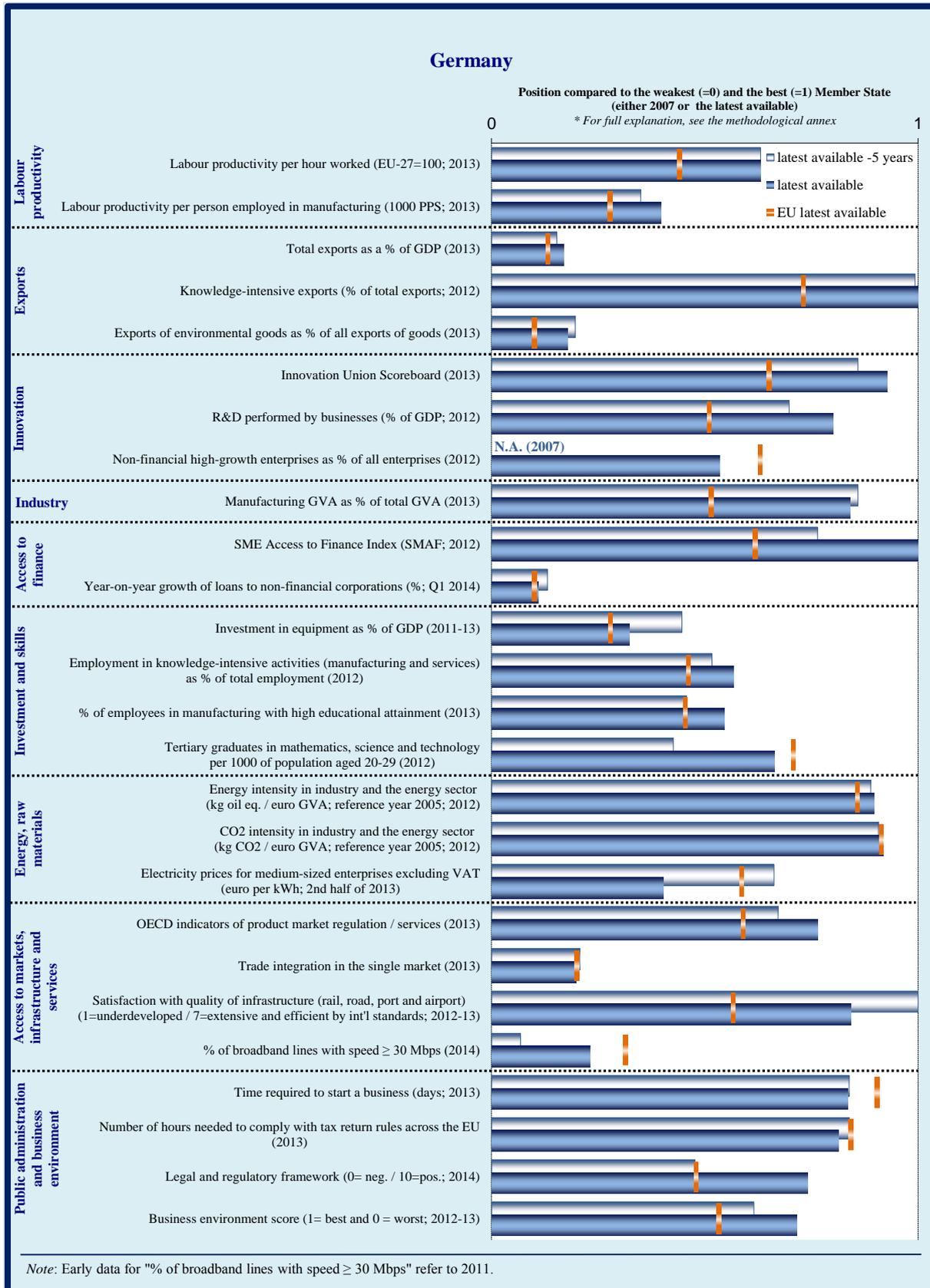
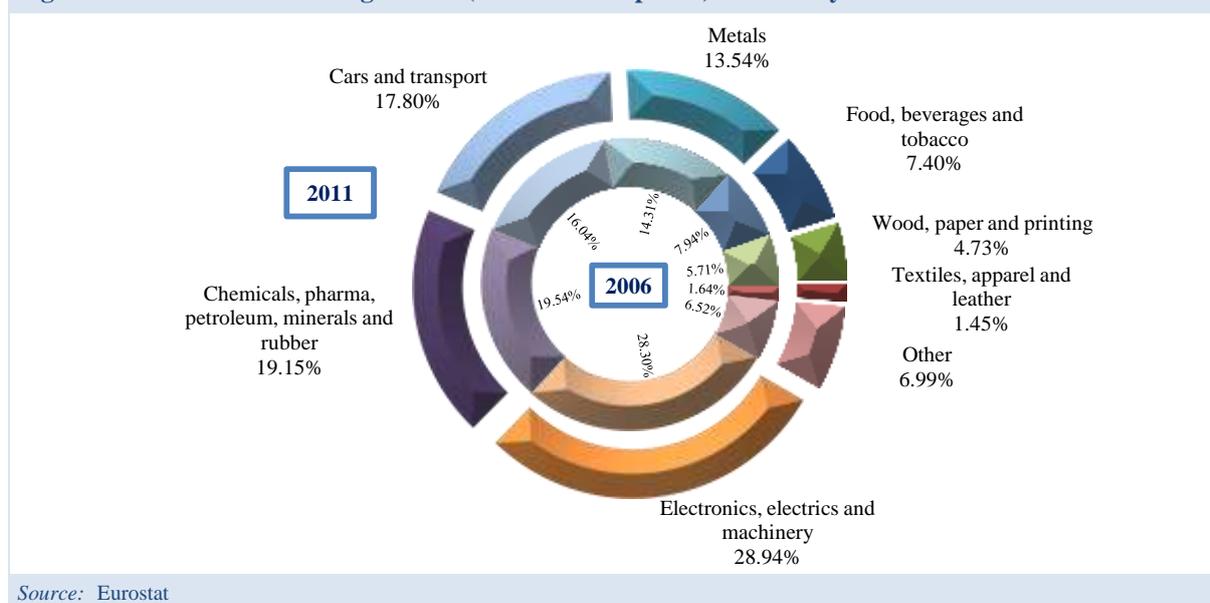


### 3.5 Germany



Note: /

**Figure 3.5.1: Manufacturing sectors (GVA at basic prices) - Germany**

### 3.5.1 Introduction and performance

According to the Industrial Performance Scoreboard, Germany is among the Member States with high and improving competitiveness. Manufacturing plays a key role in the German economy and is an important driver of value added and employment. It contributes 22 % to the total value added, significantly above the EU average of 15 %. Contrary to the situation in most other Member States, employment in manufacturing has further increased since 2007. Germany is particularly specialised in technology-driven and capital-intensive industries. Cost competitiveness has improved over the last decade. After a long period of wage moderation, real wages have grown more rapidly than in the euro area since 2010. Germany has the fifth highest labour costs in manufacturing among the EU Member States, but labour productivity per hour worked is about 27 percentage points above the EU average and about 13 percentage points above the euro-area average. <sup>(1)</sup> The World Economic Forum's *Global Competitiveness Report* ranks the country in fourth place. Overall, industry is very competitive, but it faces major challenges in securing its competitive position in the future, particularly in view of the projected demographic trends.

<sup>(1)</sup> Eurostat data for 2013

### 3.5.2 Access to finance and investment

#### *Access to finance*

While German businesses traditionally relied mainly on bank financing, over the last two decades firms strengthened their balance sheets and reduced their dependence on external financing. <sup>(2)</sup> At the moment, firms (including SMEs) benefit from favourable or satisfactory financing conditions. However, the risk capital market is still relatively under-developed. Risk capital and mezzanine capital are scarce for young technology companies and start-ups, hindering their growth. Publicly funded programmes offer new firms a range of financing options to start and develop their business. The main programmes include the 'High-Tech Gründerfonds', the 'ERP Startfonds' and the various programmes under the 'EXIST' initiative. In 2013, the new programme 'Investitionszuschuss Wagniskapital' began providing private investors – particularly business angels – with financial incentives worth up to 20 % of their investment in young and innovative companies. The government intends to review the regulatory framework for venture capital, which could contribute to further stimulating private investment and entrepreneurship.

<sup>(2)</sup> See also the [In-Depth Review of Macroeconomic imbalances for Germany 2014](#).

## Investment

According to the European Commission Spring Economic Forecast, the investment outlook remains favourable, due to increasing domestic capital goods orders and a continued rise in firms' investment plans. The forecast for gross fixed capital formation for this year is +4.5 % (after two years of decline), thereof +4.2 % investments in equipment. According to the UNCTAD *World Investment Report 2014*, Germany saw a substantial recovery in their foreign direct investment inflows in 2013. Of all foreign direct investment, 57 % is from other EU countries and 9 % from other European non-EU countries. North America accounts for about 23 % and Asia 6 %. Investment from outside the EU, especially from Asian countries, continues to grow. The *Germany Trade and Investment Agency* <sup>(3)</sup> provides international investors with a wide range of information and support services.

### 3.5.3 Innovation and skills

#### Innovation

The Innovation Union Scoreboard 2014 confirmed Germany's position among the *'innovation leaders'* of the EU, together with Denmark, Finland and Sweden. While Germany is close to achieving its R&D expenditure target of 3 % of gross domestic product by 2020, other countries such as Finland, Sweden and South Korea are investing even more. Moreover, there are significant disparities in innovation performance and expenditure at regional level, especially regarding private investment in R&D. An expert commission recommended increasing the R&D expenditure target to 3.5 %. <sup>(4)</sup>

The High-Tech Strategy 2020 <sup>(5)</sup> sets out the main goals of German research and innovation policy. It concentrates public R&D resources for scientific and technological research in areas that face particular global challenges, such as energy and climate protection, health and nutrition, mobility, security and communication. It also supports the development of key enabling technologies, which act as drivers of innovation and provide the basis for new products,

<sup>(3)</sup> [Germany Trade and Invest](#).

<sup>(4)</sup> [Expertenkommission Forschung und Innovation \(EFI\)](#). See also the Commission assessment of the 2014 national reform programme and stability programme for Germany.

<sup>(5)</sup> [High-Tech Strategy 2020 for Germany](#).

processes and services. The strategy is currently being reviewed and may be further extended.

One major focus of Germany's innovation strategy and digital agenda is 'Industry 4.0', linking production and products with modern information and communications technology. To speed up this process, the programme 'Autonomics for Industry 4.0' was launched. The government is also supporting collaborative projects between industry and science.

The Central Innovation Programme for SMEs <sup>(6)</sup> has helped SMEs enhance their efforts to develop new products, processes and services through research and innovation. The programme is open to all branches and technological sectors. It provides funding not only for individual projects, but also for cooperation projects and networks. The planned annual budget is EUR 500 million, which is estimated to be enough to finance about 5 000 new applications.

#### Skills

Skill shortages are emerging in various sectors and regions; these may increasingly be an obstacle to future growth and innovation performance, in particular for SMEs. The strategy on skilled labour recognises that domestic labour potential will not be sufficient and that economic progress will also depend on attracting skilled workers from abroad. The government is investing in education at all levels to mobilise the full skills potential. This includes promoting studies in science, technology, engineering and mathematics as well as encouraging female participation. <sup>(7)</sup> Overall, there have been positive developments, for instance as regards initiatives to attract skilled workers from abroad or spending on education and childcare, but further progress is still needed, as highlighted also in the country-specific recommendations. <sup>(8)</sup> Implementation of the strategy is monitored in a yearly progress report. <sup>(9)</sup>

A competence centre helps SMEs to better attract and retain skilled employees. <sup>(10)</sup> Other recent measures include an information campaign <sup>(11)</sup> and a web

<sup>(6)</sup> ['Zentrales Innovationsprogramm Mittelstand'](#).

<sup>(7)</sup> ['Aufstieg durch Bildung – Die Qualifizierungsinitiative in Deutschland, 2013'](#) and ['Hochschulpakt 2020'](#).

<sup>(8)</sup> See also the Commission assessment of the 2014 national reform programme and stability programme for Germany.

<sup>(9)</sup> ['Fortschrittsbericht 2013 zum Fachkräftekonzept der Bundesregierung'](#).

<sup>(10)</sup> ['Kompetenzzentrum Fachkräftesicherung, Unterstützung für kleine und mittlere Unternehmen'](#).

<sup>(11)</sup> ['Fachkräfteoffensive'](#).

portal<sup>(12)</sup> providing information on job opportunities and the conditions for taking up employment in Germany. Several cities have set up dedicated ‘Welcome Centres’. In general, the nationwide standard system for assessing qualifications obtained in foreign countries<sup>(13)</sup> and the revised employment regulations make it easier for medium-skilled people to work in Germany, supplementing the ‘blue card’ for highly-qualified workers introduced in 2012.

Other initiatives aim to further improve the education and vocational training systems. The University Pact increases the available capacity, the ‘*Qualitätspakt Lehre*’ improves teaching and the ‘*Ausbildungspakt*’ has been extended to 2014 to ensure 60 000 new training places per year. The government has increased its expenditure on education in recent years and plans continued contributions to the financing of childcare facilities, schools, higher education and research. The target for public and private expenditure on education and research was increased to 10 % by 2015. Nevertheless, further efforts appear necessary to meet this target and to catch up with the most innovative economies.

### 3.5.4 Energy, raw materials and sustainability

#### *Energy use and prices*

Transforming the energy system offers new growth opportunities for German industry, but also involves considerable challenges: potentially high economic costs and a need not only for additional internal and cross-border infrastructure but also for better coordination with neighbouring countries. If the energy strategy is to succeed, overall economic costs need to be minimised, partly by increasing the cost-effectiveness of renewable energy, stimulating competition, further enhancing energy efficiency and improving coordination of Germany’s energy policy with those of neighbouring countries.<sup>(14)</sup> The required infrastructure must be provided on time to meet the strategy’s objectives. In 2014, the government launched a reform of the Renewable Energy Act to slow down overall cost increases, distribute the costs more evenly across consumers,

<sup>(12)</sup> <http://www.make-it-in-germany.com>.

<sup>(13)</sup> ‘*Perspektive 2025: Fachkräfte für Deutschland*’.

<sup>(14)</sup> See also the Commission assessment of the 2014 national reform programme and stability programme for Germany.

control the expansion of renewables and promote market integration. It also revised the criteria for granting exemptions to energy-intensive industries.

#### *Resource efficiency*

Overall, industry’s environmental performance is good, but further improvements should still be possible. Green technologies, products and services play an increasingly important role. Germany has one of the highest shares of environmental exports within the EU. According to a Eurobarometer survey, about 34 % of companies offer green products or services, compared to 26 % in the EU as a whole. In 2012, a resource efficiency programme<sup>(15)</sup> was adopted, aimed at further improving the environmental performance of industry, largely based on incentives and voluntary solutions. With many industry sectors dependant on high-quality raw materials, further price increases could weigh on Germany’s future competitiveness.

#### *Other sustainability issues*

The scale of the public procurement system provides considerable potential to support the deployment of environmentally friendly products. Public procurement is increasingly taking innovation and sustainability aspects into account.<sup>(16)</sup> For example, the current rules require high standards of energy efficiency performance. A competence centre helps federal, regional and local administrations to incorporate sustainability considerations into their procurement processes.<sup>(17)</sup> In addition, a competence centre for innovative public procurement was set up in 2013 to share experience and best practice.<sup>(18)</sup>

### 3.5.5 Access to markets, infrastructure and services

#### *Internationalisation*

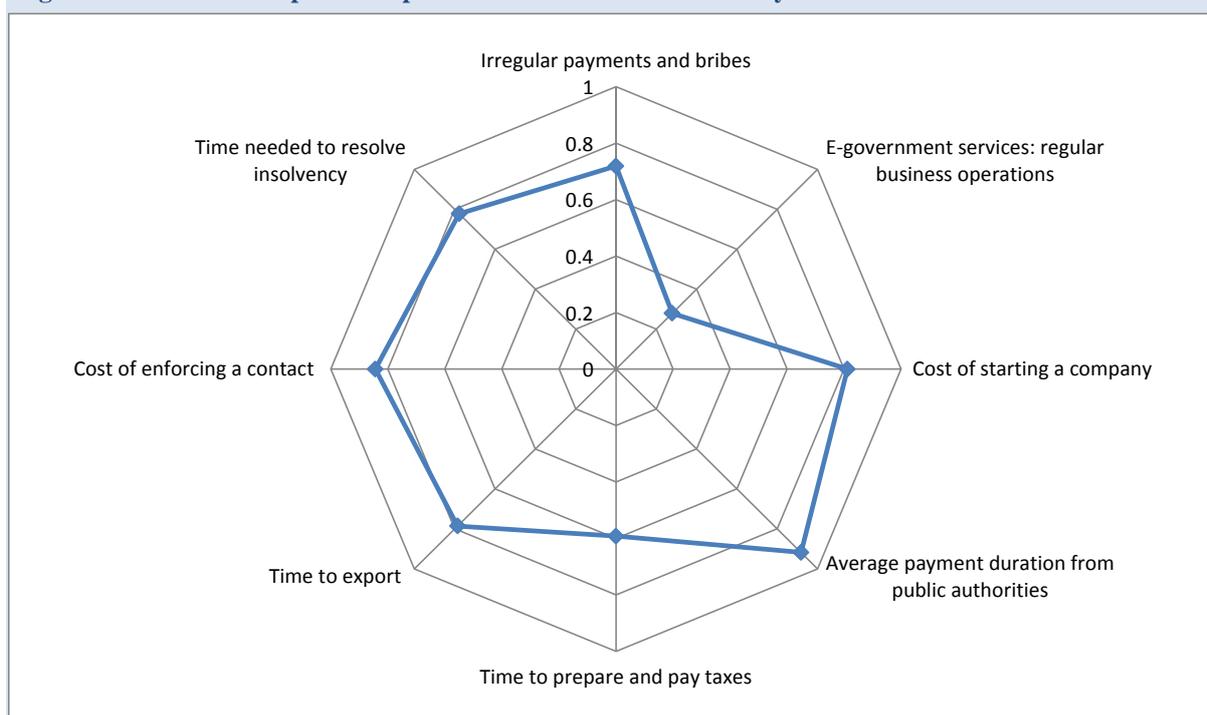
Overall, Germany accounts for 23.5 % of EU exports. In 2013, motor vehicles and vehicle parts were the main export products (accounting for 17.4 % of German exports), followed by machinery (14.9 %) and chemical products (9.6 %). About 69 % of exports went to European countries, including 57 %

<sup>(15)</sup> ‘*Deutsches Ressourceneffizienzprogramm (ProgRes)*’.

<sup>(16)</sup> ‘*Allianz für nachhaltige Beschaffung*’.

<sup>(17)</sup> <http://www.nachhaltige-beschaffung.info>

<sup>(18)</sup> <http://www.koinno-bmw.de>

**Figure 3.5.2: Overall profile of public administration - Germany**

*Note:* Values have been scaled so that the best observation (Member State) gets 1 and the worst gets 0.

*Source:* World Bank Doing business; Intrum Justitia; OECD; World Economic Forum; European Commission

to other EU Member States. The second largest sales market was Asia (about 16 %), followed by the Americas (about 12 %) (*Statistisches Bundesamt*). Compared with the EU average, German SMEs tend to be more active internationally and their relatively strong presence in emerging markets indicates further growth potential. The 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. 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<sup>(19)</sup> serves enterprises as a one-stop shop for information on how to expand their business abroad. In recent years, the initiative ‘new target markets’ has focused on increasing the presence of German businesses also in new emerging markets beyond the ‘BRIC’ countries (Brazil, Russia, India, China).

<sup>(19)</sup> <http://www.ixpos.de>.

### *Business services and network industries*

There is scope for further increasing competition in the services sector.<sup>(20)</sup> While competition has increased markedly in telecommunications, it seems to be making less headway in other sectors, such as postal, railway or professional services. Market transparency agencies have been set up to better monitor competition and pricing in the fuel, gas and electricity sector.<sup>(21)</sup>

### *Infrastructure*

Public sector investment has been falling for a long time in Germany. The low investment rate mainly reflects the gradual scaling back of public infrastructure investment, which has occurred almost entirely at municipal level. The federal government plans to invest more in infrastructure. An additional EUR 5 billion has been allocated for urgently needed investment in public transport infrastructure over the next four years. Over the next decade, further investment in maintenance and the removal of major

<sup>(20)</sup> See also the Commission assessment of the 2014 national reform programme and stability programme for Germany.

<sup>(21)</sup> [www.bundeskartellamt.de](http://www.bundeskartellamt.de).

bottlenecks will be needed.<sup>(22)</sup> Moreover, while Germany is one of the leading countries in the EU for 4G mobile network availability, its share of fixed very fast broadband lines lags behind, particularly in rural areas.

### 3.5.6 Public administration and business environment

#### *Public administration*

Overall, Germany has an efficient and transparent public administration<sup>(23)</sup> and the perceived quality of public services is ranked above the EU average. Nevertheless, there is still scope for improvement in certain areas. The availability of online public services remains below the EU average. The government is currently drafting a new programme, „Digital Administration 2020“. While the time required and the cost of starting a business and 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 functionality and information provided, as well as the possibility to complete procedures online. In general, public authorities pay their bills to businesses relatively promptly. Public procurement processes seem to be relatively efficient and transparent, though they often remain complex and the total value of the contracts published under EU procurement legislation is one of the lowest in the EU.<sup>(24)</sup>

#### *Business environment*

According to the World Bank’s *Doing Business 2014* report, Germany has a favourable business environment that encourages competitiveness, although there may still be scope for further improvement in some areas. It ranks 21<sup>st</sup> out of 189 for doing business. Federal and regional programmes are in place to support the development of SMEs with a broad range of services. However, low unemployment, emerging skill shortages and demographic trends mean the number of entrepreneurs 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.

Germany assesses the administrative burden of all newly proposed federal regulations and publishes an annual implementation report on its better regulation initiative.<sup>(25)</sup> An expert committee scrutinises new legislative proposals and publishes an index of estimated overall changes in compliance costs.<sup>(26)</sup> Despite these efforts, estimated compliance costs increased in 2013. Not all the measures agreed in December 2011 have been implemented. Setting a target for new simplification measures could boost this process. Recently, there has been some progress in setting standards for e-government and electronic invoicing. In June 2014, the government adopted a new work programme for better regulation to further reduce the bureaucratic burden for enterprises and the public. A new type of survey will measure public and business perceptions of the administrative burden in selected policy fields.

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 a simpler tax system and reforms of tax administration. Despite its complexity, the administrative costs imposed by the tax system are lower than the EU average.

### 3.5.7 Conclusions

Overall, Germany ranks among the top performers in many of the competitiveness indicators in the Industrial Performance Scoreboard and the manufacturing sector remains a key driver 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.

Despite the currently favourable conditions, industry faces serious challenges in securing its competitiveness in the medium and long term. In particular, demographic developments may act as a brake on growth and innovation in the future.

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<sup>(22)</sup> See also the Commission assessment of the 2014 national reform programme and stability programme for Germany.

<sup>(23)</sup> Excellence in public administration for competitiveness in EU Member States.

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<sup>(24)</sup> See also the Commission assessment of the 2014 national reform programme and stability programme for Germany.

<sup>(25)</sup> ‘Jahresbericht der Bundesregierung 2013’.

<sup>(26)</sup> <http://www.normenkontrollrat.bund.de>.

Adapting the education and training system to changing requirements, and raising labour supply, will be crucial to avoiding skills shortages, particularly in high-tech industries. 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.

In general, firms benefit from favourable or satisfactory lending conditions, but risk capital remains scarce for young technology companies and start-ups, hindering their growth. Moreover, the new energy strategy is creating growth opportunities for many sectors, but also presents considerable challenges in terms of potentially high energy costs and timely deployment of the required infrastructure. While the regulatory environment is generally good, there is still room for improvement and SMEs in particular would benefit from further simplification and reduction of administrative burden.