



German industry

Coronavirus crisis distracts from structural problems

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Due to the coronavirus, production in the manufacturing sector in Germany is expected to fall by roughly 10% to 15% in real terms in 2020 (-15% qoq in Q2 alone, followed by recovery). However, it does not take much imagination to picture plausible scenarios in which manufacturing could see an even sharper decline. By way of comparison, industrial production shrank by 17.3% in Germany in 2009. We expect producers of capital goods to be affected more strongly than the food, chemical or pharmaceuticals industries.

In 2021, industrial production could rise by more than 10% in real terms on average over the course of the year. However, even with a rise this sharp, production would still fall short of the levels seen in 2018.

Society and business will learn to live with the coronavirus and weigh up health, social and economic risks in the process. Once the COVID-19 crisis is no longer the dominant factor that overshadows everything else, (other) structural aspects will once again come back to the fore.

Overall, we see a risk that Germany may become less attractive as an industrial location over the coming years. For example, costs have risen recently. Wage costs and effective average corporate tax rates are among the highest in an international comparison, and electricity prices for many industrial companies are high compared to those in other countries. Energy-intensive companies are finding it difficult to deal with the uncertainty about long-term climate and energy policies. Capital stock in these sectors has been shrinking for years in Germany.

Policymakers and industrial companies are likely to view the crisis surrounding the coronavirus as an opportunity to make important political decisions and get structural reforms off the ground, as they should. For companies, this means things like taking a closer look at international value chains. For the state, there is a need for action with regard to taxes (e.g. expanding the taxation-based promotion and funding of research) and the labour market (enabling flexibility instruments rather than hindering them). This holds also for climate and energy policy (e.g. greater focus on efficiency and performance, or financing subsidies for climate protection through general taxation rather than the electricity price).

Production activity in the manufacturing sector hit a record high in Germany in 2018. The ability of the industrial sector to once again match or exceed this production volume, and the speed at which it is able to do so, depends on structural location factors that are influenced by policy decisions. Without concerted efforts to tackle the location-specific structural problems, manufacturing could see a sustained period of weakness in Germany.



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Industrial production in Germany could fall by up to 15%

On account of the coronavirus crisis, production in the manufacturing sector in Germany is expected in 2020 to record its sharpest decline since the global economic and financial crisis of 2008/09. Specific quantitative economic forecasts are particularly difficult at the present time due to the uncertainty regarding the further development of the pandemic and the effectiveness of the fiscal and monetary policy countermeasures. Instead, we are increasingly relying on scenarios intended to cushion such uncertainties.

German industry has been in a recession before the corona crisis

1

Output in manufacturing industry in Germany, quarterly data, 2015=100



Source: Federal Statistical Office

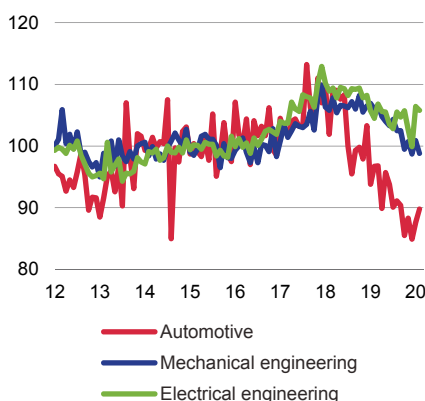
We expect industrial production in Germany to fall by roughly 10% to 15% in real terms in 2020. The decline could be limited to 10% if the negative economic impact of the crisis in all of Germany's main export markets (i.e. the United States) were to be confined to the second quarter, and if the recovery already under way in China were to continue. In this scenario, the national and international transport of goods would already be working well enough over the course of the second quarter to ensure supplies to customers. Interruptions in the supply chain would constitute an exception or would be manageable. Under these conditions, production in May would already be higher than in April (albeit at a very low level) and would generally rise rather constantly over the rest of the year. The announcements by many German carmakers that they will be restarting production in Germany by May (at the latest) speaks for a recovery from that month on. The tremendous significance of the automotive industry as a customer for other branches of industry would also deliver impetus there.

A 15% decline in production could occur if the efforts to contain or adapt to the coronavirus pandemic were to last into the second half of the year in key foreign sales markets and/or in Germany, and if there were to be further waves of infection leading to renewed restrictions on business and trading. Of course, it does not take much imagination to picture plausible scenarios in which domestic manufacturing could see a decline of even more than 15%.

Decline in output particularly strong in the automotive industry

2

Output in selected sectors in DE, 2015=100



Source: Federal Statistical Office

Fundamentally speaking, we expect producers of capital goods to be affected more strongly than the food, chemical or pharmaceuticals industries. We therefore anticipate particularly pronounced declines in production in mechanical engineering, the automotive industry and the metals industry. The complete production shutdown in the automotive industry in late Q1 and early Q2 has left its mark on upstream industrial sectors as well. A large portion of the electrical engineering sector in Germany is also specialised in capital goods. However, certain branches – such as medical technology – appear better situated to be able to overcome the crisis.

Economic and financial crisis followed an extended boom

To better understand the current crisis, it is worth revisiting the economic and financial crisis of 2008/09. A look back reveals both differences and similarities to the current coronavirus pandemic.

Differences exist mainly with regard to the economic development in the immediate run-up to the crisis. Industrial production fell by 17.3% in real terms on average over the course of 2009 (manufacturing sector only). However, the decline in production started back in the second and third quarters of 2008. As a reminder, the "Lehman shock" occurred in September 2008. The decline in the summer months, however, was relatively moderate (Q2: -1.1% qoq; Q3: -1.2%). The slowdown also followed an extended phase of expansion: from Q3 2003 to Q1 2008, industrial production in Germany increased in 18 out of 19 quarters. The economy was overheated, not only in Germany. Commodity and real estate prices had soared. In the summer of 2008, the oil price (in US dollars) was



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roughly 150% higher than in early 2007. In Germany, investment in machinery and equipment increased by more than 10% a year in both 2006 and 2007. At just under 89%, industrial capacity utilisation in Germany reached a new record in the first quarter of 2008 – one that has yet to be topped to this day.

The declines in production in the manufacturing sector were not truly dramatic until the fourth quarter of 2008 (-7% qoq) and especially the first quarter of 2009 (-13.7% qoq). As a result, production was 21.5% lower in early 2009 than in Q1 2008. After stagnating in the second quarter of 2009, industrial production recovered in the quarters that followed. By the third quarter of 2011, almost ten quarters after the lowest point, it was therefore back up to a little more than 1% below the level seen in early 2008. After some years of relatively stable development, production exceeded its pre-crisis levels not before Q1 2016.

Generally speaking, recovery was significantly faster in Germany than in other western EU countries. The share of the manufacturing sector's EU-wide gross value added accounted for by German manufacturing activity rose from 26.5% at the depths of the crisis in 2009 to 29.8% in 2012. During that same period, the industrial sector in France, Italy and Spain declined in significance to a corresponding extent. One reason for the above-average performance of the German industrial sector – along with high product quality as a basic prerequisite – was the country's short-time work scheme, which allowed German companies to keep their regular staff on the payroll and enabled them to quickly cater to the international rise in demand following the crisis. Moreover, the German industrial sector was, and is, more strongly geared towards serving growth markets in Asia (China) than its competitors in western Europe are. The share of total exports accounted for by China was more than twice as high in Germany than in France, Italy, Spain or the UK in 2009 and the years that followed. Germany was therefore ultimately able to benefit to a greater extent from rising demand from Asia after the crisis. By the way, none of the other major western European countries have yet been able to return to the levels of production seen before the financial crisis.

Even within Germany, the significance of the manufacturing sector declined only briefly during the financial crisis. Its contribution to Germany's overall gross value added fell from 22.3% in 2008 to 19.7% one year later. By 2011, however, the industrial sector once again accounted for 22.5% of value added (see Chart 13 on page 6).

Coronavirus crisis extends the industrial recession in Germany, which started in Q3 2018

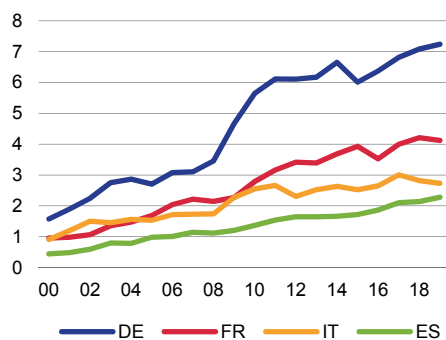
In contrast to the developments prior to the global economic and financial crisis, the industrial sector had already been mired in recession for six quarters before the coronavirus broke out. The industrial recession began back in the third quarter of 2018. In 2019, production in the manufacturing sector in Germany fell by 4.6% in real terms – its first decline since 2013, and the sharpest one since 2009. At 21.6%, its lowest level since 2009, the share of total gross value added accounted for by Germany's manufacturing sector declined for the third time in a row in 2019. Capacity utilisation also fell steadily over the course of 2018 and 2019. The two crises are very different indeed with regard to the economic development of the industrial sector in the respective run-up.

Ahead of the coronavirus pandemic, there had been signs of a potential recovery in German industrial activity after six quarters of recession. Order intake stabilised in the second half of 2019, and the downtrend in the order backlog slowed. Business expectations improved again from their low in September, and capacity utilisation rose for the first time in two years at the beginning of 2020.

China more important for Germany as an exp. market than for oth. countries

3

China's share in total exports of a country, %

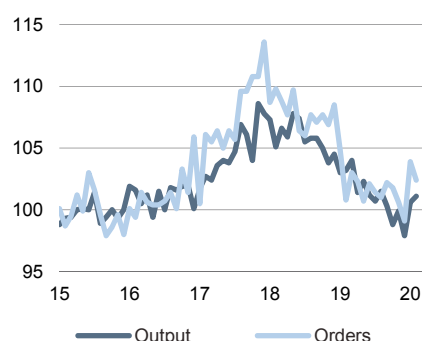


Source: IMF

Recovery before corona outbreak

4

Manufacturing industry in DE, 2015=100



Source: Federal Statistical Office

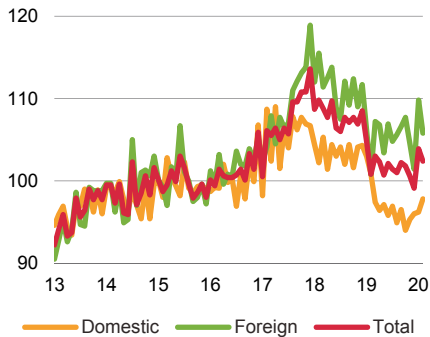


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Divergent development of late

5

Manufacturing industry in DE, orders, 2015=100

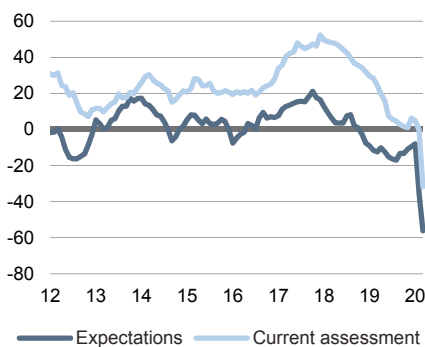


Source: Federal Statistical Office

Sharp decline in business expectations due to corona

6

Manufacturing industry in DE, balance of positive and negative company reports

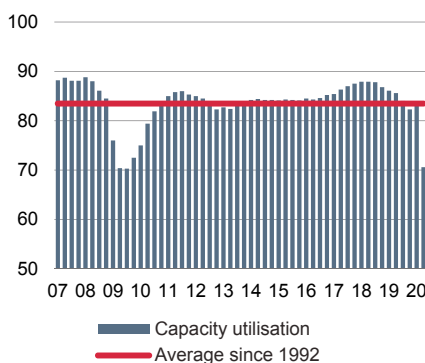


Source: ifo Institute

Sharp decline in capacity utilisation in Q2 2020

7

Capacity utilisation in the manufacturing industry in Germany, %



Source: ifo Institute

Furthermore, 2020 got off to a promising start. In December 2019, both domestic production and industrial order intake fell considerably, not least due to the dates of the holidays at the end of 2019. It seems that the working-day effect was not fully taken into account by the statistical seasonal adjustment procedures. However, these declines were more than offset in January 2020. Even in February, when China was at the height of its local coronavirus crisis, industrial production rose yet again in Germany.

Still, the January and February data ultimately refers only to the time ahead of the coronavirus outbreak. The negative impact of the pandemic on order intake, exports and output will not be visible until the figures for March, April and the subsequent months are released. The production figures for March will be reported in early May. The effects of the coronavirus are more than apparent in the ifo business climate and in the data on industrial capacity utilisation (Q2 2020). We expect the declines in industrial production in Germany to be particularly dramatic in March and April, and perhaps even in May 2020. The aforementioned production shutdowns at certain industrial companies are a strong indicator of this. In the second quarter alone, production could decline by 15% qoq. According to our models, it is likely that production in the second half of 2020 will still fall short of the average level seen in 2019, which was already low. We expect a recovery from the third quarter on. However, the recovery will start at a low level and will not be terribly steep due to the extended nature of the COVID-19 crisis. Moreover, the negative economic consequences of the coronavirus pandemic have been so dramatic for many companies that global investment activity will remain restrained for the year as a whole. In the end, the protective measures that companies are taking at their factories (distancing and hygiene rules, capacity adjustments, etc.) are expected to impair productivity.

Success of recovery depends on similar factors as the economic and financial crisis

Similar factors as after the economic and financial crisis of 2008/09 are likely to play a role in the recovery of industrial production from the third quarter on. Right now, a great many companies are taking advantage of the short-time working scheme, helping them to keep much of their regular staff on board. Furthermore, the German industrial sector is still benefiting from its global focus. In China, industrial production is gradually getting back under way and was just 1% lower year on year in March, for example. As a result, Germany should start feeling positive demand stimulus from China very soon. The same goes with a delay for Europe, the US and key emerging markets once their local economies gradually start picking up again. To a certain extent, German industrial companies will also benefit from the expansive fiscal programmes that many economies have set up to fight the coronavirus crisis.

It goes essentially without saying that the COVID-19 crisis means a further structural setback for globalisation – and therefore for the export-oriented German industrial sector. This development is likely to also be reflected in low growth rates for global trade in the years ahead. Since 2012, global trade has only grown at roughly the same rate as global GDP. Still, international demand for industrial goods will also pick up as individual economies return to work. German companies stand to benefit from this revival in activity more than other European countries. As a result, the share of industrial value creation in the EU that is accounted for by Germany could increase as the crisis comes to an end.

Given the assumed production development for the manufacturing sector, with a gradual recovery over the course of the second half of the year, we would see a high statistical overhang at the end of 2020 and at the start of 2021. Industrial production has the potential to increase by more than 10% in real terms on

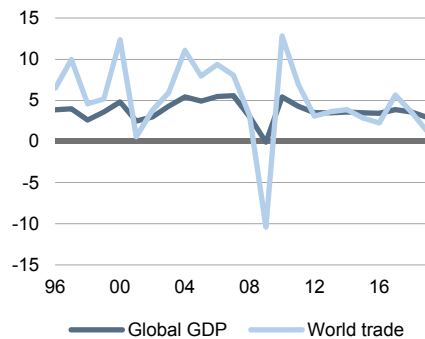


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World trade shows lower growth rate than global GDP of late

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Real, % yoy

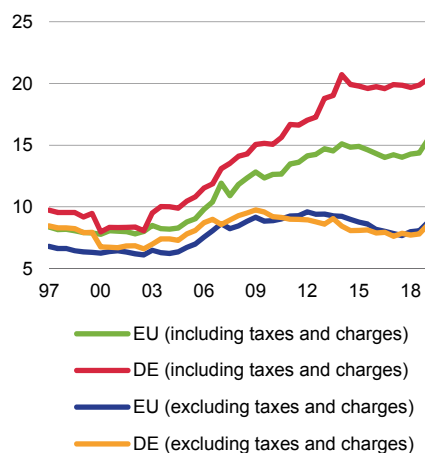


Source: IMF

Taxes and charges are the main drivers of electricity prices in Germany

9

Electricity price for industrial customers*, cents per kilowatt hour



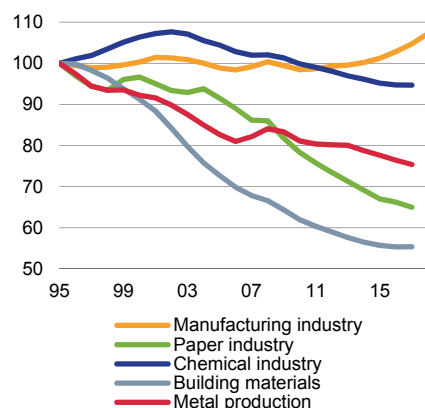
* Annual electricity consumption between 500 and 2,000 MWh

Source: Eurostat

Real net fixed assets decline in energy-intensive sectors

10

Real net fixed assets in Germany, 1995=100



Source: Federal Statistical Office

average in 2021, even if growth were to slow during 2021 as compared to the second half of 2020. However, even with a rise this sharp, production would still fall short of the levels seen in 2018.

Structural problems negatively impact Germany's standing as a hub of industry

Society and business will learn to live with the coronavirus and weigh up health, social and economic risks in the process. Ultimately, they will adapt. Once the COVID-19 crisis is no longer the dominant factor that overshadows everything else, (other) structural aspects will once again come increasingly back to the fore.

Overall, we see a risk that Germany may become less attractive as an industrial location over the coming years. For example, costs have risen in the last few years. Wage costs and effective average corporate tax rates are among the highest in an international comparison, and electricity prices for many industrial companies are high compared to those in other countries. Energy-intensive companies are finding it difficult to deal with the uncertainty about long-term climate and energy policies at both the German and the European level. Their capital stock has been shrinking for years, and a turnaround is not in sight. The German chemical industry has experienced a structural decline in output, and the output of the German metals production sector is unlikely to rise either.

While the industry still plays a more important role in the German economy than in the EU average (in 2019, its share in total value added amounted to 15.6%) or other individual EU countries (take, for example, France with a share of 10.9%), the downtrend over the past three years (prior to the coronavirus) is an alarm signal.

A look at the investment behaviour of the individual sectors underlines this statement. During the last few years, the lion's share of the increase in net capital investment in manufacturing was borne by the automotive industry. The pharmaceuticals industry and mechanical engineering followed at a large distance. In many other sectors, net capital investment is often just marginally positive or even negative. The automotive industry may shift an even larger share in its investments in plants, machinery and equipment abroad in order to offset cost increases (for example for investments in alternative propulsion systems necessary to comply with CO₂ limits or for higher labour costs).

German carmakers and their suppliers are currently preparing some plants in Germany for a transition to the production of electric vehicles and the necessary parts and components. Overall, however, value creation in Germany is likely to decline if e-mobility catches on quickly and the production of traditional engines and transmission systems loses ground. This would deprive industrial investment activity in Germany of a major stimulus.

Investment in research and development will become more important compared to investment in machinery and equipment or buildings. In view of the demographic developments in Germany, it is an enormous structural challenge to find and retain qualified employees for this purpose. Otherwise, the industrial sector will probably place a stronger focus on its research activities abroad than it was already planning to do. Securing the supply of skilled labour both at home and abroad is another issue which has got out of the focus due to the coronavirus, but is nevertheless very important for companies' future viability.

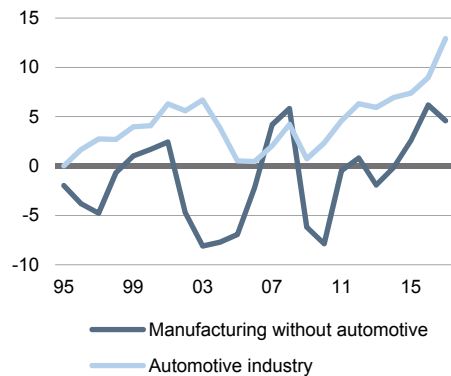


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Positive net fixed capital expenditure in the automotive industry

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Nominal net fixed capital expenditure in Germany, EUR bn



Sources: Federal Statistical Office, Deutsche Bank Research

Coronavirus crisis as a good opportunity for structural reforms

Policymakers and industrial companies are likely to view the crisis surrounding the coronavirus as an opportunity to make important political decisions and get structural reforms off the ground, as they should.

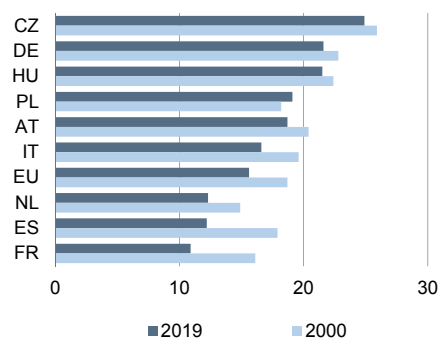
A closer look at value chains

Companies will examine their international value chains with regard to their susceptibility to external shocks. They will need to weigh the risk of a lasting interruption of supply chains against the costs of keeping emergency capacities on stock or dividing production up among multiple locations (fewer economies of scale). Location-related decisions will be influenced by new factors and made on a different basis. Such decisions could indeed favour Germany or locations closer to home, especially for sensitive primary products. In some areas, such as healthcare products, policymakers may be interested in establishing or strengthening production in Germany (among other locations) to a greater extent. The supply bottlenecks for medical protective equipment in the coronavirus crisis highlight the urgency.

Significant differences in terms of industrial share

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Share of manufacturing industry in total gross value added in selected countries, %



Source: Eurostat

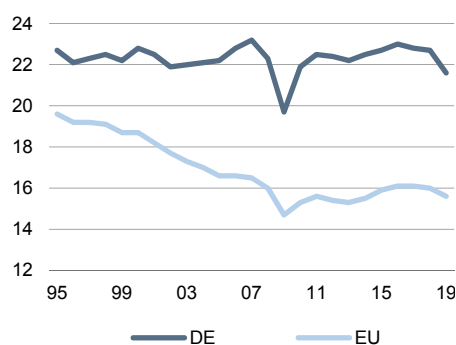
Tax policy

Policymakers will also strive to support the revival of the economy with structural measures. Despite the first political pleas for a reduction in corporate tax rates, and for a faster and complete abolition of the solidarity surcharge, such demands seem unrealistic from a current perspective in light of the upcoming increase in sovereign debt and the political majorities. Nevertheless, an expansion of the tax-based promotion and funding of research (increasing the tax base eligible for support programmes to more than EUR 2 m per company and year), better depreciation and amortisation rules, and tax-based promotion of investments in energy efficiency and climate protection have the potential to stimulate the economy. The latter would, at the very least, be preferable to generalised subsidies for certain climate technologies. Research in particular is of tremendous importance, with the manufacturing sector accounting for well over 80% of all R&D expenditure in Germany.

Share of industry has declined of late

13

Share of manufacturing industry in total gross value added, %



Source: Eurostat

Labour market policy

The coronavirus crisis demonstrates once again that instruments designed to increase the flexibility of the labour market are very supportive to absorb not only cyclical economic crises, but also massive external shocks. As already mentioned, the advantage of the state instrument of short-time work is that it allows companies to retain staff during a crisis of limited duration. Flexitime and the use of temporary workers are two instruments companies themselves have at their disposal to increase flexibility. Ultimately, it is important to always bear in mind that a rigid labour market combined with high absolute wage costs are not economically feasible for many companies in the long term. The flexibility in the labour market is, to a certain extent, a counterbalance to the high industrial sector wages in Germany. Policymakers should therefore remember in all of their labour-market policy decisions that less flexibility in terms of working hours and the use of temporary workers has the potential to lastingly damage the country as a business location, and the working population along with it. In the coronavirus crisis, we have once again seen that the parties to collective wage agreements are capable of reacting swiftly and finding positive compromises when they have to. Back on 20 March, IG Metall and the metalworking and

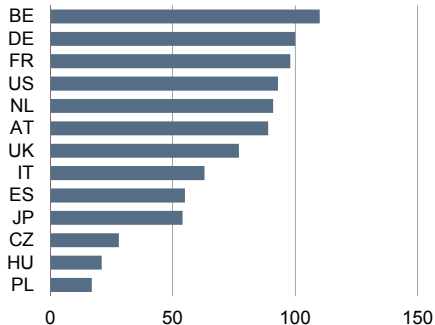


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High industrial wages in Germany

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Labour costs per hour in the manufacturing industry, 2018, Germany=100



Source: Cologne Institute for Economic Research

More economic efficiency and environmental impact necessary in climate action and energy policy

Subsidies for climate-protection technologies should be funded from tax revenue and not through the price of electricity

electrical industries agreed on a crisis package that has since been accepted in all pay scale areas.

Climate and energy policy

The COVID-19 crisis would also be a good time to focus more strongly on efficiency and effectiveness in climate and energy policy. That means the state should concentrate less on regulation (commands, bans, quotas, limits, etc.) and technology-specific subsidies, and more on market-based instruments (such as carbon taxes or emissions trading). The German federal government's climate package marks a first step in this direction. It calls for a standardised pricing system for carbon emissions from the transport sector and the heating market (buildings). In return, it lowers the share of the electricity price accounted for by taxes and fees, which is something we welcome. At the same time, the standardised approach to carbon pricing is counteracted by regulatory elements and technology-specific subsidies. Instead of introducing new instruments of this sort, the existing regulations should be reversed or downscaled faster, especially if they do not measure up to the principles of economic efficiency and environmental effectiveness.

Attempts by the state to continue subsidising certain technologies in the future, which are to be expected, should be funded through general budget appropriation rather than through electricity or other energy prices. Financing the expansion of renewable energy through the electricity price (renewable energy surcharge) and the long-term uncertainty regarding the exemptions for energy-intensive enterprises as part of the renewable energies act have a negative impact on companies' competitiveness, as well as on their propensity to invest in Germany. What is more, financing subsidies for climate-protection technologies through energy prices is questionable from a social perspective, since poorer segments of the population tend to spend a higher percentage of their income on energy. Financing climate and energy policy measures from general tax revenue would be desirable from a democratic perspective as well, as such expenditure would regularly have to compete with government spending on healthcare, education, research and development, domestic and national security, infrastructure, social welfare and other purposes in the annual budget debate. Doing so would increase the democratic legitimization of climate and energy policy measures.

Return to previous industrial production highs in Germany uncertain

Production activity in the manufacturing sector hit a provisional record high in Germany in 2018. It seems unlikely for this level to be matched in 2021. The ability of the industrial sector to once again match or exceed 2018's production volume in the years that follow, and the speed at which it is able to do so, depends not least on structural location factors that are influenced by policy decisions. A failure to take decisive action against the location-specific structural problems, which have gradually grown larger in recent years, could result in a lasting phase of weakness in German industry. The example of other western European countries mentioned earlier in this report should serve as a warning.

In such a phase of weakness, the economic development of the manufacturing sector in Germany would be significantly worse in the years ahead than that of German industrial companies, which can flexibly tailor their location decisions to the location criteria important to them, thereby freeing them from any ties that bind them permanently to their home location. As a result, the difference between industry in Germany and German industry would become

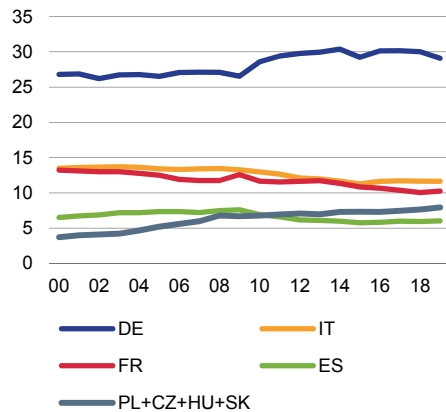


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Manufacturing is losing ground in southern Europe

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Share of countries in total gross value added of the manufacturing industry in the EU, %



Source: Eurostat

increasingly apparent. Particularly in new investment decisions, the historically relevant ties to Germany could loosen themselves should strategic investors from abroad increasingly take over German industrial companies in the future. This is expressly not a plea to prevent foreign investors from accessing the German market, as they would invest here if location factors in Germany were good. Ultimately, policymakers should not wait for the coronavirus crisis to end to structurally strengthen Germany's status as a hub of industry in the core areas of taxation, the labour market and climate and energy policy.

A lower share of German industry within the EU is not a given

Germany's structural weakness as an industrial hub does not necessarily have to lead to a decline in the share of the German manufacturing sector's contribution to overall industrial gross value added in the EU. In fact, it is not unlikely that the already weakened industrial basis in other western European countries is poised for further erosion. At the same time, the industrial sector is likely to continue gaining importance in eastern European countries. The share of industrial gross value added in the EU that is accounted for by Poland, the Czech Republic, Hungary and Slovakia rose from 3.7% in 2000 to just under 8% in 2019, with low wage costs playing an important role in this development. We believe that a further rise in these countries at the expense of nations like France or Italy is likely. For Germany, a stable development of its share of industry within the EU would itself be a success.

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