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Economic Insight

German auto industry: are glory days over?

Many see the scandal of manipulated software in diesel vehicles as a threat to Germany's car industry. Despite extensive reporting on the topic, a number of important facts remain rather obscure. On the strength of the fact sheet available, we have tried to shed some light on the sector from an economic point of view.

German manufacturers above all others have always tried to push diesel models, largely because diesel engines are more efficient and emit less CO_2 than a normal petrol engine. This seemed to be the only way to observe the EU's emission regulations, which limit CO_2 emissions for any manufacturer's vehicles to 95g/km as of 2020. When it emerged that the emission levels of diesel cars had been manipulated, the new registrations for these models slumped (see chart 1). The situation is probably much the same elsewhere in Europe.[1]

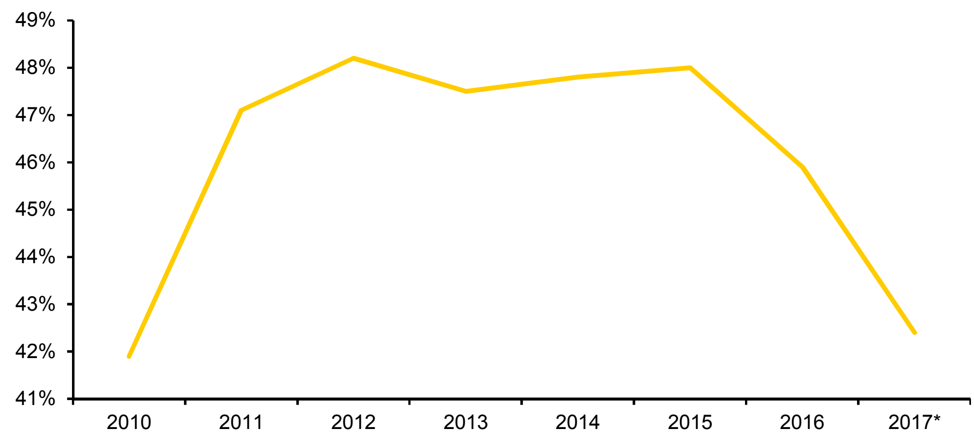
Those reacting in alarm see the scandal as a threat to a key German sector and proof that domestic manufacturers have failed to catch on to major trends such as electric cars. We have considered the situation in a more sober light and have attempted to answer the following questions:

- How important is the auto industry in Germany?
- Is the diesel scandal threatening manufacturers' financial stability?
- Are other countries affected too?
- What happens now?

Auto sector the heart of German industry …

The car industry, with a share of 18% of value added, is the most important sector of manufacturing which in turn accounts for 23% of aggregate economic value added (see chart 2, p.2). In the car sector alone – official statistics restrict this to the manufacture of motor vehicles and motor vehicle components – there are 840,000 people employed, some 2% of all Germany's gainfully employed (see chart 3, p.2).

CHART 1: **Diesel in free fall**
Diesel models as percentage of new registrations in Germany.
2017: data for January to May



Sources: Federal Motor Vehicle Office, Commerzbank Research

[1] Diesel never had a chance in the US anyway. It has always been seen there as a 'dirty' fuel, with the associated health risks dominating the environmental aspect of limited consumption. German manufacturers have abandoned their efforts to get diesel accepted in the US.

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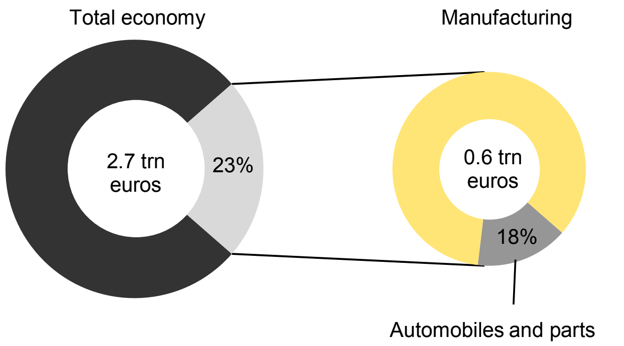
CHART 2: **Car sector a leading industrial branch**

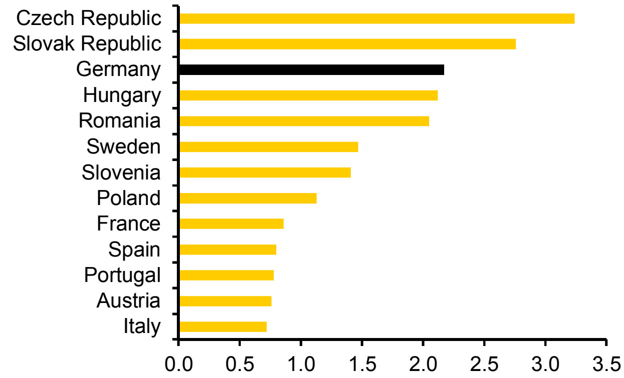
Car sector's share of gross value added in manufacturing, percentages



Sources: Destatis, Commerzbank Research

CHART 3: **2% of gainfully employed in car sector**

Percentage of those directly employed in car sector as share of all gainfully employed



Sources: Eurostat , Commerzbank Research

… and driving force behind German economy

The car sector is highly cyclical and thus a main driver of German industry. Following the severe slump during the 2008 crisis, it staged a rapid recovery, leaving other areas of manufacturing far behind (see chart 4). Manufacturing output without motor vehicles only reached pre-crisis levels again this year, whereas the car sector took just three years.

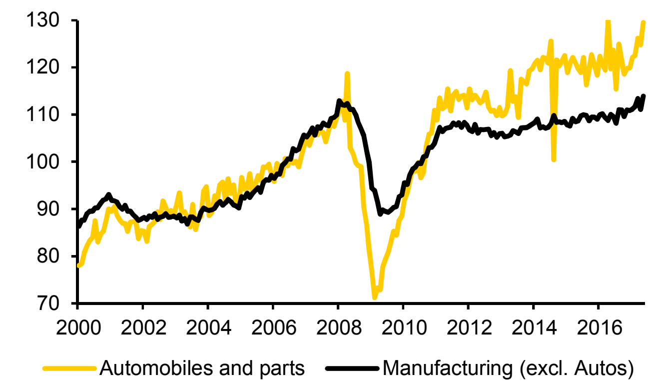
At present, too, the car industry is propelling the German economy. Since the start of 2016, for example, car production has risen roughly 3% year on year each month, while production elsewhere in manufacturing has risen just 2%.

German cars an export hit

German cars are hugely popular abroad. Since the 1960s, exports of cars made in Germany have been rising steadily. Last year, no fewer than 4.4 million vehicles were exported (see chart 5) – three quarters of overall domestic production. German car manufacturers only actually made just over one third of their vehicles within Germany (see chart 6, p.3). The figure for 2016 was 5.7 million, with more than 10 million vehicles made abroad.

CHART 4: **Car sector an economic driver**

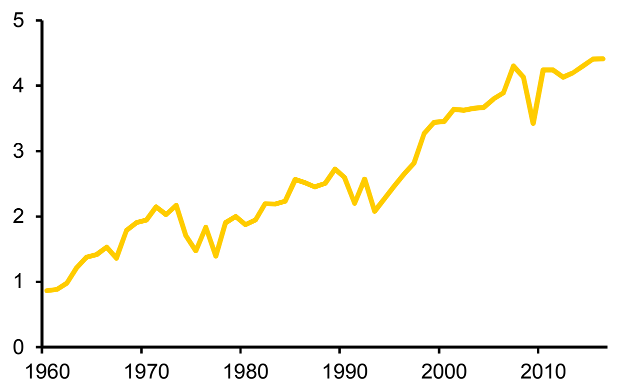
Manufacturing output, index 2010=100



Sources: Destatis , Commerzbank Research

CHART 5: **German car exports**

Car exports, in millions

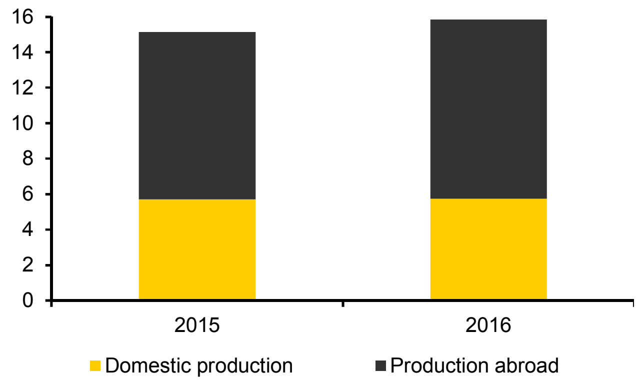


Sources: VDA, Commerzbank Research

Diesel crisis not just a German problem

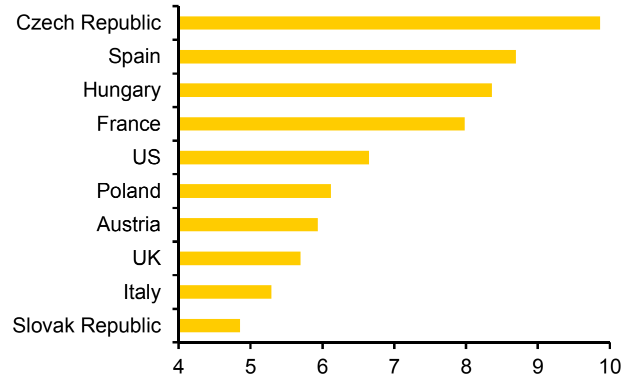
The German car sector has close ties with other countries. The percentage of those directly employed in major supplier countries such as the Czech Republic, Slovakia, Hungary and Romania is a large one (see chart 3, p.2). A car crisis in Germany would spread to other European countries, with far-reaching consequences.

CHART 6: **Third of cars made at home**
German cars made at home and abroad, in millions



Sources: VDA, Commerzbank Research

CHART 7: **International supply chains**
Imports of motor vehicles and components from individual countries as percentage of total vehicle and component imports



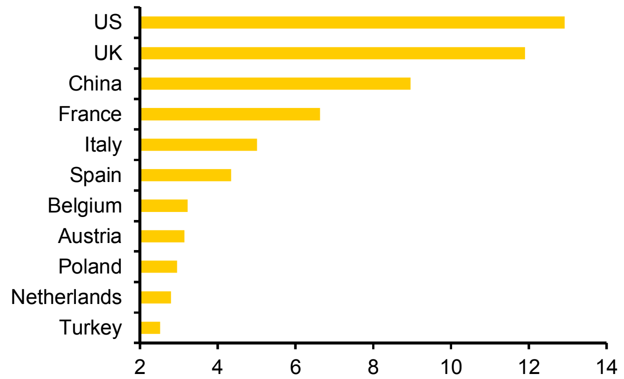
Sources: Destatis, Commerzbank Research

These ties are also reflected in the import-export figures. More than 10% of German imports are motor vehicles and their components. The prime sources are the Czech Republic, Spain and Hungary – typical manufacturers of upstream vehicle products (see chart 7). Conversely, vehicles and vehicles parts make up some 18% of German exports, with the US, the UK and China the three main destinations (see chart 8).

Manufacturers can weather crisis

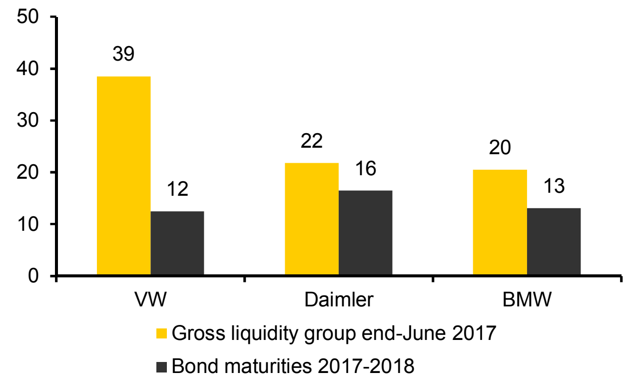
With German car manufacturers set to recall 5.3 million diesel models, how much financial strain can they take? Their gross liquidity volumes as revealed by company balance sheets are reassuring (see chart 9). Daimler, Volkswagen and BMW have sufficient funds within their respective corporations, so can absorb the cost of the recall, and of a possible cartel fine. This is also the view taken by Moody's, which has in addition pointed out that recalling models should actually improve the reputation of the car industry.[2]

CHART 8: **USA and UK the main export destinations**
Exports of motor vehicles and components of individual countries as percentage of total exports of vehicles and components



Sources: Destatis, Commerzbank Research

CHART 9: **Reserves sufficient to weather crisis**
Figures in billion euros



Sources: Company figures, Commerzbank Research

Diesel once surging ahead, now just an also-ran

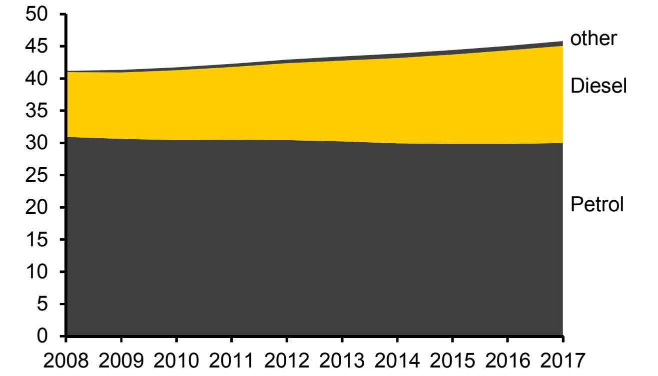
Seen over the longer term, diesel models used to be increasingly popular – with political support, since taxes on diesel are lower than those on petrol. While in 2008 some 10 million diesel vehicles were registered in Germany, the figure has meanwhile grown to around 15 million (see chart 10, p.4). Since the number of petrol models has barely changed, and vehicles using alternative fuels are negligible, the share of diesel models has increased from a quarter to a third. However, recent registration figures reveal that drivers are now tending to shun diesel (see chart 1, p.1).

[2] See „Diesel summit agreement to help repair reputational damage of diesel cars", Moody's Report from 4. August 2017.

Growth market China

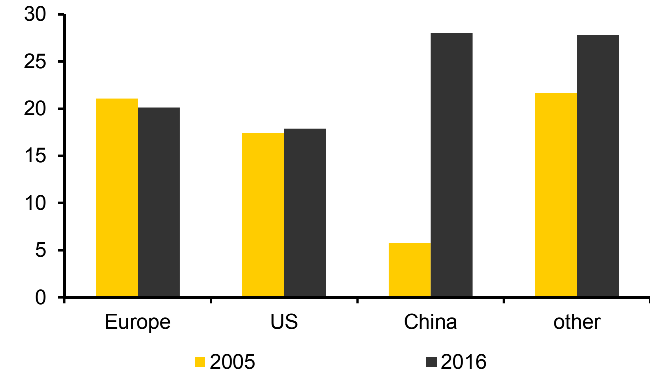
It is of course quite possible that German carmakers aren't particularly worried about sales figures either. They sell some 20 million vehicles to other European countries, rather fewer to the US (see chart 11), but the big growth market is China, where almost 30 million cars were sold in 2016. This is five times the figure of 2005. In other regions of the world, too, 30 million vehicles have been sold latterly, and the trend is rising. Car manufacturers could benefit from lower environmental awareness in the growth markets than in Europe and the US.

CHART 10: **Diesel on the advance**
Breakdown of cars by fuel used, in millions



Sources: KBA, Commerzbank Research

CHART 11: **Growth market China**
New registrations in 2016, in millions



Sources: OICA, Commerzbank Research

Electric cars on the advance?

The German government aims to have a million electric cars on Germany's roads by 2020. The original target has admittedly been lowered a little since it was no longer realistic. Only 34,000 electric models have been registered so far this year (see chart 12, p.5). Nevertheless, the government has repeated that it will do all it can to get as many electric models as possible onto the country's roads. It might even have recourse to new, costly incentives to push this form of transport more than it has done so far.

So the often-heard claim that German manufacturers have failed to keep pace with electric vehicle development is wrong. They are investing large amounts in both electric and self-driving cars, and at the end of the first quarter, the amount channeled into research and development was at the upper limit of the target range (e.g. 6.4% at Daimler, 5.6% at BMW and 7% at VW).

The trend is set to continue in the short to medium term and could limit manufacturers' financial flexibility. However, carmakers' finances are sound; both credit figures and operating figures allow a certain leeway. Regarding the outlook for electric vehicles and the like, VW is planning to launch more than 30 different models of purely battery-powered vehicles on the market by 2025 and have these account for some 20% to 25% of total sales. Volvo, too, is taking a dynamic stance here, aiming to halt all sales of cars using fossil fuels as of 2019.

Clean energy followed by clean cars?

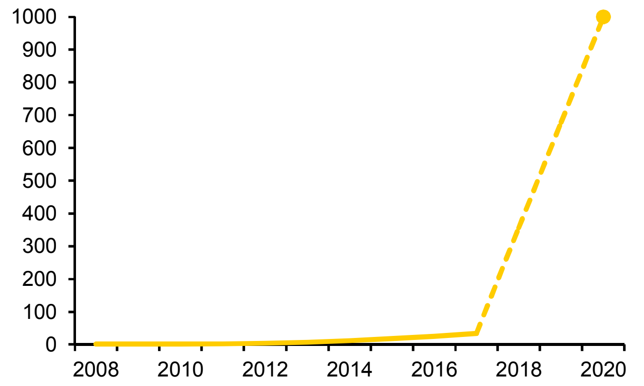
The search for an alternative to the combustion engine is being encouraged above all by government requirements; the diesel scandal is no doubt accelerating the process. The UK government, for example, announced recently that sales of diesel and petrol models would be banned from 2040. Shortly beforehand, the French environmental minister announced similar plans for his country. And the Austrian government is working on an emissions strategy 2030 whereby the transition to emission-free traffic would be achieved via incentives rather than bans.

As yet, though, the announcements have not translated into actual legislation. It remains to be seen, therefore, how fast things really move. Even the target dates – 2040 for a ban on *new* cars with combustion engines – in fact suggest that it will be a long, slow exit from the combustion engine.

The move in Germany to different energy sources is an excellent example of a task lasting a whole generation. When the Renewable Energy Bill became law in 2000, the serious beginning of the energy transition, renewable energy accounted for 6.6% of overall German power generation (see chart 13). It had risen to 29% by 2016, driven by huge incentives. By 2035, legislators are aiming to have achieved 55% to 60% of electricity generation from renewable sources.

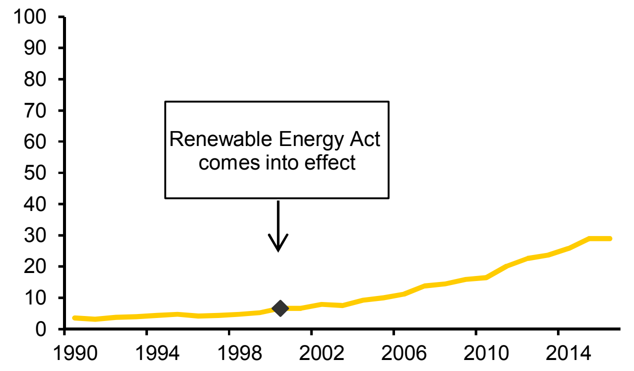
It will hardly take any less time to switch over to emission-free car engines. Here too there are enormous technical challenges, and the serious economic fallout needs to be taken into account.

CHART 12: **A million electric cars in 2020?**
Cars broken down by fuel type and government target, in millions



Sources: KBA, Commerzbank Research

CHART 13: **'Ideal' electricity – a lengthy change-over**
Renewable energy share of gross electricity generation



Sources: AG Energiebilanzen, Commerzbank Research

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