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Analysis of the Automotive Industry in 2006

The Automobile and Automotive Supply Industry

A Key Industry Undergoing Global Change

Part 1: General Overview

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The German Automotive Industry

The German automotive industry is one of the key sectors - if not *the* key sector – in the German economy today.

The automotive industry comprises the manufacture of passenger cars, commercial vehicles, caravans and trailers, and also that of prefabricated units and supplies for vehicle production – which come from both industrial production and the service sector.

The greater part of the automotive industry is recorded in the industrial statistics under the somewhat antiquated title of "Manufacture of motor vehicles and motor vehicle parts"[1]. This category includes the following sub-sectors:

- "Manufacture and assembly of motor vehicles and engines" (i.e. the OEMs)[2]
- "Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers"[3]
- "Manufacture of parts and accessories for motor vehicles and their engines" (i.e. most of the automotive suppliers)[4] [5].

The definition does not include:

- "Manufacture of electrical equipment for engines and vehicles"[6]
- steel and aluminium production for manufacturing vehicles
- tyre production
- foundry and forged products for the automotive industry
- manufacture of catalytic converters, air-conditioning systems, batteries and measuring instruments for automobiles
- maintenance and repairs of motor vehicles
- industrial services from self-employed service providers for vehicle production.

For these latter areas of industrial production / industrial services well-defined data are available only in exceptional cases which are generally

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[1] The Classification of Economic Activities in the European Community from 2002 (NACE 2002) categorises this industry under the sector number 34.
[2] NACE 34,1
[3] NACE 34.2
[4] NACE 34.3
[5] This sub-sector includes the "Manufacture of various parts and accessories for motor vehicle engines" such as brakes, gearboxes, axles, wheels, shock-absorbers, radiators, silencers, exhaust pipes, clutches, steering wheels, steering columns and steering gears; the "Manufacture of parts and accessories for motor vehicle bodies", such as safety belts, airbags, doors and bumpers; the "Manufacture of parts for motor vehicle engines" and the "Manufacture of intake and exhaust valves for combustion engines in motor vehicles".
[6] NACE 31.61

areas of production or services representing parts of other branches of industry or other services.

Wherever data from the industrial statistics are cited below for the “automotive industry”, they generally relate to the narrower definition given above.

Turnover

In 2005 the German automotive industry generated a total turnover of 236.3 billion euro, which accounted for 18.7 per cent of the turnover of all manufacturing industries and 33.4 per cent of the turnover of the metal-processing industry.

Domestic turnover came to 95.3 billion euro, while turnover generated abroad came to 141.1 billion euro.

Of the total turnover, 159.0 billion euro was generated by the OEMs and 68.3 billion euro by the suppliers who are recorded in the industrial statistics under the heading of the automotive industry. The sub-sector “Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers” turned over 9.0 billion euro.

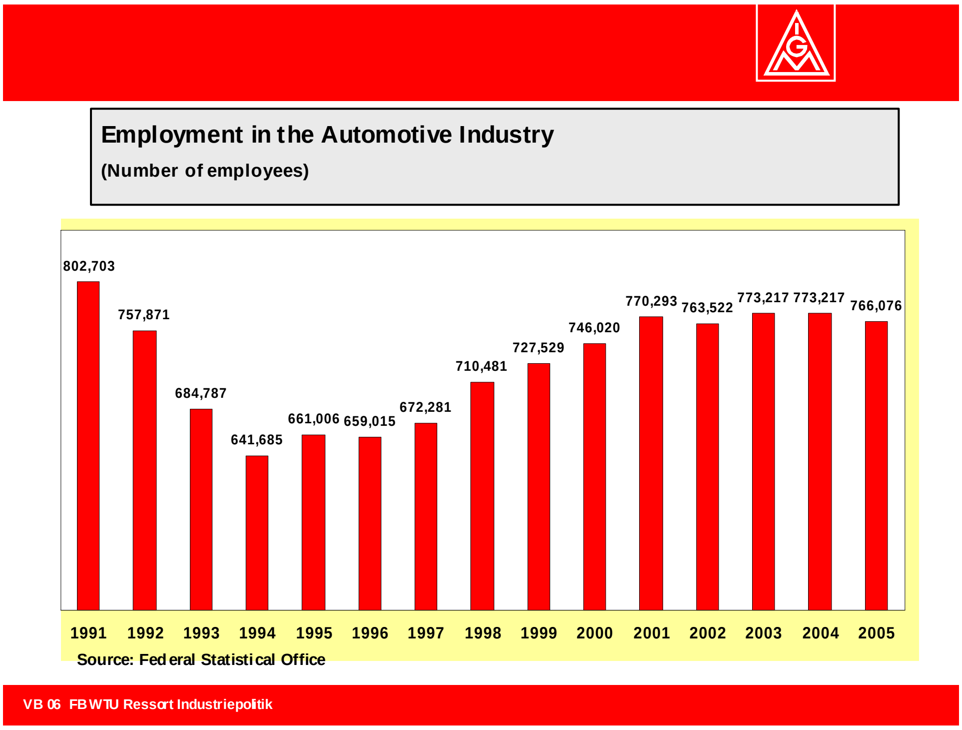
Employment

In 2005 the automotive industry employed a total workforce of 766,076. Of these 405,470 were employed at the vehicle-makers, 323,827 at the suppliers, and 36,269 in the manufacture of bodywork, bodies and trailers. The proportion of the workforce in processing as a whole that was made up by the automotive industry thus came to 13.4 per cent, while the proportion in the metal-processing industry was 22.8 per cent.

According to an estimate by the German Association of the Automotive Industry (VDA), around 200,000 of the total of 770,000 employees in the German automotive industry are involved in the production of commercial vehicles or supplies for commercial vehicles.

The automotive industry is the only one of the large branches of industry in Germany in which employment levels clearly rose again after the critical fall in 1992/1993; this rise occurred at the OEMs but – because of outsourcing – first and foremost at the suppliers.

For the whole industry the year 2004 marked the greatest employment growth since the low point in the year 1994. In 2005 for the first time the number of employees in the automotive industry fell slightly compared to the previous year (-7,000, or -0.9%). The size of the workforce at the OEMs had already been shrinking since 2002, while that at the suppliers rose again – albeit with a lower rate of increase.



Production volume

In the year 2005 Germany produced 5,350,187 passenger cars and 407,523 commercial vehicles. This was the eighth year in succession that domestic passenger car production exceeded five million units. It was the largest number of passenger cars ever produced in the country. In the same year commercial vehicle production also achieved its highest ever level, exceeding 400,000 for the first time.

Exports and imports

Exports of passenger cars came to 3,795,361, putting the export quota at 70.9 per cent. Export volume therefore likewise reached a new record in absolute figures. For commercial vehicles the export quota came to 70.0 per cent. Of the total production, 285,237 commercial vehicles were exported.

In 2005 the automotive industry recorded exports totalling 150.9 billion euro alongside imports totalling 63.9 billion euro, thus generating an export surplus of 87.0 billion euro. Therefore this sector was the one making the largest contribution to the export surplus of the metal-processing industry as a whole, which came to 187.8 billion euro.[7] The high level of imports and exports points up the vast number of international (or internal European) links in automotive production. The large export surplus is an indicator of the great competitiveness of the German

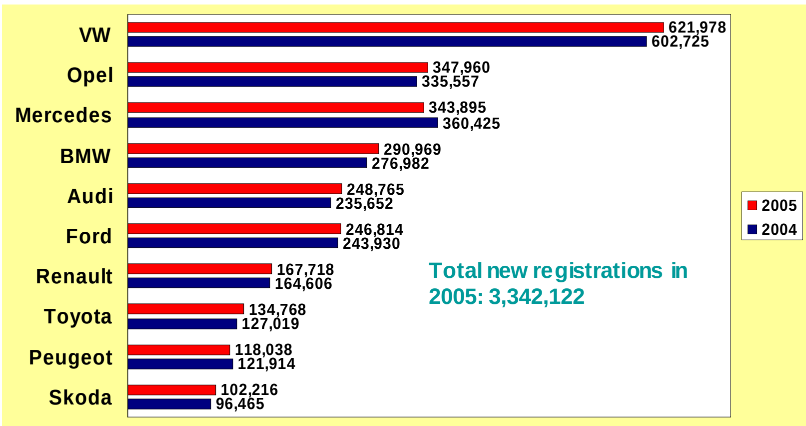
[7] By comparison, in 2005 the export surplus in the mechanical engineering sector (NACE 29) came to 68.9 billion euro, and that generated in electrical/electronic equipment (NACE 30-33) came to 19.7 billion euro.

automotive industry at the international level and the fact that most of the value creation still takes place inside Germany.[8]

German domestic market

In the year 2005 the German passenger car market - the number of new registrations - had a volume of 3,342,122 units. Out of these 3.34 million newly registered cars 1.55 million were produced in Germany by German manufacturers and another 508,000 were produced by German corporations in other countries. The number of passenger cars made by foreign manufacturers and imported into Germany came to 1.28 million.

New Registrations of Passenger Cars in Germany in 2004/2005, by Brand



Source: Federal Bureau of Motor Vehicles and Drivers

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The number of new registrations of passenger cars (slightly above 3.3 million) on the home market indicates a slight recovery compared to the low level of new registrations in the previous three years (3.25 million), although the figures came nowhere close to equalling the record number of new registrations at the end of the 1990s (3.8 million new registrations in 1999).[9]

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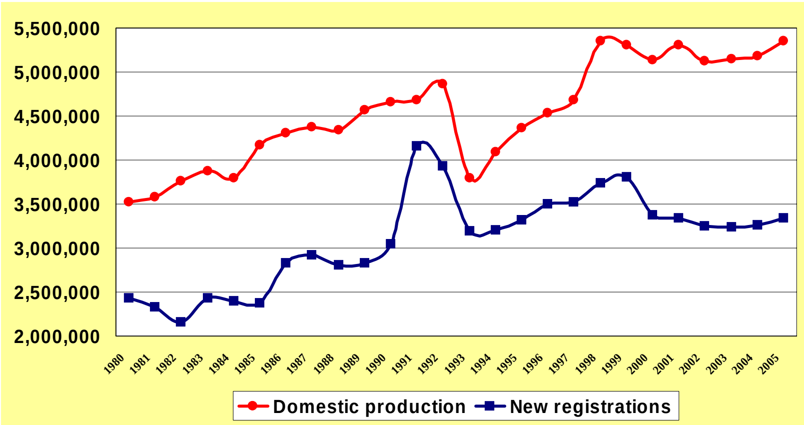
[8] Here it should be especially emphasised that the export surplus of the German automotive industry amounts to almost 1.4 times the value of its total imports.

[9] The year 1999 marked the highest ever "normal" level of new registrations, excluding the "reunification boom" of 1991/1992, when the number of registrations temporarily reached the four million mark.

Production and New Registrations of Passenger Cars in Germany in 1980-2005



Source: VDA/ Federal Bureau of Motor Vehicles and Drivers

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Investments / research and development

The volume of investments made by the German automotive industry in 2005 came to 11.3 billion euro, somewhat less than in the previous year. The investments of the automotive industry thus amounted to almost one quarter (23.5%) of the investments made by German industry as a whole.[10]

Spending by the automotive sector on research and development came to around 16 billion euro in 2005. This was more than one third of total R&D[11] expenditure in Germany. This means that a large proportion of the R&D activities of German businesses are directed towards automotive production. The number of people working in R&D within the industry was approx. 85,000.[12]

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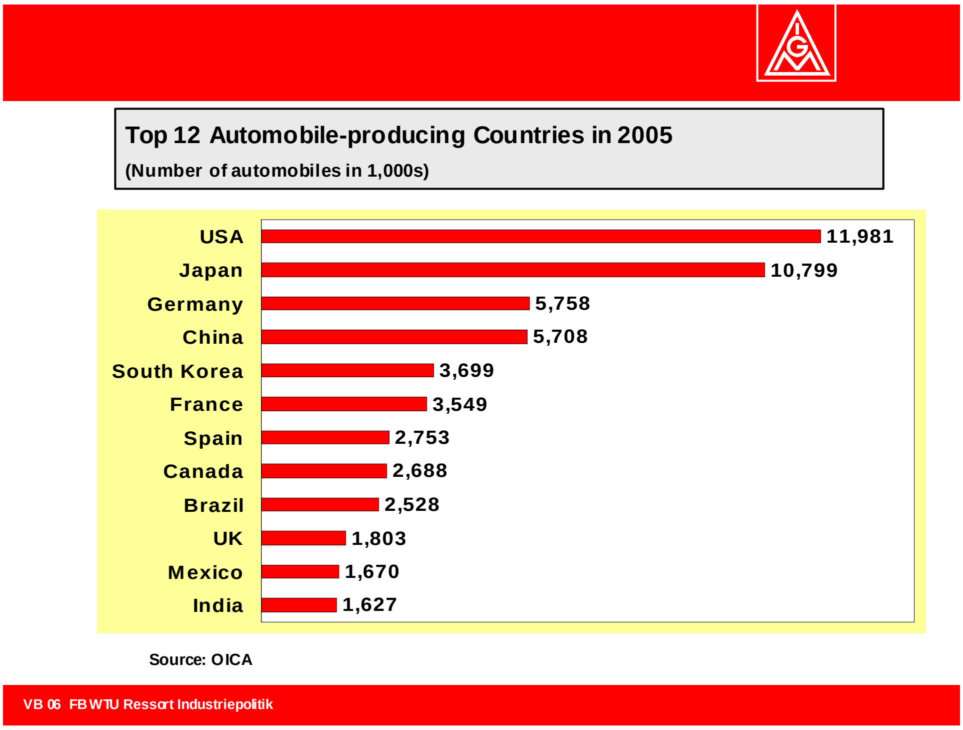
[10] See also VDA; Auto 2006 - Annual Report, p. 185
[11] R&D = Research and Development
[12] Ibid.

German automotive industry in Europe and around the world

In 2005 German domestic production of motor vehicles (passenger cars and commercial vehicles) amounted to 5.758 million, which accounted for 8.9 per cent of global production, putting the German automotive industry in third place behind the USA and Japan, and closely followed by the People's Republic of China, the newcomer on the world automotive stage.

In 2005 Germany accounted for nearly one third of European automobile production (32.1%). The proportion has hardly changed since the beginning of the 1990s. This means that Germany's automobile production is by far the largest in Europe.



Amongst the passenger car producers, in the year 2005 Germany was in second place behind Japan, the world's largest producer, and in front of the USA. This ranking is slightly different from that for total motor vehicle production because far more than half of the automobiles produced in the USA are light and heavy commercial vehicles, while in Japan and Germany the number of vehicles produced is very largely made up by passenger cars.[13]

Within Europe the German share of passenger car production in the year 2005 came to 34.0 per cent of the total production of 15.72 million cars. The 5.35 million cars built by the German automotive industry was

[13] The People's Republic of China also shows a clear shift in the ranking for passenger car production only. In 2005 China only reached sixth place in the world ranking, behind South Korea and France, because in China too nearly half of all vehicles produced are commercial vehicles.

greater than the combined production volume of France and Spain, the two next-largest car-producing countries.

According to information from Eurostat, the Statistical Office of the European Commission, the German contribution to the total gross value created by the automotive manufacturers in Europe[14] is almost fifty per cent (48.8%). The German contribution amongst the automotive suppliers is well over forty per cent (43.3%). Germany also employs far in excess of forty per cent (44.9%) of the workforce in the European automotive industry.[15]

Within the EU, both in terms of gross value creation and in terms of employment, German industry exhibits the highest degree of specialisation for the automotive industry, alongside Sweden (among the automotive manufacturers) and the Czech Republic (among the automotive suppliers).[16]

Production in Germany and abroad

The German automotive companies include international corporations with plants producing German brands both within the country and abroad, and at the same time owners of foreign brands whose vehicles are assembled solely in plants abroad. This applies to the following corporations:

- VW, with the German brands Volkswagen and Audi, and the foreign brands SEAT, Skoda, Bentley, Bugatti and Lamborghini;
- BMW, with the foreign brands Rolls Royce and New Mini;
- DaimlerChrysler / Mercedes Car Group[17], with the German brands Mercedes (passenger cars and commercial vehicles) and Evobus (buses), and the foreign brand Smart;
- and MAN and Neoplan in the commercial vehicle sector.

On the other hand, the passenger car sector within the German automotive industry includes subsidiaries of foreign corporations owning German brands (Opel and Ford) that are also assembled at sites in other (European) countries. In the commercial vehicle sector, these include IVECO/Magirus, a subsidiary of the Italian corporation FIAT.

The only German vehicle-maker that produces solely in Germany is Porsche. However, its Boxter series is built by the Finnish automotive supplier Valmet.

Over the last fifteen years, in both the passenger car sector and the commercial vehicle sector there has been a massive expansion in production abroad, although this has not been to the detriment of production

[14] NACE 34.1 and 34.2 combined - information for 2002
[15] Eurostat - information for 2003
[16] Source: Eurostat
[17] The Chrysler brand, just like the commercial vehicle brands Freightliner, Sterling, Western Star and Fuso, which belong to the DC corporation, is shown separately in the international statistics of the automotive associations and not as a German group brand.

within Germany. In fact the latter has risen considerably, even if not to the same extent as foreign production.

In the year 2005, 5.35 million passenger cars were manufactured in Germany while production by German corporations abroad came to 4.23 million passenger cars. Of these, 3.0 million cars bore a German badge and 1.23 million belonged to foreign brands owned by German corporations. This means that 44 per cent of the total passenger car production by German automotive companies occurred in countries other than Germany. The proportion has been stagnating at this level since 2002.

In addition to the production of 408,000 commercial vehicles in Germany in the year 2005, German corporations also built 709,000 commercial vehicles in other countries. The proportion of foreign production amongst commercial vehicles thus came to 63.5 per cent and in recent years it has shown a marked increase despite the record level of domestic production.

The suppliers are dominated by a large number of smaller and medium-sized companies and a series of internationally active supply corporations that have their headquarters and most of their production in Germany.

For some years the world's largest supplier corporation has been Robert Bosch GmbH, which generated a turnover of 28.4 billion US dollars in the area of automotive supplies in the year 2005. In that year the fifteen largest automotive suppliers world-wide included Siemens VDO, Continental, ThyssenKrupp, the ZF Group and four other German companies[18]. Within Europe, German corporations clearly made up the majority of the largest corporations (nine out of the top fifteen).

In particular the medium-sized and larger German supply companies produce both in Germany and abroad. In recent years the establishment of foreign production plants - and thus expanding production – has always taken place with three main objectives:

- proximity to foreign production plants of German OEMs in the region;
- proximity to production plants of foreign OEMs in the region;
- (limited) relocation of parts of the value-added chain – i.e. individual stages in production - to cost-effective sites without being directly associated with final assembly in the region.

However just as in the case of the final assembly of motor vehicles, the supplier sector has so far not expanded its production abroad to the detriment of domestic production. Between 1995 and 2005 the German automotive supply increased its production within Germany by no less than 114 per cent, while the size of its workforce in Germany rose by 73,000, nearly 30 per cent.

[18] This only takes into account those parts of corporate turnover that were generated through automotive supplies. (Source: Automobilwoche)