-government services are multilingual and available to businesses mainly through the '*Guichet Entreprises*', which is one of the two main sections of the 'Guichet.lu' national website.

A report[487] on the functioning of EU judicial systems recommended that the procedure for registering property should be simplified, the cost of registering property sharply reduced, and the cost of insolvency and bankruptcy procedures cut by about 5 points to reach 10 %. The recovery rate from such procedures should also be increased.

[486] The data cover the 'business economy', which includes industry, construction, trade and services (NACE Rev. 2 Sections B to J, L, M and N). The data do not cover enterprises in agriculture, forestry or fishing or largely non-market services such as education and health.

[487] The functioning of judicial systems and the situation of the economy in the European Union Member States, CEPEJ, January 2013.

4.16.5 Finance and investment

Credit tightening has been less marked in Luxembourg than elsewhere in the euro area, and SMEs have continued to enjoy good access to finance. Smaller loans of less than EUR 1 million, which are almost exclusively for SMEs, are much less expensive in Luxembourg than elsewhere in the EU. Venture capital is much more accessible than in the EU on average. A fund targeted at SMEs active in innovative fields (ICT included) was launched in 2012, in close collaboration with the European Investment Fund (EIF). Another fund specialised in life sciences was launched on the same date with a London-based venture capital partner. With a lifespan of at least 15 years each, both funds are aimed at diversifying Luxembourg's economy and rendering it more sustainable.

A set of different loan schemes for enterprises continue to apply (equipment loan; start-up/takeover loan), along with the *vaccin anti-crise*, which provides counselling services to companies suffering from financial difficulties.

There are remaining challenges revealed by indicators that are directly affected by policy decisions, including information on credit that is perceived as relatively unclear in Luxembourg (thus hampering the provision of loans). Public financial support through EU funds (regional and structural) is focused much less on SMEs in Luxembourg than in the EU on average.[488]

4.16.6 Conclusions

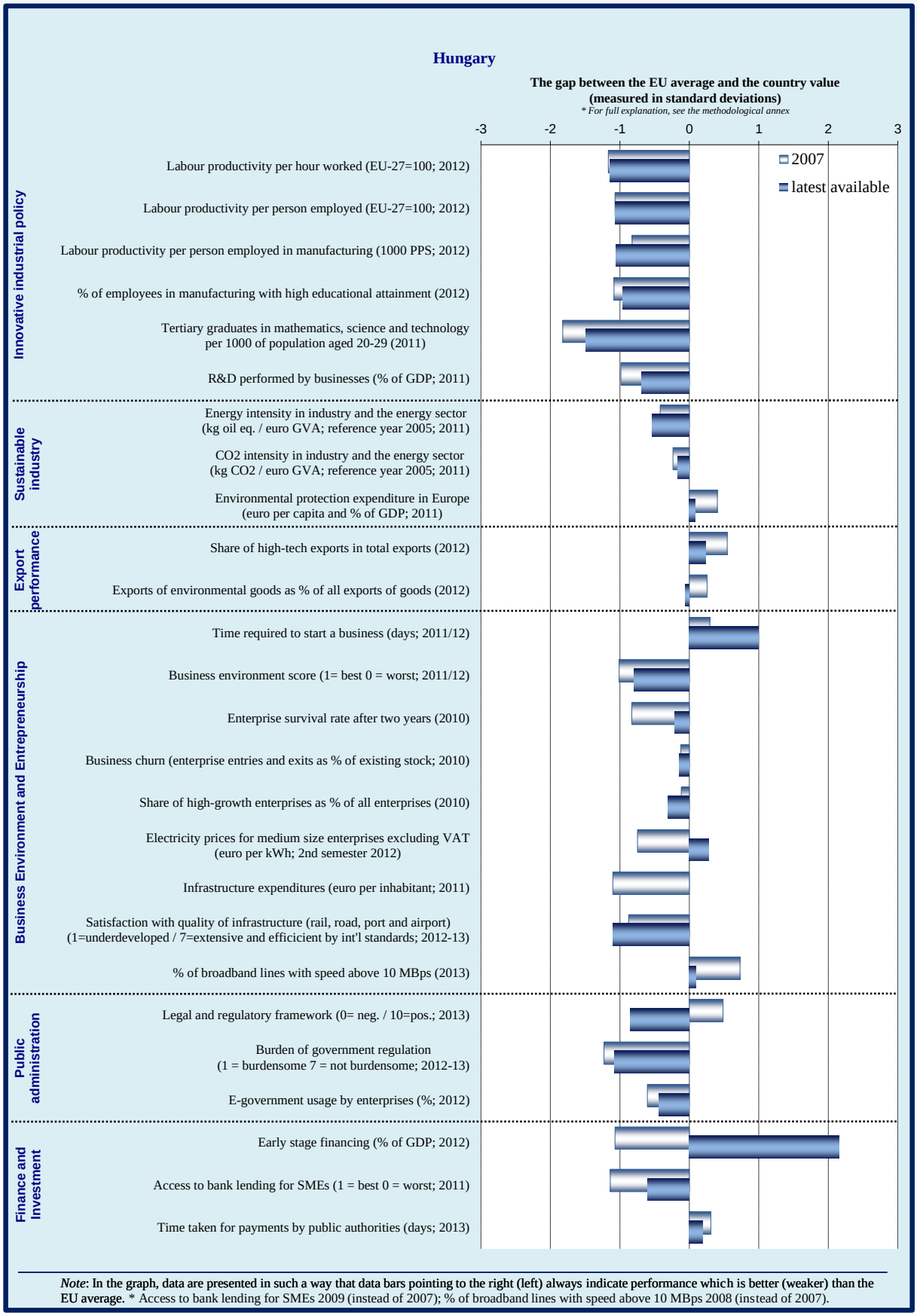
Among EU countries, Luxembourg still scores well in terms of overall competitiveness. Nevertheless, the cost competitiveness of the economy poses the main medium- to long-term challenge, in particular due to high wage increases and coupled with low productivity growth. Nominal unit labour costs, especially in manufacturing, are increasing faster than in neighbouring Member States. Luxembourg has recently temporarily modified the automatic indexation of wages by introducing a minimum interval of 12 months between each wage indexation and limiting the indexation to 2.5%. However, from 2015 on the automatic indexation will again be applied in the normal way. Further, the system does not comprise mechanisms that would keep unit labour cost developments in line with neighbouring countries.

Financial services have been the prime source of growth in the past decade, and only limited progress has been made towards a more diversified, knowledge-intensive economy. The development of a more focused smart specialisation strategy could give stronger leverage to research and innovation funding, in particular through more support to clusters.

The situation for workers with low skills (in particular migrants and young residents) remains difficult despite a large number of government and business initiatives. Greater adult participation in lifelong learning is needed to tackle the country's structural unemployment. Finally, another challenge is achieving the national target for the reduction of greenhouse gas emissions.

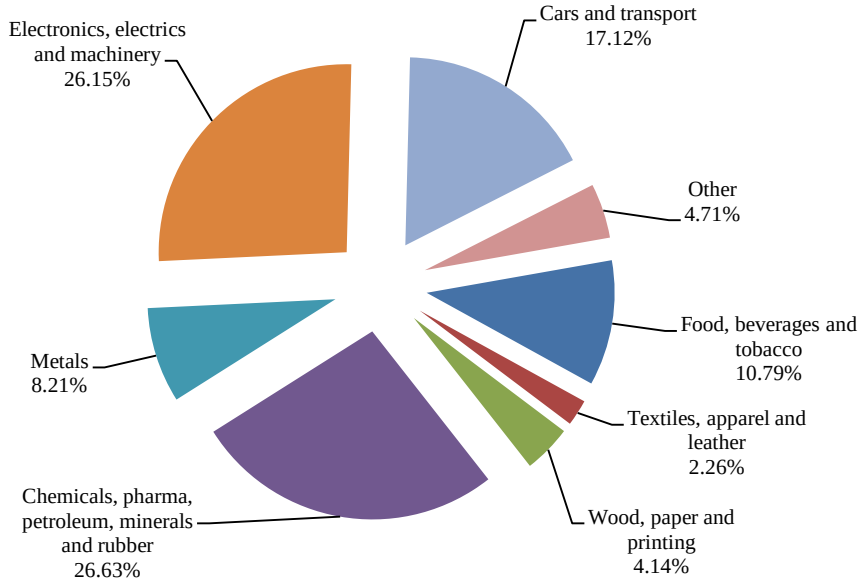
[488] SBA factsheet 2012.

4.17. Hungary



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.16: Manufacturing sectors – Hungary (2010)



Source: Eurostat

4.17.1 Introduction

Manufacturing is more important[489] in Hungary than in the EU on average. The country specialises in technology-driven industries (production of transport equipment, computers, electronic and optical products, food, and machinery), both in value-added and exports. Of services, wholesale and retail trade, business services, real estate activities, transportation, and information and communication are the biggest contributors.

The cost competitiveness of the economy has deteriorated over the last decade. Labour productivity is about 40 percentage points below the EU-27 average.[490] However, in manufacturing, labour productivity is somewhat higher than the national average, while still low compared to the EU as a whole.

4.17.2 Innovation, skills and sustainability

According to the Innovation Union Scoreboard, Hungary is a moderate innovator. The research and innovation landscape is characterised by a dual structure. The proportion of high-tech product exports[491] is among the highest in the EU, while on other indicators, Hungary is lagging behind and scores worse than its regional competitors. Similarly,[492] large multinational firms use cutting-edge technology and invest in research, but only about 11 % of SMEs are innovative.[493] Most high and medium-tech sectors have increased their R&D intensity, but pharmaceuticals, ICT and transport vehicle manufacturing remain at the top.[494]

The new innovation strategy (2013-20), adopted in June 2013 after a considerable delay, has identified the most crucial challenges and it attempts to tackle these.[495] The following priorities were set: support of globally competitive research centres; intensifying knowledge flows (e.g. by enhancing cooperation between business and academia, and providing integrated innovation support services); and efficiently targeting support measures in all

489 The value added in manufacturing accounted for 23.2 % of the total value added in 2011 (EU-27: 15.3 %). More than 21 % of the total workforce is employed in this sector.

490 Ranking 21st, Eurostat 2012.

491 Share of high-tech exports in total exports (2011) 20.8.

492 R&D performed by businesses (% of GDP; 2011) 0.75.

493 http://www.oecd.org/hungary/sti-outlook-2012-hungary.pdf.

494 Jelentés a vállalati KFI helyzetéről 2012, Nemzeti Innovációs Hivatal; Research and Innovation performance – Innovation Union progress at country level 2013)

495 Challenges are grouped in 3 main areas: knowledge generation (lack of competitive knowledge centres, researcher capacities, obsolete R&D infrastructures, inadequate financing), knowledge flows (weak intersectoral links, inadequate international embeddedness and technology transfer) and knowledge utilisation (the striking gap between foreign and domestic companies)

segments of the economy to boost companies' RDI activity. Both large companies and SMEs are to be targeted, with measures tailored to their needs.

Addressing horizontal problems such as lack of financing (including funding for basic research, availability of venture capital, seed capital) and the changing regulatory environment[496] would help to create an environment favourable for research and innovation. It will be crucial to implement the new strategy effectively to maximise the effectiveness of investment and its impact on growth and jobs.

The market for public procurement does not seem to work properly, as in about half of the cases there has been only one single bidder in 2010 and 2011. This might be explained by the fact that below a certain threshold only SMEs can submit offers, which has a negative impact on competition.[497]

Skills

Tertiary education attainment has been improving, but it is still well below the EU average. The distribution of graduates by field is also out of balance. The number of maths, science and technology graduates is especially low compared to the average in the EU. Since 2011, there have been reforms to tackle these issues by cutting back the number of state-financed places in many fields,[498] but the final outcome of the reform is unclear, as applicant numbers have also decreased.

There are also reforms underway in vocational training. The training period has been shortened, and apprenticeship and the vocational content are being strengthened in cooperation with industry,[499] while less time will be spent on formal competencies.

On entrepreneurship, there was a drop in the share of the population that believes it has the skills and knowledge to start a business, down by 3 percentage points between 2006 and 2011,[500] and the score fell to 40 % (EU average 42.0 % in 2012).[501]

Regarding life-long learning, Hungary has one of the worst records in the EU, with a very low participation rate.[502] The content of courses on offer is also a problem, as many of them do not match the needs of the market. According to the 2013 national reform programme, the government is also planning reforms in this area.

Sustainability

The energy and CO_2 intensity of the industry and energy sector is higher[503] than the EU average, due to both inefficient infrastructure and obsolete technology. The national energy efficiency action plan was adopted in 2011, though its implementation has been delayed. Government support for energy efficiency projects[504] seem to be lacking, as available funding is quickly exhausted. There is a plan to launch a new green economy financing scheme in 2013,[505] to improve the energy efficiency of buildings and support other climate protection measures. The share of renewable energy sources in total energy consumption rose to 8.79 %[506] in 2010.

The share of eco-industry goods in total exports has risen to 0.75 %, reaching the EU average by 2010, suggesting that it is gaining strength.[507]

4.17.3 Export performance

Exports continue to perform relatively well compared to the EU average. Exports grew by 2 %

496 The high-level political body in the field of STI policy, the National Research, Innovation and Science Policy Council (NKITT),) was dissolved in July 2012, when the Governmental Development Cabinet, body chaired by the prime minister, was set up. As of 2011, companies cannot deduct the costs of their in-house R&D from the innovation levy.

497 Assessment of the 2013 national reform programme and convergence programme for Hungary, SWD(2013) 367.

498 Such as law, economics, and humanities.

499 The Hungarian Chamber of Industry and Commerce is in charge of preparing the technical content of the new curriculum to be used as of 1 September 2013.

500 From 43.0 % to 40.0 %.

501 http://ec.europa.eu/education/news/rethinking/sw377_en.pdf.

502 2.7 % as opposed to 8.9 % EU average http://ec.europa.eu/education/news/rethinking/sw377_en.pdf.

503 Eurostat.

504 Typically co-financed via the EU Structural Funds.

505 NRP 2013.

506 According to data provided by the Hungarian Government.

507 Though most probably this strengthening can be attributed to the increased investments (largely via Structural Funds) and to the activities of upgrading the environmental infrastructure, such as water supply and treatment, and waste management, etc.

in 2013 and imports decreased by 0.1 %.[508] Exports of transport vehicles have grown dynamically, though this was offset by a contraction in the volume of ICT products exported, which fell by 20 %.[509] High-tech exports continue to play an important role at 22.3 % of total exports. Other export sectors performing well are pharmaceuticals and professional equipment manufacturing.

Three quarters of exports go to the EU-27. The biggest trading partner is Germany, followed by neighbouring countries. The Government has started to formulate a strategy called "Opening to the east", to expand exports to Russia, China, India, and the Middle East.[510] Policies[511] are in place to support indirect exports to improve the capabilities of SMEs to integrate into the supply chain of multinationals in the country.

4.17.4 Business environment and public administration

Improving the business environment has been an important priority in recent years, but measures adopted so far do not yet seem to have brought about the expected positive impact. According to the World Bank's Doing Business 2013[512], Hungary ranks 54th, down from 51st in 2012. It also ranks lower than last year in the World Economic Forum Global Competitiveness Index (60th from 48th).[513] The most problematic areas are policy instability, tax burden (both financial and administrative), access to finance, inefficient bureaucracy and corruption. Such an unfavourable business climate makes Hungary difficult for both domestic and foreign firms, and hampers investment and competition.

To reduce the administrative burden on businesses, the government has started its programme[514] of cutting red tape. This includes 114 measures intended to save a total of about HUF 500 billion[515] by 2012. However, implementation has been somewhat delayed.[516] By mid-2013, 93 measures had been adopted.[517] Some important measures, such as e-government, have been postponed beyond 2014.

The most notable achievements so far are shortening the time it takes for administrative procedures from 30 days to 21, and simplification of the procedure for construction licences. Adequate monitoring arrangements[518] will be needed, together with an evaluation to check if reforms have achieved the targeted savings, and whether further measures are desirable.

Services such as trade, tourism, finance and other business services account for most of the service sector. However, Hungary continues to place restrictions on various sectors,[519] leading to further deterioration of the business climate.

The potential for growth and jobs in the digital economy has not been fully seized. Rolling out of broadband infrastructure is proceeding well, but its take-up remains below the EU average.[520] The motorway network is well developed, but the secondary and lower level road network is quickly deteriorating and would require maintenance.[521] For railways, the density of the network is above the EU average, but the infrastructure and rolling stock is obsolete, increasing travel time, energy consumption and pollution. Commuting times to county capitals by public transport are long, making the mobility of employees more difficult.[522] Similarly, the sub-optimal conditions for navigation on the Danube remain a barrier to competitiveness.

508 For a detailed economic forecast see the Commission services' 2013 spring forecast at: http://ec.europa.eu/economy_finance/eu/forecasts/2013_spring/hu_en.pdf

509 Hungarian Central Statistical Office http://www.ksh.hu/docs/hun/xftp/gyor/kul/kul21212.pdf.

510 Part of this strategy is the setting up so-called merchant houses in the target countries, which would help SMEs with competitive products to access these markets.

511 http://www.hita.hu/Supplier/register.

512 http://www.doingbusiness.org/~/media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB13-Chapters/Country tables.pdf.

513 http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf.

514 http://egyszeruallam.kormany.hu/.

515 Approximately 1.7 % of GDP.

516 Government Decision 1416/2012 (X.1.).

517 NRP 2013.

518 No information on the work of the committee that oversees the Cutting red tape programme is publicly available.

519 After the plaza-stop law, the pharmaceutical retail sector, meal voucher providers, waste treatment, the financial sector and the tobacco retail sector were also subject to extensive government regulation in 2012.

520 61 % of households and 87 % of business have broadband connection as opposed to the EU average (67 % and 87 %, respectively).

521 A high share of roads is unable to take 115kn axle loads; the proportion of public roads in poor condition was 30 % in 2000, but over 50 % in 2010; State Audit Office, 2012

522 Hungarian Partnership Agreement for the 2014–20 programming period, final draft, July 2013.

Public administration

Reforms have also been implemented to improve the efficiency of public administration, which has been unfavourably assessed in international comparisons.[523] There were reforms in 2012[524] that had a positive impact on the business environment.[525] A simplification programme[526] was launched in 2011 to streamline administrative procedures and make them more accessible to citizens. Most of the measures will come into effect in 2013, so it is too early to assess their impact.

The administrative structure of the country has been reorganised so that previously autonomous sector-specific bodies have been integrated into county government offices, with the aim of cost-cutting. At territorial[527] level, the Government has set up district offices. The system of the so-called "government windows" (one-stop shops)[528] will be extended in 2013 to district offices.

Tax regulation in Hungary is identified as one of the main problems. For businesses, the total tax compliance time[529] is estimated at 277 hours per year. On average, firms need to make 12 tax payments a year.[530] To reduce the tax compliance burden, a simplified electronic payment system has been made legally possible, but it has not yet been implemented. The corporate tax system has become more complex, as it consists of six different rates. Two new simplified tax schemes were introduced in 2013[531] for SMEs, on top of an already existing simplified business tax scheme.[532]

Although the ordinary corporate income tax rates are relatively low (10 % and 19 %), a significant part of the tax burden on the corporate sector is linked to specific additional taxes.[533] The temporary surtaxes introduced in 2010 for the telecom, energy and financial sectors were increased[534] and became permanent while further surtaxes were introduced on the utility service providers. As these sectors provide crucial services to businesses, the negative impact of additional taxes is felt right across the economy.

The fight against corruption suffers from a lack of transparency and perceived fairness.[535] The implementation of measures announced in the corruption prevention programme for 2012-14[536]is underway, with some delays. In early 2013, the government adopted a law on the integrity management system. A new whistle-blower regulation is being drafted and should be adopted in 2013. The Hungarian Accounting Office (ASZ) is implementing an integrity programme that aims to map risks of corruption in public administration.[537]

Besides the complexity of administrative procedures, the uncertain regulatory framework, in which rules change frequently at short notice, is also an often evoked problem. In some cases, public consultations do not leave adequate time for stakeholders to contribute.[538] There should be more effort to make improvements in this area, especially to optimise impact assessments, fitness checks and monitoring arrangements.

An independent and efficient justice system is an important structural component of an attractive business environment and ensures the effective and timely enforcement of contracts and competition rules. Hungary ranks low on the perceived independence of the judiciary: 21st out of 27 in the

523 IMD World Competitiveness Yearbook 2011.

524 The implementation of which is aided by the OECD-Hungary Strategic Partnership for Public Administration Reform launched in 2012, see Government Decree 62/2012. (IV. 2.).

525 The administrative burden related to the identification of companies and their representatives in administrative procedures has been removed.

526 Government Decision 1304/2011 (IX.2.).

527 An organisational entity between local and county levels.

528 Set up as of 1st January 2011.

529 The time it takes to prepare, file and pay corporate income tax, value added tax and social contributions.

530 World Bank Doing Business 2013.

531 Lump-sum Tax of Self-employed ("kata") and Small Business Tax ("kiva").

532 Simplified Entrepreneurial tax ("eva") introduced in 2003.

533 European Commission: Macroeconomic Imbalances, Hungary 2013, Occasional Papers 137

534 The design of these surtaxes have been reviewed over time.

535 Hungary ranks in the bottom third out of 144 countries for several indicators, e.g. diversion of public funds, wasteful government spending, favouritism in decision-making of government officials http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf.

536 Government decree 1104/2012(IV.6.) on anticorruption measures and the adoption of the Programme on Preventing Corruption in Public Administration.

537 http://integritas.asz.hu/uploads/files/2012-es%20eredm%C3%A9nyek_%C3%B6sszefoglal%C3%B3.pdf The report shows no improvement in 2012 in comparison to the previous year.

538 http://www.transparency.org/country#HUN.

EU, and 72nd out of 144 in the world.[539] Internal developments in 2012 and 2013 have further increased concerns about the independence of the judiciary in Hungary[540] and the 2013 country specific recommendations included the requirement to strengthen further the judiciary.

4.17.5 Finance and investment

The stock of foreign direct investment is about EUR 78.5 billion,[541] one of the highest per capita figures in the region. Most of this is in service and processing industries.[542] Of all foreign direct investment in Hungary, 77 % is from EU countries, about 30 % of it from Germany. However, the negative business climate is likely to hamper further investment.

Bank lending contracted in 2012 due to the recession. SMEs were particularly badly affected, as banks seemed more risk averse and unwilling to lend. However, as demand for investment has also been lower, the relative weight of these factors is difficult to estimate. The additional tax on the financial sector has further restricted banks' willingness to lend.

The Szechenyi Card Programme, which provides credit card-based low-interest loans for micro- to medium-sized enterprises, continues to be an important tool in the financing of SMEs. Over 218 000 cards had been issued by 2012. New types of loan were introduced in 2012 to help SMEs participate in EU tenders.[543] In December 2012, the government decided to continue investing in this programme.

After its 2011 reform, the Jeremie[544] structural fund scheme was successful in disbursing funding for SMEs. However, quick absorption means that Hungary is running out of EU funds for SME support, limiting the availability of resources for 2013.[545]

4.17.6 Conclusions

On most indicators of competitiveness, Hungary's position is medium to low, though export performance is very good. The ongoing reform of public administration still has a lot of potential to improve the business environment, preferably complemented by a stable, predictable regulatory framework, without artificial distortions or corruption.

The business environment continues to be a major obstacle to improving competitiveness. The worsening business environment acts as a drag on the growth performance, creating a rapidly-changing regulatory framework, distortive effects of government policies eroding trust, lack of predictability and a low rate of investment.

In addition, there are concerns on the compatibility of some Hungarian legislation with EU legislation and with the principles of the rule of law, creating further uncertainty.[546]

In the longer run, the need to switch to a more knowledge-intensive economy poses major challenges. A favourable research and innovation policy is essential if growth-oriented innovative enterprises are to emerge. To maintain and improve international competitiveness, it would be helpful if Hungary could address problems in labour productivity and skills levels. Timely, effective and consistent implementation of reforms is crucial to improve competitiveness in the long term.

539 World Economic Forum; based on data collected in 2011 – 2012 (reflected in the 2013 EU Justice Scoreboard)

540 See speech by President Barroso at the European Parliament Plenary of 2 July 2013 on the situation of fundamental rights.: standards and practices in Hungary, http://europa.eu/rapid/press-release_SPEECH-13-608_en.htm.

541 According to Hungarian National Bank's 2012 Q4 data.

542 Automotive, machinery, computer and electrical equipment manufacturing.

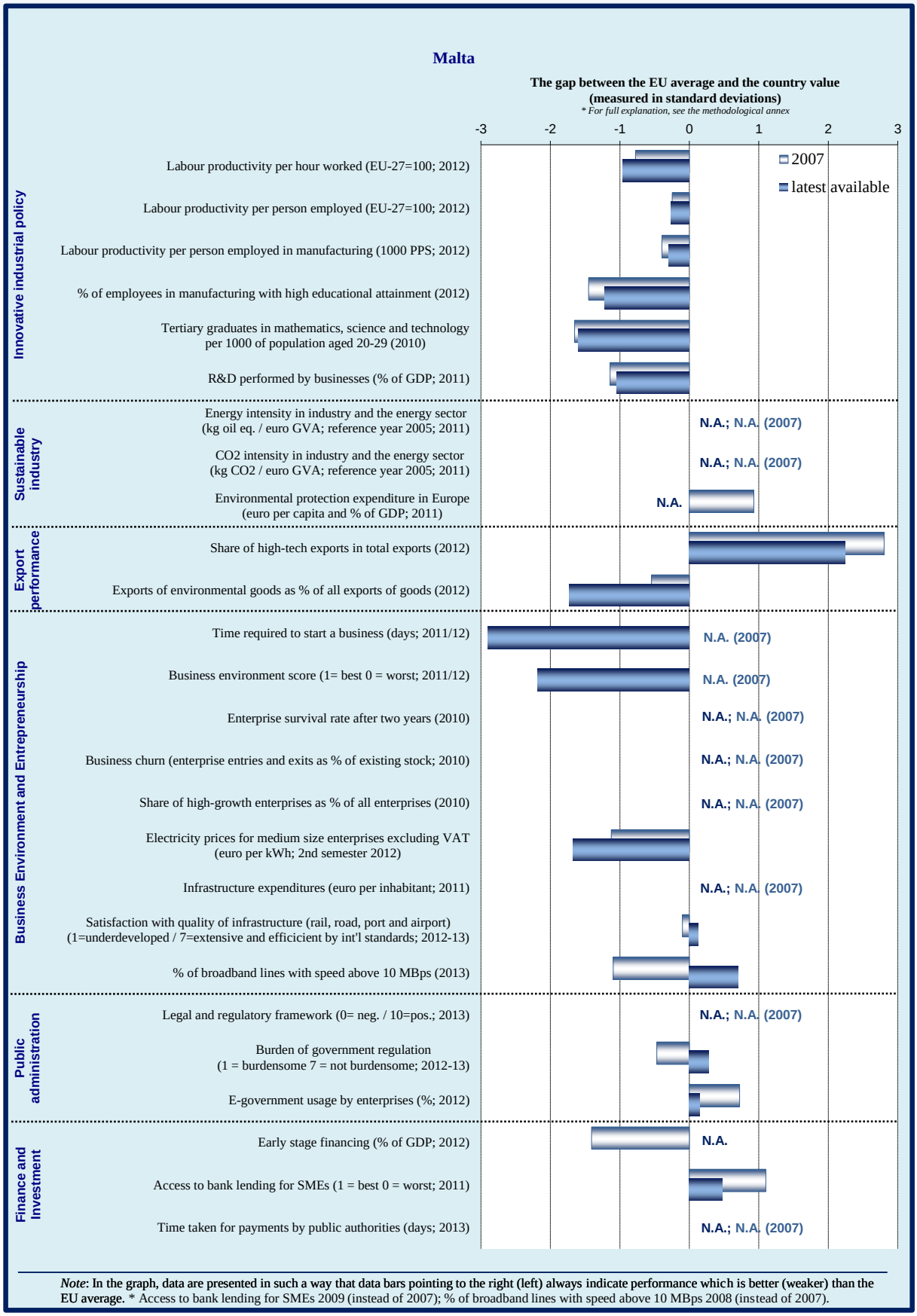
543 (Széchenyi Önerő Kiegészítő Hitel and Széchenyi Támogatást Megelőlegező Hitel, i.e. *own contribution supplementary loan and pre-grant advancement loan*).

544 Joint European Resources for Micro- to Medium-Sized Enterprises.

545 This happened in particular through the Combined Microcredit Programme, which provides loans combined with non-refundable grants to very small enterprises. New calls focusing on seed financing have been published under JEREMIE's Venture Capital Programme.

546 Assessment of the 2013 national reform programme and convergence programme for Hungary, SWD(2013) 367.

4.18. Malta



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

4.18.1 Introduction

Manufacturing in Malta has a share of value added of only about 13%, but some sectors have seen significant growth, in particular pharmaceuticals (part of 'chemical products' in the graph) and the aviation maintenance industry ('transport' or 'electrical equipment', and 'other manufacturing' in the graph). The service economy has traditionally been dominated by tourism (10% of GDP at direct impact level, rising to about a quarter of GDP when the full impact is estimated). Tourism has grown further recently, but the service economy is now significantly more diversified as other activities are also growing. These include financial intermediation, business services (including auditing and legal services), entertainment (film production), online gaming and other computer-related activities. Export market shares in a number of these emerging industries are also increasing.

Productivity growth has lagged behind the euro-area average over the past decade and has been notably weaker than in the other "new" Member States.

The Labour Party came to power at the beginning of March, but the new government has retained the great majority of measures to improve competitiveness set out in the November 2012 budget speech.

4.18.2 Innovation, skills and sustainability

Innovation

The government has stated its aim of building a knowledge-based economy with research and innovation at its core. The modest level of expenditure on research and development (0.73% of GDP in 2011, up from 0.67% in 2010) has already exceeded Malta's Europe 2020 target, thanks to increases in higher education and business spending (of which more than 80% is spent by foreign-owned companies). Central government provides funding for public research, higher education institutions and private sector research.

However, businesses largely fund their own research and cross-funding between sectors is limited. Nevertheless, the draft National Strategic Plan for Research and Innovation 2011-20 maintains a strong business orientation in the areas of ICT, health and biotechnology, energy and environmental technologies, as well as value-added manufacturing and services.

In 2012, the Malta Council for Science and Technology launched a commercialisation programme to assist research-oriented and innovative firms. In particular, in the innovation field, progress has been made with several initiatives, such as Business First, a one-stop-shop for businesses, and the R&D&I Trust Fund set up by the University of Malta. In addition, a number of industry sectors have been identified for future specialisation, e.g. digital gaming, for which a strategy was published in early 2012 to lay the foundations for the development of a gaming industry in Malta.

Further alignment of the draft National Strategic Plan for Research and Innovation 2011-20 with the requirements for a 'research and innovation strategy for smart specialisation' is important if the progress achieved so far is to be maintained. It would also help if research and innovation capacity in support of smart specialisation and links between knowledge institutions and business were to be strengthened. With ERDF funding, Malta Enterprise is currently building a life-science centre. It is envisaged that, when completed, this project will contribute towards encouraging further interaction between scientific centres, public institutions (including hospitals), self-government authorities and business.

Skills

The challenge of skills mismatches is related to the high (though steadily falling) rate of early school leaving, coupled with a modest level of tertiary education attainment. According to some business representatives, skill shortages are emerging and coming more into focus in areas such as the green economy and other areas in which expertise is required, e.g. specialised printing and design. The need to raise skill levels is set to become even more relevant in the future as the employment pattern is forecast to be characterised by a strong increase in medium and high qualification jobs and a marked decline in low qualification ones.[547]

[547] By the year 2020. European Centre for the Development of Vocational Training (Cedefop).

To address this skills challenge, significant investments are being made to improve the vocational training facilities and systems available. A sector skills committee will be established by the second quarter of 2013, composed of representatives from industry, education and training institutions, mainly to advise the National Commission for Further and Higher Education on matters relating to validation processes, while assisting in the development of the corresponding occupational standards wherever skills shortages are identified. A number of schemes and initiatives complement the policy development under way.

Sustainability

Malta is heavily dependent on imported oil, but the energy sector is to undergo important, efficiency-boosting changes in the near future. First, the electricity interconnector with Sicily is expected to become operational in 2014. This represents an important change to the energy system, since Malta will no longer be isolated in terms of energy supply. Supply will therefore be more secure and electricity generation is likely to become cheaper. Secondly, the increased capacity will mean that the inefficient Marsa power plant can be switched off, which will improve overall efficiency.

The connection to the continental European grid will also raise the capacity to integrate energy produced from renewable sources, thereby helping to reduce the overwhelming use of heavy oil in electricity generation. Finally, the government is taking steps towards switching to cheaper and more environment-friendly liquefied natural gas (LNG) as its main energy source, which would also contribute towards lowering generation costs and cutting carbon emissions. The available options need to be carefully assessed to ensure that security of energy supply is strengthened and the associated costs are minimised.

There is room for improving efficiency and cutting emissions in the transport sector. Road transport accounts for about half of total emissions coming from non-ETS sectors, and a strong increase in emissions is likely by 2020. The number and increasing age of cars, an inefficient road network and the preference for driving have resulted in significant road congestion problems and increased carbon emissions. Therefore, measures to upgrade the road network and to improve the effectiveness of public transport will be important in ensuring sustainable internal mobility. Measures introduced to make the car fleet more sustainable, such as a minimum level of biofuels in petroleum fuel in all transport modes, a differentiated car registration tax, a car scrapping scheme and continued financial support to electric and hybrid vehicles are relevant towards diversification and decreased dependency on fuel imports.

4.18.3 Export performance

International trade remained a key driver of economic growth in Malta in 2012, despite the challenging environment, because of a favourable composition of exports and geographical orientation of trade, in particular in goods. During 2012, exports of goods and services increased by 5.2 % in real terms. Malta stands out in the EU for the proportion of its exports accounted for by high-tech products. The 'strengthening market entry and internationalisation' incentive, available until the end of 2017, aims to facilitate access to foreign markets by allowing enterprises to explore growth opportunities, establish business contacts and consolidate existing markets. This scheme provides part-financing for companies to participate in international trade events, fairs and trade missions. Towards the end of April 2013, Malta Enterprise launched a continuous tracer study among participants of its internationalisation events to determine what the benefits have been.

4.18.4 Business environment and public administration

Business environment

The Malta Small Business Act (SBA), which emphasises the importance of small and medium-sized enterprises (SMEs) for growth and competitiveness, has been in place since October 2011. Stakeholders are looking forward to the introduction of the 'SME test' (gauging the potential impact on enterprise of all new proposed legislation) and the two-month standstill period between publication and entry into force of new legislation. The SBA implementation unit has been holding meetings with ministries and other entities to explain its role and improve their understanding regarding application of the SME test.

The Enterprise Consultative Council holds a regular dialogue with the regulatory authorities and business organisations in order to bring about greater synergy for a better business environment, particularly for SMEs. It meets every quarter and has been quite effective as a channel for communication with the business community, mainly through its representative organisations. The Council has held a number of meetings on specific issues (family businesses, youth entrepreneurship, the specific situation of the business sector in Gozo, etc.). Some business representatives are calling for it to be more sharply focused on the interests of enterprise.

The Business First one-stop-shop run by Malta Enterprise since the beginning of 2012 has been quite successful. It is based on a network of service-level agreements with a number of government entities. In 2012, there were 25 cases registered among these service providers of the prescribed deadline not being kept, i.e. 5% of the total number of applications. It takes approximately two days to register a company with the Malta Financial Services Authority and, unlike the World Bank in its *Doing Business* survey, Malta Enterprise estimates that starting up a company in Malta takes no longer than 13 working days, especially as registration processes can run in parallel.

As regards business support infrastructure, works being carried out by the authorities on existing industrial estates will be continued with EU and national funding. The 2013 budget provides for a number of new projects, in the following areas in particular: digital games hubs, an aviation centre, a maritime park, a business centre in Gozo, and a facility with flexible use of ICT in the incubation centre in Kordin.

In 2012, the Department of Contracts sought to achieve full transition from conventional to electronic procurement. A number of initiatives have been taken since March 2012 and the complete transition to electronic procurement for tenders published by the Department has been set for 2013. All new tenders issued by the Department since January 2013 have been e-tenders. The transition to e-procurement and the parallel streamlining of procedures are aimed at encouraging greater participation from European SMEs.

The Late Payments Directive was transposed into Maltese law in August 2012, with ancillary training activities ensuring its informed application. The government has conducted three information seminars on the topic for government departments, public entities and local councils. In addition, the Malta Association of Credit Management organised an information session for the business community.

With regard to the simplification of administrative procedures for accessing EU programmes, Malta Enterprise is currently providing an exploratory award scheme providing cash grants to help SMEs develop project proposals for the Commission's Seventh Framework Programme (FP7) and the Competitiveness and Innovation Programme (CIP). The Employment and Training Corporation has taken steps since 2011 to simplify the administrative process for the training aid framework and the employment aid programme.

The guidelines of the Entrepreneurship through Education Scheme have been revised so as to ensure better organisation. 28 projects were identified for funding in 2013. The government has indicated in the 2013 budget that it will be preparing an entrepreneurship action plan ranging from primary to tertiary levels. A Youth Entrepreneurship Act to help prepare young people for the world of business has also been signalled for 2013, along with the corresponding Youth Entrepreneurship Scheme announced this year.

Although electricity prices in Malta are far above the EU average, which dampens the competitiveness of enterprises, positive changes are expected in the medium term (see above) as a result of the shift from heavy-oil to gas-fired energy production based on a public-private partnership for building new generation facilities, which will bring cost savings of around 25% to industry in 2015. The electricity interconnector is also expected to be completed in 2014, while the Ministry for Energy and the Conservation of Water will promote independent investment in the energy infrastructure in the form of new facilities, favouring the import, storage and processing of LNG.

Despite positive scores for Malta's judicial system on some points, the EU's Justice Scoreboard highlighted serious shortcomings in efficiency due to the time needed to resolve non-criminal (in

particular, civil and commercial) cases, which is among the longest in the EU.[548] The courts' backlog has been increasing, with a high number of pending cases at first instance and a seemingly low clearance rate, indicating that more cases arise each year than are being resolved. In March 2013, very soon after taking office, the new government announced the launch of a judicial reform. A commission appointed to look into the judicial system and recommend reforms as necessary is due to submit a review report within three months, to be followed by a consultation process. It is envisaged that implementation of the main reforms suggested by the report and the consultation process will start by the end of 2013.

According to the 2012-13 Global Competitiveness Report, users of Malta's transport system are reasonably satisfied overall with both the efficiency and the extent of air, sea and land transport infrastructures.

The last 15 years have seen heavy investment of national funds, backed by EU co-financing (Cohesion Fund, ERDF and TEN-T financial instrument), which has directly resulted in a substantial improvement in port and airport infrastructure and visibly improved safety and operational efficiency — relatively high levels of satisfaction are now being expressed by users of airport and seaport infrastructures.

Significant investment has also taken place in upgrading road infrastructure, particularly under the EU Cohesion Fund and ERDF following Malta's EU accession. By the end of the current operational programme (2007-13), some 62 % of Malta's roads will have been upgraded in terms of quality, safety and capacity. The last three years have seen unprecedented levels of upgrading work at key road traffic bottlenecks. Naturally, opinion surveys of road users carried out in Malta in 2011-12 (such as the poll in the 2012-13 Global Competitiveness Report) reflect lower-than-expected levels of user satisfaction given the network-wide impact that major road works were then having on traffic congestion and journey times. However, it is to be expected that satisfaction rates for the road infrastructure will match those for ports and airports once all work on the major TEN-T links has been completed.

4.18.5 Finance and Investment

SMEs are benefiting from an increasing range of access to finance and the 2013 budget contains a number of measures to ensure that this remains the case. The Microinvest scheme will be extended for a further two years following the overwhelming success of measures particularly relating to new job creation. The Jeremie scheme (a first-loss portfolio guarantee instrument for loans between EUR 25 000 and EUR 500 000) will also be extended.

A new tax incentive scheme will be launched to encourage established enterprises to invest seed capital in new undertakings. Another new scheme, for the benefit of clusters and networks and local small businesses, will be aimed at supporting setting-up costs such as property rent and the development of e-tools. The Investment Aid Tax Credits Scheme supports firms in investment and job creation and is mainly focused on attracting new investment projects and promoting the expansion or diversification of existing enterprises. This scheme has been extended to hotels, with support capped at 15 % of the amount invested.

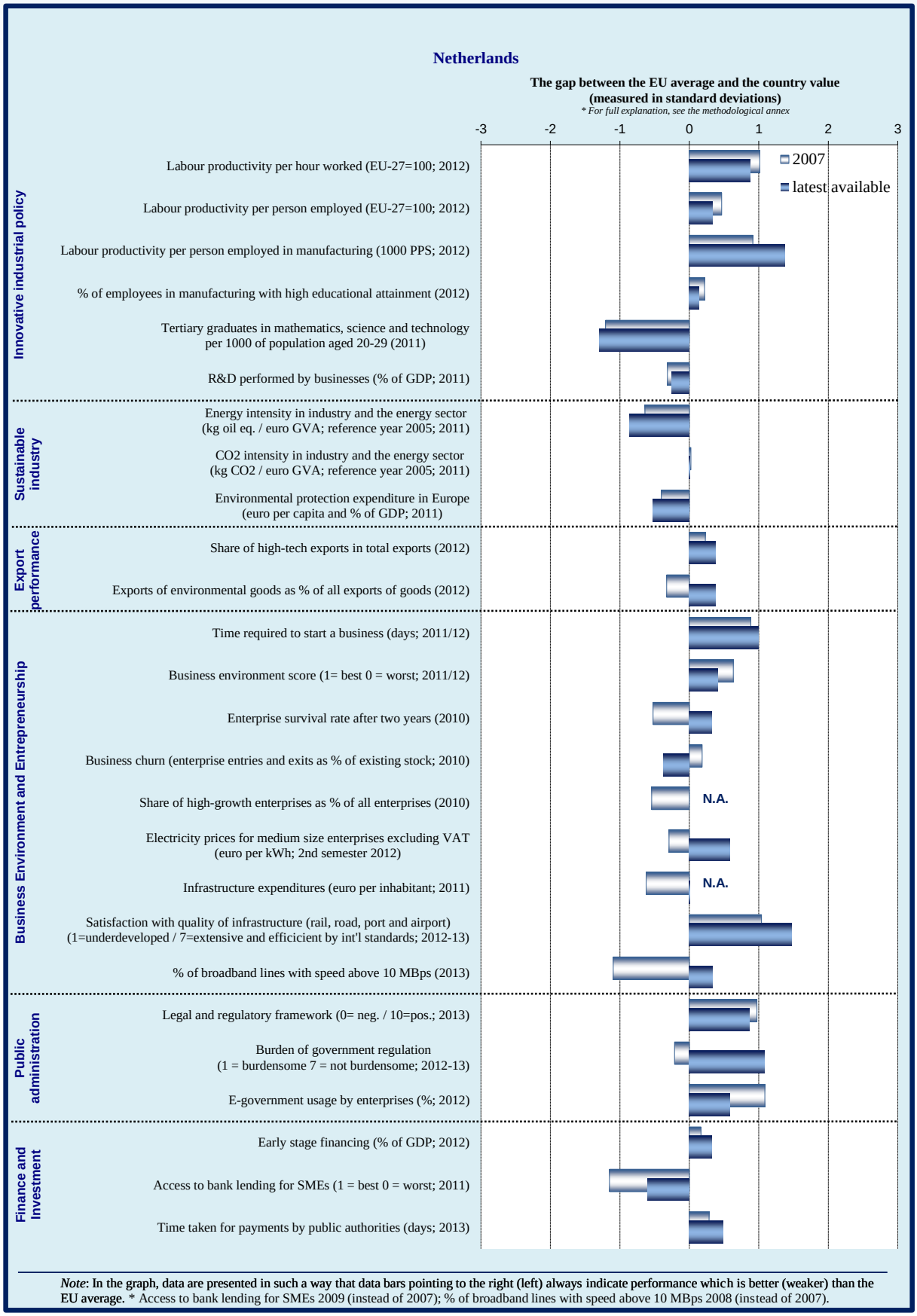
4.18.6 Conclusions

Malta continues to withstand the impact of the international crisis relatively well. Given the large size of its financial sector and the high exposure of domestic banks to the real estate sector, maintaining financial stability remains crucial.In terms of structural reforms, medium- and long-term sustainable growth will depend on the successful move to a more knowledge-based economy, further improving skills and the utilisation of human capital, and adopting more ambitious R&D targets (the current ones have already been exceeded).

Investment plans for improving the energy supply are encouraging as they promise to reduce dependency, improve cost competitiveness and boost efficiency. Policy measures to address the challenges involved in meeting climate and renewable energy targets need to be maintained and stepped up. Efforts to implement the Small Business Act with the support of the business community should be maintained.

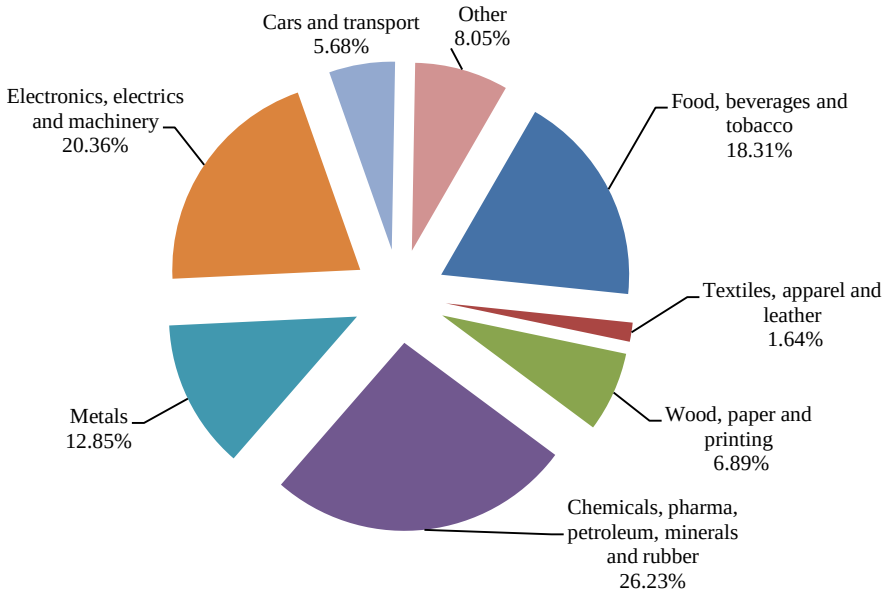
[548] See EU Justice Scoreboard 2013 available at http://ec.europa.eu/justice/effective-justice/files/justice_scoreboard_communication_en.pdf.

4.19. Netherlands



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.17: Manufacturing sectors – Netherlands (2010)



Source: Eurostat

4.19.1 Introduction

The Netherlands is specialised in capital-intensive manufacturing and medium-tech sectors such as chemical products, refined petroleum, electronics and machinery, transport equipment and foodstuffs. Manufacturing contributes 12.9 % of the total value added, which is slightly below the EU average (15.3 %).[549] The World Economic Forum's Global Competitiveness report ranks the Netherlands in eighth place.[550] The price and cost competitiveness indicators are in line with euro area averages, and with other industrialised countries. Labour productivity per hour worked is about 30 percentage points above the EU average and about 17 percentage points above the euro area average.[551] Overall, Dutch industrial competitiveness is good, but maintaining and improving its competitive position in the future will be a challenge.

4.19.2 Innovation, skills and sustainability

Innovation

The *Innovation Union Scoreboard 2013*[552] puts the Netherlands in the group of 'innovation followers' with above-average performance. It has further improved its ranking (from seventh to fifth place) and is now the first in its group. It is further catching up as regards non-R&D innovation expenditure and the innovation performance of SMEs.

The government has reaffirmed its intention to reach an R&D intensity of 2.5 % of GDP by 2020. However, in 2011 the R&D intensity was only slightly above the EU average of 2.03 %, in particular due to relatively low private R&D expenditure, which declined on average 1.8 % between 2000 and 2011, indicating a shift towards less research-oriented activities.[553] The economy has a particularly large service sector, which is generally less R&D intensive, and manufacturing is geared towards medium-tech products with less R&D. Moreover, a significant proportion of private

549 Eurostat data for 2012.
550 http://www.weforum.org/issues/global-competitiveness.
551 Eurostat data for 2012.
552 Innovation Union Scoreboard 2013, European Commission, http://ec.europa.eu/enterprise/policies/innovation.
553 Research and Innovation performance – Innovation Union progress at country level 2013.

R&D expenditure is concentrated in a few large multinational firms.

Stronger innovation performance and further private R&D investments are important objectives of the enterprise strategy called *'to the top'*,[554] which is being implemented. The strategy's '*top sector approach*'[555] addresses a weakness in the Dutch innovation system by bringing researchers closer to businesses and by putting businesses in the driving seat when designing public-private partnerships for innovation. In 2012, there were 19 'top consortiums for knowledge and innovation', and they have started to implement the research agendas set out in their innovation contracts.[556] Stakeholders are closely involved in the process and SME participation is given particular attention. Several investment commitments were announced in 2012. Ongoing reforms of higher education should contribute to further improving the linkage to the human capital and R&D needs of the top sectors. So far, the strategy seems promising, though it is still too early to assess the extent to which it will be able to mobilise additional private investments while preserving sufficient public funding.[557]

Over the last few years, specific innovation subsidies have been considerably reduced and transformed into generic tax incentives.[558] A R&D tax incentive scheme,[559] which allows for the deduction of R&D wages for tax purposes, was evaluated in 2012.[560] The results of the evaluation point to a positive impact in terms of mobilising additional private R&D expenditure, while the thresholds used had ensured a particular focus on SMEs. In 2013, the budget for the scheme is EUR 735 million. Moreover, since 2012 the revolving SME innovation fund has been providing innovation loans to SMEs and mid-cap companies. The total budget of the fund is EUR 500 million until 2015.[561]

Skills

The proportion of tertiary graduates in science and technology has long been below the EU average, reflecting the service orientation of the economy. However, skills shortages, especially in engineering and technology-related professions, are becoming an increasing concern and a potential barrier to growth.

In response to these challenges, the government recently announced its *Techniekpact* strategy,[562] under which concrete measures for better adapting the educational system and the labour market to the changing requirements of the technology sector are currently being developed. Effective implementation of the strategy will be crucial to preserving and enhancing the innovative capacity of high-tech companies in the Netherlands.

Sustainability

The 2012 coalition agreement says that the Netherlands strives to create a resource-efficient and ultimately regenerative circular economy, but there is a need to further clarify how this will be achieved, including how SMEs can genuinely improve their resource and energy efficiency. The main sustainability initiatives of the current government are (i) the 'top sector approach' activities regarding the energy sector, (ii) the incentive scheme SDE+ for renewable energy investments and (iii) 'green deals' for energy efficiency and other environmental projects.

Environmental sustainability is now officially mainstreamed in all 'top sectors' and is also taken up by the cross-cutting theme of bio-economy. The effectiveness of integrating environmental aspects and resource efficiency into the top sector approach still needs to be evaluated.

554 'To the top: towards a new enterprise policy' http://www.rijksoverheid.nl/documenten-en-publicaties/rapporten/2011/09/13/naar-de-top-het-bedrijvenbeleid-in-actie-s.html.

555 'Investing in top sectors' www.government.nl/issues/entrepreneurship-and-innovation/investing-in-top-sectors.

556 National Reform Programme 2013.

557 See also the Staff Working Document 'Assessment of the 2013 national reform programme and stability programme for the Netherlands', http://ec.europa.eu/europe2020.

558 The most important instruments are the SME+ Innovation Fund ('Innovatiefonds MKB+') and tax facilities, such as the tax credit for R&D ('WBSO'), the Research & Development Allowance ('RDA') and the tax relief for innovation ('Innovation box').

559 WBSO: http://www.agentschapnl.nl/programmas-regelingen/wbso-research-and-development-rd-tax-credit.

560 http://www.rijksoverheid.nl/documenten-en-publicaties/rapporten/2012/04/02/hoofdrapport-evaluatie-wbso-2006-2010.html.

561 Innovatiefonds MKB+.

562 Nationaal Techniekpact 2020 ' http://www.rijksoverheid.nl/documenten-en-publicaties/convenanten/2013/05/13/nationaal-techniekpact-2020.html.

The share of renewables in energy use rose from 3.8% in 2010 to 4.3% in 2011, bringing the 2011/2012 interim target of 4.7% within reach. Nevertheless, despite more ambitious policies to promote renewables, including continuation of the sustainable energy production scheme with a budget of EUR 3 billion for 2013, the gap between the Netherlands' current renewable energy share and the 2020 target is still one of the widest in the EU.[563]

The *'Green deals'* instrument is proving successful in supporting local projects and collaboration among stakeholders. Over 150 'Green deals' have been signed since 2011.[564] The scheme has been broadened beyond sustainable energy and energy-saving projects.

The criteria for green public procurement were revised in 2011 on the advice of MVO, the main corporate social responsibility organisation. For the sake of simplicity, the number of environmental aspects for award criteria has been reduced and the use of functional requirements instead of detailed technical requirements is encouraged. By 2015, all public authorities aim to purchase products that are 100% sustainable.

4.19.3 Export performance

Overall, the Netherlands accounts for 9.1% of EU exports [565] and has one of the highest current account surpluses as a percentage of GDP in the euro area.[566] The goods balance is increasingly driven by re-exports, due to the country's role as a major transit hub for global trade and supply chains.

However, as the value added of re-exports is relatively low, initiatives to maintain a competitive edge across exporting industries, and to safeguard the value added derived from the total export volume, are important. Exports with high domestic value added include agricultural products, foodstuffs, chemical products, rubber and plastics, machinery and transport equipment. Nearly 80% of goods exports go to the EU. Compared to the EU average, Dutch SMEs tend to be more active internationally.[567] Since growth in many export markets tends to be slow, especially in products like foodstuffs, venturing into new markets will be necessary if global export market shares are to be maintained. The government supports the internationalisation of businesses, especially SMEs, through various measures, including spreading information about key markets and customs procedures, but also through export credit insurance instruments. An internet portal[568] provides enterprises with useful information on how to expand their business abroad.

4.19.4 Business environment and public administration

Business environment

According to the World Bank's Doing Business 2013, the Netherlands has a favourable business environment that encourages the competitiveness of enterprises, although there may still be scope for further improvement in certain areas.[569] Overall, the Netherlands has maintained a very good network infrastructure and a high level of service quality in public transport, without overtly high levels of subsidies.

The Netherlands has a tradition of efficient public services and light administrative burden for businesses. In April 2013 a new programme was launched, focusing on a more qualitative approach towards reducing all regulatory burdens.[570] By 2017, a reduction of EUR 2.5 billion should be achieved in the regulatory burden on businesses, professionals and citizens, through the introduction of new regulations linked to the revision or scrapping of existing rules.

Tax compliance and tax administration are more efficient than the EU average. It takes businesses considerably less time to pay taxes and the

563 See also the Staff Working Document 'Assessment of the 2013 national reform programme and stability programme for the Netherlands', http://ec.europa.eu/europe2020.

564 http://www.rijksoverheid.nl/duurzame-economie/green-deal.

565 Eurostat, 2012.

566 European Commission, In-depth review for the Netherlands, 10.4.2013 http://ec.europa.eu/economy_finance.

567 SBA Fact Sheets, European Commission, http://ec.europa.eu/enterprise/policies/sme.

568 http://www.antwoordvoorbedrijven.nl and since 2013 the new portal www.ondernemersplein.nl.

569 The Netherlands is ranked 31st out of 185 for doing business by the World Bank.

570 www.rijksoverheid.nl/onderwerpen/regeldruk 'Goed geregeld, een verantwoorde vermindering van regeldruk 2012-17', 24 April 2013.

associated administrative costs are below the EU average. New reforms have recently been announced to further simplify wage taxes. Moreover, a number of measures have been introduced to promote the use of ICT, such as the application of *Standard Business Reporting* in the tax domain. The introduction of an electronic business file for exchanging data with authorities is expected to further contribute to increasing efficiency and reducing the regulatory burden.

Since 2012, the procedures for starting a business have been further simplified and the minimum paid-in capital requirements abolished. The time required to start a business is one of the shortest in the EU.

Several important services are included in the 'top sector' approach and therefore receive significant policy attention (e.g. energy, transport/logistics and creative industries). Competition in electricity supply seems to work well and changing supplier is relatively easy, unbundling has worked well and the provision of information by suppliers to consumers is supervised by the competition authority.[571] Regardless of this, the number of consumers switching supplier remains low.

Public administration

The perceived quality of public services is relatively high.[572] The use of tools to improve public administration (such as e-government, performance and service orientation) is more widespread than average in the EU. By 2017 all enterprises will have the right to communicate and to do business with the authorities online.

In general, enterprises benefit from relatively swift payment by public authorities and public procurement processes seem to be quite efficient and transparent. In 2011, the Dutch government formally introduced an ex-ante framework to systematically assess substantial impacts of new policy and legislation. In 2013, an impact assessment commission chaired by the Prime Minister was introduced and the mandate of the Dutch advisory board on regulatory burden will be extended until 2017. On implementation in practice, however, there may be room for further improvement.

The Chamber of Commerce and the innovation agency *Syntens* are currently being merged and restructured, which may lead to reduced local or regional presence but should enhance electronic information and services provided through a digital one-stop shop for entrepreneurs.[573] Moreover, mandatory membership fees for enterprises have been abolished and the Chamber of Commerce is now directly financed by the state budget. Alongside this streamlining it will be important to ensure continued high quality and availability of key business support services.

A large part of the planned state budget consolidation should be achieved through reducing the size of the public sector and modernising public administration. Although this reduction entails considerable potential efficiency gains, it is subject to implementation risks, including preserving the high quality of public services. In addition, the government is planning to decentralise a large number of responsibilities to municipalities. It remains to be seen whether these efficiency gains can be fully realised within the envisaged time frames.

4.19.5 Finance and investment

Access to finance is not as good as in some other euro area countries. The impact of the crisis on the economy and the balance sheet composition of banks arguably have been the factors behind the relatively tight credit standards.[574] Although there has been improvement since last year, interest margins and the rate of rejected loans remain higher than the EU averages.

The authorities have taken a number of measures to support access to finance for SMEs, for example by continuing existing guarantee schemes, by increasing available budgets and by increasing the maximum ceiling for micro-credits.[575] In order to

571 Autoriteit Consument & Markt.

572 European Commission, 'Excellence in public administration for competitiveness in EU Member States' http://ec.europa.eu/enterprise/policies/industrial-competitiveness/monitoring-member-states.

573 http://www.antwoordvoorbedrijven.nl and since 2013 the new portal www.ondernemersplein.nl.

574 European Commission, In-depth review for the Netherlands, 10.4.2013 http://ec.europa.eu/economy_finance.

575 For example, the budget for the guarantee scheme *'Borgstellingskrediet MKB'* has been increased from

further improve access to risk capital, the government cooperates closely with the European Investment Fund and the European Investment Bank in developing additional financial instruments for SMEs. For example, in 2012 a fund-of-funds was created that had an initial capital of EUR 150 million, which will provide later stage funding for fast-growing innovative or high-tech businesses.[576]

The 'Netherlands Foreign Investment Agency'[577] provides investors with a wide range of information and support services. The country attracts foreign direct investment in particular from Asia and North America. The location, good infrastructure and favourable business environment are important factors, but also the tax system offers a number of advantages that are particularly attractive for multinational firms.[578]

4.19.6 Conclusions

Overall, the Netherlands ranks among the top performers in many of the competitiveness indicators of the Industrial Performance Scoreboard. The business environment supports the competitiveness of enterprises and there is a tradition of efficient public services and low administrative burden on businesses. Strengths include in particular the favourable business environment, the quality of institutions, the education system and science base, the efficient goods market as well as the technological readiness.

Despite the favourable framework conditions, the country is likely to face challenges in maintaining and improving its competitive position in the future. While the Netherlands has managed to improve its innovation performance in some areas, the relatively low private R&D investments may weaken its competitiveness in the future. Moreover, skills shortages are emerging especially in engineering and technology-related professions, a situation which is becoming an increasing concern and a potential barrier to growth.

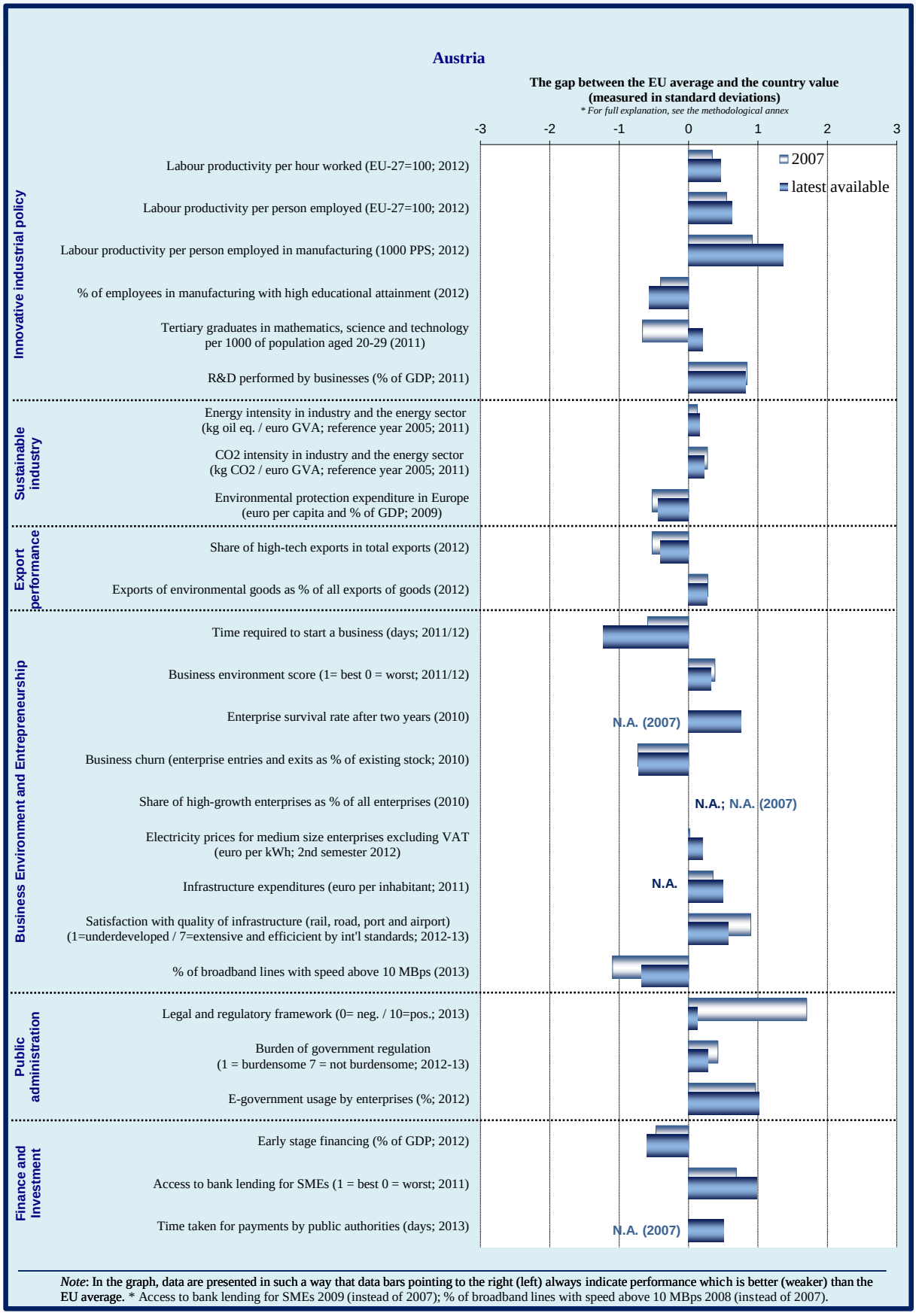
EUR 750 million to EUR 1 billion while other guarantee schemes such as *'Garantie Ondernemingsfinanciering'* and *'Groeifaciliteit'* are also being continued. Moreover, the maximum ceiling for micro-credits has been raised from EUR 50 000 in 2012 to EUR 150 000 in 2013.

576 http://www.eif.org.

577 http://www.nfia.nl.

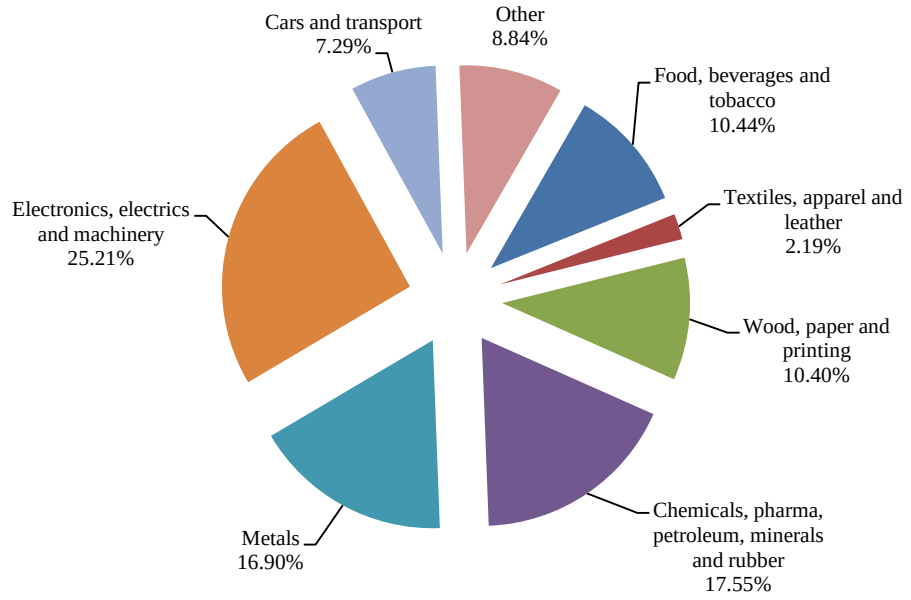
578 See also the Staff Working Document 'Assessment of the 2013 national reform programme and stability programme for the Netherlands', http://ec.europa.eu/europe2020.

4.20. Austria



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.18: Manufacturing sectors – Austria (2010)



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

4.20.1 Introduction

Manufacturing contributes 18.7% of total value added, against an average of 15.3% in the EU as a whole. If construction is included, the share is over 25%, also above the EU average. Productivity is higher than the EU average regardless of the indicator used (productivity per employee or per hour worked; productivity in manufacturing); in addition, productivity growth has been slightly above the EU average recently. The relatively low share of employees in manufacturing with tertiary education does not seem to have had an impact on this performance.

Austria is specialised in innovation-intensive sectors such as machinery and, in exports, in medium-innovation sectors (such as wood, basic and fabricated metals), but also in sectors with low innovation and educational attainment, such as hotels and restaurants and auxiliary transport activities. At the more detailed industry level, the country is specialised in mainstream manufacturing (manufacture of railway and rolling stock, electric motors) and labour-intensive industries (builders' carpentry and joinery, sawmilling, machine-tools). Capital-intensive industries (man-made fibres) generate considerable added value, and marketing-driven industries (sports goods, beverages) are prominent exporters.

Overall, competitiveness has been successfully sustained in industries that are not markedly knowledge-intensive, with sectoral upgrading in terms of R&D and quality.

4.20.2 Innovation, skills and sustainability

Innovation

In the Innovation Union Scoreboard 2013, Austria is an innovation follower, with a developed innovation system and an above-average innovation performance. Its R&D intensity is higher than the EU average. The overall investment in R&D grew from 1.93% in 2000 to 2.74% in 2011. Although this growth was faster than in most other EU countries, it represented a slight decrease from 2010. The share of the private sector was about 60% of the total, including a significant portion of R&D investment coming from abroad.

Two-thirds of all enterprises are innovative, specialising in sectors demanding high and low-intermediate labour skills. After several years of improvement from a low base, the number of science and technology graduates was higher than the EU average for the first time in 2011 (16.1% vs. 14.2%).

To boost businesses' R&D expenditure, the government increased the tax bonus on such investments in 2011 from 8% to 10%, with an estimated annual impact of over EUR 80 million. This incentive is particularly important for the sizeable investments coming from abroad and for companies with high R&D investment relative to their turnover. These are often SMEs that are outsourcing research and innovation activities. Another measure that is working well is an innovation voucher scheme for SMEs.

There has been a decline in the private sector share of R&D expenditure, from 49% in 2007 to 44% in 2012, and in this context the relative underdevelopment of the venture capital market as a source of growth capital has also attracted attention.

Guidance on innovation-friendly public procurement was adopted by the government in September 2012, and a pilot project for pre-commercial procurement in the transport sector is ongoing.

An ICT strategy is under discussion following a public consultation in early 2013 launched by the Competence Centre for the Internet Society. The focus is on mobility, healthcare, education and security.

The innovation system suffers from a complex division of competences between several ministries and a number of public and semi-public agencies and bodies. A high-level inter-ministerial task force for research, technology and innovation was established in 2011 to coordinate the activities of government bodies, discuss reform projects and consult stakeholders.

The strategy document from March 2011 'Becoming an Innovation Leader' outlined a series of challenges to the innovation system, such as strengthening links with the education system, increasing the share of tertiary graduates, promoting high-quality research infrastructure and fundamental research, and using public procurement to promote innovation. The strategy addressed all major challenges and formulated feasible objectives. Effective implementation, strong prioritisation of research and innovation, and streamlining of the governance structure will be crucial to achieving higher outputs from the considerable research and innovation investment.

Skills

Notwithstanding Austria's high productivity, a shortage of skilled workers and researchers is a risk in the longer term. To overcome the effects of an aging society and a more skills-intensive economy, improved performance of the education and training system would be warranted. The untapped skills potential of citizens with an migrant background, and early streaming in the school system contribute to Austria's workforce being under-utilised[579] and current efforts do not seem to be sufficient.[580] The *Red-white-red card*, a system for managing demand-led labour migration, has made it possible to fill some gaps in bottleneck sectors, though its overall impact so far remains limited (only 2800 work permits in 19 months). Increasing enrolment in higher education means that universities need to overcome financial and organisational limitations to increase the relatively low completion rates.

Sustainability

The energy and carbon intensity of Austrian industry has improved over the last decade, and both are below the EU averages. While industries falling under the emissions trading scheme will reduce CO2 emissions by 21% by 2020, Austria is aiming at a 16% reduction for the other sectors. The key policy document for addressing this and other energy challenges is the national energy strategy of 2010, with three pillars concerned with increasing energy efficiency, energy security and the share of renewables; the latter with an ambitious target of 34% by 2020.

The strategy outlines a mix of cross-cutting and sector-specific regulatory, financial and information measures. About half of the 42 measures have already been or are being implemented. Two of the funding measures appear particularly successful:

579 See also the Commission staff working document on the assessment of the National Reform Programme and stability programme on both challenges and on-going reform measures in the education system.

580 The efforts include the introduction of the "Neue Mittelschule" (lower secondary school); a Lifelong Learning Strategy (2012); strengthened counselling services; and efforts to facilitate the recognition of diplomas and skills in particular of the foreign-born population.

the 'greening of industries', supporting sustainable management measures in enterprises, with funding of some EUR 90 million in 2011; and an improved and extended instrument for thermal insulation of residential (70%) and industrial (30%) buildings, with a planned annual budget of EUR 100 million up to 2016. In 2012, almost 16000 projects (15300 residential and 600 industrial buildings) with a total investment volume of EUR 650 million received funding. A key measure for boosting the share of renewables is the 'Green electricity act' that entered into force in July 2012. Austria is on track to achieve its renewables target for 2020.

Since October 2010 an action plan for green public procurement has been in place and in operation at all administrative levels. Among other features, it strengthens the use of 'social' criteria. The plan establishes 16 groups of procured goods and services with different criteria that have been fully applied since May 2011, including in electricity, for new contracts and for 70% of all contracts.

Several environmental tax measures (increased mineral oil tax; air ticket tax; and car registration tax reform) have entered into force recently and are expected to substantially reduce CO2 emissions. Incentives from the car registration tax have helped to reduce emissions: new cars below 120g CO2/km have 32% of the market. The airline ticket tax of 2011 has been reduced for short and medium-distance flights because of competitiveness concerns.

An implementation plan to boost electro-mobility was adopted in June 2012. It contains measures to promote Austrian technological know-how and export potential in the field, as well as infrastructure and awareness-raising measures to increase the use of electric vehicles.

Austria adopted, in 2010, a plan on primary raw materials and, in 2012, a resource efficiency action plan, including secondary resources. The focus in implementing the resource efficiency plan is on improving data collection and monitoring tools on resource use. One of the implementation challenges is that land-use planning is a *Land* competence. The *Länder* have to integrate the mineral resources plan into their bodies of legislation.

4.20.3 Export performance

While Austria's share of exports in GDP is clearly above the EU average, the shares of high-tech and green exports are slightly below it. Export intensity grew substantially, from 35% in 1995 to 57% in 2011. The main export destinations are Germany (by far the largest), Italy, the US, Switzerland and France, followed by central and eastern European neighbours and the UK; all EU countries together account for about 70% of exports.

While flows to European countries have been mostly stagnating, those to Asia grew by 2 per cent in 2012. Main export goods are machines and automotive, manufactured goods, chemical products and food products. With more than 24 million international visitors in 2012, tourism contributed significantly to the balance of payments, with a net contribution of EUR 6.8 billion.

Export promotion is run jointly and successfully by the Ministry of Economy and the Chamber of Commerce. A key tool is the 'go-international' initiative managed by the Chamber. It comprises services like information, assistance and advice to enterprises, and financial support for such things as market entry costs and events, trade fairs and missions. Measures are organised in five clusters that focus on assistance to SMEs, development of niche markets, exports in services, FDI and communication.

4.20.4 Business environment and infrastructure

Austria has a favourable business environment and a competitive economy. In a continuing effort to make it easier to run a business, it has an administrative burden reduction programme. The most significant measures belong to the second phase of the one-stop e-government portal for businesses *Unternehmensserviceportal* (estimated reduction of EUR 200 million; see also below), the recent introduction of e-invoicing (making them legally equivalent to paper invoices; with an estimated reduction potential of up to EUR 400 million) and the 'SME initiative', including measures in trade law (e.g. establishment of a new central trade register). Provided that these reductions will materialise as expected, the EUR 1

billion reduction target set for 2012 will be met, albeit with some delay.

While procedures for setting up a single-person company are relatively light, there is room for further improving start-up conditions for other legal forms, such as limited liability companies.[581] A reform has been under discussion for several years, and a proposal was forwarded to Parliament in May 2013. It proposes a reduction in the required minimum capital and in the related costs for notarial certification. The minimum corporate tax would decrease proportionately, and the announcement requirement would be abolished.

There is further room for promoting competition and improving choice for businesses and consumers in professional services, in particular pharmacies and some medical professions (e.g. optometrists). In particular, the possibilities of setting up an interdisciplinary firm, including notaries and lawyers, remain more restrictive than in many other Member States. Such services from a one-stop shop could offer substantial efficiency gains and reduce transaction costs for professional and private clients. Demand for them was confirmed by a survey conducted by the Chamber of Commerce among businesses and their associations in 2009.

In some network services and industries there is room for further market opening. The relevant performance indicators and assessment of ongoing reforms were assessed recently by the Commission.[582]

Austria's overall public administration performance, as assessed by the World Bank's government effectiveness indicator, is well above the EU average. Perceived quality of public services, including quality of the civil service and policy implementation in Austria, is high.

E-government, impact assessment, performance and service orientation, and accountability are used more widely to modernise public administration than in the EU on average. There is comprehensive provision of business-related e-government solutions, where Austria is well above the EU average. On the other hand, modern human resources management tools — like performance-related rather than seniority-based pay or measures to increase the internal flexibility of the civil service— are used less than in the EU on average.

The composite public procurement index indicates some scope for improvement concerning the time needed, and especially the cost of taking part. Whereas the EU average cost of taking part in a tendering procedure amounts to 0.19 % of domestic GDP per capita, the equivalent figure in Austria is 0.26 %. Payment delays on the part of public authorities are less problematic than at the EU average, amounting to 44 compared to 66 days.

The time needed by businesses to comply with tax obligations is lower than the EU average (170 hours vs. 193 for a benchmark model company), as is the number of payments to be made (12 vs. 17 in the EU on average). A widely used internet portal for paying taxes has existed for some time, but will be integrated in the e-government business service portal.

Austrian states receive the lowest proportion of total tax revenues among the federal states in Europe.[583] The share of local government revenues (12.0 %) is slightly above the EU-27 average (10.8 %). The 2009 increase in tax shares of lower levels of government is due to an increased share in revenues agreed as part of the financial equalisation procedure, replacing former transfers to lower levels of government.[584]

While there have been no recent initiatives for a major institutional reform to change the distribution of competences between the national and regional levels with a view to better aligned management of public spending and revenues, there are examples of more limited reforms. A comprehensive reform of the system of administrative courts is being implemented and will enter into force as planned in 2014. It will streamline the system to no more than two instances (nine courts of first instance at regional level; two at national level) with a view to

581 World Bank 'Doing Business' survey 2013.

582 Commission Staff Working Document 'Assessment of the 2013 national reform programme and stability programme for Austria' 29.5.2013, SWD(2013) 370 final.

583 10 % as against more than 20 % in Belgium, Germany and Spain.

584 European Commission: Taxation Trends in the European Union 2013 (May 2013), http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_info/economic_analysis/tax_structures/2013/report.pdf

speeding up procedures. This will replace some 120 specific administrations.

Construction law is a *Land* competence[585] and remains a difficult area for businesses. In order to lighten the burden, the approval procedures for construction permits for plants[586] are coordinated, e.g. for constructing iron and steel production plants. The powers of the federal competition authority (BWB) have been increased.

Austrian administration offers a broad and increasing range of e-government solutions to businesses, thus boosting efficiency. Since May 2012, the e-government one-stop-shop business service portal (USP) has been offering extended functions based on a single sign-on for the most important administrative procedures at federal level, e.g. tax declarations (*FinanzOnline*), e-invoicing to federal public authorities, management of a virtual company data file, and data exchange with social insurance bodies. One focus of the next phase, planned for 2014, is the avoidance of multiple declarations, something which also contributes to burden reduction. Other key advantages for businesses include reduced paper use and partly direct interface between the USP and companies' internal systems. The reduction in administrative costs is estimated at up to EUR 300 million, depending on the services provided.

An amendment to the Austrian e-government act introduced an obligation for public authorities to query public registers to verify the accuracy of data used in official procedures before asking citizens or enterprises to provide additional documents.

In January 2013 Austria launched an impact assessment system based on an IT tool that guides users through the assessment of different types of impacts (budgetary, administrative burdens, SMEs, gender equality, consumer protection, environment, etc.). To back the implementation of the system there is training for civil servants; a handbook; monitoring by the federal chancellery; and annual reporting. All this has introduced both an organisational and a cultural challenge. However, one drawback is that the main focus of the analysis is on the envisaged proposal and not on comparing alternative options.

585 '*Länderzuständigkeit*'.
586 '*Betriebsanlagegenehmigung*'.

4.20.5 Finance and investment

In most aspects of access to finance, Austria fares better than the EU average. The relatively diversified and stable banking system provides sufficient debt financing for SMEs in the current market environment. In the context of broader diversification of financing sources, the country will have to step up the development of alternatives to bank lending if it is to ensure sufficient access to finance in the long run.

Relative weaknesses persist as regards access to and supply of equity finance. While some progress has been made regarding business angels, the relatively underdeveloped stock market for SMEs, small- and mid-caps and the venture capital industry do not generate sufficient alternatives for raising capital, in particular for early-stage financing. In particular, the size and depth of the venture capital market remain well below the EU average. Improving the legal framework for venture capital thus remains a challenge for 2013, e.g. by increasing the attractiveness and transparency of legal forms used for (i) venture capital funds and (ii) investment vehicles, including measures mitigating possible tax disincentives. The recent proposal to facilitate crowdfunding by making limited changes to the legal framework (the *Kapitalmarktgesetz* and, if appropriate, the *Bankwesengesetz*) is an important step forward in improving SME access to finance and would merit implementation without delay. The government has — notably via *Austria Wirtschaftsservice GmbH* (aws) — implemented several new initiatives to support young entrepreneurs and innovative SMEs. The main purpose is to ensure stable access to finance by mobilising private risk capital across the different stages, up to and including the growth phase.

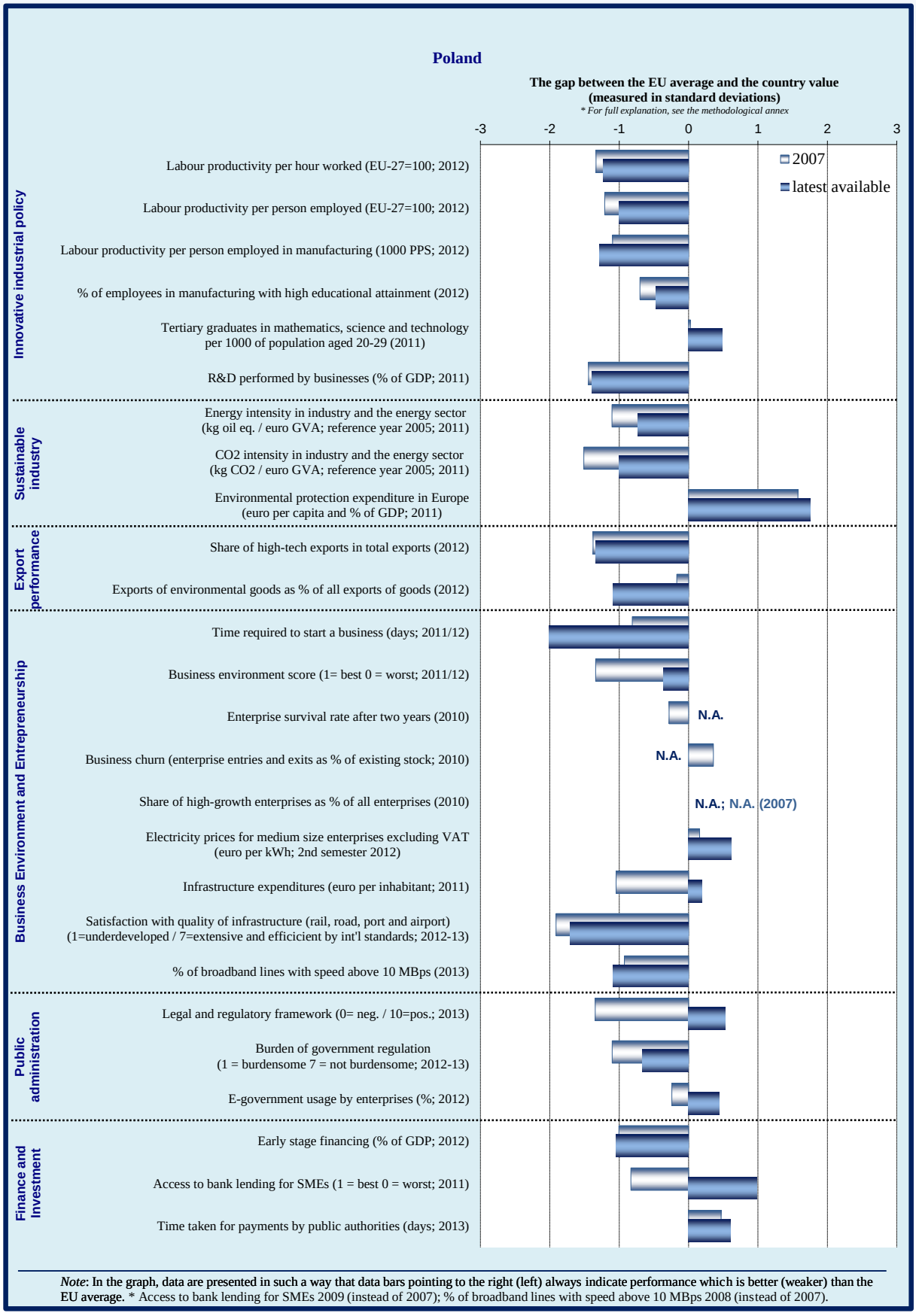
4.20.6 Conclusions

Austria scores well in the overall competitiveness of its economy; its labour productivity remains above the EU average; and it has no major bottlenecks to cope with in the short run. In the context of a developed high-income country, however, it faces structural weaknesses in some areas, which may harm the long-term potential of its economy.

The knowledge triangle (education, research and innovation) is one of the areas in need of priority action, as reflected in the 'Becoming an Innovation Leader' strategy. Dedicated implementation of this strategy will be instrumental in fully exploiting the potential contribution of research and innovation to the competitiveness of Austria's economy, and thus facilitating the structural shift towards more skill-intensive, higher value-added activities. Other measures that are important in this context are those that increase the quantity and quality of the available workforce and that optimise the utilisation of available skills.

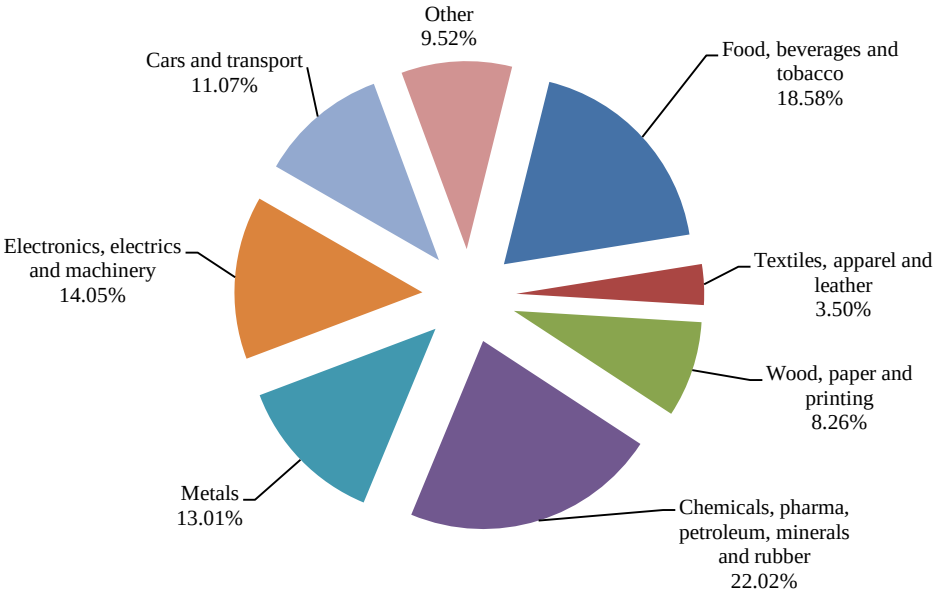
The favourable business environment could be made even more attractive by streamlining start-up procedures for limited liability companies and by increasing the availability of non-banking financing.

4.21. Poland



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.19: Manufacturing sectors – Poland (2010)



Source: Eurostat

4.21.1 Introduction

Poland's GDP grew by 1.9 % in 2012 — due in large part to strong exports. Manufacturing accounts for nearly 18 % of GDP (EU average 15.3 %).[587] The manufacturing sector is a mixture of low, medium and high-technology sectors. In 2009, the largest sectors were food (14.8 %), fabricated metal products (9.7 %) and motor vehicles (8.2 %). Between 2005 and 2011, high-technology manufacturing grew by 14.5 % annually.

Manufacturing accounts for 29 % of employment (EU average 22.9 %). While labour productivity is relatively low, at about 69 % of the EU average, it has continued to improve (up 13 percentage points from 2001 to 2011, by 2 % in 2012). The real effective exchange rate based on unit labour costs depreciated by nearly 7 % in the last two years.[588]

4.21.2 Innovation and sustainability

Innovation

Innovation remains a problem area and shows few signs of improvement. In the 2013 Innovation Union Scoreboard, Poland was downgraded to the lowest category. Over the period 2008-12, innovation performance improved on average by only 0.4 % annually, the third poorest performance in the EU.[589] The scoreboard ranks Poland high in the area of human resources, but below average for almost all other factors. The largest problems are the weak innovation performance of most firms, the limited commercialisation of R&D, and the lack of linkages between innovators and business, especially SMEs. Highest shares of innovative companies are found in pharmaceuticals and insurance.[590]

In recent reform programmes the government has recognised that innovation is 'an opportunity for ensuring dynamic growth of the Polish economy, especially in the context of diminishing impact of traditional sources of economic growth'.[591] The National Centre for Research and Development (NCBiR) was given new competences with a view to improving the allocation of funding and promoting research and innovation. The Centre is also responsible for the distribution of relevant structural funds; its 2013 budget was EUR 1.1 billion. It focuses on commercialisation of research — e.g. supporting key enabling technology applications, such as graphene. In 2012 it launched 47 new competitions and, with EUR 307.6 million

587 Eurostat (2012).
588 ECB (from SWD Assessment of the 2013 reform programme and convergence programme for Poland).
589 Innovation Union Scoreboard 2013.
590 Research and Innovation performance – Innovation Union progress at country level 2013.
591 National Reform Programme 2013-14 Update, p. 20.

of entrepreneur contributions, approved 1064 research projects[592] — many in cooperation with venture capital funds.[593]

In January 2013, the government adopted the *Strategy for Innovation and an Efficient Economy 2020*, which reflects the strategic goals of the European Union. Its implementation programme[594] was subject to public consultation in February and now awaits adoption. The programme focuses on improving the regulatory and financial environment to stimulate innovation.

While reforms are moving in the right direction, R&D expenditure is low, at 0.77% of GDP (EU average 2.03%). Business expenditure on R&D is especially low — around 0.23%, compared with over 1% for the EU.[595] It has also stagnated, reflecting both low R&D investments in the technology sectors, and the structural change towards less R&D intensive sectors.[596] Given the recent level of performance, reaching the 2020 target of 1.7% will be difficult. In the near future expenditure is expected to rise due to the impact of the 2014-20 Structural Funds.

Recent reforms have targeted two major underlying problems of innovation performance. First, there is the reliance of firms on technology take-up rather than innovation that stems from the long period of catching up. Second, efforts have been made to reduce risk aversion, as previous innovation programmes favoured large, mature firms and low and medium-technology industries, with insufficient support for SMEs and innovative start-ups.

Skills

In the long term, improved productivity and the transition to a knowledge economy will depend on the quality of education and skills. In terms of basic skills, 15-year olds' performance in the 2009 PISA outperform the EU average in maths and reading, and improving in science. However, the ICT skills are low in comparison with the EU average. Tertiary education attainment in Poland is above the EU average (39.1% in 2012 vs.35.7% EU average),[597] and in case of early school leaving, Poland is one of the best EU performers with 5.7% vs. 12.7% EU average). However, there is a skills mismatch[598] and not enough attention is being given to the future skills needs of the economy such as problem solving, critical thinking and teamwork, which could be developed at early stages of education. In response, the government has implemented reforms to improve the provision of technical and science studies, vocational training and transversal skills.

The vocational training system was reformed in 2012, involving employers in curriculum design and flexible exams. A successful pilot programme of 'procured studies' was concluded in 2012, offering incentives to students in the priority areas, succeeding in making science and technology the second most chosen field. Funding for the next round of the programme has been increased.

To improve the quality of education, the government has introduced grants disbursed on a competitive basis to higher education institutions, based on their quality.[599] Further, co-financing is available for universities for implementing internal quality assurance systems. The government also presented proposals of amendments to higher education laws in 2012 to differentiate between academic and vocational higher education institutions and introduced dual studies linking academic studies with practical training in companies, a list of faculties that received a negative opinion from accreditors will be published so that potential students are better informed before making their choice.

Sustainability

In sustainability, Poland lags behind EU performance, but is catching up in some areas. In others, though, reforms have been slow. According to the report *Energy Efficiency Trends in the EU*,[600] the reduction in energy intensity for final users in 2000-09 was highest in Poland, at almost 3% per annum (EU average 1.2%). Despite this, energy intensity in 2011 was still half as much again as the

592 PwC Report, ordered by NCBR, 2013.
593 BRIdge VC pilot programme.
594 Programme for the Development of Enterprises.
595 Innovation Union Scoreboard 2013, Annex B.
596 Research and Innovation performance – Innovation Union progress at country level 2013.
597 Rethinking Education: Country Analysis (2012).
598 See section 4.5.
599 Top institutions achieve KNOW status (Leading National Research Centres) — 6 were chosen in 2012.
600 OdysseeMure (2012) *Energy Efficiency Trends in the EU.*

EU average.[601] Large reductions were achieved in industry — these were due to both structural changes and efficiency improvements. Poland continues to rely heavily on coal, oil and gas in its energy mix, while renewable sources account for 7.3%.[602] The absolute level of greenhouse gas emissions has also continued to rise.

New policy instruments in this area include the white certificates that seek to give incentives to suppliers of electricity, heat and gas to achieve energy savings, or face a penalty payable to a sustainability fund. Also, *Polskie Inwestycje* is a new investment fund providing co-financing for large-scale, commercially viable energy generation and infrastructure projects, planned to start operating in 2013.

Sustainability reforms are proceeding slowly, which has led to infringement procedures against Poland for incomplete transposition of EU directives on renewable energy, the internal energy market and waste management. The reforms (some with drafts dating back to 2011) are awaiting adoption as part of an 'energy three-pack'. These would contain measures for reducing the regulatory burden and reforming the approach to renewable energy sources, together with provisions for smart grids and a prosumer energy market.

The government is completing its long-term *Strategy on Energy Security and the Environment.* It includes measures on developing nuclear energy (by utilising domestic sources of uranium and domestic research and industry), developing shale gas resources; better reutilisation of waste; and improving the water intensity of industry (which is three times the EU average).

In the long term, improvements to energy efficiency and changes to the energy mix will be needed to comply with the Energy Roadmap 2050. As the effects of the emissions trading scheme become evident, new incentives for improving energy efficiency will arise. A national emissions auction platform is planned to come into operation by the end of 2013.

601 0.272 kg oil equivalent /euro GVA, c.f. 0.184 for the EU weighted average.

602 Making the Internal Energy Market Work, Country Report: Poland (2011).

4.21.3 Export performance

Exports account for 42.3% of GDP, making Poland a relatively open economy given its size.[603] It is a net importer, but the current account deficit improved from 4.9% in 2011 to 3.5% in 2012.[604] The EU accounts for a large majority of Polish exports.

Despite depressed demand due to the crisis, exports rose throughout 2012,[605] driven by sustained competitiveness gains, a floating currency and a large labour pool. Exports consist mainly of electromechanical products, chemicals, furniture and foodstuffs, although Polish exporters are trying to strengthen their operations in sectors such as sustainable construction and biotechnology.

Polish exporters are supported by a number of public institutions. The Ministry of the Economy runs a network of sections within embassies and consulates that provide information and operational support for exporters and importers. Also, with co-financing from the Innovative Economy Operational Programme 2007-13, the ministry operates a programme of brand promotion in target markets, and runs a network of service centres within Poland, providing high-quality information services to prospective exporters and foreign investors.

Financial support is also available in the form of favourable loans to firms intending to enter foreign markets. Further, financial and training support for the internationalisation of SMEs is available from the agency for enterprise development,[606] and there is a dedicated organisation for export credit insurance.[607] The *GreenEvo* programme offers support for innovators and start-ups in the green economy, providing easy access to existing programmes and promoting innovation.

Exports are expected to benefit in the medium term from a recovery in the European economy. In the long term, however, a shift towards higher value-added sectors is needed for continued good performance.

603 databank.worldbank.org (2012).

604 Central Statistical Office GUS (2013) *Prices, Trade,* www.stat.gov.pl/gus/ceny_handel_ENG_HTML.htm.

605 OECD.StatExtracts International Trade (2013).

606 The Polish Agency for Enterprise Development (PARP).

607 The Export Credit Insurance Corporation (KUKE).

4.21.4 Business environment and public administration

Business environment

Problems in the business environment create on obstacle to competitiveness improvements. The World Bank's 'Doing Business' 2013 report ranks Poland 55th globally. However, in 2012-13 Poland was the top reformer worldwide. In a longer perspective Poland has, since 2005, been the top reformer among OECD countries.

Poland has recently made major advances in making it easier to register property, pay taxes, enforce contracts and resolve insolvency. The time needed to register a firm has been reduced: two new procedures have been introduced, making possible the online registration of sole proprietorship businesses and limited liability companies. The procedure for limited liability companies has been criticised as it offers only restricted options, but the sole proprietorship business procedure is used widely by SMEs. A new bankruptcy law is being drafted, and a codification commission is scheduled to conclude the reworking of the construction code in 2014. However, employment in SMEs has fallen since 2009, and SMEs are below the EU average in terms of technology and knowledge intensity.

In many indicators much improvement is needed, including the tax compliance burden (World Bank rank 114th), and streamlining procedures for construction permits (rank 161th).

The deregulation of professional services was initiated in 2012 by reducing regulatory barriers affecting 230 professions, by reducing or removing qualification requirements and reserves of activities. Currently the reform has been split into three sections. The first, covering around 50 professions, has been adopted. The second, affecting a further 91 professions, has been proposed by the government and is being debated in the parliament.

Infrastructure poses further challenges. Despite sizeable investment in the road network, transport infrastructure remains deficient, but it is the ageing railway system that is especially problematic, as it never enjoyed more than low priority in the past. Some minor reforms have now been undertaken. In 2012, the government replaced the management board of the state railways, and a task force has been established to monitor implementation of EU-funded railway projects and identify obstacles to development. The budget of the regulator has also been increased. These developments have not, however, produced results so far; clear political and financial commitment from the government would be needed. On road transport, progress has been uneven across regions, with work concentrating on large cities and the TEN-T network. Energy prices are kept high by insufficient competition among incumbent energy providers, and by the ageing generation capacity.

In ICT infrastructure, Poland had the lowest broadband coverage in the EU, both nationally and for rural areas, in 2011. Only around 28 % of citizens used online public services in 2011, but 92 % of businesses did so, a figure higher than the EU average of 84 %.[608] In December 2012, public consultation terminated on the National Broadband Plan, coordinating the development of ICT networks, and envisaging full national coverage in 2014.

Public administration

Public administration remains cumbersome and causes high costs for businesses. In the World Bank Worldwide Governance Index, Poland scores high on stability, accountability and regulatory quality, but lower on the rule of law, government effectiveness and corruption. Transparency International ranks Poland 11th most corrupt country in the EU. Business stakeholders have noted some improvement, with more cooperative ministries and more frequent consultations.[609] As regards the judiciary, the increasing average length of proceedings in civil and commercial cases, difficult contract enforcement, long insolvency proceedings and low recovery rates are a source of concern.

Although the low level of taxation provides incentives for businesses to grow, the tax administration is inefficient and complex. From the business perspective, the tax compliance burden is high due to the large number of payments and time needed to comply with tax regulations. Additional

608 Digital Agenda for Europe, Progress by Country: Poland (2013).

609 Fact-Finding Mission Report 2013.

costs are caused by the low thresholds for compulsory VAT registration.

In 2012-13, reforms aimed at improving the efficiency of public administration concentrated mainly on the increased use of e-government, including the removal of certified signature conditions for e-taxes. The act on the standardisation of application forms in administrative procedures was adopted by the government. Moreover, a legislative amendment to the code of civil procedure made proceedings in business cases simpler and less formal.

In February 2013, the government adopted the *Efficient State Strategy 2020*, outlining a framework for an open, accountable and efficient governance model based on cooperation between civil society and all levels of government.

4.21.5 Finance and investment

Access to finance is significantly easier in Poland than in the EU on average. In terms of the legal and administrative environment as measured by the World Bank, Poland ranks second in the EU, and is tied for fourth place worldwide. Further, due to the favourable macroeconomic conditions, the financial sector has remained profitable. Lending to the non-financial sector grew by 1.2 % in 2012,[610] and long-term interest rates have continued to fall, to 3.93 % in March 2013.[611]

However, to ensure that the situation stays favourable, the government has taken action. The national loan guarantee scheme had been criticised for operating on a commercial basis only, with fees too high to be attractive. In March 2013, a new guarantee scheme, operating on *de minimis* rules, came into operation. The Polish Growth Fund of Funds, created in 2013 by the European Investment Fund and the state bank, seeks to stimulate investment in venture capital, private equity and mezzanine funds. The role of the *National Capital Fund* is evolving, with a greater focus on the start-up phase of innovative SMEs. Also in 2012, the authorities took steps to address credit risk in the banking sector. Nevertheless, the lack of venture capital creates a funding gap for private, innovative SMEs at early stages of development. Foreign direct investment remains an important source of funding, with inflows exceeding USD 15 billion in 2011.[612]

4.21.6 Conclusions

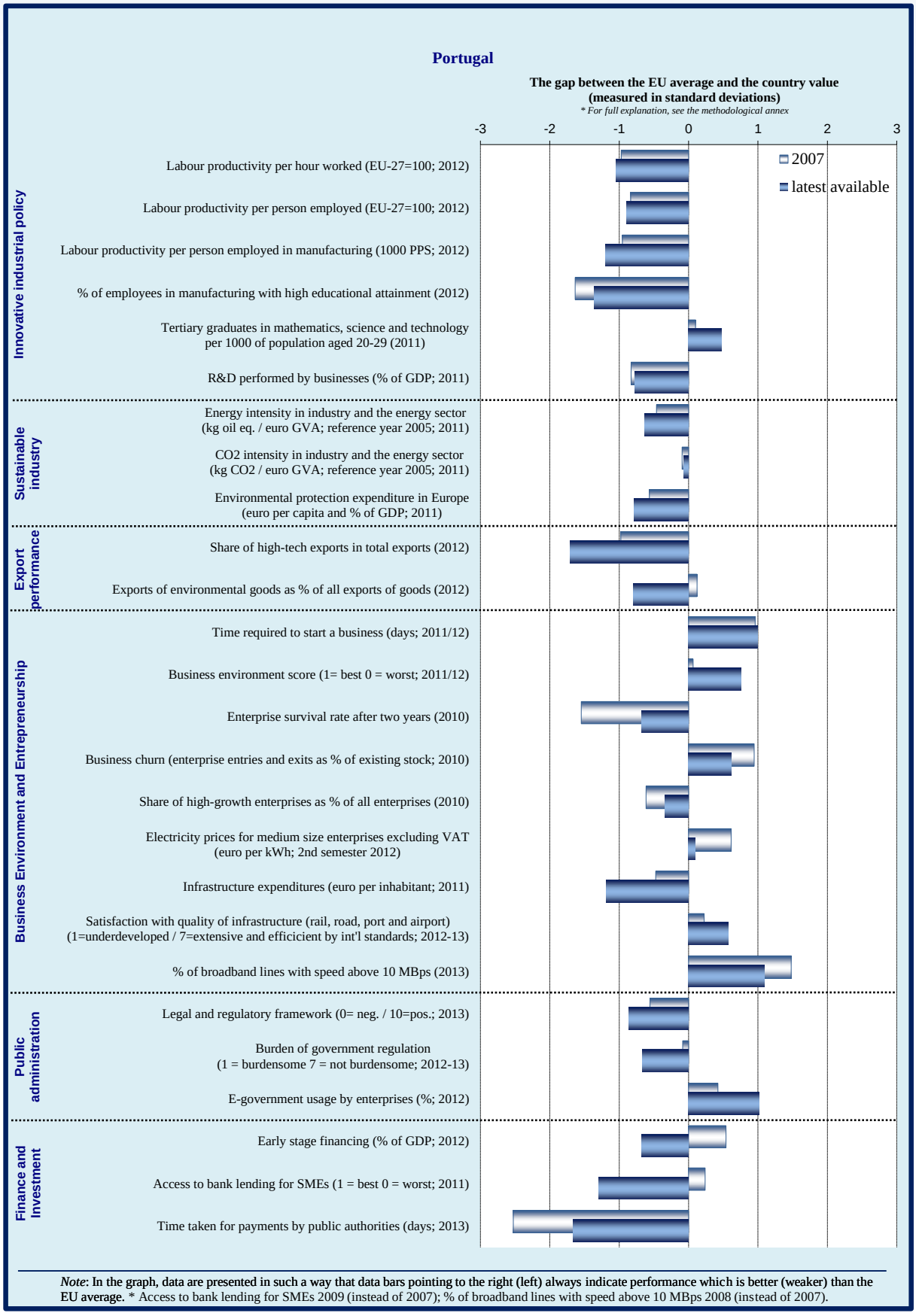
Poland's competitiveness is an interesting mix of weak institutions and good performance. In 2011, Poland was the country with the second-highest proportion of rapidly growing young firms in the EU — as many as 5 % of businesses were so classified.[613] However, the time period in question (2008-11) makes the comparison especially favourable. Exports have been a strong engine for growth — aided by the flexible currency regime. In the medium to long term, the weaknesses in innovation, sustainability and business environment are likely to limit growth and competitiveness unless appropriate reforms are implemented.

The government's *National Development Programme 2020* features nine specific strategies for the necessary reforms and changes. So far, though, the implementation of these reforms has been slow and often delayed, and the reforms have been watered down, especially in the area of renewable sources of energy. On the other hand, the law on deregulation of professional services and the procedures for business registration online are steps in the right direction.

If it is to achieve the goals of its Europe 2020 strategy, Poland needs to become a more knowledge-based economy, which would require significant progress in the areas of innovation, sustainability and the business environment.

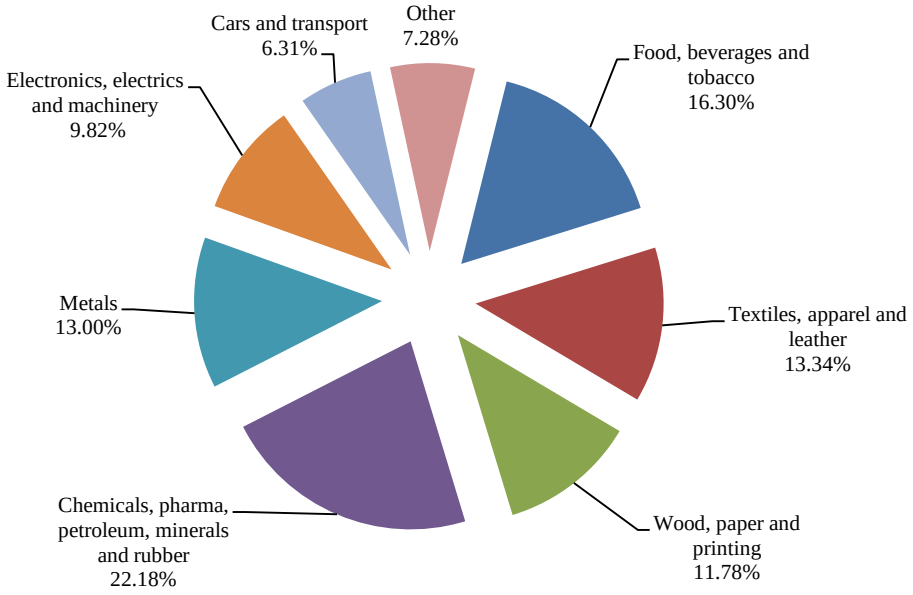
610 ECB (from SWD Assessment of the 2013 reform programme and convergence programme for Poland).
611 ECB.
612 UNCTAD, World Investment Report 2012.
613 SME's Access to Finance Survey 2011.

4.22. Portugal



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.20: Manufacturing sectors – Portugal (2010)



Source: Eurostat

4.22.1 Introduction

In terms of value added, manufacturing plays a broadly similar role in Portugal to what is observed in the EU as a whole (14.3 % against 15.3 %). Portuguese firms are specialised in low tech manufacturing (manufacturing of food products and beverages, textiles and wearing apparel, etc.) and less-knowledge-intensive services (trade, accommodation and food services, travel agencies, etc.). High-tech manufacturing and knowledge intensive activities are still under-represented in terms of number of firms and value added.

The pace of productivity growth over the last decade was too slow to achieve convergence with the EU's higher-income Member States. However, productivity as measured by unit labour costs relative to the euro-area average has improved significantly over the last three years, mainly as a result of lay-offs and public-sector wage cuts. Still, total factor productivity is lower than a decade ago and the share of employment in knowledge-intensive activities is still relatively low.

4.22.2 Innovation, skills and sustainability

Innovation

The strong growth of investment in innovation[614] over the last decade has led to a significantly expanded research and innovation system, although R&D intensity has declined considerably since the start of the economic crisis.

The latest Innovation Union Scoreboard ranked Portugal as a moderate innovator with performance below the EU average. Its main weaknesses are the low share of business R&D investment; low venture capital investment; and equally low non-R&D and innovation expenditure. Although there are many innovative SMEs, high-tech knowledge-intensive service exports remain low. There is also considerable diversity in regional innovation performance, as the country is one of only two Member States with at least one region in each of the four different performance groups.

The main measures adopted by the government to foster the commercialisation of research results

[614] Investment in research grew at an average annual real growth rate of 7 % between 2000 and 2007. Source: Research and innovation performance in EU Member States and associated countries 2013, European Commission.

include the renewal of US-Portugal partnerships with a focus on innovation and entrepreneurship; the creation of a new national organisation to speed up innovation and technology transfer;[615] and a technology transfer initiative which groups together various institutes and the European Space Agency to facilitate the transfer of space technologies to non-space markets. Furthermore, Portugal continues to use the structural and investment funds to support incentive schemes for promoting innovation by businesses.

Cluster policy is also being rationalised and refocused with the aim of fostering competitiveness and exports. This new approach has served to identify 11 clusters with an international dimension in traditional and high-growth sectors,[616] and eight clusters with national and regional dimension focusing on natural endogenous resources.[617]

Finally, a new digital agenda was approved in December 2012 that aims to provide the managers of firms with technological solutions customised to SME needs and practical information on starting up a digital business.

Skills

Portugal's low productivity is partly explained by the lower qualifications of its labour force when compared to other Member States. Although Portugal performs below or close to the EU average in several of the most important indicators on education and skills, it has a low tertiary educational attainment. However, its progress in recent years has been significant and steady.[618] The recent increase in cross-border mobility of educated youth may adversely affect productivity growth in the medium term.

In 2012, the government launched a major restructuring of the vocational education and training system to bring it more into line with labour market needs, in particular those of exporters. The reform includes a review of training supply and curricula, the development of incentives for promoting apprenticeships, and the creation of professional schools in partnership with private stakeholders. The dual training system is also being strengthened with a view to raising its capacity from 30 000 places in 2012 to 100 000 in 2020. New centres for qualification and vocational education were created in 2013 and aim at providing people information and guidance on education and training, and on labour market integration. These centres also aim at developing procedures for the recognition, validation and certification of competences.

From school year 2013/14, work practice requirement will be extended in vocational education and training curricula. This will require deeper involvement of companies in the process, which is also one of the ways that have been identified to achieve higher standards.

Substantial progress has also been made in the area of activation and active labour market policy, with about half of the recipients of unemployment benefits being redirected to training measures. The *Vida activa* scheme, which aims to develop high-employability training modules, and the *Impulso jovem* scheme to tackle youth unemployment are playing an important role.

Sustainability

In the energy sector, full liberalisation of the electricity and gas markets took place in January 2013, and legislation on a new energy regulator has been adopted. To reduce the fragmentation of the Iberian electricity market, the capacity of the interconnectors with the Spanish transmission network is being increased.[619] During 2012, the government also adopted various measures to eliminate the tariff debt and to ensure the sustainability of the system.

As regards resource efficiency, the national plan for the efficient use of water has been updated. It identifies specific measures to reduce water consumption. In early 2013, Portugal transposed the directive[620] on energy performance of buildings, and the government signed an agreement with the

615 GAIN — Global acceleration innovation network.

616 Such as ICT, health, advanced manufacturing, mobility, fashion, engineering and special tools.

617 Such as agribusiness, wine, the sea, natural stone.

618 Tertiary education attainment was 27.2 % in 2012. There has been remarkable progress from rates of about 11 % at the beginning of the last decade.

619 An investment programme has been put in place to almost double the existing capacity. It includes the construction of a new 400 kV line and the construction of two new 400 kV interconnections.

620 Directive 2010/31/EU.

industry to promote resource efficiency in construction activities. Several measures have been implemented to lower energy prices, in particular by decreasing subsidies to generators, although the results have not yet been satisfactory. Further, the government has also approved this year its national plan for energy efficiency 2013-16 and its national plan for renewable energy 2013-20. The launch of an eco-innovation roadmap is planned for 2013.

There is a national strategy[621] on raw materials, in particular geological resources, that aims to make the mining industry competitive and to ensure a sustainable supply of raw materials. The strategy establishes a funding strategy for the promotion of the exploration phase with a view to attracting foreign investment to exploitation.

4.22.3 Export performance

Export performance was strong in 2012 and continued the upward trend of previous years, despite weakening in the last quarter. This has continued in the first half of 2013. The share of exports in GDP progressed from 28 % in 2009 to 38.7 % in 2012, and at the same time exports have become more diversified with more target markets.[622]

Facilitating the access to finance of businesses in tradable sectors is crucial to foster their internationalisation. Therefore, various short-term lines of credit insurance have been renewed to enable enterprises to cover the commercial credit risk of external transactions with a public guarantee provided either directly or through the national mutual guarantee system. In addition, a new credit line has been created to support and promote exports.

Portugal has also recently introduced a system speeding up VAT exemptions for exporting firms. This new system should reduce the time required to provide all the necessary information from an average of more than 42 days to just four days so that VAT will be refunded much faster.

A strategy board for the internationalisation of the economy[623] has been set up to bring together public authorities and business trade associations[624] with a view to evaluating the coordination of public policies and private initiatives to promote exports and attract foreign direct investment.

4.22.4 Business environment and public administration

Business environment

Portugal is carrying out a wide array of structural reforms to reduce the regulatory burden on businesses and to improve competition. As a result, starting a business in Portugal and obtaining licences is on average easier than in other Member States, although licensing complexity remains high.

In the area of licensing, a comprehensive programme was launched in 2012 to tackle excessive procedures, regulations and other administrative burdens.[625] It included the revision of legal regimes such as environmental and land-use planning and industrial, commercial and tourism licensing. The overall goal is to move to a new system of ex-ante declarations by firms with ex-post control by the authorities. In addition, the government plans to launch a full stock-take of regulations at all levels of administration, with a view to eliminating overlaps and redundancies. It is also considering adopting the 'one-in, one-out' principle[626] and plans to extend the availability of zero-licensing[627] procedures to most industrial activities.[628] The government has also approved a

621 Resolution of the Council of Ministers No 78/2012.

622 The shares of exports to Angola, China, the US and Brazil have grown, although starting from low levels.

623 Conselho estratégico de internacionalização da economia.

624 This Council is chaired by the Prime Minister, and includes the ministers of finance, foreign affairs, economy and agriculture, together with the presidents of the confederations of industry (CIP), tourism (CTP), trade (CCP) and agriculture (CAP) and the associations of entrepreneurs (AEP) and industry (AIP). The Portuguese agency for foreign trade and investment (AICEP) serves as its secretariat.

625 Programa da indústria responsável, government resolution 47/2012, published on 18 May 2012.

626 This principle prohibits the creation of a new regulation without the elimination of an existing regulation or regulations with an equivalent cost.

627 The 'zero licensing' regime ('licenciamento zero') was launched through decree-law No 48/2011. Its objective is to simplify the licensing procedures necessary to carry out several economic activities by reducing red tape through an electronic point of single contact.

628 The responsible industry system ('sistema da indústria responsável') extends the zero-licensing initiative to most industrial services.

roadmap and work programme to enhance the visibility of all simplification efforts in the point of single contact.[629]

To give failed entrepreneurs a second chance, a new programme has been launched, aimed at changing the legal framework to make it easier to recover businesses that are economically sound but may be close to insolvency. The corporate insolvency law was amended in May 2012 to facilitate the early rescue of viable firms.[630]

The process for construction permits has been simplified, and the land registry has been made one of the world's most efficient, according to the World Bank. A law simplifying the regulatory framework for real-estate activities has also been adopted. Furthermore, draft laws on construction and land reserves and amendments to the urban planning rules and procedures are being prepared.

A new law aims to improve the regulatory framework for regulated professions governed by professional bodies, such as lawyers, accountants and architects. This is a major step towards liberalising the exercise and activity of regulated professions. The new legal framework eases rules governing access to professions and the provision of professional services and ensures that profession-specific regulations do not contain unjustified requirements that could limit competition. In addition, access to some professions not governed by professional bodies will be eased through the deregulation of the profession.[631] A second phase of the review of regulated professions is to be launched to identify and ease requirements for access that may no longer be justified or proportionate.

Significant progress has been made in improving the legal framework for the recognition of professional qualifications[632] and in implementing the legislative changes required by the services directive. More than two thirds of the sector-specific amendments that are necessary to fully implement the directive have been adopted or submitted to parliament.

A new competition law entered into force in June 2012. This law should ensure that the competition authority is able to effectively enforce the competition rules, and is vested with adequate investigation powers in line with other competition authorities in the EU. The government has also tabled before parliament a framework law setting out the main principles for the functioning of the main national regulatory authorities[633] and the competition authority. This legal framework is an important milestone in conferring strong independence on the regulators, which is a major prerequisite for the efficient functioning of important sectors and for the effective enforcement of competition rules in the economy.

The authorities have worked on a reform of ports by devising a comprehensive strategy to reduce the costs by around 25-30% over the next years. The bulk of the cost reductions are expected to come from the revision of concessions. Other relevant measures include the reduction of port tariffs and taxes[634] and the improvement of port governance through the creation of a centralised entity composed of the ministry for transport and port authorities.

A new legal basis for the transport regulator has also been adopted. It merges the three former regulators (rail, ports and road) into a single entity and makes a clear distinction between administrative and regulatory powers. The principles for the functioning of this new regulatory entity for the transport sector will also depend on the framework law on regulators. The government has also privatised the airport operator and aims to privatise the national air carrier (TAP) and the cargo handling subsidiary of the national railway company in 2013.

629 'Balcão do empreendedor'.

630 Portugal made resolving insolvency easier by introducing a new insolvency law that expedites liquidation procedures and creates fast-track mechanisms both in and out of court.

631 Indeed, a law deregulating three professions was already approved in 2012.

632 Amendments to the law transposing the professional qualifications directive have entered into force in order to provide further information for professionals about their rights, including advice on the various legally admissible means for a professional to attest professional experience acquired when there is no Portuguese competent authority.

633 Regulators of insurance, the securities market, energy, communications, aviation, transport, health and water and waste services, in addition to the competition authority.

634 A 20% reduction in tariffs levied by the port authorities (TUP Carga) has been already approved.

Public administration

Portugal has made significant advances in rationalising the central administration. In September 2012 it completed the plan for restructuring the central administration, which has significantly reduced the number of managers and administrative units.[635] A new information system on the organisation of the state has been created to provide relevant data on human resources in central government, and new ICT rationalisation measures have been designed for shared services. The recruitment of top management positions is now subject to open competitions for a five-year period, and the mobility and flexibility of public servants has been enhanced.[636] The government is now working on a broader reform of public administration addressing training and requalification with a view to allocating human resources more efficiently.[637] The aim is to simplify procedures and limit compensation in all sectors of the public administration.

In the area of taxation, the government has adopted a special VAT regime allowing small companies to defer the payment of VAT to the state until the invoice has been collected. The tax regime for supporting investment has been strengthened.[638] Furthermore, a comprehensive reform of the corporate income tax[639] and tax credit schemes has been launched to foster investment and competitiveness.

To complement a local administration reform, the government is also finalising a new law defining competences at the local administration and inter-municipal levels. The new law should avoid potential overlaps between decentralised services of the state and those of the local administration.

The reform to speed up the judicial system has been continued. A comprehensive roadmap to reduce the number of courts, streamline the court structure and improve the management of courts has been enacted by the parliament. There is now tighter control and supervision of enforcement agents, and the backlog of cases has been reduced. Specialised courts on competition matters and on intellectual property rights also became operational in 2012. Further, alternative dispute resolution mechanisms have been strengthened to facilitate out-of-court settlement.[640]

A revised legal framework for public procurement has also been adopted. It addresses in particular the regime for awarding additional works and services, errors and omissions; the elimination of exemptions permitting direct awards; and the removal of the requirement to invest in R&D projects for contracts above EUR 25 million.

4.22.5 Finance and investment

Access to credit remains costly and difficult, in particular for SMEs. Furthermore, the difficulties in the sovereign debt markets have also been reflected in higher interest-rate differentials than in many other Member States. The credit constraints are pushing companies to find alternative financing mechanisms, although most of these remain underdeveloped due to lack of both demand and supply. The fiscal consolidation efforts have limited the ability of the public bodies to grant further financial support.

The government has taken various measures to ease credit constraints, in particular for SMEs in the tradable sectors. A state-guaranteed line of credit[641] was introduced at the beginning of 2012 and has been renewed in 2013 with an allocation of EUR 2 billion. The aim is to ensure and improve access to credit for economically viable enterprises, and to improve the growth and investment capacity of firms. Further, Portugal has reprogrammed

635 According to the Portuguese authorities, the outcome of PREMAC has been a 27% reduction in management positions and a 40% reduction in administrative units.

636 New legislation on working time and geographical mobility has been submitted to parliament.

637 A reform of the 'special mobility' scheme is expected in 2013 to support a broader public administration reform with a view to allocating human resources more efficiently.

638 The measures include: raising the threshold of deductible tax benefits, reducing the minimum eligible investment threshold, reducing the time taken to issue binding tax information and creating a special unit in the tax administration to support international investments.

639 The following aspects are being considered: the rate structure; the tax base; and international tax policy.

640 The legal framework for financial institutions to engage in out-of-court debt restructuring for households was enacted by decree-law No 227/2012 (general regime). Among other things, this instrument requires banks to develop risk management systems to monitor and prevent the risk of default by households (PARI) and lays down a standard negotiation procedure between the credit institution and the bank client aimed at amicable settlement of debts (PERSI).

641 PME Crescimento ('SME Growth').

structural funds to provide a credit line for businesses to finance eligible projects. An agreement with the European Investment Bank allows the Portuguese state to counter-guarantee up to EUR 2.8 billion of EIB lending via banks to Portuguese firms.

The government has recently announced its plans to create a financial development institution for financing the private sector and promoting industrial development, which would be fully operational in 2014. Portugal is also adjusting the mission of its public bank ('Caixa geral de depósitos') to reinforce its financing role in the economy.

As regards alternative financing mechanisms, the reform of the public venture capital sector was completed in June 2012 with the merging of three previous institutions into a single operator, *Portugal ventures*.[642] The aim was to rationalise the available resources and focus them on strategic industries, particularly in tradable goods, services and tourism. *Portugal ventures* has launched a seed capital facility to invest in scientific and technology-based projects. The government is also preparing a pilot joint issue of corporate debt instruments for the capital market, with a public capital guarantee.

The liquidity problems of enterprises have been aggravated by long delays in payments, in particular by the public sector.[643] Although the arrears have been significantly reduced, particularly in the health sector, further efforts are needed, in particular in the local administration. The effective implementation of the late payments directive will be critical to avoid the build-up of additional arrears.

4.22.6 Conclusions

Portugal's biggest challenge is to restore the competitiveness of its economy after a decade of low productivity growth and growing indebtedness. The economic adjustment programme[644] is contributing to the implementation of a series of reforms to improve productivity and competitiveness. Future economic growth should be based on the ability to export goods and services with high added value, together with the ability to attract foreign investment. The government is therefore rebalancing the economy towards export-led growth by putting exporting companies at the core of its policy initiatives in many areas, such as innovation, education, transport, or access to finance.

The lack of access to finance is a major factor constraining the operations and growth of SMEs. Businesses are disadvantaged by interest-rate differentials compared to many other Member States. The government is trying to ease these credit constraints by strengthening its existing instruments, e.g. state-guaranteed lines of credit, and fostering the use of alternative financing mechanisms.

Significant progress has been made in streamlining the business environment, in particular in the area of licensing, and enhancing competition in services. Consequently, starting up a businesses and obtaining licences is now mostly easier than in most Member States, although some licensing complexity remains.

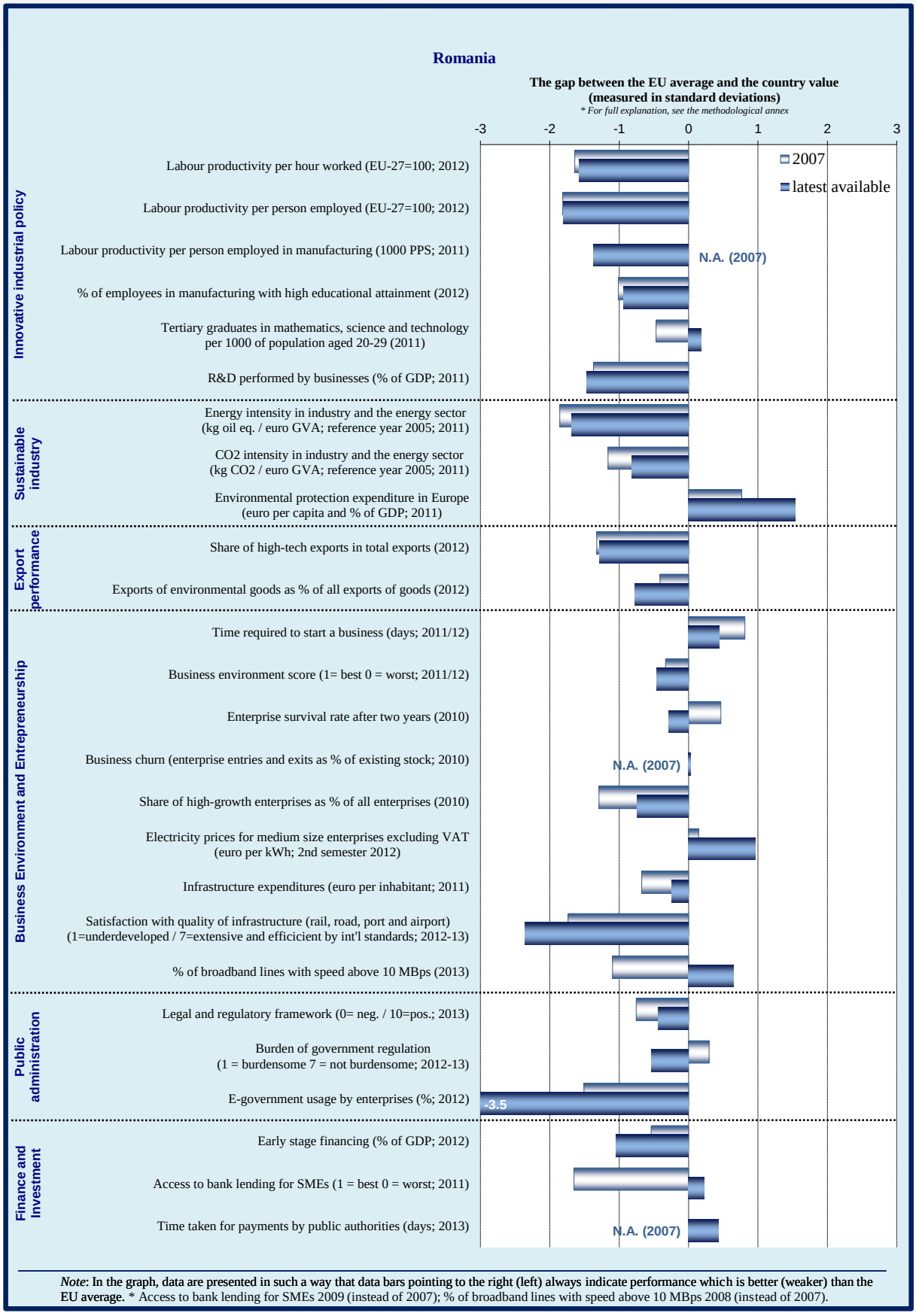
Portugal has also adopted measures to raise the quality of research and knowledge creation. However, there is still a significant gap between knowledge creation, knowledge transfer and its translation into economic value through innovation, which partially is due to the low share of research-intensive sectors in the economy.

642 Portugal ventures has EUR 140 million available to pursue its investment policy.

643 Portuguese public authorities pay their invoices after 139 days on average, which is on average 82 days late with respect to the due date. Source: European Payment Index 2012. Intrum Justitia.

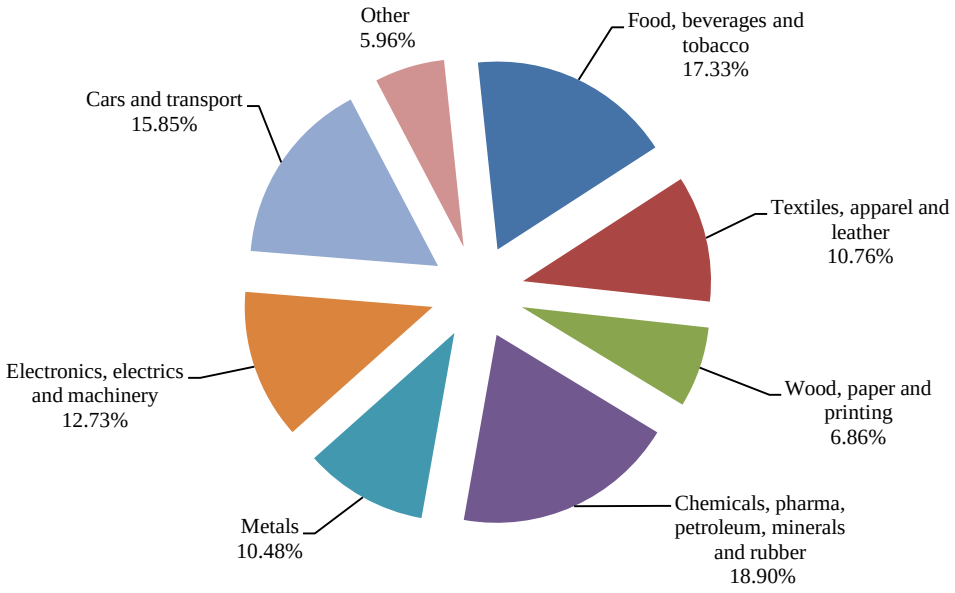
644 Following a request by Portugal on 7 April 2011, the troika, consisting of the European Commission, the European Central Bank and the International Monetary Fund, negotiated with the Portuguese authorities an economic adjustment programme, which was agreed by the European Council on 30 May 2011. The programme covers the period 2011-14. Its financial package comprises up to EUR 78 billion for possible fiscal-financing needs and support to the banking system.

4.23. Romania



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.21: Manufacturing sectors – Romania (2010)



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

4.23.1 Introduction

Manufacturing plays a bigger role in Romania than in the EU on average (24.7% as compared with 15.5% of total value added in 2011), but has low productivity and competitiveness. At the same time, administrative capacity for policy-making and implementation is poor.[645] Strengthening the industrial base through increased competitiveness and innovation has recently become one of the main policy objectives. An industrial policy document based on consultation of stakeholders is currently being drafted as part of the forthcoming 2014-20 National Strategy for Competitiveness, which is intended to ensure a horizontal approach in the areas of industry, research and innovation, business environment and SMEs, exports, implementation of the digital agenda, employment and rural development.

[645] A strategy document for industrial policy and an accompanying Action Plan were in place for 2005-08, but were not replaced. The 2011-13 National Reform Programme is rather brief on industrial policy initiatives and refers to the Increase of Economic Competitiveness operational programme as the most important instrument for improving economic performance.

4.23.2 Innovation, skills and sustainability

Innovation

In R&D investments, both public and private, Romania lags significantly behind other EU countries, including its regional peers. According to the Innovation Union Scoreboard 2013, Romania is a 'modest innovator', with a performance at the bottom end of the ranking (26th out of 27 Member States). Its innovation performance deteriorated between 2010 and 2012 (-5.1%), slowing down the convergence. The number of SMEs innovating in-house and introducing technological innovation remains well below the EU average, and is declining. Also, fewer SMEs adopt non-technological innovation than on average in the EU.

A number of incentives have been introduced to strengthen research and innovation capacity. An innovation voucher scheme became operational in 2012. Tax deductibility for R&D investment was increased in 2013 from 20% to 50%. Further, a new Strategy for Research, Technological Development and Innovation for 2014-20 being drafted in the framework of the competitiveness strategy should ensure more integration and coordination between policies for research, innovation and industry. In this respect, as

highlighted by the Commission's 2013 country-specific recommendations and accompanying Staff Working Document, the main challenge is to prioritise research and development activities with potential to attract private investment.

At the same time, more effort will be needed to translate knowledge into the production of goods and services, and improve the climate for private research and innovation. A number of challenges remain, in particular improving the matching of research and innovation capacity with business needs, increasing firms' research and innovation capacity, providing SMEs with tailored high-quality innovation services, supporting knowledge-based start-ups through appropriate support and funding for product development and launch, and developing incentives for collaboration between large firms, innovative SMEs and universities.

Skills

There are mismatches between skills and labour market demand in a large proportion of vocational and tertiary education programmes, with the poor level of vocational skills being a specific challenge. The high unemployment rate among tertiary graduates and the rate of over-qualification make a further alignment of tertiary education with the labour market a high priority. To address these issues, a two-year vocational training system was reintroduced in 2012 based on contracts concluded with business enterprises and public bodies.

Qualitative skills mismatches are less significant in Romania than on average in the EU.[646] However, the proportion of employees with an inappropriate education for their current job is well above the EU average.[647] According to skills forecasts up to 2020,[648] employment in services and knowledge-based sectors will increase, while employment in agriculture and other primary production will decrease. There is thus a danger of a lack of medium- and high-level skills by 2020.

There is no adequate skills forecasting system. The inclusion of entrepreneurship, innovation, marketing and management skills in university curricula would help to ensure closer links between education and business. Boosting SMEs' capacity to anticipate their employment and skills needs and manage restructuring are vital for competitiveness.

Sustainability

While expenditure on environmental protection is relatively high (Romania comes 6th in the EU-27), the environmental performance of industry remains poor: the economy is the third most carbon-intensive in the EU, has the third-highest energy intensity (2.5 times higher than the EU average) and ranks 22nd[649] for its eco-innovation performance.

The 2007-20 Energy Strategy is currently under revision and will include provisions on energy efficiency in industry and on renewable energy. The 2003-13 National Waste Management Strategy, also being revised, aims to prevent waste generation and increase the recycling of industrial waste. The 2013-20 National Strategy for Climate Change has also been completed.

Other recent measures include support for the purchase of new electric cars. Innovation Norway's[650] Green Industry Innovation Programme for Romania provides support for the development and implementation of innovative environmentally friendly technologies, green products and services.

There are a number of controversial foreign investment projects in the areas of energy and non-energy raw materials. Shale gas exploration rights have been granted in the Dobrogea region, and a gold mining project using cyanide (at Roșia Montană) has raised concerns about environmental consequences and costs, but also about transparency and lobbying. A history of accidents and environmental damage indicate that there is room for improvement in the mines' environmental management and exploitation techniques. Illegal logging is also a major concern and the forestry code is currently being revised to tackle the problem.

646 Data from the European Labour Force Survey shows that nearly 10% of Romanian employees were over-qualified, as compared with 15% at EU level, and 10% of Romanian employees were under-qualified, as compared with 21% at EU level.

647 EU Skills Panorama Analytical Highlight (March 2013).

648 CEDEFOP forecast.

649 2011 Eco-innovation Scoreboard.

650 Innovation Norway (IN) is a public company owned by the Norwegian Ministry of Trade and Industry and all Norway's county councils.

In general, the economic benefits of a resource-efficient and greener economy are not sufficiently reflected in policy-making, nor is there a broader strategy on this that would encourage industries to reduce their impact on the environment and become greener and more resource-efficient.

4.23.3 Export performance

In 2012, Romania had a trade deficit of EUR 9.5 billion.[651] Exports were driven by manufacturing, in particular by machinery and transport equipment (accounting for 40.4% of the total) and other manufactured goods (34.1%). Other exports included food products, beverages and tobacco, chemical products, raw materials, and mineral fuels, lubricants and related materials.

Over the past decade, Romania has increased its export market share in goods by 50%.[652] High-tech and medium-high-tech industries have increased their share, in particular as regards road vehicles, electrical machinery, telecommunication, and machinery. Romania's exports have a relatively low but rising import content, which could be explained by the fact that the country started from very low export levels and has been catching up rapidly in the past decade.

To facilitate access to international markets, the SME export development programme provides services such as trade missions, co-financing for participation in international trade fairs, a trade portal and market studies. A national export strategy is being prepared for 2014-20.

However, several challenges remain, in particular in providing SMEs with training and practical guidance on export procedures and improving their access to information on new opportunities, to financing instruments, networks and contacts with overseas partners.

4.23.4 Business environment and public administration

The complex regulatory and administrative environment, widespread corruption and poor transport infrastructure create administrative burdens that drag down performance in international comparisons.[653] Some progress has been made on start-up procedures, fiscal reporting requirements, and on the registration and transfer of property, but complex procedures are still in place when it comes to obtaining electricity, paying taxes, dealing with construction permits and resolving insolvency.

The implementation of the action plan resulted from the functional review of the institutional setting in the area of business environment undertaken in the framework of the IMF and EU assistance has been feeble. More political support has been available since 2012, with the nomination of a Minister Delegate for Business Environment, but much remains to be done to ensure a coordinated reform effort.

Building on previous efforts,[654] a new Strategy for the Development of Business Environment and SMEs for 2014-20 will also be part of the new competitiveness strategy. The challenge is to define clear principles, objectives, priorities, targets and monitoring indicators. In particular, a functioning governance structure is needed to ensure that policies are actually coordinated, monitored and enforced.

A number of previous entrepreneurship programmes are being continued in 2013. An optional course topic, 'Be active, prepare your access to success', will be introduced in secondary schools. A new regulatory framework on insolvency is being prepared and a new law will incorporate the principles of the Small Business Act into national legislation.

While some progress has been made on the measuring of administrative costs, the application of regulatory impact assessments is almost non-

651 Source: Romanian National Institute of Statistics.

652 Source: UN COMTRADE data.

653 The Global Competitiveness Index had Romania in 76th position in 2013-14 (out of 1448 economies), as compared with 76th in 2012-13 (out of 144 economies), 77th in 2011-12 and 67th in 2010-11. The country's performance is even poorer as regards some of the pillars considered as drivers for competitiveness, such as institutions (114th), business sophistication (101th) and infrastructure (100th). Romania's World Bank 'ease of doing business' ranking has also deteriorated, dropping to 72nd in 2013 from 56th in 2011 and 54th in 2010.

654 Two strategies have previously been drafted– the Strategy for the improvement and development of the business environment until 2014, and the Strategy for the development of the SME s sector until 2013 – but none of them has been adopted so far.

existent. The 2008-13 Strategy for Better Regulation has been implemented slowly. The key challenge is to align this with the EU Smart Regulation agenda and the strategy for business environment and SMEs, so that costs for businesses and the required performance improvement are addressed immediately. This is likely to require quantified impact assessments, competitiveness proofing and fitness checks to reduce the overall costs of regulation and increase clarity, accessibility and ease of compliance.

Public administration

In terms of overall government effectiveness, Romania performs worst of all Member States on the World Bank index.

An inter-ministerial committee has been set up to analyse the public administration and formulate proposals to restructure it. A strategy on strengthening administrative capacity should be approved by the Government by the end of 2013.

For real change in the public administration, the challenge is to base the strategy on an analysis of the structural causes of administrative inefficiency. These include the poor capacity for strategic and financial planning, the lack of effectiveness in policy implementation and service delivery, insufficient cooperation and coordination between levels of government and between ministries, weak management and control systems, the poorly functioning public procurement system and the absence of strategic and effective human resources management.

The take-up of e-government is still low,[655] for businesses the lowest in the EU. Only 5.3% of the population buy online, as compared with the EU average of 44.8%. A national strategy on the digital agenda and a next generation access networks plan are currently being developed.

Romania has sought to improve the quality of justice and the independence of the judicial system but a number of deficiencies persist. These include delays in resolving cases and a lack of consistency between judgments. Progress with judicial reform and the fight against corruption is monitored by the European Commission. Although the time needed to resolve non-criminal cases, administrative cases and litigious civil and commercial cases is close to EU average (but lags behind for insolvency cases), the case resolution rate for all categories has been falling.[656] Significantly wider use of e-justice tools could help, as could regular evaluations of courts' activities and defined quality standards.[657] The perceived independence of justice in Romania has the second worst rating in the EU.[658] Unfortunately, so far Romania has not been able to implement its commitments aimed at enhancing the independence of the judiciary and that politically motivated attacks on the judiciary have not ended. [659]

The level of corruption in Romania is perceived as particularly high by European standards. This dampens the efficiency of economic activity and is a serious disincentive to inward investment. Fully implementing the national anti-corruption strategy would increase the confidence of economic operators that commercially significant decisions taken by public authorities are fully transparent.

In spite of the efforts made, further action could be taken to address state capture and other forms of administrative corruption, in particular by establishing transparent lobbying rules, controlling the movement of managers between the public and private sectors, guaranteeing comprehensive access to information legislation and ensuring transparency and integrity in the procurement process.[660]

The number of tax payments has been reduced from 113 in 2012 to 41, but there is room for further improvement.[661] The new 2012-16 fiscal administration strategy extends the use of online tax declarations. Tax rules for microenterprises have been modified by having a single regime.[662] Lastly, the VAT rules have been changed so that VAT is

655 See the 2013 Digital Agenda Scoreboard.

656 The EU Justice Scoreboard: a tool to promote effective justice and growth, COM(2013) 160 final.

657 A comprehensive evaluation of the Romanian judicial system http://courtoptimization.wix.com/ewmi#

658 The EU Justice Scoreboard, p.21.

659 January 2013 report of the Cooperation and Verification Mechanism, COM(2013) 47 final.

660 According to the Commission's last progress report under the Cooperation and Verification Mechanisms, progress on the prevention and prosecution of corruption relating to public procurement is very limited (COM(2013) 47 final).

661 An average firm spends 216 hours a year filing, preparing and paying taxes.

662 All legal entities which fulfil the new criteria are liable for 3% microenterprise tax.

payable on reception of payment (within 90 days) and deducted on payment of the received invoice.

4.23.5 Finance and investment

Total lending volumes are the lowest in the EU and interest rates second highest for loans of up to EUR 1 million.[663] Although the proportion of loan applications rejected fell significantly from 48 % in 2009 to 18 % in 2011, the proportion of businesses indicating that the banks are less willing to lend has remained stable at 41 %, well above the EU average of 30 %.[664] This could be explained by the tightening of credit standards that have discouraged many entrepreneurs from applying for a loan.

Alternative forms of financing and new financial products, in particular venture capital, are not widely available. According to the European Private Equity and Venture Capital Association, venture capital investments have constantly declined since 2007.[665] The number of beneficiary SMEs has also fallen.

Public financial support to SMEs is being provided primarily via national programmes and guarantee instruments. The Mihail Kogalniceanu Programme aims to facilitate SMEs' access to finance by granting a credit line with subsidised interest and, if need be, partial state guarantees under certain conditions. The Programme for Young Entrepreneurs aims to encourage small business start-ups, targeting entrepreneurs under 35 years of age. However, these programmes could be made more accessible, in particular with easier application procedures.

Before the crisis, investment was attracted by strong GDP growth, large-scale privatisations, the prospect of EU membership, low labour costs and taxes, and the large Romanian market. However, net foreign direct investment has declined since 2009[666] and came to EUR 1.7 billion in 2012, which was 6.7 % lower than the year before and almost 80 % lower than in 2008.

The main beneficiaries of FDI have been manufacturing (31.5 % of the total stock), financial intermediation and insurance, trade, construction and real-estate transactions, and ICT. This reflects a shift from exploiting low-cost advantages towards higher value-added production, in particular in manufacturing. New investment has been scarce in clothing and apparel, but healthier in higher value-added segments like furniture and transport equipment.

A range of state aid schemes is available for various investment categories, and assistance to foreign investors is provided by the new Department for Infrastructure Projects and Foreign Investment.

According to Ernst & Young's 2012 European Attractiveness survey, Romania is the 6th most attractive country in Europe for investments over the next three years. However, more could be done to improve the quality of services to encourage stronger commercial links between foreign investors and local enterprises. Also, closer connections between innovation policy and inward investment promotion are needed in order to attract more R&D-intensive FDI.

4.23.6 Conclusions

Romania's declining competitiveness in international comparisons reflects a policy failure, in particular because the major changes to improve the business environment have been postponed. This has resulted in the heavy administrative burden remaining, and there is a lack of moves towards e-government that could improve the situation.

Comprehensive, decisive and effective efforts to foster structural change towards a more knowledge-intensive economy would help to improve the situation. However, the problems in access to finance are dampening investment. Significant improvements in the business climate require solutions, tools and changes across the whole administration. Similarly, considerable efforts would be needed to ensure that the country were able to implement its commitments aimed at enhancing the independence of the judiciary.

663 European Central Bank (ECB) statistical data.

664 EC and ECB, *SMEs' Access to Finance Survey 2011: Analytical Report* (7 December 2011).

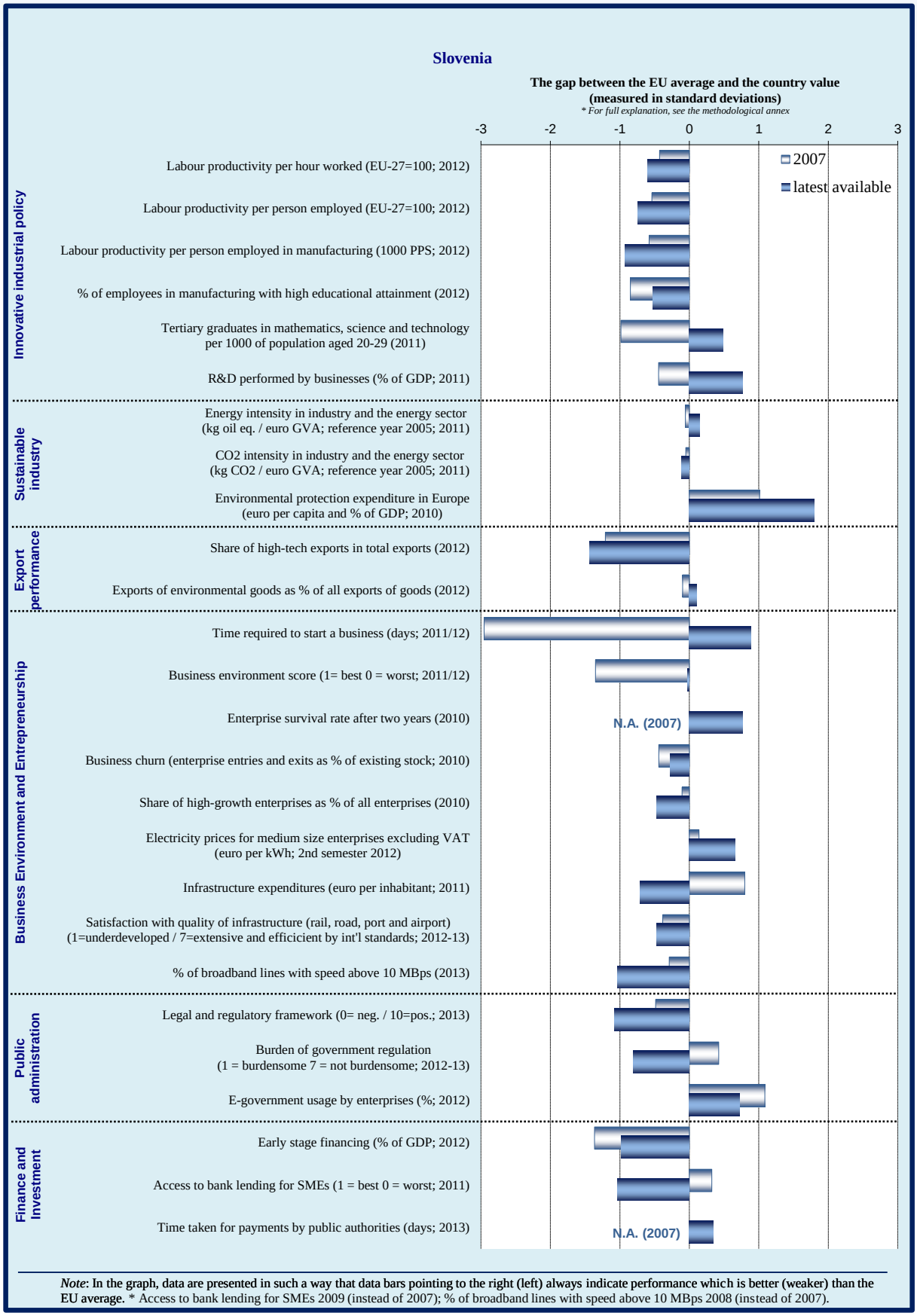
665 Total investments in 2007-10 amounted to EUR 947 million (no bank leverage included), falling year-on-year as follows: EUR 318 million in 2007; EUR 289 million in 2008; EUR 221 million in 2009; and EUR 119 million in 2010 (the equivalent of 0.101 % of GDP).

666 The net FDI flow amounted to EUR 1.8 billion in 2011; EUR 2.2 billion in 2010; EUR 3.5 billion in 2009; and EUR 9.3 billion in 2008.

Several national strategies are currently being drafted and efforts are being made to strengthen competitiveness in areas important for growth. However, effective implementation is required for visible and lasting results. In addition to policy commitment, this would require mechanisms to coordinate, monitor and enforce policy. Further action would also be needed to address state capture and other forms of administrative corruption.

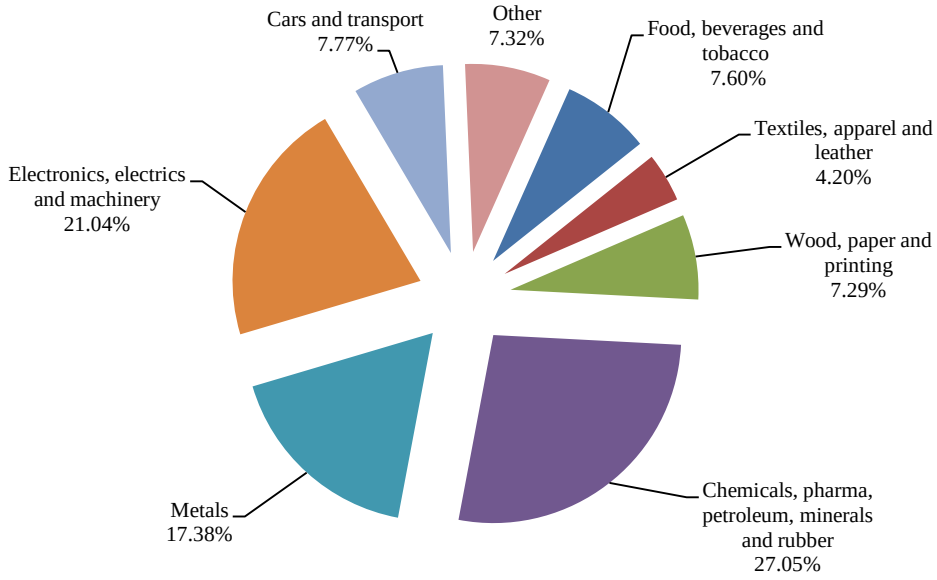
The sustainable and transparent exploitation of raw materials is another challenge, as environmental and health damage will have a negative impact on the medium- and long-term competitiveness of the country.

4.24. Slovenia



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.22: Manufacturing sectors – Slovenia (2010)



Note: No data available for sectors C19 (manufacture of coke and refined petroleum products) and C30 (manufacture of other transport equipment)
Source: Eurostat

4.24.1 Introduction

Slovenia has slipped back into recession as its real GDP declined by 2.3% in 2012 and is projected to drop further by 2% in 2013.[667] Construction, the second biggest sector after manufacturing, was the hardest hit with a cumulative decline of 60% over the last four years.[668] The year 2012 was also marked by falling investment and domestic consumption together with stagnant exports (+0.3%). Stabilisation is expected to come only in 2014.[669]

Notwithstanding wage moderation, declining productivity prevented cost competitiveness from improving in 2012. Other key challenges are the unprecedented credit crunch, the low foreign direct investment stock and weak export performance.

The manufacturing sector was a larger part of the economy in 2011 (20.3%) than in the EU on average (15.5%). Slovenia's manufacturing industries are moving towards higher research intensity in almost all sectors.

Labour productivity is below the EU average, which is the result of many factors. Strict employment protection legislation has hindered the re-allocation of labour across firms and sectors; many are employed in state-owned enterprises with low productivity; productivity-enhancing foreign direct investment flows are low; and there is a labour skill mismatch.

4.24.2 Innovation, skills and sustainability

Innovation

The role of innovation in industrial policy is outlined in three strategic documents,[670] with the goal of increasing productivity and focusing on environmental technologies, sustainable mobility, biotechnology, technology solutions for health and ageing, and key enabling technologies.

Currently there is no active cluster policy, although some clusters that were supported earlier continue, the most important being in the automotive sector. Support is now focused on networking, clustering and collaboration between companies and knowledge institutions, in particular through eight centres of excellence, seven competence centres and 17 development centres. All are co-funded with structural funds, the first two types until the end of

667 Commission SWD: Assessment of the 2013 national reform programme and stability programme for Slovenia.
668 Source: IMAD, Slovenian economic mirror, February 2013, p. 10.
669 Source: EC Spring Forecast 2013.
670 'The Research and Innovation Strategy', the 'National Higher Education Programme' and the 'Slovenian Industrial Policy 2014-20' (adopted on 6 February 2013).

2013, and the development centres until the end of 2015.

The country has implemented several measures to stimulate innovation, including a new research voucher (EUR 8 million) to help enterprises to commission research work from research and higher education institutions for a period of two years. New creative centres (EUR 4 million) were also created in 2012, with the aim of enhancing cooperation between academia and enterprises in different regions. R&D capacities of firms have been strengthened as over 140 companies were supported for a total of EUR 30.5 million, and more than 815 research experts were financed. The R&D tax subsidy has been increased to 100 % and loans from SID Bank for R&D investment by businesses have been expanded (EUR 150 million). The Slovenian enterprise fund has offered guarantees for bank loans with a favourable interest rate for innovative projects undertaken by SMEs (EUR 50 million). Measures to encourage innovation and entrepreneurial investment in research (the estimated value of the co-financing in 2013-14 is approximately EUR 136 million) include the co-financing of development activities and technological investments and the purchase of technological equipment. Further, hiring of researchers is supported, as is the strengthening of research in firms, and investments made in the priority areas of smart specialisation.

Slovenia is an innovation follower[671] with performance below but close to the EU average. In this group the country performs well. However, in order to preserve its relative performance, it has to overcome some specific hurdles. Although R&D intensity increased from 1.66 % in 2008 to 2.47 % in 2011 (sixth place in the EU), the public contribution decreased, which may jeopardise the attainment of the 3 % R&D intensity target by 2020, and it is one of the challenges that need to be managed.

The challenge is to ensure that R&D policies are consistent and coordinated, and that they are implemented properly. This includes the efficient use of available resources, including from the European Regional Development Fund. Improved governance and clear prioritisation are essential, in particular as efficiency gains are likely to be available in properly implementing these policies.[672]

Skills

The tertiary and vocational education systems are insufficiently geared towards meeting emerging labour market needs. This is also reflected in the low percentage of people with high qualifications employed in manufacturing.[673] The Commission has proposed improvements in the vocational training system, better cooperation with stakeholders and better labour market need assessment. Improving competitiveness would require a better level of basic skills, and preserving investment in education and training even under budgetary restraints.[674]

The recently adopted labour market reform aims to tackle the duality of the labour market and to increase labour market flexibility, including through labour guidance. The reform reduces the protection of workers under permanent contracts by simplifying dismissal procedures and increases the protection afforded by temporary contracts. While the reform goes in the right direction, it remains to be seen how effective it will be.

Sustainability

Slovenia's geographical location gives it an important role in transit, which increases the importance of energy and transport infrastructure. Both could be further improved. There is a need to develop the electricity network and meet the needs of increasing electricity transit flows. Slovenia has improved its gas connection with Austria and Croatia, while a gas connection with Hungary is under consideration. The apparent lack of administrative capacity to prepare a comprehensive transport strategy contributes to the underdevelopment of the railway infrastructure.

Slovenia also needs to speed up implementing EU Energy legislation, mainly the Third Energy Package. At the same time an opening of its gas and energy market is a precondition for making the energy market more competitive. Consumers would benefit from enhanced competition as shown by the end of 2012 when a new gas provider entered the market.

The transport infrastructure requires special attention, as the country's CO_2 intensity is higher than the EU average.[675] The high emissions intensity stems from the significant transit traffic and the unfavourable modal split. The high volume of freight transport, the downward trend in the use

671 Source: 2013 Innovation Union scoreboard.

672 Assessment of the 2013 national reform programme and stability programme for Slovenia; SWD(2013) 374.

673 Source: Eurostat.

674 Assessment of the 2013 national reform programme and stability programme for Slovenia; SWD(2013) 374.

675 Source: Eurostat.

of public passenger transport and the above-average share of transport in total energy consumption contribute to the country's high energy intensity.

Greenhouse gas emission targets[676] in the forthcoming national energy programme (20% improvement in energy efficiency by 2020 and 27% by 2030, compared to 2008 levels) will be very difficult to attain, in particular because of the high contribution of the transport sector (27% of total emissions in 2010, the third highest share in the EU). Transport also accounts for 38% of total final energy consumption, which is well above the EU average (31.7%). Continuing investment in large-scale non-renewable energy projects, such as recent plans for a new coal-fired power plant, may crowd out investment in renewable energy sources.

The measures taken to improve energy efficiency include the introduction of feed-in tariffs for electricity from combined heat and power; energy efficiency obligations for utilities; refurbishment of public buildings; and various efficiency measures financed through a levy on energy.

Slovenian authorities adopted in June 2012 an action plan 'Wood is beautiful', which identifies timber as a strategic raw material and the wood processing industry as a sector with much untapped potential. The aim is to improve the competitiveness of the forest-wood value chain in Slovenia by 2020. The document includes a concrete set of objectives and implementing measures but the link with other strategic documents, such as the industrial policy, remains to be seen. Slovenia is lagging behind schedule in transposing relevant EU energy laws regarding energy efficiency, such as the Directives on energy efficiency and on the energy performance of buildings. Despite the problems it is facing, in the 2011 eco-innovation scoreboard Slovenia moved up from 10th to 7th place and is the best performing country among the EU-10 Member States.

4.24.3 Export performance

Exports increased by 0.3% in 2012 compared to 2011,[677] which in combination with the sharp fall in imports led to a positive net balance (+3.3%). However, the export market share is declining, as the cumulative three-year loss is 6.4%.[678] This is mainly due to the strong focus on the EU, which has been in recession. The loss in market share reflects lower cost and non-cost competitiveness. Competitiveness is harmed by challenges in the business environment, a rigid labour market, and high labour costs. On the non–cost competitiveness side, the industrial structure is dominated by low-to-medium technology and labour-intensive firms, although the importance of service exports is growing.

Internationalisation is supported through information and educational campaigns, the organisation of inward and outward business delegations and conferences, co-financing of trade fairs, business clubs abroad, the development of market analysis, and a training programme for export planning. Most of the measures are financed by the Ministry of Economic Development and Technology and are carried out by a specialised agency.[679]

Diversification of export markets and products would provide increased stability to exports. However, export policy is fragmented as many government and non-government bodies are involved, while monitoring results and links with other policies, such as industrial policy, are not clear enough. While the new industrial policy identifies priority technology fields and key industrial sectors in which to invest, the necessary action plans and concrete monitoring schemes are lacking in order to move to a more knowledge-based economy, thus providing a stronger base for good export performance.

4.24.4 Business environment & public administration

Business environment

Measures such as electronic filing, payment of social security contributions and reduction of the corporate income tax rate have helped the country to improve its ranking in the World Bank's Doing Business report from 37th to 35th place. Although the costs and time it takes to start a business are low (the cost is close to zero, and the number of procedures is only two), other factors such as administrative procedures and the time and cost involved in dealing with construction permits lower the overall rank in the index. It takes considerable time and is costly to obtain a construction permit. Complex and time-consuming licensing procedures make the country unattractive for foreign investment.

Changes to insolvency legislation adopted in June 2013 will improve the insolvency framework, but

676 Refers to sectors not covered by the Emissions Trading System.

677 Source: EC Spring Forecast.

678 Source: IDR 2013.

679 The Public Agency for Entrepreneurship, Innovation, Development, Investment and Tourism (SPIRIT).

further measures may be needed to bring about sufficient improvement in this area as a suitable system of incentives for owners, creditors and managers is still lacking.

Professional services, which account for about 10 % of value added,[680] remain heavily regulated, which limits their growth potential. In 2012, the authorities launched a reform to review numerous regulated professions. An inter-ministerial group was set up and the first professions and activities to be deregulated include the craft, tourism and construction sectors. A small business act has been adopted focusing on crafts, and a similar process is being planned for other sectors and professions in 2013 and 2014.

Slovenia has also developed its Point of Single Contact (PSC), which is based on the e-government e-VEM ("Vse na Enem Mestu" – One Stop Shop) portal for the online registration of businesses and its aim is to provide transparent online publication of information on conditions and procedures for performing activities and professions. Despite some progress in 2012, the information currently provided through the PSC is focused on a limited number of regulated activities (e.g. crafts, construction) while online completion of procedures is not yet possible for foreign operators. An SME test has already been designed and tried out on legislation. The action plan for implementing the small business act has been adopted by the government. The Ministry of Justice and Public Administration introduced a revised action plan for the removal of administrative burdens by 25 %.

Based on legislative changes made at the end of 2011, the Competition Protection Agency (CPA) was established in January 2013, replacing the previous Competition Protection Office. While additional staff was transferred to the agency, the CPA suffers from limited financial resources which are compounded by the budget cuts of 2013. Further amendments to the legislation to establish a separate budget line would help to ensure its independence and sufficient financing.

Public administration

The government effectiveness indicator is slightly below the EU average (1.03 as against 1.18). Slovenia scores higher in the public procurement indicator as the administrative regulations are more business-friendly than the EU average. The time and cost to take part in procurement are low and the average payment period is 15 days (28.3 days is the EU mean). However, Slovenia has not yet adopted a plan for the transition to e-procurement and is one of the Member States with the least developed infrastructure. Although a new electronic portal was introduced recently, electronic tenders cannot be submitted. Currently the benefits of e-procurement, such as greater transparency, more competition and faster procedures, cannot be fully exploited.

The justice system still suffers from inefficiencies. Despite recent improvements, first-instance judicial proceedings in litigious civil and commercial cases remain long (disposition time was 431 days in 2010). The rate of resolving litigious civil and commercial cases is low (in 2010, the clearance rate was 98 %), while the number of pending non-criminal cases per inhabitant is the highest among the Member States, although there has been some improvement in the clearance rate recently. However, in 2010 the clearance rate for administrative cases was the highest in Europe (rate of over 120 %).[681] Finally, Slovenia scores high in the corruption perception gap index (bribery and corrupt practices in business).[682]

4.24.5 Finance and investment

The recession and the associated credit crunch have created a very difficult situation for most SMEs. The collapse of major construction companies and corporate arrears more generally have had a negative effect on balance sheets of banks, which have become very reluctant to lend, particularly avoiding the remaining, mostly smaller, construction companies. Many businesses are over-indebted and asset quality is deteriorating. The volume of loans to the domestic non-banking sector declined considerably in 2012. The situation in the domestic banking system continued to deteriorate in the early months of 2013, as the year-on-year contraction in the first five months of 2013 was 8.3 %.[683]

Financial instruments of the Slovenian Enterprise Fund include equity and debt financing (guarantee fund for bank loans with subsidised interest rates, microloans, counter-guarantees). These have helped in providing public guarantees and venture capital to innovative firms. Financial instruments (credits, guarantees) were used also by SID Bank. The Slovenian Enterprise Fund has emphasised the importance of start-ups by supporting them with grants in the first three years of their life. A recent

680 Source: IDR 2013.

681 Source: The EU Justice Scoreboard.

682 Fraud Survey 2013.

683 Bank of Slovenia monthly bulletin, May 2013.

external evaluation indicated that the results of these instruments have been positive.[684]

While the instruments have supported many SMEs, a sharp fall in economic activity nonetheless has also reduced investment opportunities, including for innovative firms. Repairing bank balance sheets and recapitalising viable banks are two of the most important conditions for stabilising the economy and, in particular, for a resumption of bank lending.[685] Although relevant legislation is in place, just cleaning up the state-owned banks' balance sheets may not be sufficient, and further measures might be needed for lending to SMEs to resume.

In a weak macroeconomic context, facilitating investment through improving the business environment is crucial. The economy has a low stock of foreign direct investment (31 % of GDP in 2012,[686] one of the lowest among the new Member States).

4.24.6 Conclusions

Slovenia's economy needs structural measures promoting growth and competitiveness and improving productivity. An improved business environment could help in attracting foreign investment and boosting exports. Currently there are bottlenecks that hinder investment, such as long procedures, regulated professions, lengthy judicial proceedings and inefficiencies in insolvency procedures.

To monitor improvements in the business environment, evaluation of policies and monitoring of a coherent set of indicators — at the moment missing — are needed for coherent policy-making. These indicators could cover policy areas such as the labour market and education system, regulated professions, the judicial system, business licensing procedures, the tax environment, environmental, energy and land use policy, and in particular access to finance.

The banking system remains fragile and lending constrained. Publicly supported financial engineering products of the Slovenian Enterprise Fund and SID Bank have worked well and helped in providing guarantees and venture capital to innovative firms. It is important to build on such policy successes.

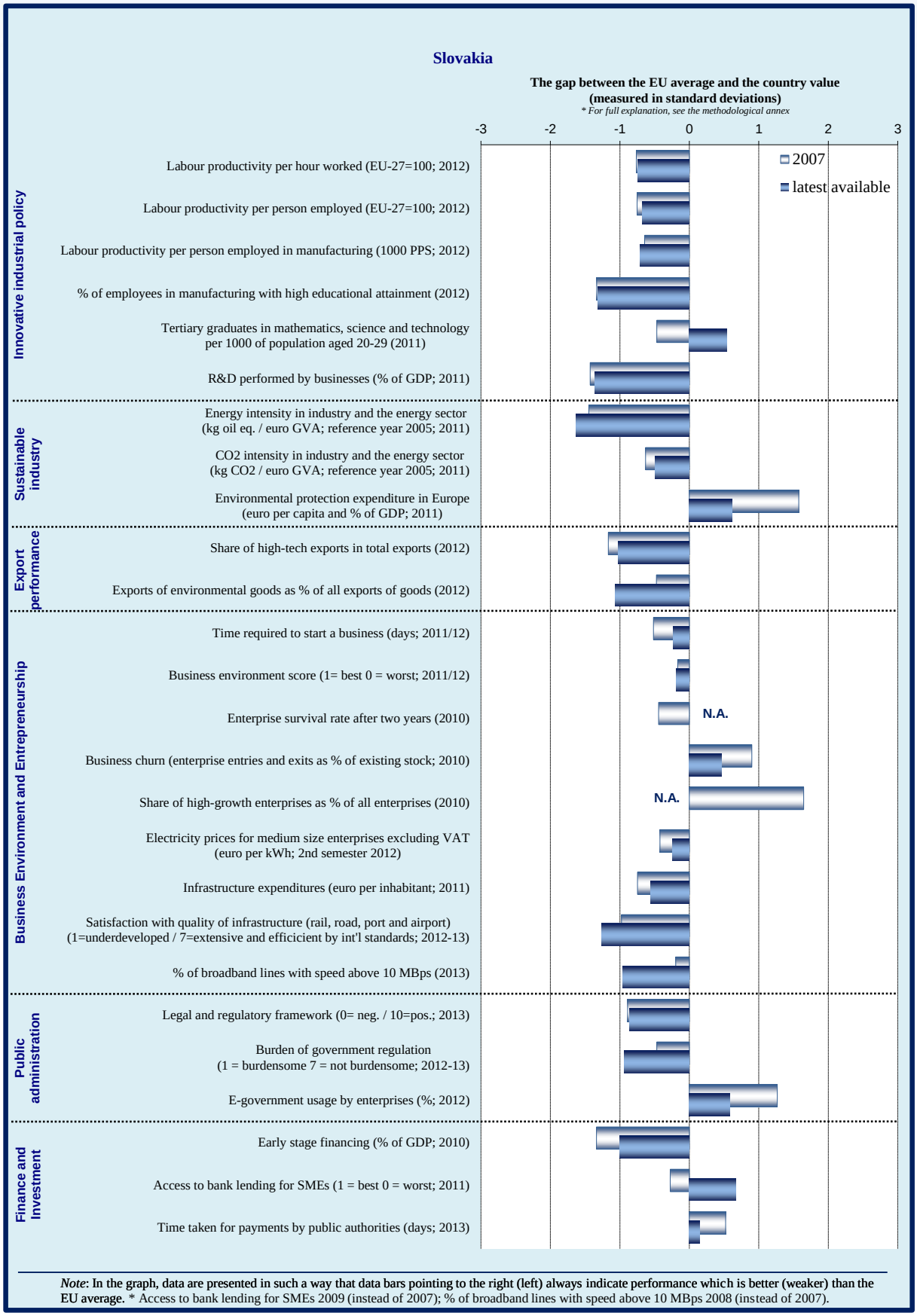
Measures to promote research and innovation continue to be essential, as in the long run these are the road to a more knowledge-intensive economy. While the new industrial policy identifies priority technology fields and key industrial sectors to invest in, the necessary action plans, concrete monitoring schemes and coordination between key strategic policies are critical for the economy to take off again.

684 Expert evaluation network delivering policy analysis on the performance of cohesion policy 2007-13.

685 OECD Economic Surveys, Slovenia, April 2013.

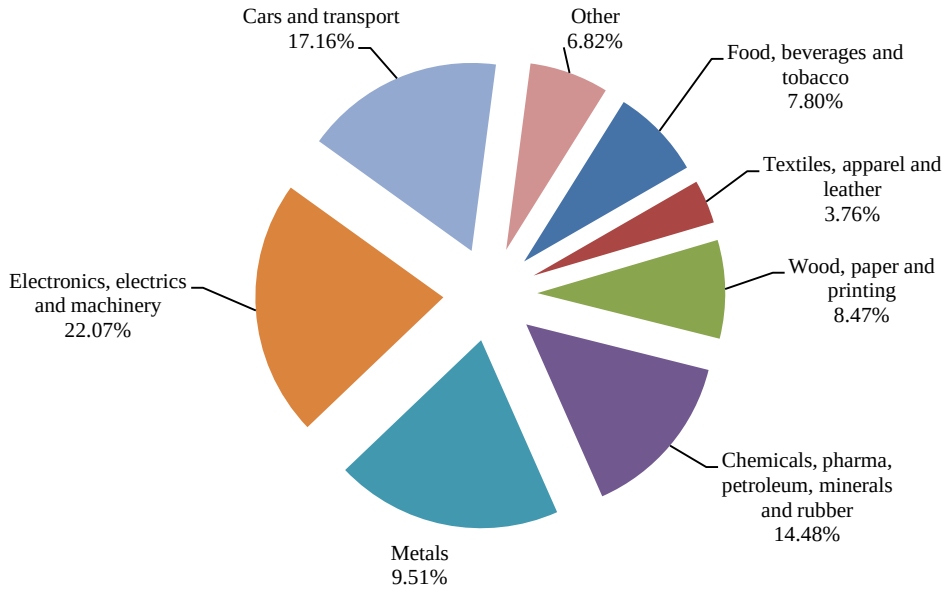
686 Source: Commission SWD: Assessment of the 2013 national reform programme and stability programme for Slovenia.

4.25. Slovakia



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.23: Sectoral specialisation of manufacturing – Slovakia (2010)



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

4.25.1 Introduction

Slovakia's economy grew by 2% in 2012, one of the highest growth rates in the EU. The production of some export-driven manufacturing sectors reached record levels, with car plants operating at close to full capacity. However, construction contracted by 12.5% due to the weakness of domestic demand. Good external competitiveness and lower imports brought the current account into balance in 2012. The recovery slowed down in the first half of 2013, but is expected to rebound due to stronger private investment and external demand.

Manufacturing continues to play a prominent role in the economy. The capital-intensive and technology-driven industrial sectors such as automotive, electronics and metals in which Slovakia specialises increased their share in total EU manufacturing from 0.63 % in 2007 to 0.82 % in 2012. Based on unit labour costs, Slovak industry is among the most competitive in the 'catching-up' Member States. It has benefited from transfers of advanced technology based on foreign direct investment and manufacturing has become more productive in the past decade. However, the short-term potential for further leaps seems limited. Services constitute a relatively small part of the economy and have not been able to match the productivity improvements in manufacturing.

4.25.2 Innovation, skills and sustainability

Innovation

The innovation capacity of the economy has improved somewhat in recent years, moving gradually towards higher knowledge-intensity. Overall, the performance of the R&D system remains below the EU average. Technology spill-overs from the foreign direct investment of the last decade have been a major driver of innovation in production. The lack of domestic R&D capacity has given rise to a split between highly productive export-oriented multinationals and a domestic sector consisting largely of SMEs and a few large companies with low productivity and innovation capacity.

The lack of excellence in research and the quality of tertiary education remain major challenges, as can be seen from the low number of internationally cited scientific publications. The generation of intellectual assets and patent revenues has been low by international comparison. Limited cooperation between businesses and research institutions further contributes to the low presence of innovative enterprises. However, the number of new doctoral graduates and young people with upper secondary level education are relative strengths of the system.

After two decades of gradual decline, total R&D expenditure recovered to 0.68% of GDP in 2011 – still one of the lowest in the EU.[687] The limited cooperation between science and business is also a reflection of low private research investment. Public R&D spending has increasingly relied on EU structural funds.[688] To achieve its national R&D intensity target of 1.2% by 2020, Slovakia would need to increase its public and private investment by about 5% a year.

Slovakia's innovation policy is based to a large extent on grants. Tax breaks for applied research have been used since 2009, but represent only a very small part of total R&D support.[689] The innovation strategy for 2007-13 sets a general framework and the 2011-13 innovation policy has specified actions in three priority areas: infrastructure, quality of human resources, and support for innovation in industry. Most money is spent on the latter.

In 2012, the government launched new calls to support (i) applied research and development in industry (EUR 34 million) and (ii) technology transfer (EUR 150 million). Innovation vouchers have also been launched which give SMEs access to the services of public research facilities. A new scheme comprising financial and non-financial support has been designed for innovative clusters. The government has also started preparing the 2014-20 innovation strategy, under which it plans to further develop business incubators that will be attached to university science parks and selected research facilities. A new scheme similar to the existing small business innovation research programme is in preparation.

Skills

The number of tertiary graduates studying science and technology has risen above the EU average in recent years, but there is still a shortage in technical studies. In addition, there are not enough job-oriented bachelor degrees compared to competitors. The low proportion[690] of people with high qualifications (in particular with labour market relevance) employed in manufacturing suggests that shortcomings in the education system have created skills shortages and structural mismatches in the labour market. Although the vocational training system was revised to improve the match with labour demand, the provision of work-based learning in companies for students in vocational education and training is low. Tertiary level education was also reformed, strengthening internal quality assurance systems and encouraging internationalisation. In the longer run, there are concerns about the level of public spending on education, which is one of the lowest in the EU as a share of GDP.

Sustainability

High energy prices and structural and technological changes have been the main drivers of a reduction in energy intensity. In spite of continued progress, Slovak industry[691] was the fourth[692] most energy-intensive in the EU in 2011. The greening of the economy is a policy challenge, in particular due to the relatively high of energy-intensive industries (e.g. aluminium and steel production). Although the CO_2 intensity of industry has continued to decline, no improvement has been observed since 2009 for the economy as a whole.[693]

The volume of waste generated by industry has been declining since 2006, suggesting a decoupling from growth. In 2011, Slovakia used landfills for 75% of its municipal waste (80% in 2010) and material recycling has remained at 4%, which is one of the worst rates in the EU. Apart from a recycling fund, there were no specific policies in 2012 on the industrial re-use of waste or spreading green business models. On the basis of a new law, preparations are being made for a transition from landfills to waste recycling and recovering energy and material. A new waste management strategy will also be prepared by 2016.

Policy on energy efficiency is predominantly driven by the implementation of EU structural fund programmes. The national energy efficiency action

687 3.88% in 1989, 0.66% in 1999, 0.48% in 2009, 0.63% in 2010.

688 In 2012, 81% of R&D funds came from the R&D Operational Programme (OP), whereas innovation policy measures were almost completely funded by the Competitiveness and Growth OP.

689 2.1% in 2011.

690 9.7% as compared with the EU average of 19.2% in 2011.

691 Including the energy sector.

692 Fifth in 2010.

693 0.47 CO_2e/GDP in 2009 and 2010.

plan for 2011-13 is expected to achieve a 2.7% reduction in final energy consumption as compared with the 2001-05 average. Most savings are to be achieved by industry (30%), the public sector (27%) and buildings (21%). The national energy efficiency monitoring system is now in operation. Together with the European Bank for Reconstruction and Development, the Slovak Innovation and Energy Agency has implemented a pilot programme on energy efficiency in public buildings. In 2013, the government started preparing the national energy efficiency action plan for 2014-16.

4.25.3 Export performance

Exports have been a major source of recent economic growth. Foreign direct investment has primarily gone to export-oriented manufacturing and has significantly contributed to the restructuring of the economy, which is open and well integrated in the global economy, in particular the single market, as a result. The trade surplus was over 3% of GDP in 2012, bringing the current account into balance. The share in EU exports of goods and services went up from 0.98 in 2007 to 1.18% in 2012. The export market share[694] grew annually by more than 50% between 2004 and 2008, but growth has since slowed (to 4.8% in 2012), partly due to lower inflows of foreign investment.

The main exports include cars and car components, consumer electronics, machinery and metal products; services play a much smaller role. The proportion of total exports accounted for by high-tech goods increased slightly to 6.6% in 2011, whereas that accounted for by non-financial knowledge-intensive services is one of the lowest in the EU. In comparison to similar-sized economies in the EU, the domestic value-added content of exports was relatively low,[695] as imports were essential for the export capacity of a small economy.

To facilitate exports by domestic enterprises, the government has decided to increase the capital of the state-owned Slovak Export-Import Bank. The capital hike will boost the bank's guarantee and risk-coverage capacity by EUR 463 million and enable it to focus more on fast-growing higher-risk markets such as Russia, Vietnam and Indonesia.

4.25.4 Business environment and public administration

Business environment

As in the previous year, Slovakia was 46th in the World Bank ranking on the ease of doing business. The legislative and regulatory framework for businesses remains complex and is subject to frequent change. A comprehensive strategy to improve the business environment was adopted in 2011 and updated with new measures in 2013. While over 50 measures have been implemented since 2011, it appears that the goal of reducing the administrative burden on business by 2012 has not been fully achieved.[696] The government will assess the costs of the administrative burden again in 2014.

The 2013 national reform programme contained an explicit target of reaching 15th position in the World Bank ranking by 2020 and lowering the OECD product market regulatory index to 1.2 (1.54 in 2008). To achieve this, the plan is to remove regulations that may distort competition in professional services, including possibly restricting mandatory membership in professional chambers.

Competition in the energy sector has improved in recent years, but the fact that few consumers are switching their provider (1.6% of industrial users and 0.8% of households) does not make for a dynamic market. Electricity prices for medium-sized industrial consumers are among the highest in the EU. This appears to be due less to taxes or generation prices than to high network tariffs. The network tariffs cover not only costs and the profit margin of distribution companies and the state-owned grid operator, but also the support for renewable energy sources, domestic coal production and co-generation.

Feed-in tariffs for renewable energy sources have been lowered because the costs of renewable energy, particularly photovoltaic, have declined significantly. To achieve the emission reduction target in the energy sector, there are plans to review

694 Shares in world exports of goods and services.
695 OECD-WTO Trade in value added indicators.
696 The 2013 National Reform Programme indicates that it has been achieved by about 60%.

the support given to domestic coal production, which has been cross-subsidised from higher network tariffs.

The time needed to start a business was reduced to three days for those needing a trade licence and to two days for registering a company in court. Many other entrepreneurship indicators are below EU average, partly because attitudes towards entrepreneurship are not positive enough and it is not encouraged by schools.

The government intends to launch an e-building code covering zoning procedures and regional development, which would enable citizens and entrepreneurs to handle the entire construction permit procedure by electronic means. To avoid frequent changes in legislation with significant impact on businesses, the government's legislative rules contain a new *vacatio legis* obligation whereby new legislation on taxation and social security can enter into force only on 1 January of a given year.

Slovakia's location between eastern and western European markets makes great demands on its transport infrastructure. Although satisfaction with the quality of infrastructure increased between 2008 and 2012, in eastern regions poor infrastructure is a brake on productivity. The government plans to start the construction of around 120 km of new motorways by 2014, despite delays caused by procurement difficulties.

Public administration

The public administration suffers from weaknesses that reduce its effectiveness and undermine its independence. The 2011 Worldwide Government Effectiveness indicator ranked Slovakia 19th in the EU. Modern human resources management methods are not used enough. A high turnover of staff and a lack of transparency in recruitment practices increase the scope for political meddling, which is not conducive to an independent civil service. Weak analytical capacity hampers the design and implementation of policies and the ability to assess regulatory impact. There is no ex-ante SME test and impact assessments are often formalistic, with a tendency to focus only on fiscal impact. There is no independent body to evaluate the quality of impact assessments. To improve the situation, the government has created analytical units in key ministries.

In 2012, the government launched a major reform of the public administration. Initially, the main objective is to streamline the organisational structure of local and district-level state administrations and integrate their customer service functions into single contact points. As part of the reform, all ministries and central government bodies will be subject to functional audits that will identify duplication and the potential for process improvements, and rationalise the management of state assets (such as buildings). At a later stage, the reform should be extended to human resources management.

Judicial proceedings for civil and commercial cases remain lengthy, in particular as regards insolvencies.[697] To address this, the government has started to prepare a completely new code of civil procedures that should come into force in 2015. It is also improving courts' IT systems so that case-file life-cycles will be fully electronic by 2014.

Perceptions of corruption[698] continue to be high. Individual experiences of corruption and irregular payments by firms are not uncommon. There are serious concerns as to the capacity of law enforcement and judicial authorities to investigate and prosecute corruption offences.[699]

Despite improved transparency, irregularities in public procurement have persisted and the average number of bids was among the lowest in the EU in 2011, indicating a very low level of competition. To address this, the Public Procurement Act has been amended to create a central electronic market that is obligatory for small tenders. A new appeals body[700] consisting of a majority of external members has been created to scrutinise decisions by the public procurement office. Also, the office's resources and staffing have been strengthened significantly.

While the use and availability of e-government services for businesses are above and close to the EU average, respectively, a lot remains to be done

697 EU Justice Scoreboard 2013.

698 Transparency International ranked Slovakia 62nd in its global corruption perception index.

699 OECD Report on implementing the OECD Anti-Bribery Convention in the Slovak Republic, June 2012.

700 Board of the Public Procurement Office.

to improve such services for citizens.[701] Other areas for improvement are internal government transactions and the interoperability of databases across public institutions. To this end, a central public administration portal is being implemented, as is an act on electronic operations by public authorities.

4.25.5 Finance and investment

The financing conditions and standards for SMEs have been tightened since 2009. The share of loan applications rejected went up from 19% in 2010 to 25% in 2011, as compared with an EU average of 15%. Although the volume of loans to non-financial firms[702] continued to grow moderately for a while, it started to decline in 2012 (- 3.6%) as the economy slowed.

Little progress has been achieved in developing stock exchanges and the venture capital market. The lack of equity finance means that bank loans are crucial for SMEs and start-ups. As a part of the Jeremie scheme for structural funds, the Slovak Guarantee and Development Fund has introduced (i) a first loss guarantee and (ii) a risk capital instrument. The first guarantee agreements were signed in April 2013, allowing participating banks to provide up to EUR 170 million of new loans to SMEs. The risk capital instrument should be launched later in 2013.

In spite of shortcomings in the business environment, Slovakia is a favourable investment location due to its geographical position, cost competitiveness and stable macroeconomic environment. Investment in equipment remained very strong in 2010-12, accounting for more than 10% of GDP — one of the highest rates in the EU.

The Slovak Investment Promotion and Trade Development Agency attracts more and more new investment in sectors with high added value. The regional focus has shifted more towards fast-growing markets, including Russia, China, South Korea and the rest of South-East Asia. In line with the cohesion policy objective, investment support programmes and state aid rules favour Slovakia's less developed eastern regions.

4.25.6 Conclusions

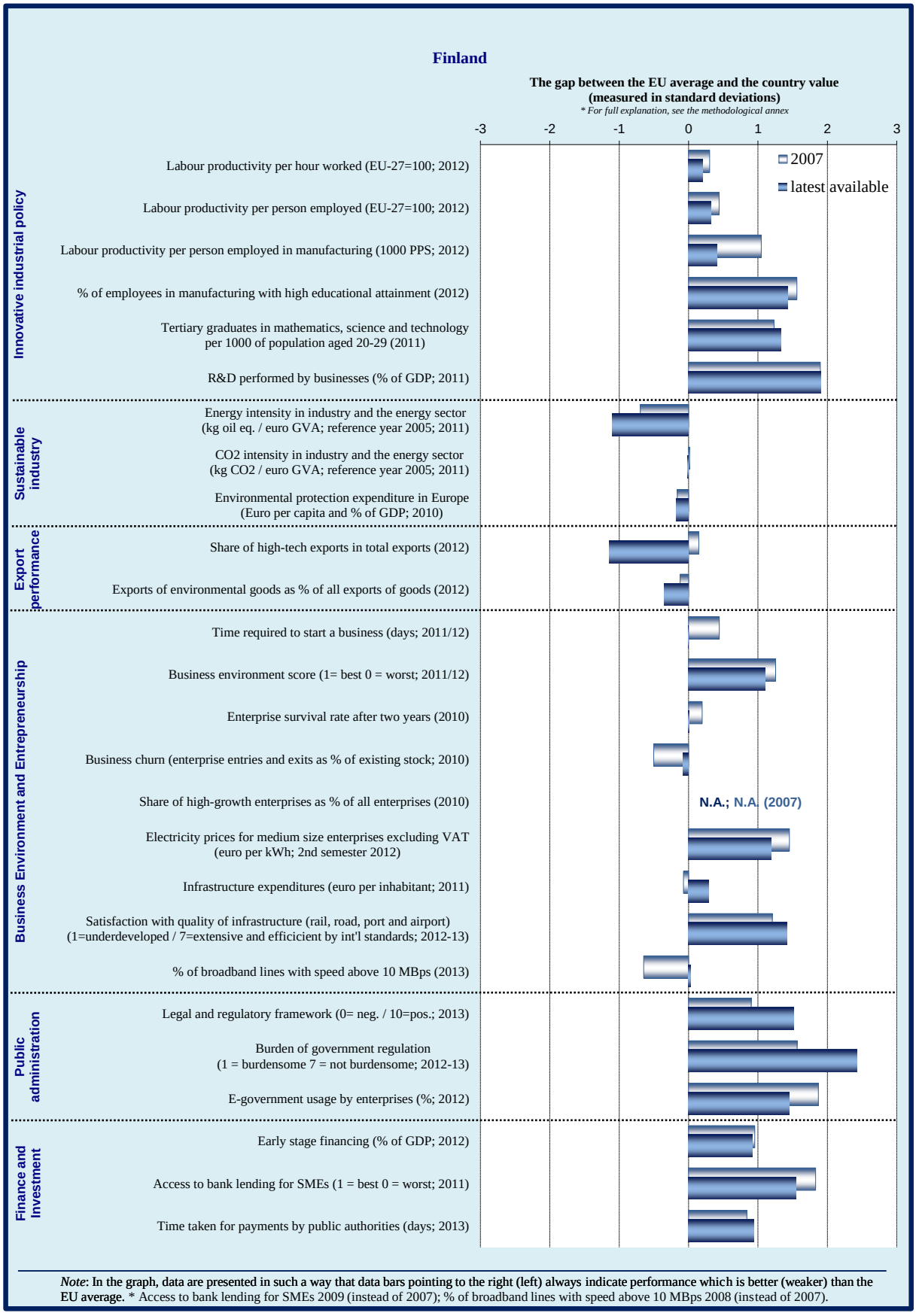
Improving productivity and competitiveness have made the Slovak economy more attractive. The challenges in education and the R&D system limit the longer-term potential, as innovation capacity can be built up and the move towards a more knowledge-based economy can take place only relatively slowly.

The multinationals are highly productive, but the main policy challenge is to boost innovation and knowledge intensity in domestic firms, in particular SMEs, and to invest more in education. Improvements in public administration and the judiciary would help businesses and the investment climate. Further challenges are posed by the high energy intensity and rather high energy prices, in particular for some business segments.

[701] Digital Agenda for Europa; Global e-government development index (UN) in 2012.

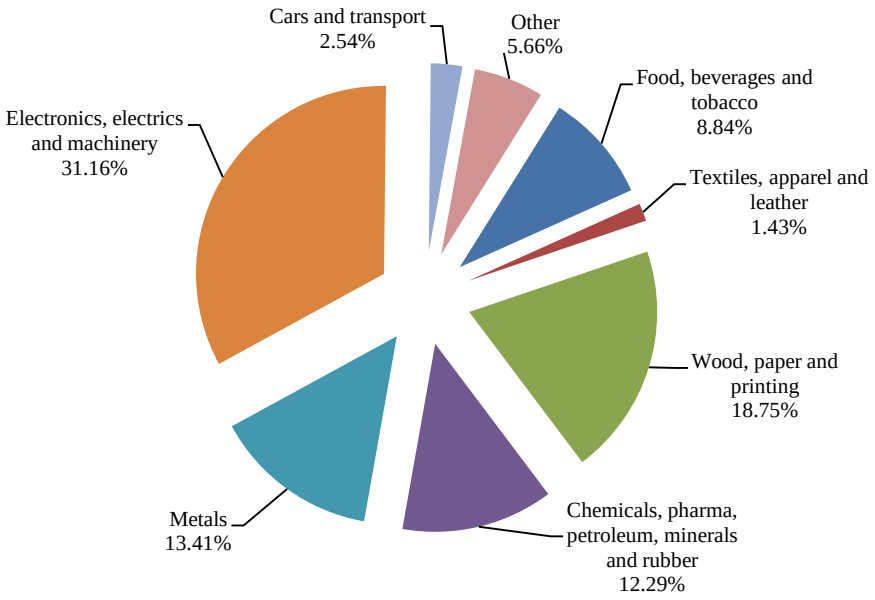
[702] National Bank of Slovakia — statistics on loans granted between January and December 2012.

4.26. Finland



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.24: Manufacturing sectors – Finland (2010)



Note: No data available for sectors C12 (tobacco products), C19 (coke and refined petroleum products) and C23 (manufacture of other non-metallic mineral products)
Source: Eurostat

4.26.1 Introduction

Finland specialises in knowledge-intensive sectors and the share of manufacturing in total value added is 16.9%, which is higher than the EU average of 15.3%. Technology industries that include electronics, machinery and metals are the largest employers, with 250 000 directly employed.

In terms of average unit labour costs, Finland's competitiveness has been gradually eroded over the past ten years, in particular in 2008-09, but has reclaimed some ground recently. However, looking beyond the average figures, the traditional export industries have performed quite well, whereas labour productivity in services is improving only slowly. Finland's own experience from the 1990s shows that the entry and exit of new firms and the reallocation of resources can radically improve productivity.[703]

4.26.2 Innovation, skills and sustainability

Innovation

Finland is among the consistent performers in terms of the variables of the Industrial Performance Scoreboard. In particular, it ranks among the top performers in innovation, business environment, public administration and access to finance.

Finland invests a total of 3.78% of its GDP in research and development,[704] which, although slightly lower than in 2010, keeps the country close to its 4% national target for 2020. Businesses invest two-thirds (EUR 5 billion) of the total and this investment has held up well even in the recession. Public research and innovation investment dropped to about EUR 2 billion in 2011. To promote further private investment, the government has introduced a tax credit for research investment by businesses for 2013 and 2014.

The 2013 Innovation Union Scoreboard[705] has Finland in fourth place overall, but highlights some of the problems affecting the Finnish research and

[703] See M. Maliranta, P. Rouvinen, P. Ylä-Anttila *Finland's Path to the Global Frontier through Creative Destruction*, International Productivity Monitor 20, 2010.

[704] Eurostat 2011.

[705] http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf.

innovation system. It is widely recognised, including by the government, that the innovation system lacks sufficient international exposure and that attracting international knowledge workers to Finland is difficult.

Although Finnish growth companies are growing faster and become bigger than their rivals in other Nordic countries, they are too few in number to contribute decisively to structural change in the economy. In particular, there are not enough new innovation-based and growth-oriented enterprises. One reason is that entrepreneurship and management skills remain weak, although the entrepreneurial culture has improved significantly over the past few years.[706]

Currently, most new innovative activity in Finland is focused on ICT, software and games.[707] To provide a broader base for innovation, the Smart Cities programme[708] has created platforms for innovative solutions in urban environments by bringing together the main players in the innovation cycle. The government is also implementing the recommendations of a high-level group report on ICT competitiveness (*Frictionless Finland*), including a new national service infrastructure and increased seed and growth funding for start-ups.

To foster research cooperation aimed at breakthrough innovations, there are six Strategic Centres for Science, Technology and Innovation (SHOKs), public-private partnerships focusing, for example, on bio-economy, forestry and health. A 2013 evaluation of the Centres concluded that they had not fully lived up to their promise and progress could have been faster.[709] On the basis of the evaluation, the managers of the Centres (which are private firms) have decided to take steps to sharpen focus, enhance networking, increase competition for funding, and improve management.

A sharper focus on knowledge transfer and on a more active role for the universities could help to bridge the gap between research and businesses. To this end, the government is developing better indicators on knowledge transfer to compare university performance. To achieve sufficient critical mass in their commercial efforts, there is plenty of scope for the universities to cooperate more and become more specialised. They could also strengthen the link between basic and applied research. The government is looking at Tekes[710] programmes to promote growth entrepreneurship by combining technical research and commercialisation.

Skills

The overall well-performing education system and highly skilled workforce will help in reallocating resources. Finland has a high share of science, technology, engineering and mathematics (STEM) graduates[711] and has already reached its national tertiary attainment target for 2020. However, there is further potential to reform the sector, in particular to achieve efficiency gains in higher education, and shorten the time to graduate, which is now one of the longest in the OECD.

Further targeted support for improving the skills of particular groups such as older and low-skilled workers and unemployed young people could help overcoming emerging skills shortages. The new youth guarantee system is based on public-private partnership involving authorities, trade unions and young people. The government has also reformed and decentralised the guidance system for the transition to working life.

Sustainability

On sustainable industrial policy, the government is analysing how best to increase energy and material efficiency, with material audits being gradually deployed as planned in the government's resource efficiency programme. It is expected that a new materials efficiency programme, currently in preparation, will be presented by autumn 2013. Meanwhile, waste streams to landfill sites have been considerably reduced, with a tax of EUR 50/tonne and increased energy recovery and recycling.

706 http://www.nordicinnovation.org/Global/_Publications/Reports/2013/NGER_2012_FINAL_inclApps.pdf.

707 Based on Tekes' view of the funding proposals (see footnote 9).

708 Run by Tekes: http://www.tekes.fi/programmes/Kaupunki.

709 http://www.tekes.fi/u/Licence_to_SHOK.pdf.

710 Tekes is the Finnish Funding Agency for Technology and Innovation.

711 Finland has 24.2 graduates per 1.000 young people age 20-29 in 2010, in comparison to 14.4 for the EU average in 2009.

According to preliminary data, total greenhouse gas emissions in 2012 amounted to 61.4 million tonnes of carbon dioxide equivalent, which is 8% lower than in 2011, and well below the commitment made in the Kyoto Protocol.[712] The share of renewable sources in gross final energy consumption in 2010 was over 32%, which is almost three times as high as the EU average of 12.5%.

Finnish industry continues to be considerably more energy-intensive than the EU average or its closest competitors. Although this reflects the dominance of process industries and the forestry industry, for example, produces itself most of the energy it uses, using less energy and raw materials for each euro of value added would be desirable.

Electricity users continue to benefit from the competitive Nordic electricity pool and electricity prices for medium-sized enterprises are among the lowest in the EU. A second electricity link to Estonia is being constructed and possible ways of exporting electricity to Russia are under consideration. By 2014, smart electricity meters will be installed for close to 100% of all customers.

The government is preparing three action plans on advanced manufacturing technologies: sustainable mining, bio-economy, and an update on the energy and climate strategy. The action plans are also designed to support the implementation of the government's raw materials strategy. Specific attention has been paid to bio-based products, where the challenge is access to the requisite raw materials. Currently, the focus is on expanding the sustainable use of forest-based biomass in products like bio-oil, nanocellulose or biodiesel.

The government is also trying to expand the markets for cleantech products, in particular through public procurement. The goal is to procure cleantech solutions for EUR 300 million annually. However, although there seems to be considerable interest in cleantech among entrepreneurs, in practice not many of them have been able to develop tangible business activities.

4.26.3 Export performance

Finland's current account balance has been on a downward trend for 10 years and is expected to stay negative (forecast -1.2% in 2015). Although there was a slight trade surplus in 2012,[713] this was due to imports shrinking more than exports. Export growth is expected to stay sluggish in 2013, but the prospects should improve in 2014-15 as world growth is likely to take off.

The difficulties in exports are caused by the structural change in the electronics industry (Nokia transferring production out of Finland) and the difficulties of the forestry industry. This has been echoed throughout the economy, as Finnish small and medium-sized enterprises (SMEs) mostly serve multinational companies instead of exporting themselves. The difficulties of the leading industries have made this strategy less viable and SMEs' growth prospects would benefit from identifying potential for export growth and expanding to international markets.

The gradual closing of Nokia production in Finland has created a need for structural adjustment and a transfer of resources to new growing enterprises. By late 2012, about 70% of ex-Nokia employees were in employment, in training or had started a business,[714] but the net effect of the closures will become evident only as the compensation packages come to an end towards late 2013.

The government adopted a strategy on the internationalisation of SMEs in 2011 and has sought to give it new impetus by combining it with the 'Team Finland' initiative, which has recently brought all actors working for export and foreign investment promotion under the same strategic umbrella under the Prime Minister. The initiative has a global network of 72 teams and a set of regional contact points in Finland.

As regards its position in global value chains through the domestic value-added content of exports, Finland is among the middling performers, with slightly less than 68% of the value added produced in the country. The government is reviewing policy options as to how to increase the

712 Statistics Finland; http://www.stat.fi/til/khki/index_en.html.

713 Bank of Finland statistics.

714 Government estimates.

proportion of value added that Finland could capture from global value chains.

4.26.4 Business environment and public administration

Business environment

Finland scores highly on business environment, entrepreneurship and SME-related indicators. The effective and well-functioning public administration, the stable legal system and lack of corruption contribute to the high scores. In addition, Finland remains the EU leader in entrepreneurship, with the highest overall score of all EU countries. Entrepreneurs are valued highly and growth entrepreneurs are given a high profile in the media. In total, 45 % of Finns think it would be feasible for them to start their own business (EU average 28 %),[715] but Finnish entrepreneurs are often satisfied with moderate business growth and only about 8 % are oriented towards rapid growth.

The modern and efficient environment is also reflected in the use and availability of e-government services, both of which are well above the EU average.[716] The use of e-commerce is also well above EU average, although the penetration of broadband lines is only just better.

The government has recently recognised many of the challenges posed by the few growth firms[717] and has outlined a general strategy to increase labour input and productivity in the economy. It seeks to build a stronger ecosystem for growth, in particular as regards management skills and smart money.

The administrative burden for businesses, though not high, had not been reduced noticeably by the first half of 2012,[718] despite government policy efforts. In particular, the burden relating to employing people and paying taxes has not changed and no substantial new reductions are in sight. The adoption of reverse VAT[719] could bring down costs for firms in the long run.

Legislative impact assessments have been performed since 2007, but Finland does not currently have an impact assessment board to evaluate their quality. Efforts to improve the quality of assessments include providing support for ministries and reviewing assessments ex-post.

The positive environment for business start-ups is reflected in the services available. The Enterprise Finland website provides a one-stop shop for information on assistance available to companies and entrepreneurs, especially SMEs.[720] For the majority of firms, all paperwork can now be done through this web portal, which also provides access to the 'point of single contact' (PSC), with information for businesses at all stages of business life cycle.

The corporate tax rate was slightly above the EU average in 2012[721] but the government decided in 2013 to lower the nominal rate to 20 % to promote growth and employment.

There is not enough competition in retail trade and some services, and this reduces incentives to improve productivity. The government has introduced measures to promote retail competition and a general initiative to promote sound and efficient competition that will first affect utilities and state-owned entities. A legislative initiative has been taken which is designed to allow the Consumer and Competition Authority to intervene in cases where competition neutrality between public and private operators is not respected. This will be presented to parliament in the first half of 2013. The government is also evaluating obstacles to competition in city planning and construction, the non-profit sector, waste disposal, pharmaceuticals and digital services.

715 http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/countries-sheets/2012/finland_en.pdf.

716 https://ec.europa.eu/digital-agenda/node/640.

717 See *Industrial Competitiveness Approach — Means to Guarantee Economic Growth in Finland in the 2010s*; Ministry of Employment and the Economy, 2013.

718 https://www.tem.fi/files/32917/TEMrap_15_2012.pdf.

719 In reverse VAT, the buyer pays the tax due to the authorities, not the seller.

720 http://www.yrityssuomi.fi/web/enterprise-finland.

721 In 2012, the nominal rate was 24.5 % (EU average 23.2 %) and the mean effective rate 23.3 % (EU average 21.1 %). See "Final report 2012: Effective Tax Levels Using the Devereux/Griffith Methodology", ZEW Project for the European Commission TAXUD/2008/CC/099.

Public administration

Public administration in Finland is generally efficient and well-functioning. Currently, the country is seeking to reform its municipalities, aiming to establish larger, more efficient service providers in health and social services. Besides the scope for administrative efficiency, the reforms will have other effects. The impact on public procurement remains to be seen, but could include increased competition and more impartial decision-making. On the other hand, there is a danger that bigger municipalities could mean bigger lots, favouring bigger firms and discriminating against SMEs. At central government level, this is being addressed through specific procurement procedures for SMEs, and similar approaches might also be beneficial in larger municipalities.

4.26.5 Finance and investment

Although SMEs' access to finance has not traditionally been a problem in Finland, recent anecdotal evidence suggests that the situation is deteriorating. Loan conditions seem to be tightening, although projects considered as 'good' by the banks can still secure financing. At the same time, alternatives to bank lending are gradually gaining a foothold, including venture capital and emerging small-scale platforms for peer-to-peer funding.

Productive investments are expected to continue to shrink in 2013 and new investment in machinery, in particular, is likely to be exceptionally low due to the uncertain demand.[722]

To facilitate innovation and growth, the government has committed itself to considerable increases in its investments in venture capital funds. It aims to attract private investors through an asymmetrical reward structure favouring private over public investors and make Tekes the key investor for high-tech and high-growth firms.

The Team Finland initiative also seeks to attract foreign direct investment to the country, a partial response to close-to-zero net foreign direct investment in 2008-11.[723]

4.26.6 Conclusions

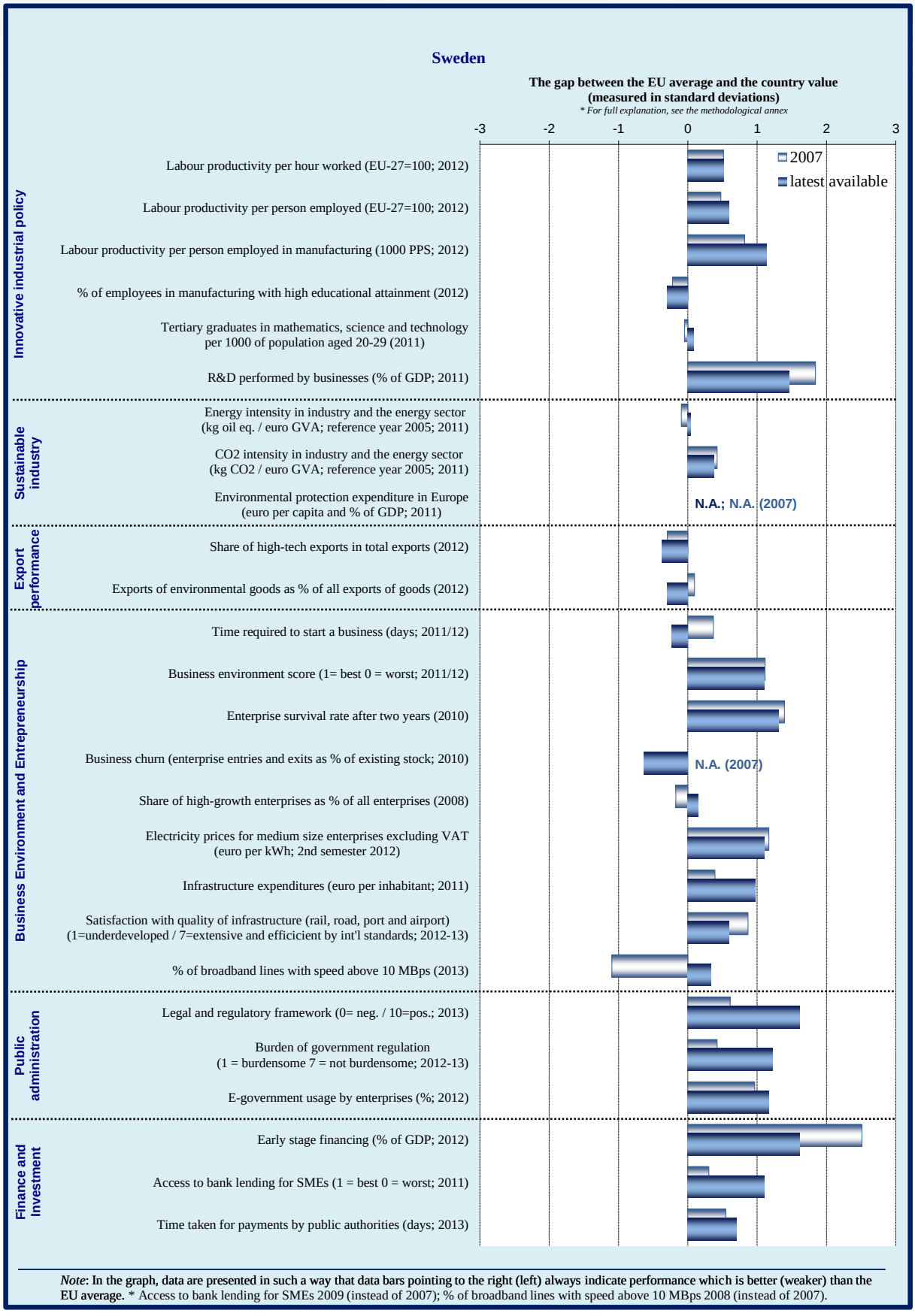
Finland ranks among the top performers on many competitiveness indicators, but has underlying problems that need to be addressed to preserve its good performance. In particular, the difficulties of the telecommunications and forestry industries mean that structural change is necessary. However, whether resources are being reallocated to new firms on a sufficient scale to have a visible effect on growth and exports remains to be seen.

Some innovative enterprises are expanding rapidly and contributing to growth, but they are too few in number. Overall, the disappointing export performance reflects the limited internationalisation of SMEs, which need to become more international and access new markets. Finnish SMEs would benefit from a stronger ecosystem for firm growth, in particular expanding access to management skills and smart money. The government has initiated policies that seek to address these deficiencies, but the results will be evident only over time.

In a global environment where many countries are rapidly reducing the administrative burden on business, no country can afford to stand still. Finland has the potential to further reduce this burden, in particular as progress so far has been very limited. It could also improve productivity by increasing competition in retail trade and some services.

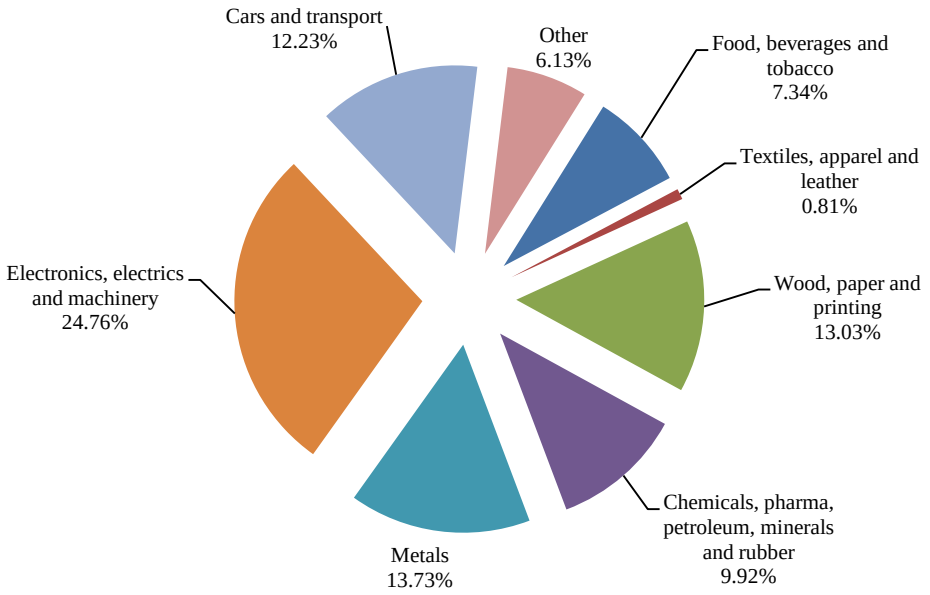
722 Bank of Finland estimate.
723 Bank of Finland estimate.

4.27. Sweden



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.25: Manufacturing sectors – Sweden (2010)



Note: No data available for sectors C12 (tobacco products); C19 (manufacture of coke and refined petroleum products) and C21 (basic pharmaceutical products and pharmaceutical preparations)
Source: Eurostat

4.27.1 Introduction

While manufacturing remains important as a generator of product innovation, export income and prosperity in Sweden, the economy continues to move towards services. Swedish manufacturing specialises in capital-intensive industries such as the processing of iron and steel, pulp and paper; in mainstream manufacturing such as insulated wire and cable, general and special-purpose machinery; in technology-driven industries such as TV/radio transmitters and receivers; and in chemicals, pharmaceuticals and cars and transport. The high relative export shares of computer and information services, research and development, and royalties and licence fees indicate that Sweden is also specialised in sectors requiring higher education.

According to EUROSTAT, in 2011 labour productivity per person employed was 15.8 % higher in Sweden than the EU average. According to the *Global Competitiveness Index 2012-13* of the World Economic Forum, Sweden is one of the most productive and competitive economies in the world. Productivity growth was low or negative from 2007 to 2009 but rebounded strongly in 2010 and 2011. With lower inflation, this resulted in unit labour costs falling for the period.[724]

4.27.2 Innovation, skills and sustainability

Innovation

The pursuit of an active innovation policy and investments in R&D continue to be at the top of the agenda for the Swedish government. The OECD Review[725] on innovation policy demonstrates this, as Sweden's innovation performance is ranked as one of the best in the world. The 2013 Innovation Union Scoreboard[726] has Sweden as the EU innovation leader for the third time in a row. The relative strength of the Swedish innovation system is in human resources. However, a decline can be seen for sales of new-to-market and new-to-firm innovations.

Despite the high international ranking, there are challenges ahead. Sweden has always benefited from the presence of R&D–intensive industries but

[724] European Commission, *European economy, Macroeconomic imbalance, Sweden*, Occasional Paper, July 2012.
[725] OECD Reviews of innovation policy: Sweden 2012.
[726] http://ec.europa.eu/enterprise/policies/innovation/files/ius-2013_en.pdf.

increasingly firms have chosen to invest mainly outside Sweden[727] and some have relocated abroad. As the importance of knowledge-intensive goods and services in exports is increasing[728], there is growing concern that the high investment in R&D leads only to limited growth in the form of new innovative ideas that prove to be commercially viable.

Total R&D expenditure in 2011 amounted to 3.38% of GDP, one of the highest levels in Europe. Some studies have pointed out that the high R&D expenditures do not appear to be fully delivering economic growth and have called this the 'Swedish paradox'. Looking further along the chain, according to another study, there is no clear correlation between R&D expenditure and GDP growth.[729]

However, despite these caveats, a Research and Innovation Bill was adopted in October 2012 setting out priorities for 2013-16, including a proposed SEK 4 billion (EUR 470 million) increase in funding for research and innovation. The overall aim of the bill is to increase the quality of research, and to invest in areas of particular interest to business and thereby strengthen the links between R&D investments and economic growth. One specific programme is aimed at strategic innovation areas to develop collaboration between companies and higher education institutions. The Research and Innovation Bill is one of the first items under the innovation strategy that focuses on how Sweden should work in the long term to promote innovation.

Skills

According to the World Economic Forum's *Global Competitiveness Index 2012-13*, Sweden has maintained a strong focus on education over the years, enabling it to achieve a high level of technological readiness. The Swedish economy is export-oriented and is highly dependent on its industry maintaining a competitive edge in a global marketplace.

Due to its dependence on industry, there has been some concern regarding the plummeting interest in engineering and mathematics among students. The latest Eurostat figures show that there was a lower proportion of tertiary graduates in mathematics, science and technology in Sweden than the EU average.[730] The government has proposed increasing the time devoted to mathematics in compulsory education and measures have been taken to increase the number of university places for engineering.

According to the *2012 Small BusinessAct Fact Sheet*, Entrepreneurship is being incorporated into the curriculum as part of the reform of the Swedish school system. In 2012 the Swedish National Agency for Education funded 72 projects and five programmes to enhance the competence of teachers and the teaching of entrepreneurship in schools. Altogether, the Government is taking measures to tailor the education system to the industrial structure of the country. Furthermore, Swedish SMEs have a good record in the skills and innovation area. In particular, they are well ahead in the use of e-commerce, as more than half of Swedish SMEs purchase online (EU average: 28%).

Sustainability

Sweden has one of the lowest rates of carbon emissions per capita in the EU. According to the latest statistics from *Energy in Sweden*, in 2010, 48% of Sweden's energy came from renewable sources.[731] Sweden is making progress in meeting the Europe 2020 goal of 10% renewable energy in the transport sector.[732] It has set the ambitious goal of the country's vehicle stock being independent of fossil fuels by 2030.[733] However, the goal of reducing energy intensity by 20% from 2008 to 2020 may prove difficult to achieve.[734]

727 Government Offices of Sweden, *The Swedish Innovation Strategy*, p.15.

728 Government Offices of Sweden, *The Swedish Innovation Strategy*, p.16.

729 *Ett ramverk for innovationspolitiken, 2012*; Braunerhjelm, Eklund, Henrekson.

730 According to EUROSTAT, in 2010 there were 15.2 graduates per 1000 of the population aged 20-29 in the EU-27, as compared with 14.0 in Sweden.

731 The Swedish Energy Agency, *Energy in Sweden 2012*, p.6.

732 The Swedish Energy Agency, *Långsiktsprognos 2012*, p.8.

733 Government Offices of Sweden, *The Swedish energy system*, accessed via http://www.government.se/sb/d/16022/nocache/true/dictionary/true.

734 The Swedish Energy Agency, *Långsiktsprognos 2012*, p.8.

Industry accounted for 37% of Sweden's total energy use in 2010. Energy use by industry has remained relatively constant since 1970, despite increasing industrial output. From 1970 to 2010, the proportion of total energy use by industry provided by biofuels, peats, etc. increased from 21% to 37%.[735]

The use of taxation as an incentive for consumers and enterprises to change their consumption pattern in the direction of a green economy is well-developed. Sweden has committed itself to using taxation and other instruments to achieve the target for carbon dioxide emissions.

The transport sector is a challenge for policy as its energy use has increased since the 1970s.[736] Current policy efforts focus on modernisation, and the promotion of electric cars and biofuels in the sector. To further reduce carbon dioxide emissions, taxation measures and pilot programmes enhancing low-carbon technologies are being promoted by the government.[737]

4.27.3 Export performance

Business Sweden was created through a merger of the Swedish Trade Council and Invest Sweden. The aim of the organisation is to strengthen the image of Sweden as an attractive business partner and to make it easier for Swedish companies to reach international markets and to create opportunities for small businesses to grow internationally.[738]

Sweden has a large and diversified export market stretching beyond Europe. The level of Swedish exports has helped the economy to perform well despite the euro-area downturn. Sweden's export market shares, however, are on a downward trend. Exports fell by 4% in 2012 due to weak external demand and the strengthening of the krona. Sweden's EU-27 exports decreased by 2%, while imports decreased by 5%.[739]

The trade balance has shown a surplus of around 7% of GDP since 2005. A structural shift appears to be taking place towards increased service exports. Traditionally, the surplus has been attributed to the goods trade but 2009 saw the surplus on services becoming larger than the goods surplus. In fact, Sweden's share in the global trade of goods has been in decline for a long time. This decline has been partly offset by the upward trend in services.[740]

Overall, Sweden's share of world exports has decreased from 1.5% in 1995 to 1.2% in 2010. Half of the loss occurred from 2005 to 2010. The product and country mix of Swedish exports is partly responsible for the decline. Around two-thirds of Swedish exports go to Europe. A shift has occurred from motor vehicles and electronic and telecommunication products to machinery and other equipment and chemicals. The share of high-tech exports remains constant at around 14% of total exports.[741]

4.27.4 Business environment and public administration

Business environment

Sweden continues to be one of the most competitive economies in the world, with a strong corporate sector. It ranks sixth in the World Economic Forum *Global Competitiveness Report 2013-14.*

In the spring fiscal policy bill, the Minister of Finance noted that the uncertain global economic situation required an adjustment to the growth forecast. The government projects a slower GDP growth of 1.2% in 2013 and of 2.2% in 2014. As a reaction to the deterioration in the labour markets, the government proposed creating an additional 14000 vocational training places for adults in 2013-14, an additional 8000 work experience and training places, and an additional 2800 tertiary education places in graduate engineering and nursing programmes.

Companies are facing the problems of weaker demand from traditional export markets and the strong krona. Currency appreciation has an impact

735 The Swedish Energy Agency, *Energy in Sweden 2012*, p. 21, 28.
736 The Swedish Energy Agency, *Energy in Sweden 2012*, p.22, 29.
737 Government Offices of Sweden, *Energy Efficiency*, accessed http://www.government.se/sb/d/16022/a/187772.
738 http://www.business-sweden.se/en.
739 http://www.scb.se/Pages/PressRelease____351447.aspx.
740 European Commission, *European economy — Macroeconomic imbalances — Sweden*, Occasional Paper, July 2012, p.9.
741 Ibid.

on profit margins and decisions on where companies invest in future production.

According to the 2013 World Bank *Doing Business* report, the time needed to start a business in Sweden is 16 calendar days, which is slightly longer than the EU average of 14 days and more than five times longer than the agreed Small Business Act target of three days by 2012.

Sweden scores very close to the EU average in terms of the time to close a business. A new law on insolvency was introduced aiming at easing the debt relief procedure. Under this new insolvency procedure, business owners and individuals who fall into personal insolvency will be allowed a five-year debt write-off programme. According to the *2012 SBA Fact Sheet*, small firms that become insolvent will be eligible for a simple and more rapid form of reorganisation.

Sweden is above average as regards access for small and medium-sized enterprises (SMEs) to public procurement and Swedish SMEs are more successful (47% vs. 38%) in winning public contracts than their EU peers. The 'Think small first' principle of the Small Business Act is well applied in policy-making and legislation.

The 2013 budget contained a number of proposals intended to improve competitiveness further. SEK 23 billion (EUR 2.67 billion) was allocated to reform measures to improve conditions for growth and competitiveness. The previous corporate tax rate of 26.3% (above the EU average) was reduced to 22% (slightly below the EU average). The government also proposed introducing tax credits for investors in order to stimulate access to finance for new and fast-growing companies. The government has announced its intention to increase research and innovation investment for 2013-16, in particular for university research and research-funding organisations. Compared with previous budgets, significantly higher expenditure ceilings for infrastructure investment — mainly road and rail — will be in place in 2013-25.

In recent years, several reforms have been implemented to facilitate company start-ups: the minimum capital has been reduced to SEK 50 000 (EUR 5 814); there is no longer a requirement to have an accountant in small firms; and improved social and income security for entrepreneurs has been introduced.

Value-added tax (VAT) for restaurants was reduced in 2012 from 25% to 12%. As the Commission has noted,[742] the effects of this on employment are uncertain, whereas the cost in terms of foregone VAT revenue is high.[743] Moreover, the measure contributes to further differentiation in VAT structure, therefore decreasing the efficiency of the tax.

The Swedish economy has traditionally been based on a strong manufacturing industry. However, the service sector has grown in importance and now accounts for approximately 65% of growth in value added. Over 60% of all enterprises are active in this sector.[744] Three out of four Swedes are employed in services. The knowledge-intensive service sector is growing and employment in it has increased by close to 20% over the past 20 years.[745]

Since the mid-2000s, the rising surplus in services trade has fully compensated for the steady narrowing of the surplus in goods trade. This development can be attributed mainly to a structural shift in some industries away from goods production to service provision (the 'servicification' of manufacturing).[746]

Public administration

Sweden's public administration is considered to be efficient and performs well.[747] According to the latest World Bank government effectiveness index, Sweden was in the 98th percentile of government effectiveness in 2011. Also, tax administration is efficient, with high compliance rates and low collection costs. The cost of tax administration is only 0.4% of revenues, as compared with an EU average of 1.3%.

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742 The Commission assessment in May 2013: http://ec.europa.eu/europe2020/pdf/nd/swd2013_sweden_en.pdf

743 Estimated at 0.1 to 0.2 % of GDP, or between EUR 400m and EUR 800m.

744 SCB:s Företagsdatabas.

745 http://www.almega.se/politik-och-ekonomi/statistik/tjanstesektorn.

746 European Commission, *European economy — Macroeconomic imbalances 2012 — Sweden.*

747 European Commission (2012), *Excellence in public administration for competitiveness in EU Member States*.

Although the Swedish government undertook in 2006 to reduce the administrative burden for businesses by 25% by 2010, the reduction achieved by 2010 was only just over 7%. Recognising the need to step up its efforts, the government has taken a series of initiatives, notably adopting a simplification programme for 2011-14. It has also commissioned a public inquiry, with a report to be published in November 2013, on the scope for reducing reporting requirements for companies.

In 2011, the government presented its focus areas for continued efforts to improve regulation in 2011–14. The work on better regulation has been broadened to include more aspects of the day-to-day reality of companies and the challenges faced by entrepreneurs. The work will focus on areas that are considered to offer the greatest potential for making a noticeable change for the better in day-to-day business:

- *Lower costs for companies:* Since 2006, the government has focused on reducing administrative costs and has now opted to increase the scope to cover other types of cost arising from regulations.
- *Reduced and simplified reporting requirements:* The aim is that, in future, businesses will in most cases need to submit information only once. The government is also carrying out an inquiry into the legal and technical requirements for creating a system in which information submitted by businesses can be used by several authorities, leading to information exchange between authorities.
- *Simpler procedures for contacting authorities at regional and local level:* The Swedish Agency for Economic and Regional Growth has been asked to take action to simplify conditions for businesses at municipal level. All county administrative boards have been asked to do the same at county level.
- *Action on proposals for better regulation from the business sector:* In 2012, the government decided on the terms of reference for a committee of inquiry aimed at providing feedback on the close to 500 proposals for better regulation submitted to government offices by the business sector since 2007.
- *A website where entrepreneurs can submit proposals,*[748] has been developed by the Swedish Agency for Economic and Regional Growth. Entrepreneurs can submit views and proposals for improved rules and procedures in contacts with government agencies.
- *Better impact assessments:* The Swedish Better Regulation Council was established in order to strengthen the work relating to impact assessments. In the 2013 budget, the government presented new objectives and follow-up measures for the process of better business regulation. All the objectives have a deadline of 2020, but are subject to continuous development and follow-up.

4.27.5 Finance and investment

Finance

Overall, Swedish SMEs enjoy financing conditions that are better than the EU average. According to the 2012 Small Business Act (SBA) fact sheet, Sweden performs well in the area of access to finance. The indicators show that Swedish SMEs have a lower risk of seeing a loan application rejected and are satisfied with access to public financial support. As for venture capital, Swedish firms are more likely than the EU average to attract venture capital. Based on its assessment of legal rights, investor protection and the availability of credit information, the World Bank ranks Sweden as number 40 out of 185 for obtaining credits.

Almi Företagspartner is the public body that works to facilitate access of SMEs to finance in Sweden. It is state-owned and has 40 offices in the country. It offers credit, venture capital and counselling to SMEs. Almi provides financing to SMEs directly, not via intermediaries. It has own funds of EUR 550 million for lending and finances companies in all lines of business. In 2011, EUR 202 million in lending was provided, with

748 www.enklareregler.se

about 60 % going to micro companies. Write-offs constituted less than 2 %.

Investment

The investment climate in Sweden is strong thanks to political stability, an efficient civil justice system and stable macro-economic conditions. Procedures for new investment in Sweden are straightforward.[749]

Measures have been taken to invest in innovation infrastructure in Sweden. They include the construction of the European Spallation Source (ESS), a materials research facility for scientific research using the neutron scattering technique. The budget for ESS is estimated at around SEK 11.9 billion (EUR 1.38 billion). The ESS is expected to be a world leader in material research and life sciences.

Another major project is the Max IV, a synchrotron light laboratory. Research will be carried out in the fields of accelerator physics and nuclear physics. It is believed that these research facilities will prove to be fertile ground for scientific breakthroughs in the years to come.

In addition, Sweden aims to create Europe's most attractive conditions for e-trade by 2015. To establish a digital market, the government intends to increase broadband access in rural areas.

4.27.6 Conclusions

Sweden is one of the most competitive economies in the world, with a strong corporate sector. The 2013 budget contains a number of proposals intended to improve Sweden's competitiveness further, including reform measures to enhance the conditions for growth.

There is scope for improvement in the business environment. The 16 day business start-up time is slightly above the EU average of 14 days and over five times longer than the Small Business Act target of three days.

Sweden's innovation performance is one of the best in the world. According to the 2013 Innovation Union Scoreboard, Sweden continues to be the EU innovation leader. A new Research and Innovation Bill, which was adopted in October 2012, contains priorities for 2013-16 as part of the new innovation strategy aiming at strengthening the links between R&D investments and economic growth.

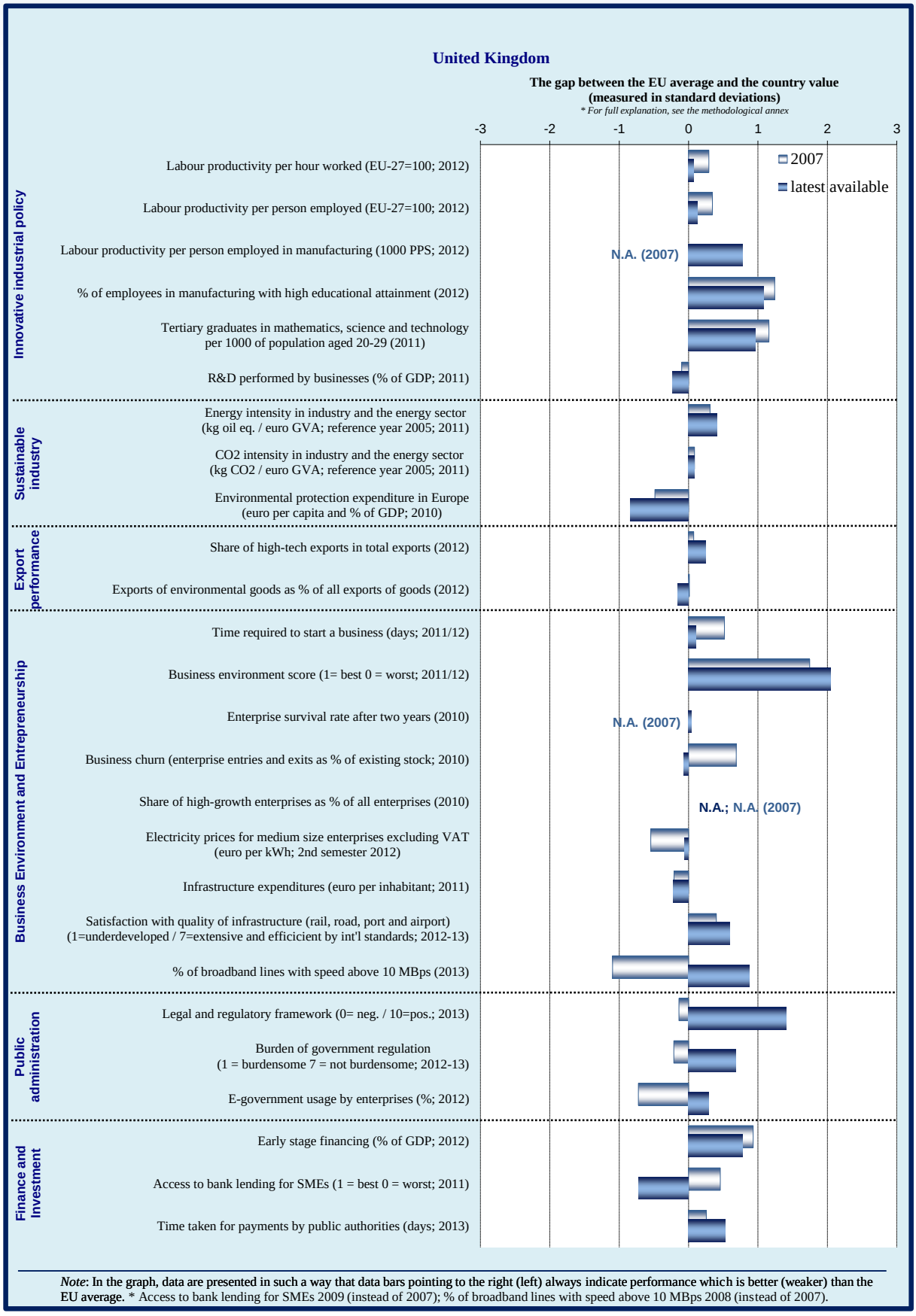
A challenge for the Swedish innovation system is to ensure that the high R&D expenditure is translated into commercially viable products that yield economic growth in the future. In addition, Sweden needs to safeguard domestic R&D investments as there are signs of increased investment and relocations abroad.

Sweden's public administration is considered to be efficient and performs well with regard to government effectiveness. The government has put forward a series of initiatives to simplify the administrative burden for businesses, taking into account companies' day-to-day reality.

The size of the export market has helped the economy to perform well despite the euro-area downturn. However, Sweden's export market shares are on a negative trend and companies are facing problems arising from weaker demand from traditional export markets. Exports fell by 4 % in 2012 due to weak external demand and the strengthening of the Swedish currency. The uncertain global economic situation has slowed economic growth and required a downward adjustment of the economic growth forecast.

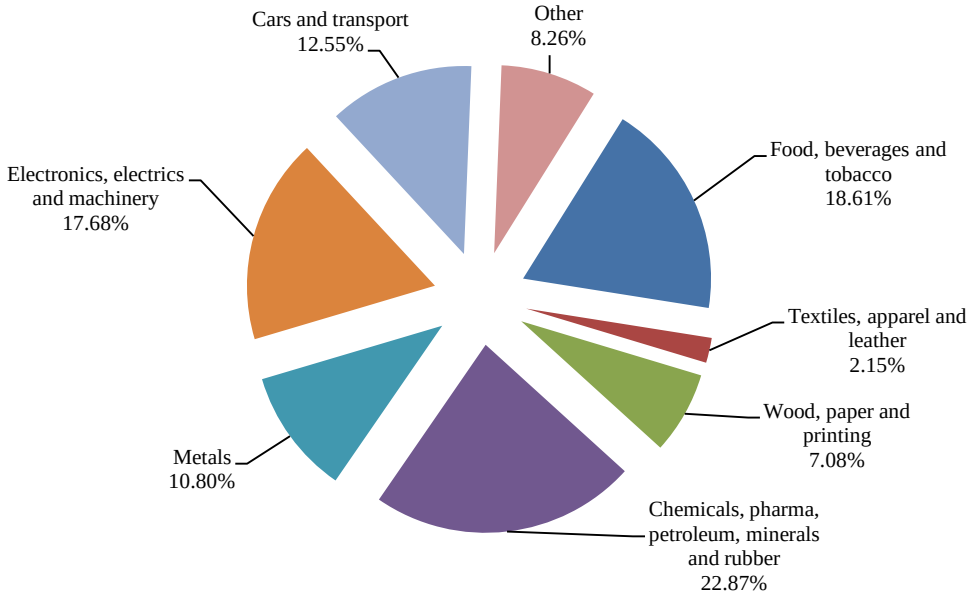
[749] Sweden Taxation and Investment, Deloitte 2012.

4.28. United Kingdom



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. * Access to bank lending for SMEs 2009 (instead of 2007); % of broadband lines with speed above 10 MBps 2008 (instead of 2007).

Figure 4.26: Manufacturing sectors – United Kingdom (2010)



Source: Eurostat

4.28.1 Introduction

Manufacturing plays a less important role in the UK than in the EU as a whole, contributing 10.7 %[750] of the total value added compared with an EU average of 15.5 %. However, companies in the technology sector are geared towards the high end, such as the R&D-intensive aerospace and pharmaceutical industries that make significant contributions to the manufacturing sector overall.

Labour productivity growth has been weak but, as is the case with exports, the broader data hide significant differences between industry and services. Between 2000 and 2010, labour productivity growth[751] in services was the seventh highest in the EU, while in industry it ranked sixteenth. The preponderance of high value-added financial services and structural problems in the industrial sector are likely to have contributed to this gap. The latest strong employment data,[752] combined with the weak GDP growth, are likely to further dampen overall labour productivity growth.

4.28.2 Innovation, skills and sustainability

Innovation

The UK scores well on many research and innovation indicators, such as high quality publications, patents capable of generating significant revenues, and the share of the workforce employed in knowledge-intensive activities. This is despite lower than average (1.8 % of GDP) spending on R&D,[753] which can be partly explained by the low share of the industrial sector in the economy, as services tend to be less research-intensive than manufacturing, but also because the UK seems better at creating knowledge than disseminating it across the economy, as suggested by the relatively low share of SMEs introducing product or process innovations and of sales of new-to-market or new-to-firm innovations.

Innovation is high on the government's agenda, featuring prominently in its 2012 Industrial Policy Strategy, and significantly, funding to research was not touched in recent budget cuts. Innovation is supported in various ways, ranging from the general to the very specific. R&D investment can benefit from substantial tax deductions, which can reach 130 % of the total for large companies, and 225 %

750 2011 Eurostat data.

751 DG ECFIN data, based on public sources (Eurostat National Accounts and the OECD STAN database), cited in the UK in-depth review available at http://ec.europa.eu/europe2020/pdf/nd/idr2013_uk_en.pdf

752 In the third quarter of 2012 the employment rate reached 70.5 %, the highest rate since 2008.

753 Figures from ONS.

for SMEs if they meet certain requirements, namely that they be used for technological and scientific innovation. Public procurement policies target specific innovative projects, such as the hybridisation of the existing truck fleet. There are many other initiatives and support schemes, including an interesting one to support disruptive technologies that have high growth potential, as identified by the Technology Strategy Board. The Board is also continuing to build a network of Catapult Centres to help commercialise research. Four Catapults Centres are already operational (high value manufacturing; cell therapy; offshore renewable energy; and satellite applications) and three others (connected digital economy; future cities; and transport systems) are set to start operating in 2013. The UK, according to a recent higher education ranking[754], has four of the top five universities in Europe and thus can have a competitive advantage when trying to attract investors in high technology; increase interaction between researchers and companies; and commercialise output from publicly funded research. The good[755] collaboration between academia and business is supported through the Higher Education Innovation Fund, which can call on an annual budget of GBP 150 million. The Knowledge Transfer Networks, created by the Technology Strategy Board, have similar aims, and currently connect over 43 000 business members and 14 000 non-business ones.

Another of the government's goals is to encourage innovation among SMEs that are less likely to engage in innovative activities on their own. A national innovation voucher scheme has been created for this purpose. The business receiving the voucher, worth GBP 5 000, can use it to explore innovative ideas with a specialist firm or individual.

Skills

The UK performs much better than the EU average (45.8 % as against 34.6 %) in terms of tertiary education, i.e. the percentage of 30-34 year-olds with a university or college degree. In terms of entrepreneurship: the share of the population believing to have the required skills and knowledge to start a business is above the EU average (47 % as opposed to 42 %). However the UK underperforms in early school leaving has a relatively high number of adults with low basic skills, and there are shortcomings in the quality of vocational skills training. This leads to a labour market characterised by a shortage of workers with good vocational or technical skills, while at the same time some workers are over-qualified.

The government has consequently focused on school education and vocational training in recent years. There has been a significant increase in the number of apprenticeships, in particular at the higher vocational level, and further places will be available for graduate and postgraduate levels in engineering. This is important considering that higher level vocational skills are needed for the economy. In addition to apprenticeships, employers and universities will cooperate establishing 24 University Technical Colleges emphasising engineering and business skills.

Public-private partnerships are central to the reforms. Under the Employer Ownership programme, the government invests along with the employer to raise employees' skills and to provide incentives for employers to offer apprenticeships. The aim is to move away from a centrally planned approach and use sector-specific and local decision-making through the involvement of local enterprise partnerships. The belief is that colleges and training providers can better respond to the needs of trainees and employers. This approach should improve the availability of the right skills and thus boost productivity and job creation.

Sustainability

The UK is likely to meet its carbon emission targets and the energy intensity and CO_2 intensity of its industry are lower than the EU average. The government confirmed its commitment to sustainable growth with several initiatives launched in 2012. The Electricity Market Reform programme that was part of the November 2012 energy bill provides certainty to investors, speeding up investment in new infrastructure. The government has also increased funding for low-carbon infrastructure through the levy control framework. Under this scheme, spending will rise to GBP 7.6 billion in real terms in 2020/21.

754 http://www.timeshighereducation.co.uk/world-university-rankings/2012-13/world-ranking/region/europe.

755 According to the WEF, the UK is the second highest performer in the world in this regard: http://www.globalinnovationindex.org/gii/main/fullreport/files/Chap4/5/5.2.1.pdf.

The 'green deal' scheme has become operational. It enables energy efficiency in residential buildings to be improved without the need to pay the full cost upfront. Upgrades are financed through loans that are repaid through energy bills. The green deal is supported by a Green Investment Bank, for which state aid has been approved. The Green Investment Bank focuses on energy saving and emissions, but also promotes issues like better waste disposal. The government will provide the bank with funding of up to GBP 3 billion. Its impact will be leveraged as capital is being invested along with private investors. According to the bank, the ratio is currently at around one to three, as it has committed GBP 635 million in its first five months of operation for transactions totalling GBP 2.3 billion. Additional efforts will target the construction sector, following the low carbon roadmap for the built environment, as launched by the Green Construction Board. It provides for cooperation between government and industry with a view to achieving an 80% emissions reduction target by 2050.

Finally, the Office for Low Emission Vehicles is supporting initiatives to drive the emergence of a market for such vehicles. In particular, the office is prioritising the rollout of recharging infrastructure. This is also being supported by the Local Transport Sustainability Fund, which can call on GBP 600 million funding from the Department of Transport. There are additional incentives for buyers of low emission vehicles; GBP 300 million has been allocated to grants for plug-in cars and plug-in vans. These grants cover 25% and 20% respectively of the cost of eligible vehicles, in order to reduce the cost differential with conventional vehicles. Sustainable transportation is also supported by other measures to upgrade existing fleets. Local authorities often have their own schemes, ranging from financial incentives to free or subsidised parking and charging.

4.28.3 Export performance

The current account has gradually deteriorated over the last two decades, and has been consistently negative. However, here again the average figures mask a two-stream economy. The UK is the second largest exporter of services in the world after the US, but has a large deficit in the trade of goods. In 2012, exports of goods accounted for 62%[756] of total British exports, while they make up 80% of global trade. The trade in goods is divided roughly equally between the EU and third countries, but three-fifths of services exports go outside the EU. As these markets are growing more rapidly, this suggests that there is still growth potential for banking, ICT and consultancy services.

The drop in value of the pound has not lead to an increase in exports, contrary to the situation after the 1992 devaluation. This suggests that there are deeper causes such as a scarcity of critical skills, infrastructural bottlenecks, and a lack of access to finance for would-be exporters. On the last point, the government has taken action, as the UK Export Finance agency has been given funding to provide up to GBP 1.5 billion in loans for exports.

Furthermore, UK Trade & Investment, a government agency, has been given GBP 140 million more for the next two years to help SMEs in export markets, help them win contracts for high-value projects and promote inward investment. For example, more SMEs will be able to benefit from the 'Passport to Export' programme which aims to improve SMEs' chances of export success by helping them through a tailored, twelve month long assistance programme.

4.28.4 Business environment and public administration

Business environment

According to rankings, such as the World Bank's 'Doing Business' report, the UK is a consistent top performer in most aspects of the business environment. However, there are still problems concerning the planning rules and the slow and uncertain planning process, despite renewed efforts to remove bottlenecks. The government published a new National Planning Policy Framework in 2012 that replaced over 1000 pages of planning policy guidance with around 50, and introduced new pro-growth reforms such as the presumption in favour of sustainable development.

Improving infrastructure has been recognised as a critical issue by the government. To coordinate and

[756] Source of this and the following figures: Office for National Statistics.

speed up procedures, a new infrastructure planning unit has been set up to liaise between local authorities and stakeholders. There are encouraging signs that this is having an effect, although planning is still difficult because of the political sensitivity at local level and the number of people involved. The National Infrastructure Plan was revised in December 2012 to focus more closely on growth. Most of the spending increases will go to energy and transport infrastructure. However, other priority areas will also benefit, including the roll-out of broadband to rural areas. A GBP 310 billion infrastructure funding pipeline will provide clarity for investors on the timeline of future projects. The UK authorities are launching initiatives to mobilise private financing and funding for specific infrastructure investment; such steps could reduce the gap between identified needs and committed funds, but their effectiveness remains to be proven.

Public administration

Firms are generally appreciative of the quality and speed of public administration. The government itself has set ambitious targets to further reduce the regulatory burden and to use e-government tools as much as possible. The 'one in-one out' regulatory target has now been substituted with the even more ambitious 'one in-two out' rule, whereby the government commits to adding new regulations only when a regulatory burden twice as heavy is removed. To help to deliver on this, the government has launched the 'red tape challenge', a project to analyse all government regulations to determine what is necessary and what can be made less burdensome. While 'one in, two-out' is an ambitious target to attain and measure, it helps guide and focus the authorities' efforts to reduce red tape, and makes it difficult to add burdensome new rules. Another strategy currently being implemented is 'digital by default', which underpins the government's digital strategy.[757]

SMEs in the UK find it more difficult than the EU average to access public contracts. The government has a target that 25 % of public procurement should go to SMEs. The current figure is 12 %. The government is reviewing its public procurement system to make it easier to participate. For instance, a variety of pre-qualification questionnaires have been standardised. But there is resistance among the ministries and agencies to centralising procurement. Additional difficulties have been caused by the devolution of powers to local governments, as this makes it more difficult to streamline and coordinate public procurement.

4.28.5 Finance and investment

Access to finance has become difficult in the recession, in particular due to the banking crisis. However, the situation differs depending on the kind of finance needed, and on the type of business needing it. Large firms can access the bond market at low rates, but SMEs rely mainly on bank loans, which are not easily obtained and only under restrictive conditions.

Several factors have contributed to this situation, including the lack of competition[758] in banking; the fact that non-banking sources of finance have been slow to emerge; constraints on demand and deleveraging in both the financial and non-financial sectors.

Both companies and the government believe that the Funding for Lending scheme, which aims to boost lending to the real economy, has had a positive effect. Wholesale bank funding costs have fallen by over 1 percentage point since June 2012 and there has been a significant increase in credit availability since the scheme started in August 2012, especially for larger firms. Improved credit conditions have been more visible in the construction and real estate sectors.[759] The government has announced expansions to the scheme to extend its scope to non-bank credit providers and to increase incentives to lend to SMEs.

SMEs still report problems in accessing credit, and the conditions for credit are worse than in other EU countries. In particular, the interest rate differential between smaller and larger loans is particularly high. The government has sought to make banks

[757] See http://publications.cabinetoffice.gov.uk/digital/strategy/.

[758] The six main players in the banking sector cover over 70 % of the market; there are encouraging but still small signs of others (Santander, Handelsbanken) increasing their attention to the company loan market.

[759] According to Bank of England data, lending to firms fell by 3.1 % in 2012, despite banks drawing almost £ 14 billion from the FLS between August and December. Funding can thus be considered to have flown into mortgages rather than company loans.

more resilient to shocks by requiring them to increase their capital. This has resulted in strict lending criteria which are keeping money from flowing to the real economy. The outcome is a complex situation whereby banks are under pressure to make their balance sheets more solid while at the same time numerous schemes to improve access to finance for companies are being introduced or expanded.

SMEs report difficulties in navigating the various support programmes, which include not only the access to finance schemes but also measures managed by specialised institutions (mainly UK Trade and Industry, and UK Export Finance), to help companies to export. The government plans to facilitate access by giving firms a full overview of the different programmes through gov.uk, its online portal for government services and information. The government also wants to work closely with professionals in the field, accountants in particular, and use the British Business Bank as a catalyst for all programmes and services. This bank will be a wholesale provider of funds, created by consolidating existing schemes. It has been given over GBP 1 billion of new capital to provide the economy with more long-term financing and to increase the diversity of financing options. It has been well received by the business community, and state aid approval is currently pending.

The government is planning to facilitate equity investment by expanding the tax relief offered to early stage investors. It has introduced the Seed Enterprise Investment Scheme, which provides income tax relief of 50 % to individuals who invest in start-ups. It has also introduced more targeted schemes to encourage or scale-up equity investment such as the Enterprise Capital Fund which combines public and private funds to provide equity financing to SMEs in high-tech sectors.

There are indications that new financing alternatives are emerging. In particular, peer-to-peer lending is expanding, as are platforms that allow companies to exchanging their receivables for cash and supply-chain financing by larger companies, supported by the Business Finance Partnership. All these alternatives are still small in scale, but they show that there is potential for further diversification. The government is also actively encouraging alternative forms of financing. Thus, there is potential for companies to access a more diverse range of financing options and to be better able to match their specific financing needs with the right instrument.

4.28.6 Conclusions

The UK has a business-friendly environment, a generally efficient public administration, and a positive climate for research and innovation. In particular, the strong links between business and academia help to commercialise research and innovation. It would seem that the credit flow is improving, but so far the beneficiaries have been large firms and the real estate sector. SMEs continue to report difficulties in accessing finance; but though bank loans are hard to get, small signs of improvement are visible in the availability of alternative finance, including peer-to-peer lending and receivables exchange platforms.

The economy is advanced in terms of sustainability, and is less energy and resource intensive than the EU average. However, the industrial sector has problems with competitiveness that can be seen in the persistent deficit in the trade in goods. The main reasons are the infrastructure bottlenecks, a lack of skills (for instance in engineering), and a lack of finance for SMEs. However, the service sector is one of the most competitive in the world, and contributes significantly to the current account balance.

5 Annex: Methodology and indicators used

5.1. Definitions of the indicators

Name of Indicator	Definition
The EU industry in 2013: state of play	
Gross Value Added	Gross Value Added (GVA) (ESA95, 8.11) is the net result of output valued at basic prices less intermediate consumption valued at purchasers' prices. Output (ESA95, 3.14) consists of the products created during the accounting period. Intermediate consumption (ESA95, 3.69) consists of the value of the goods and services consumed as inputs by a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital. The goods and services may be either transformed or used up by the production process. GVA is also available broken down by industries according to NACE Rev. 1.1 in the breakdowns collection. GVA is calculated before consumption of fixed capital. Private industry is the part of a country's economy that consists of privately owned enterprises and is not state controlled, and is run by individuals and companies for profit. The private sector encompasses all for-profit businesses that are not owned or operated by the government. Companies and corporations that are government run are part of what is known as the public sector. Constant prices are obtained by directly factoring changes over time in the values of flows or stocks of goods and services into two components reflecting changes in the prices of the goods and services concerned and changes in their volumes (i.e. changes in "constant price terms"); the term "at constant prices" commonly refers to series which use a fixed-base Laspeyres formula. Current price refers to the most recent period for which an indicator has been computed or is being computed. However, the term is widely used to refer to any period that is compared with the price reference or indicator reference period. *Source: Eurostat*
Evolution of investment components in the EU (index)	Evolution of investment components in the EU is measured by the evolutions of the gross fixed capital formation (GFCF) where GFCF consists of resident producers' investments, deducting disposals, in fixed assets during a given period. It also includes certain additions to the value of non-produced assets realized by producers or institutional units. Fixed assets are tangible or intangible assets produced as outputs from production processes that are used repeatedly, or continuously, for more than one year. Data have been seasonally adjusted and adjusted by working days in millions of national currency, chain-linked volumes; reference year 2005. *Source: Eurostat*
Manufacturing production indexes	The objective of the production index is to measure changes in the volume of output at close and regular intervals, normally monthly. It provides a measure of the volume trend in value added over a given reference period. The production index is a theoretical measure that must be approximated by practical measures. Value added at basic prices can be calculated from turnover (excluding VAT and other similar deductible taxes directly linked to turnover),

	plus capitalised production, plus other operating income plus or minus the changes in stocks, minus the purchases of goods and services, minus taxes on products which are linked to turnover but not deductible plus any subsidies on products received. The division of production in construction between building construction and civil engineering is based on the classification of types of construction (CC). The reference period is year 2010 and the unit is index or percentage change (%). *Source: Eurostat, Bureau of Economic Analysis (BEA), Ministry of Economy, Trade and Industry Japan*
Manufacturing employment	Manufacturing employment measures employment expressed in person in private industry subsection manufacturing. Population and employment are auxiliary indicators in the national accounts (macroeconomic indicators, which provide an overall picture of the economic situation and are largely used for economic analysis and forecasting). *Source: Eurostat, Bureau of Labour (BEA), Ministry of Economy, Trade and Industry Japan*
Year-to-year growth rate of loans to non-financial corporations	Year-to-year growth rate of loans to non-financial corporations is annual growth of the balance sheet item: loans to non-financial corporations where the balance sheet is a financial statement that summarizes a company's assets, liabilities and shareholders' equity at a specific point in time. The balance sheet must follow the following formula: Assets = Liabilities + Shareholders' Equity. BSI statistics refer to either the aggregated or the consolidated balance sheet of the Monetary Financial Institutions (MFI) sector. The aggregated balance sheet is the sum of the balance sheets of all the MFIs resident in the euro area. The consolidated balance sheet is obtained by netting the aggregated balance sheet positions between MFIs in the euro area. The consolidated balance sheet provides the basis for the regular analysis of euro area monetary aggregates and counterparts. The sector non-financial corporations consists of institutional units whose distributive and financial transactions are distinct from those of their owners and which are market producers, whose principal activity is the production of goods and non-financial services. The growth rate computations refer to an index of notional stocks, rather than to the stock data directly. The index of notional stocks is computed as a chain index I(t)=I(t-1)x[1+F(t)/S(t-1)], where F(t) are transactions during the period and S(t-1) are stocks at the end of the previous period. Data collections are based on a census rather than a sample. *Source: ECB, Federal Reserve, Bank of Japan*
Bank nonperforming loans to total gross loans	Bank nonperforming loans to total gross loans are the value of nonperforming loans divided by the total value of the loan portfolio (including nonperforming loans before the deduction of specific loan-loss provisions). The loan amount recorded as nonperforming should be the gross value of the loan as recorded on the balance sheet, not just the amount that is overdue. Nonperforming loan is a sum of borrowed money upon which the debtor has not made scheduled payments for at least 90 days. *Source: World Bank*

Percentage of non-performing loans by sector of activity	Percentage of non-performing loans by sector of activity are the values of nonperforming loans divided by the total value of the loans in a breakdown by sector of activity (industry, construction, services and real estate) and the non-performing loan is a sum of borrowed money upon which the debtor has not made a schedules payments for at least 90 days. *Source: Bank of Spain*
Extra and intra EU trade	International trade in goods statistics cover both extra- and intra-EU trade: Extra-EU trade statistics cover the trading of goods between Member States and a non-member countries. Intra-EU trade statistics cover the trading of goods between Member States. "Goods" means all movable property including electricity measured in volume indices (2000=100). *Source: Eurostat, CPB World Trade Monitor*
EU unit price of exports	Unit value is the expenditure or value of production of an item divided by the quantity. Foreign trade unit value indices are indicators describing price dynamics of exported and imported goods. The export/import unit value index characterises changes in the price level of exported and imported goods within the reporting period against the base period. The unit value index is a "price" index that measures average value changes in a heterogeneous cluster of units. Therefore, it may be influenced by changes both in the composition of this cluster and in individual prices. Indices are calculated by Eurostat, using a common methodology and computer programs: monthly raw data are processed at the most detailed level in order to calculate elementary unit-values defined by trade value/quantity. These unit-values are divided by the average unit-value of the previous year to obtain elementary unit-value indices, from which outliers are detected and removed. Elementary unit-value indices are then aggregated over countries and commodities, by using the Laspeyres, Paasche and Fisher formulae. Finally, the Fisher unit-value indices are chained back to the reference year (2000=100) and are used to approximate the import and export price movements. Value-indices are calculated as the percentage change between the trade value of the current month and the average monthly trade value of the previous year. These value indices are used to derive volume indices as follows: value index = unit-value index x volume index. The growth rates of unit-value and volume indices enable the user to decompose value changes into price and volume components. *Source: Eurostat*
Export revenue / operating average ratio of SMEs	Export revenue divided by the operating average ratio of SMEs Revenue is calculated by multiplying the price at which goods or services are sold by the number of units or amount sold. It is the "top line" or "gross income" figure from which costs are subtracted to determine net income. Operating ratio shows the efficiency of a company's management by comparing operating expenses to net sales or revenue. The smaller the ratio, the greater the organization's ability to generate profit if revenues decrease. Operating expenses refer to the on-going cost of running a product, business or system and is a category of expenditure that a company incurs as a result of performing its normal business operations. *Source: AMADEUS, own calculations*

Exports of environmental goods	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). The notion of 'eco-industry' refers to sectors whose products measure, prevent, limit, minimise or correct environmental damage. The trade codes considered to cover eco-industry goods are those identified in the Ecorys study on the 'Competitiveness of the EU eco-industry' (pages 190/191) of 22 October 2009, carried out for DG Enterprise and Industry. Due to the reclassification of the Comext products codes, please find the updated list below (TABLE: Comext eco-products codes and descriptions) *Source: European Commission (DG Enterprise and Industry) calculations on the basis of Eurostat/COMEXT data*
Current account adjustment (% GDP)	Current account adjustment is expressed as the ratio between net balance of payments and Gross Domestic Product main components at current prices. The balance of payments (BoP) is a statistical statement that systematically summarises, over a given period of time, all the transactions of an economy with the rest of the world. The balance of payments records all economic transactions undertaken between the residents and non-residents of a country during a given period. A transaction is defined in the BPM5 as an economic flow that reflects the creation, transformation, exchange, transfer, or extinction of economic value and involves changes in ownership of goods and/or financial assets, the provision of services, or the provision of labour and capital. Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory. *Source: Eurostat*
Change in demand for skills in the manufacturing sector between 2010 and 2020	Comparison of change in demand for skills between 2010 and 2020 in manufacturing sector with distinction for food, drink and tobacco, engineering and rest of manufacturing, dynamics manufacturing was also compared with change in all sectors. *Source: CEDEFOP*
Skill and labour shortages in European manufacturing companies	Skill and labour shortage in European manufacturing companies expressed as percentage excess of demand over supply of available workforce with distinction between skilled and low skilled and unskilled. Labour shortage indicator (LCI) shows proportion of manufacturing companies that consider labour shortages, regardless of skill level, being a factor so severe that it may limit their production. *Source: Eurofund, "European Company Survey" European Commission "Business Survey"*
Unit labour cost	Unit labour costs (ULC) measure the average cost of labour per unit of output and are calculated as the ratio of total labour costs to real output. In broad terms, unit labour costs show how much output an economy

	receives relative to wages, or labour cost per unit of output. ULCs can be calculated as the ratio of labour compensation to real GDP. It is also the equivalent of the ratio between labour compensation per labour input (per hour or per employee) worked and labour productivity. *Source: OECD*
Fixed capital formation	Evolution of investment components in the EU is measured by the evolutions of the **gross fixed capital formation (GFCF)** where GFCF consists of resident producers' investments, deducting disposals, in fixed assets during a given period. It also includes certain additions to the value of non-produced assets realized by producers or institutional units. Fixed assets are tangible or intangible assets produced as outputs from production processes that are used repeatedly, or continuously, for more than one year. Data have been seasonally adjusted and adjusted by working days in millions of national currency, chain-linked volumes, reference year 2005. *Source: Ameco*
Real effective exchange rate	Nominal effective exchange rate deflated by nominal unit labour costs (total economy) relative to a panel of 36 countries (EU-27 + 9 other industrial countries: Australia, Canada, United States, Japan, Norway, New Zealand, Mexico, Switzerland, and Turkey). 1999=100 for all countries. A rise in the index suggests deterioration in competitiveness. The figure for each country is calculated against the rest of the countries belonging to the panel. The EU aggregate figure is calculated against the non-EU-27 countries belonging to the panel. *Source: European Commission (DG ECFIN)*
Manufacturing and Construction (as % of GDP at factor costs)	Share of manufacturing and construction in Member States' total value added (based on Gross value added at basic prices). *Source: Eurostat*
Country share in EU manufacturing	Share of manufacturing value added by Member State in total EU manufacturing value-added. *Source: Eurostat*
Innovation Union Scoreboard	Composite indicator built on the basis of 24 indicators (0=lowest possible performance, 1=maximum possible performance). *Source: Innovation Union Scoreboard 2013; European Commission*
Energy intensity in industry (including construction) and the energy sector	Energy consumption in kg of oil equivalent per euro of gross value-added (chain-linked volumes, reference year 2000, at 2000 exchange rates). Due to data availability and to the structure of the Eurostat database on energy and national accounts and of European Economic Area greenhouse gas inventories, the indicators of energy and carbon intensity include a broader, consistent definition of industry and provide information for all Member States (with the exception of Malta) for the most recent available year. Both aggregates (energy consumption and emissions) are related to the consistent gross value added data at constant prices (2000 as the reference year). For ease of comparability between sectors and countries, energy intensity is measured as the ratio between consumption and total gross value added in the energy sector and industry (including construction and the non-energy sector). In particular, energy intensity calculations refer to final energy consumption in industry (including construction), final non-energy consumption (i.e. for chemical reduction activities)

	and consumption in the energy sector. Energy consumption refers to: B_101800 - Final energy consumption in industry (including construction) + B_101600 - Final Non-energy consumption + B_101300 - Consumption in Energy Sector. GVA refers to NACE sections C: Mining and Quarrying, D: Manufacturing, E: Electricity, Gas and Water Supply and F: Construction. *Source: Eurostat ("environment and energy' and 'national accounts")*
Innovative industrial policy	
Labour productivity per hour worked	Gross Domestic Product in Purchasing Power Standards per hour worked relative to EU-27 (EU-27=100) *Source: Eurostat*
Labour productivity per person employed	Gross Domestic Product in Purchasing Power Standards per person employed relative to EU-27 (EU-27=100) *Source:* Eurostat
Unit labour costs in manufacturing	Development (2000=100) of the following ratio: Total compensation of employees in manufacturing (in nominal values) divided by total valued added in manufacturing (in constant prices). *Source: OECD*
Tertiary graduates in science and technology per 1000 of population aged 20-29	Number of new science and technology graduates (levels 5 and 6 of the International Standard Classification of Education-ISCED97) divided by 20-29 years old population and then multiplying by 1000. The term 'science' includes the following fields of education (ISCED): life sciences, physical sciences, mathematics, statistics and computing, while technology refers to graduates in engineering, manufacturing and construction. The indicator includes new tertiary graduates in a calendar year from both public and private institutions completing graduate and post graduate studies compared to the age group of 20-29 years old population that corresponds to the typical graduation age in most countries. *Source: Eurostat*
R&D performed by businesses	The indicator covers all expenditures for R&D performed within the business enterprise sector (BERD) on the national territory during a given period, regardless of the source of funds. The data on this indicator are gathered by Eurostat which applies the guidelines laid out in the Frascati Manual, the 'Proposed standard practice for surveys of research and experimental development' (OECD, 2002). Note: Gross domestic expenditure on R&D is composed of Business enterprise expenditure on R&D, Higher education expenditure on R&D, Government expenditure on R&D and Private non-profit expenditure on R&D. *Source: Eurostat*
Public R&D expenditure	The indicator covers all R&D expenditures in the government sector (GOVERD) and the higher education sector (HERD). *Source: Eurostat*
Key enabling technologies (KETs)	KETs are composed of six core technologies: micro-/nanoelectronics, nanotechnology, photonics, advanced materials, industrial

	biotechnology and advanced manufacturing technologies. *Source: Calculations by European Commission/ZEW/NIW based on Patstat and UN Comtrade data*
Export performance	
Total exports as % of GDP	Value of Intra and Extra EU exports by Member State as % of GDP. *Source: Eurostat*
Country share of total EU goods and services exports	International trade in goods and services covers both extra- and intra-EU trade. Extra-EU trade statistics cover the trading of goods between Member States and non-member countries. Intra-EU trade statistics cover the trading of goods between Member States. 'Goods' means all movable property including electricity. *Source: Eurostat*
Domestic value added of exports	Value Added Export Ratio – Total domestic value added share of gross exports, %. *Source: OECD – WTO; TiVA (Trade in Value Added)*
Knowledge intensive exports	Export values of Non-financial knowledge intensive services divided by total exports of services, and export values of Medium and Hi-tech goods divided by total exports of goods. <u>Non-financial knowledge intensive services</u> Following the same definition as that used in the Innovation Union Scoreboard, Non-financial knowledge intensive services (NFKIS) include the following: passenger and freight services for air and sea transport, space transport, communications services, insurance services, computer services, operational leasing services, legal, accounting, management consulting and public relations, advertising, market research and public opinion polling, research and development, architectural, engineering, and other technical business services. *Source: data are calculated from the United Nations Balance of Payments (exports of services)* <u>Medium and Hi-Tech goods</u> Following the same definition as that used in the Innovation Union Scoreboard, Medium and Hi-Tech goods (MHT) include (SITC rev 3 code in brackets): Synthetic and other man-made fibres suitable for spinning (266-267), Alcohols, phenols, Carboxylic acids and their derivatives (512-513), Radioactive and associated materials (525), Pigments, paints, varnishes and related materials (533), Medicinal and pharmaceutical products (54), Perfumery, cosmetic or toilet preparations (553-554), fertilisers (562), plastics (57-58), Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products (591), Explosives and pyrotechnic products (593), Prepared additives for mineral oils and the like; prepared liquids for hydraulic transmission; anti-freezing preparations and prepared de-icing fluids; lubricating preparations (597), miscellaneous chemical products n.e.s. (598), articles of rubber, n.e.s. (629), fabrics, woven, of man-made textile materials (not including narrow or special fabrics) (653), Pig-iron and the like, ingots and other primary forms, tubes, pipes, hollow profiles, pipe fittings of iron or steel (671-672-679), power-generating machinery and equipment and machinery specialised for particular industries (71-72), machine tools except parts (731-733-737), general industrial machinery and equipment, n.e.s. (74), office machines and automatic data-processing machines (75), telecommunications and sound-recording and reproducing apparatus and equipment (76), electrical machinery,

	apparatus and appliances, n.e.s., and electrical parts (77), road vehicles (including air-cushion vehicles) (78), other transport equipment (79), sanitary, plumbing and heating fixtures and fittings, n.e.s. (812), professional, scientific and controlling instruments and apparatus, n.e.s. (87), photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks (88) and miscellaneous manufactured articles, n.e.s. (89). *Source: data are compiled from the UN database Comtrade (exports of goods).*
Knowledge-intensive services exports as % of total services exports:	Numerator: Exports of knowledge-intensive services are measured by the sum of credits in EBOPS (Extended Balance of Payments Services Classification) 207, 208, 211, 212, 218, 228, 229, 245, 253, 260, 263, 272, 274, 278, 279, 280 and 284. Denominator: Total services exports as measured by credits in EBOPS 200 The indicator measures the competitiveness of the knowledge-intensive services sector. Knowledge-intensive services are defined as NACE classes 61-62 and 64-72. These can be related to the above-mentioned EBOPS classes using the correspondence table between NACE, ISIC and EBOPS as provided in the UN Manual on Statistics of International Trade in Services (UN, 2002). *Source: UN, Eurostat*
Share of high-tech exports	Share (in %) of intra- and extra-EU-27 exports of all high technology products in total intra- and extra-EU-27 exports. High technology products comprise: Aerospace, Computers office machines, Electronics-telecommunications, Pharmacy, Scientific instruments, Electrical machinery, Chemistry, Non-electrical machinery, Armament. *Source: Eurostat*
Business Environment and entrepreneurship	
Business environment score	Score calculated from Doing business data with seven indicators: Starting a business, Dealing with construction permits, Registering property, Getting credit, Protecting investors, Enforcing contracts and Resolving insolvency. Each indicator is normalised to a figure between 0 and 1, where 0 is the worst possible member State performance and 1 the best one. The country score for a given year is the simple average of the seven figures. *Source: World Bank Doing Business 2013*
Performance in business environment indicators	Calculation done on the basis of World Bank Doing business data with seven indicators: Starting a business, Dealing with construction permits, Registering property, Getting credit, Protecting investors, Enforcing contracts and Resolving insolvency. *Source: World Bank Doing Business 2013*
Electricity prices for medium-sized enterprises	Average national price in Euro per kWh excluding taxes, applicable for the first semester of each year for medium-sized industrial consumers (annual consumption between 500 and 2000 MWh). The indicator does not cover small enterprises for reasons of data availability, nor large enterprises, since the latter often have individual contracts with energy providers. Prices refer to the second half of the year. *Source: Eurostat*

Satisfaction with the quality of infrastructure	Average mark given by business executives in a World Economic Forum survey to the quality of rail, roads, ports and airports (1 = underdeveloped; 7 = extensive and efficient by international standards). *Source: Global Competitiveness Report 2013-14 of the World Economic Forum.*
Access to bank lending for SMEs	Score calculated from the Eurobarometer survey data with six indicators expressed as the percentage of respondents to the following questions: Net increase in the need for bank loans in the past six months; Not applying for a loan in the past six months for fear of rejection; Applying for a loan in the past six months but being rejected, or rejecting the offer because of too high costs; Net improvement in the availability of loans in the past six months; Net increase in the size of bank loans in the past six months; Net improved willingness of banks to provide a loan in the past six months. 0 indicates the worst possible situation and 1 the best possible one. *Source: Flash Eurobarometer*
Investment in equipment, as % of GDP	Gross fixed capital formation at current prices - equipment (UIGEQ; 3 years aggregate) divided by Gross domestic product at current market prices (UVGD; 3 years aggregate). *Source: AMECO, Eurostat*
Labour productivity in manufacturing per person employed	Gross value added in Purchasing Power Standards per person employed *Source: Eurostat*
Percentage of employees in manufacturing with high educational attainment	Data are calculated from the annual labour force survey using the International Standard Classification of Education (ISCED), levels 5 and 6 – i.e. employees in manufacturing with first and second stages of tertiary education. *Source: Eurostat*
Starting a business (days)	Time needed to start a business, recorded in calendar days. It is the median duration that incorporation lawyers indicate as necessary. It is assumed that the minimum time required for each procedure is one day. *Source: World Bank Doing Business 2013*
Enterprise survival rate after 2 years	Number of enterprises started in year *t* and which still existed in year *(t+2)*, divided by the total number of enterprises that started in year *t* *Source: Eurostat*
Business churn	Sum of the number of enterprise starts and exits ("births' plus 'deaths") in the reference period (year *t*), divided by the total number of enterprises active in year *t*. *Source: Business Demography (Eurostat)*
Share of high-growth enterprises	Enterprises with average annualised growth greater than 20 % in the number of employees, over a three-year period, and with ten or more employees at the beginning of the observation period, divided by the total number of active enterprises at the beginning of the three year period. *Source : Eurostat*
Venture capital	Venture Capital: Data measure all venture capital investment as a percentage of GDP. *Source: European Private Equity and Venture Capital Association*

	(EVCA)
Licenses	The indicator measures the time (in days) required to obtain licenses following the Commission's methodology and models, i.e.: the licenses required for 5 'benchmark' model companies: Hotel with a restaurant, Plumbing company, Wholesale or retail distributor, Manufacturer of steel products, Manufacturer of small IT devices. *Source: Graph adapted by the European Commission based on the study: Business Dynamics: Start-ups, Business Transfers and Bankruptcy, Final Report, January 2011*
Infrastructure expenditures per inhabitant	Sum of investment and maintenance expenditures on rail, road, inland waterways, maritime ports and airports infrastructure. *Source: OECD International Transport Forum Statistics*
Availability of high-speed broadband infrastructure	Percentage of broadband lines with speed above 10 Mbps *Source: European Commission, DG INFSO Communications Committee Working Document*
Services in the overall economy	Share of economic sectors in total gross value added (at basic prices) belonging to the NACE categories: A+B; C+D+E; F; G+H+I; J; K; L+M+N+O+P+Q *Source: Eurostat, National Accounts*
Sustainable industry	
Employment in knowledge-intensive activities (manufacturing and services) as % of total employment	Employment in knowledge-intensive activities (manufacturing and services) as a % of total employment where knowledge-intensive activities have been classified by Eurostat: Knowledge-Intensive Activities (KIAs) are defined as economic sectors in which more than 33 % of the employed labour force has completed academic-oriented tertiary education (i.e. at ISCED 5 and 6 levels). They cover all sectors in the economy, including manufacturing and services sectors, and can be defined at two and three-digit levels of the statistical classification of economic activities. *Source: Eurostat, Innovation Union Scoreboard*
License and patent revenues from abroad as % of GDP	The export part of international transactions in royalties and license fees. *Source: Eurostat, Innovation Union Scoreboard*
Energy intensity in industry (including construction) and the energy sector	Energy consumption in kg of oil equivalent per euro of gross value-added (chain-linked volumes, reference year 2000, at 2000 exchange rates). Due to data availability and to the structure of the Eurostat database on energy and national accounts and of European Economic Area greenhouse gas inventories, the indicators of energy and carbon intensity include a broader, consistent definition of industry and provide information for all Member States (with the exception of Malta) for the most recent available year. Both aggregates (energy consumption and emissions) are related to the consistent gross value added data at constant prices (2000 as the reference year). For ease of comparability between sectors and countries, energy intensity is measured as the ratio between consumption and total gross value added in the energy sector and industry (including construction and the non-energy sector). In particular, energy intensity calculations refer to final energy consumption in industry (including construction), final non-energy consumption (i.e. for chemical reduction activities) and consumption in the energy sector.

	Energy consumption refers to: B_101800 - Final energy consumption in industry (including construction) + B_101600 - Final Non-energy consumption + B_101300 - Consumption in Energy Sector. GVA refers to NACE sections C: Mining and Quarrying, D: Manufacturing, E: Electricity, Gas and Water Supply and F: Construction. *Source: Eurostat ("environment and energy' and 'national accounts")*
CO2 intensity in industry (including construction) and the energy sector	CO2 emissions in kg per euro of gross value-added (chain-linked volumes, reference year 2000, at 2000 exchange rates). The carbon intensity indicator refers to CO2 emissions in industry (including construction), from industrial processes and from solvent and other product use in industry, and CO2 emissions from energy industries. *Source: European Environmental Agency* – for the figures on the CO2 emissions. The relevant categories are 1.A.1. (Energy Industries) +1.A.2 (Manufacturing Industries and Construction) + 2. (Industrial Processes) + 3 (Solvent and Other Product Use). *Eurostat* – for the figures regarding GVA. GVA refers to NACE sections C: Mining and Quarrying, D: Manufacturing, E: Electricity, Gas and Water Supply and F: Construction.
Environment Protection Expenditures in industry (% of GDP)	The Classification of Environmental Protection Activities (CEPA 2000) distinguishes nine environmental domains: protection of ambient air and climate; wastewater management; waste management; protection and remediation of soil, groundwater and surface water; noise and vibration abatement; protection of biodiversity and landscape; protection against radiation; research and development and other environmental protection activities. Industry excludes recycling. *Source: Eurostat*
Public administration	
Government effectiveness	Government effectiveness captures perceptions of the quality of the public service, its degree of independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies (scale 0 to 100, 100 = best). *Source: World Bank – Worldwide Governance Indicators (2010; 2011)*
Incidence of innovations in public administrations, by type (%)	Indicator based on the answers to the following three questions: Q1. Since January 2008, did your organisation introduce any new or significantly improved services? Q5. Since January 2008, did your organisation introduce any new or significantly improved methods of communicating your activities to the public such as: • New and improved methods of promoting your organisation or your services; • New or improved methods of influencing the behaviour of users, citizens or others; • First time commercialisation (for sale) of services or goods? Q6. Since January 2008, did your organisation introduce any new or significantly improved processes or organisational methods, such as: • New or improved methods of providing services or interacting with your users; • New or improved delivery or logistics systems for your

	inputs; • New or improved supporting activities such as maintenance systems, purchasing, accounting of computing systems, etc.; • New or improved management systems; • New or improved methods of organising work responsibilities of decision making? Survey covered 4000 randomly selected public administration organisations with at least 10 employees ((defined as NACE 84.11 (General public administration activities) and NACE 84.12 (Regulation of the activities of providing healthcare, education, cultural services and other social services, excluding social security)) in EU27, Norway and Switzerland. *Source: European Public Sector Innovation Scoreboard 2013 based on Innobarometer 2010*
Government procurement as driver of business innovation	The indicator is constructed by calculating the share of "Yes" out of all responses to the following question: Since January 2009, did the public procurement activities of your company include the possibility to sell one of your innovations to the government (i.e. new or significantly improved products or services)? Answer categories: Yes / No / [DK/NA] Survey of 9500 randomly selected businesses employing 1 or more persons in the manufacturing (NACE.C), retail (NACE.G), services (NACE.I/J/K/H) and industry (NACE.B/D/E/F) in EU27, Croatia, Iceland, Former Yugoslav Republic of Macedonia, Norway, Switzerland and Turkey. *Source: European Public Sector Innovation Scoreboard (2013) based on Innobarometer 2011*
Time required and cost to start-up a company	Time required to start a business is the number of calendar days needed to complete the procedures to legally operate a business. If a procedure can be speeded up at additional cost, the fastest procedure, independent of cost, is chosen. Cost to register a business is normalized by presenting it as a percentage of gross national income (GNI) per capita. *Source: World Bank Doing Business 2013*
Number of Hours to Comply Across the European Union	Time is recorded in hours per year. The indicator measures the time taken to prepare, file and pay three major types of taxes and contributions: the corporate income tax, value added or sales tax, and labour taxes, including payroll taxes and social contributions. *Source: European Commission based on the study PWC, Paying Taxes 2012, The Global Picture*
Financial obstacles of SMEs for receiving a bank loan across Euro area countries	Every six months European Central Bank assess the latest developments of the financial conditions of firms in the euro area but conducting Survey on the access to finance of SMEs in the euro area (SAFE). The survey covers micro, small, medium-sized and large firms and it provides evidence on the financing conditions faced by SMEs compared with those of large firms during the past six months. Information on financial obstacles of SMEs for receiving a bank loan across Euro Area is derived from SAFE in particular from the number of positive responses to questions: Q7A. Application to external finance in the past 6 months – euro area • Did not apply because of possible rejection Q7B. Application success in the past 6 months – euro are

	• Applied but refused because cost too high • Applied but was rejected • Applied but got limited part of it *Source: ECB*
Interest rates for one-year loans up to EUR 1 million	Annualized agreed rate/narrowly defined effective rate for the amount up to EUR 1 million issued to counterpart sector of non-financial corporations on loans other than revolving loans and overdrafts, convenience and extended credit card debt maturing up to 1 year. *Source: ECB*
Legal and regulatory framework	Average evaluation (0 = negative; 10 = positive) of the statement '*The legal and regulatory framework encourages the competitiveness of enterprises*' in an IMD survey of businesspeople. *Source: IMD (International Institute for Management Development)*
Burden of government regulation	Average mark given by business executives in a World Economic Forum survey to the question '*How burdensome is it for businesses in your country to comply with governmental administrative requirements (e.g., permits, regulations, reporting)?*' (1 = extremely burdensome; 7 = not burdensome at all) *Source: Global Competitiveness Report 2013-14 of the World Economic Forum*
E-government usage by enterprises	Share of enterprises using the internet to interact with public authorities (i.e. having used the Internet for one or more of the following activities: obtaining information, downloading forms, filling-in web-forms, full electronic case handling). Data are expressed in % of enterprises with 10 or more persons employed and belonging to the NACE 2.0 sections C, D, E, F, H, I, J, L, division 69-74 and group 95.1. *Source: Eurostat, Survey on ICT usage and e-commerce in enterprises*
Tax compliance burden across the EU (number of hours to pay taxes)	Number of hours a company operating in the same conditions would need to spend to comply with tax regulations in the Member States in 2013 *Source: World Bank Group "Paying Taxes 2013 The global picture"*
Number of hours it takes to prepare, file and pay three major types of taxes	Time to prepare and pay taxes is the time, in hours per year, it takes to prepare, file, and pay (or withhold) three major types of taxes: the corporate income tax, the value added or sales tax, and labor taxes, including payroll taxes and social security contributions. *Source: World Bank Group "Paying Taxes 2013 The global picture"*
Finance and Investment	
Early stage financing	The indicator measures early stage financing as % of GDP. Venture capital investment data are broken down into 'early stage' (seed and start-up) and 'expansion and replacement' capital. Seed capital is defined as financing provided to research, assess and develop an initial concept before a business has reached the start-up phase. Start-up is defined as financing provided for product development and initial marketing, manufacturing and sales. *Source: Eurostat, using data from the European Private Equity and Venture Capital Association (EVCA).*
Time taken for payments by public authorities	Effective payment duration in days. *Source: European payment Index by Intrum Justitia*

Loans to non-financial corporations in the euro are (EUR 1 billion, last three months)	Cumulative annual flows of bank loans to non-financial institutions from $March_{(t)}$ to $February_{(t+2)}$ as % of outstanding volumes at $March_{(t)}$. *Source: ECB – Monetary financial Institutions Balance Sheet Items Statistics*
The top 10 European countries for FDI	Based on Ernst & Young's European Investment Monitor, the database tracks FDI projects that have resulted in new facilities and the creation of new jobs. An investment in a company is normally included if the foreign investor has more than 10% of its equity and a voice in its management. FDI includes equity capital, reinvested earnings and intra-company loans. Source: *Ernst & Young's 2012 European attractiveness survey*
Skills and productivity	
Skill and labour shortages in European manufacturing companies	Skill and labour shortage in European manufacturing companies expressed as percentage excess of demand over supply of available workforce with distinction between skilled and low skilled and unskilled. Labour shortage indicator (LCI) shows proportion of manufacturing companies that consider labour shortages, regardless of skill level, being a factor so severe that it may limit their production. *Source: Eurofund, "European Company Survey"* *European Commission "Business Survey"*
Proportion of workers in the manufacturing who feel under- or over-qualified for their current duties in 2005 and 2010	Comparison across EU-27 and country by country of the percentage of workers employed in manufacturing who feel that they are under or over-qualified for their current duties. *Source: Eurofund "Fifth European Working Conditions"*
Percentage of workforce who feel under qualified for their current duty	Comparison across manufacturing subsectors of the percentage of workers employed who feel that they are under qualified for their current duties. Answer to the Question 60 of the survey: Which of the following alternatives would best describe your skills in your own work? 1 - I need further training to cope well with my duties 2 - My present skills correspond well with my duties 3 - I have the skills to cope with more demanding duties 8 - DK/no opinion (spontaneous) 9 - Refusal (spontaneous) *Source: Eurofund "Fifth European Working Conditions"*
Real unit labour cost	Real unit labour cost is the ratio of compensation per employee to nominal GDP per person employed. Source: European Commission (AMECO)
Changes in the annual growth rate of GDP compared to the share of gross fixed capital formation in total GDP	Comparison of the annual growth rate of GDP with the share of gross fixed capital formation in the total GDP (ratio between GFCF and the total GDP). Observed data between 2010 and 2013 have also been compared with economic forecast by DG ECFIN (European Commission). GDP and GFCF have been measured at current prices, EUR in EU-27). Gross domestic product (GDP) is the sum of final uses of goods and services by resident institutional units (final consumption expenditure and gross capital formation), plus exports and minus imports of goods and services. At regional level the expenditure approach is not used in

	the EU, because there is no data on regional exports and imports. Gross fixed capital formation (GFCF) consists of resident producers' investments, deducting disposals, in fixed assets during a given period. It also includes certain additions to the value of non-produced assets realized by producers or institutional units. Fixed assets are tangible or intangible assets produced as outputs from production processes that are used repeatedly, or continuously, for more than one year. Source: AMECO, ECFIN economic forecast

5.1.1 TABLE: Comext eco-products codes and descriptions

OLD Comext code	NEW Comext code	Product description
84 10 11 00	84 10 11 00	Hydraulic turbines and water wheels, of a power <= 1.000 KW (excl. hydraulic power engines and motors of heading 8412)
84 10 12 00	84 10 12 00	Hydraulic turbines and water wheels, of a power > 1.000 KW but <= 10.000 KW (excl. hydraulic power engines and motors of heading 8412)
84 10 13 00	84 10 13 00	Hydraulic turbines and water wheels, of a power > 10.000 KW (excl. hydraulic power engines and motors of heading 8412)
84 10 90 90	84 10 90 00	Parts of hydraulic turbines and water wheels n.e.s.; hydraulic turbine regulators
84 13 70 21	84 13 70 21	Submersible pumps, single-stage
84 17 80 90	84 17 80 30	Ovens and furnaces for firing ceramic products
	84 17 80 50	Ovens and furnaces for firing cement, glass or chemical products
84 17 80 10	84 17 80 70	Industrial or laboratory furnaces, incl. incinerators, non-electric (excl. for the roasting, melting or other heat treatment of ores, pyrites or metals, bakery ovens, ovens and furnaces for firing ceramic products, ovens and furnaces for firing cement, glass or chemical products, drying ovens and ovens for cracking operations)
84 17 90 00	84 17 90 00	Parts of industrial or laboratory furnaces, non-electric, incl. incinerators, n.e.s.
84 19 11 00	84 19 11 00	Instantaneous gas water heaters (excl. boilers or water heaters for central heating)
84 19 19 00	84 19 19 00	Instantaneous or storage water heaters, non-electric (excl. instantaneous gas water heaters and boilers or water heaters for central heating)
84 21 29 90	84 21 29 00	Machinery and apparatus for filtering or purifying liquids (excl. such machinery and apparatus for water and other beverages, oil or petrol-filters for internal combustion engines and artificial kidneys)
84 21 39 30	84 21 39 20	Machinery and apparatus for filtering or purifying air (excl. isotope separators and intake air filters for internal combustion engines)
84 21 39 71	84 21 39 60	Machinery and apparatus for filtering or purifying gases (other than air), by a catalyc process (excl. isotope separators)
84 21 39 51 84 21 39 55 84 21 39 99	84 21 39 80	Machinery and apparatus for filtering and purifying gases (other than air and excl. those which operate using a catalytic process, and isotope separators)
84 21 99 00	84 21 99 00	Parts of machinery and apparatus for filtering or purifying liquids or gases, n.e.s.
85 41 40 00	85 41 40 10	Light emitting diodes
85 41 40 90 85 41 40 91	85 41 40 90	Photosensitive semiconductor devices, incl. photovoltaic cells
90 26 80 91	90 26 80 20	Electronic instruments or apparatus for measuring or checking variables of liquids or gases, n.e.s.
90 26 80 99	90 26 80 80	Non-electronic instruments or apparatus for measuring or checking variables of liquids or gases, n.e.s.
90 27 10 10	90 27 10 10	Electronic gas or smoke analysis apparatus
90 27 10 90	90 27 10 90	Non-electronic gas or smoke analysis apparatus

5.1.2 The country codes used in the tables

Country	Code
Belgium	BE
Bulgaria	BG
Czech Republic	CZ
Denmark	DK
Germany	DE
Estonia	EE
Ireland	IE
Greece	EL
Spain	ES
France	FR

Country	Code
Croatia	HR
Italy	IT
Cyprus	CY
Latvia	LV
Lithuania	LT
Luxembourg	LU
Hungary	HU
Malta	MT
Netherlands	NL

Country	Code
Austria	AT
Poland	PL
Portugal	PT
Romania	RO
Slovenia	SI
Slovakia	SK
Finland	FI
Sweden	SE
United Kingdom	UK

5.2. Methodological note on clustering

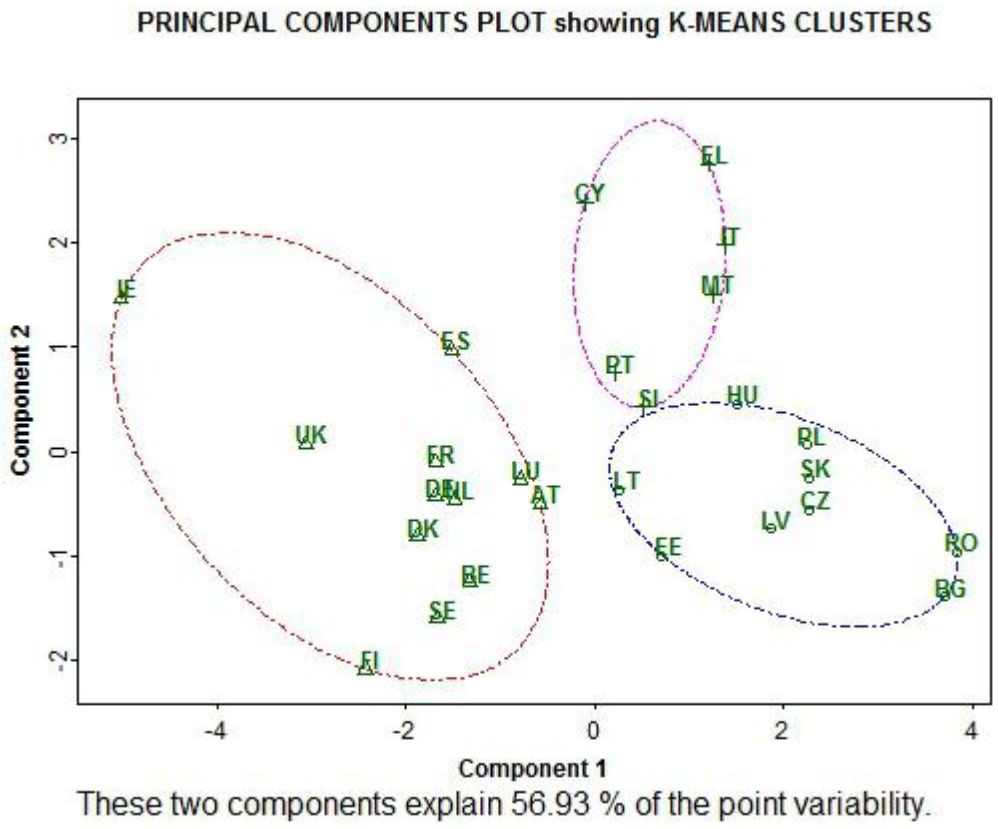
To facilitate the description and analysis of the competitiveness of the Member States, they are classified into performance groups. Their performance is defined by the ten indicators chosen for the scoreboard, with values that are the latest available in the first half of 2013. In order to obtain full datasets missing data have been estimated by an expectation maximisation algorithm.

The cluster analysis has been conducted on a full set of 10 indicators. Although some variables are correlated with each other and are likely to move together, in order not lose any information contained in the dataset the analysis has been conducted on the full set of indicators. Prior to the analysis the dataset has been standardised.

To gauge the stability of the clustering, a series of different methods were initially used. Each method produced slight variations in the groupings, and the desired number of groups was an influential factor. As a representative example, the clustering in this report has been performed by using the 'k means' method that in this case suggests the optimal number of clusters to be three (using the error sum of squares criteria). The figure below depicts the clusters in the space of the first two principal components that are extracted from the dataset.

The first two components account for 56.93% of the variability. The third component (not shown) accounts for 11.46% of the variance explained. Adding the third variable would not change the location of the countries that are on the borders of their clusters. The first component seems not to be driven by any particular variable, although it seems to be most influenced by labour productivity, educational attainment, business environment, infrastructure satisfaction and innovation. Components two and three seem to be influenced by electricity prices and bank landing.

In the case of Croatia, data problems have this time excluded it from the clustering analysis, but for analytical purposes it has been included in the group of catching-up countries, as in many ways it shows similar behaviour.



Source: Commission calculations.

5.3. Methodological note on the introductory graph in the country chapters

The graphs combining the data for each country are intended to show all the chosen competitiveness indicators in a comparably fashion, and in a way that it reflects the position of the country in relation to the EU average and the distribution of other Member States around that average. To observe or compare changes in individual indicators the bar graphs of sections one and three should be used.

The graphs present, for each indicator, the gap between the value of the respective Member State and the EU average. This gap 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.

$$D_I(C) = \frac{I_C - I_{EU\,27}}{\sigma_I},$$

Where $D_I(C)$ is the gap; I_C is the value of the indicator for each country C; $I_{EU\,27}$ is the average of the indicator for the EU27 and σ_I the standard deviation of the distribution of country values of the indicator:

$$\sigma_I{}^2 = \frac{1}{27}\sum_C (I_C - I_{EU\,27})^2 .$$

The quantity σ_I measures the average distance of a Member State to the EU average for the indicator considered.

The data are presented in the country graphs in such a way that a bar pointing to the right always indicates a positive performance. Likewise, a bar pointing to the left always indicates a performance below average. This is straightforward for indicators, e.g. labour productivity, where high values are strived for. However, for those indicators where low values are the objective, the data bars in the graph have been converted so that a positive deviation from the average (bar pointing to the right) represents a *lower* value of the indicator than the average. These conversions enable an easy reading of the country profiles, since all bars presenting positive values in the country profile suggest a level of performance of the respective Member State which is better than the EU average and all bars presenting negative values suggest a level of performance of the respective Member State which is below EU average.

The indicators for which such conversions have been carried out are: (1) energy intensity in industry in kg of oil equivalent per euro of gross value-added at constant prices; (2) carbon intensity per ton of oil equivalent of energy consumption; (3) electricity prices for medium-sized enterprises, (4) time required to start a business; (5) time taken for payments by public authorities.

The indicators for which calculating a gap with the EU average would not be meaningful (exchange rates and trade balances) are quoted in the text.The EU averages used to show the respective standard deviations in the country profiles are the values for the EU as a whole and, hence, weighted averages of Member States performance. For the following indicators, however, unweighted arithmetic averages have been used due to missing EU totals: share of science and technology graduates, satisfaction with quality of infrastructure, legal and regulatory framework, time required to start a business, business environment score, enterprise survival rate, business churn, early stage financing, access to bank lending, duration of payments by public authorities, share of high-growth enterprises as percent of all enterprises.

Data used to show the respective standard deviations in the country profiles are the values for the EU as a whole and, hence, weighted averages of Member States performance where data are available. For the following indicators, however, unweighted arithmetic averages have been used due to missing EU totals: share of science and technology graduates, satisfaction with quality of infrastructure, legal and regulatory framework, time required to start a business, business environment score, enterprise survival rate, business churn, early stage financing, access to bank lending, duration of payments by public authorities, share of high-growth enterprises as percentage of all enterprises.

2013 EDITION

Member States' Competitiveness

Performance and Implementation of EU Industrial Policy

Industrial Performance

Scoreboard

A Europe 2020 Initiative

The Europe 2020 strategy is about delivering growth that is smart, through more effective investments in education, research and innovation; sustainable, due to a decisive move towards a low-carbon economy; and inclusive, with a strong emphasis on job creation and poverty reduction.

This report by DG Enterprise and Industry of the European Commission contains an overview of industrial policy at European level, and analyses Member States' performance and policies on industrial competitiveness. It reviews and compares industrial performance based on a set of indicators in the areas of industrial innovation, sustainability of industries, business environment and entrepreneurship.

Through this analysis, the report aims to contribute to the achievement of the Europe 2020 goals by identifying areas needing attention, and presenting policy measures of the Member States that contribute to achieving the Europe 2020 targets.

The first part of the report is the 'Industrial performance scoreboard'. It outlines the current situation of European industry and compares progress achieved by Member States. The scoreboard is based on a small number of indicators selected from the country chapters of the report. The analysis is divided into five areas: productivity and skills; export performance; innovation and sustainability; business environment and infrastructure; and finance and investment.

The second part of the report looks at how industrial policy has been implemented at European level, and the third part looks at broad policy implementation in the Member States. The fourth part is composed of 28 country chapters.