Trends and drivers of change in the European automotive industry: (II) scenarios and implications

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Abstract: This paper follows on from the mapping exercise covered in the first article. The authors consider four possible scenarios for the future development of the European car industry. These are primarily based on the strength of demand inside and outside Europe, and the extent to which variation might be accompanied by a faster or slower rate of consolidation of vehicle makers and suppliers. The scenarios take account of the growth of new players from emerging car markets, such as China or India, the legislative framework and consumer choice. They enable consideration of the impact of demand on production geography, organisational and manufacturing change, total employment and employment conditions and contracts and the role of public policy.

Keywords: automobile; drivers to change; trends; scenarios; employment.


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organisations (CCFA, FIEV, JAMA, CLEPA), OEMs (PSA, Renault, Toyota,
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1 Introduction

The purpose of this second article is to suggest a number of scenarios for change in the
European automotive industry over the next decade and to consider the implications for
the location and organisation of work and production and the resulting changes in skills
requirements.

2 Scope

Firstly, we need to consider the scope of the scenarios. How broadly based should they be
and should they be related only to Europe? For example, the demand in Europe may
be higher or lower depending on the economic climate. However, demand outside Europe
is also a factor. If, for example, there were to be an economic slowdown in new markets,
such as China, a number of companies would have surplus capacity. This would have two
potential effects:

- overcapacity in these markets and a low return on investments in plant by European
  companies
- likely increased penetration of imports into Europe based on price competitiveness.

Both of these would create difficulties in the European manufacturers’ home markets.
(Here Europe taken as a whole not individual member states.)

Secondly, to what extent should discussion seek to differentiate between companies
in European ownership and those companies with plants in Europe but with US or
Japanese ownership? For example, if car making in the UK is considered, two conflicting
views can be expressed:

- the UK auto industry is highly successful since more cars than ever are being built
- the UK industry is vulnerable since overseas ownership of the plants means the
design and purchasing authorities reside elsewhere – and global co-development and
purchasing has had a negative affect on the technology base.

Both views have validity depending on the perspective taken.

Thirdly, should the scenarios only consider vehicle making and its upstream supply?
Changes in the downstream retail and distribution sector, such as those that may follow
from the New Block Exemption Regulation, also have the potential of bringing about
change and impact upon employment.

Finally, there should be a distinction between the truck, bus and car markets. Europe
leads the world truck market and has the two largest producers. In addition world markets
for trucks and buses are different from that for passenger vehicles. Trucks are essential tools of trade in all regions – not just in the affluent triad of Europe, North America and Japan that makes up the major part of the car market. The market for buses depends on the level of development, the quality of infrastructure and the relationship with other means of transport. For example, Brazil, having few railways, is the world’s largest coach and bus market.

In the scenarios presented here the focus of discussion will be on the passenger car segment, (including mini-vans and light trucks), and will include all those companies with manufacturing sites in Europe. It will also cover the upstream supply matrix. Downstream sales and repair activities will not be included except where they impact on the system of production, for example in achieving reduced delivery times to the customer. Also, the truck and bus markets will not be discussed.

3 The European automotive system

Another important consideration is the extent to which the European automotive market, system of production and policy framework differs from those of the other vehicle-producing regions. A comprehensive discussion of the European ‘automotive space’ is given in Jürgens (2003) who concludes that there are differences under all three categories. Initial insights on the emergence of a true European automotive system were given by Chanaron and de Banville (1991). Where significant differences exist, global changes, for example to legislation, may have a disproportional (positive or negative) impact. For example, the high ground on environmental or safety legislation can switch. At the present time Europe is giving a lead, through the ratification of the Kyoto Protocol and the End of Life Vehicle Directive, but this could change with political developments elsewhere. Therefore, we should first consider the particular characteristics of the European car industry and how they might condition the scenarios.

3.1 Markets

The European car market differs from the two other major markets in a number of important ways. For example, consumer demand and the regulatory system have created a major segment for diesel-powered cars that is not reflected elsewhere.

Another unique feature is the European specialisation in sports, racing and luxury vehicles. Europe has remained the world leader in motor sport with technological development diffusing quickly into the mass market. This process, and the European consumer demand for novelty, has led to a technological lead in a number of fields. In addition there has been a consumer demand for niche vehicles, such as small ‘people carriers’ (monospace) or sports cars built on the platforms of vehicles in high volume production. European manufacturers, including the EU-based divisions of Ford and General Motors, have become adept at producing these vehicles.

Another important difference is the lower number of cars per household compared with the USA. In the latter market it is around 2.5 whereas in Europe it is less than 2. Although European road conditions, and the availability of public transport, make comparisons difficult, there may be scope for expansion of the European market in times of economic well-being and high consumer confidence.
Although often seen as a single automotive space, the European market is not entirely homogeneous. Different rates of growth are possible in different member states according to localised issues and policy effects. Such differences are likely to increase with the development of the ten new member states.

3.2 Policy framework

Jürgens (2003) observes that the European policy framework, although clearly geared to internationalisation and the free market, has a number of features that are not found elsewhere. For example the strong labour laws in a number of member states, The Working Time Directive, provisions for European Works Councils and general (cultural) agreement on the concept of ‘rewarding work’ has led to a move away from overly repetitive production line operations and emphasised the need for high level skills and relationships built on trust. In addition the EC, and individual Member States, have set a broad research agenda for technological advance, environmental protection and mobility.

3.3 Production system

The move by vehicle makers to outsource elements of production has been discussed in the first article and identified on many occasions (see, for instance, Womack, Jones and Roos, 1990; Chanaron et al., 1999; Chanaron and de Banville, 1999; Chanaron, 2001). In the 1980s and 1990s, under the threat of increasing Japanese imports, European manufacturers sought to improve quality and reduce costs by rationalising the supply base. Vehicle makers reduced the numbers of direct suppliers and gave more responsibility to an elite group of large suppliers. In many instances this resulted in the outsourcing of whole modules (areas of the car such as interiors, or corners) or systems (functions of the car such as braking and steering). These are often pre-assembled by the large suppliers who have, in turn, integrated the purchase and assembly of components from smaller suppliers and sub-contractors. It is clear that, as detailed by Jürgens, the trend for outsourcing value in large modules or systems has gone further in Europe than in either Japan or the USA.

These moves have led to the development of specialisation within the European supply industry. Although it is clear that US-owned suppliers have been keen to offer, and benefit from, the supply of modules and systems, many European suppliers have gained a technological lead as a result of the trend.

European vehicle manufacturers have also outsourced high value design and engineering functions. This has led to the strong development of an industry segment providing design and engineering services (Chanaron, 2004). The principles of co-development embodied in the organisational model have engendered a European paradigm of cooperation and networking that, to a large extent, overlays, if not replaces, the traditional buyer–supplier hierarchy. This model has been supported by initiatives, at European, member state and regional levels, to develop cooperative networks amongst firms, public and private sector research organisations and administrations. Policy examples include Regional Innovation Strategies, cooperative R&D programmes and initiatives under the Structural Funds.
4 Variables

Any scenario exercise on the automotive industry needs to recognise that, amongst the major drivers of change, some, such as demand and the general economic situation, will vary. Others, such as consolidation or the increasing strictures of environmental legislation, are constant trends. The only variable is the pace at which they proceed.

4.1 Demand

Clearly consumer demand is the most significant variable. This may vary in absolute or relative terms. Firstly, the total numbers of new car sales will depend on the levels of growth and employment in European economies. Forecasts suggest that demand within Europe is likely to be fairly static over in the foreseeable future. According to published forecast, this is likely to hover around 15.5 million up to 2007 – with no major expansion likely.

Therefore any dramatic expansion is likely to be outside Europe, either in the new developing markets or in North America. However, demand outside Europe is also variable. For example, exchange rates, different economic cycles and possible legislative differences can affect US sales. The rate at which new markets might develop is also an issue. Considerable commitments have been made in China, South America and India. If these fail to pay off then companies’ profitability will suffer.

Secondly, consumer tastes can change and lead to growth in different market segments. The European preferences including diesel power, ’people carriers’ and technological novelty have been discussed above. The clear trend towards luxury vehicle purchase has benefited producers of premium cars at the expense of some volume producers. This has severely affected the production economics of certain medium-range models.

4.2 Competition and consolidation

The history of the industry demonstrates that a number of features and trends are constant. For example, the intense competition that has brought about the current organisational and financial structures is unlikely to abate. Hence it is inevitable that consolidation of both vehicle makers and suppliers will continue as companies seek a presence in all world markets and make economies of scale. Conventional wisdom has it that a number of smaller European car manufacturers are vulnerable since they will not be able to match the resources needed for new developments – especially if there are legislative shocks. However, the situation is not clear-cut. Some of the smaller manufacturers, such as BMW, have prospered more than many larger ones and are clearly at the forefront of technology. An alternative strategy to up scaling, and characteristic of the European ‘automotive system’, is to enter into collaborations and joint ventures to share costs. Also, Europe’s knowledge services sector offers companies to outsource high cost developments rather than undertaking them solely with their own resources.
4.3 Capacity

The issue of over-capacity for world and European automotive production has been the subject of much discussion. An excess of capacity arises when demand for particular models fails to meet expectations or where the market develops less quickly than forecast. Such circumstances cause obvious, and usually well-publicised, problems for the carmaker(s) but there are also significant knock-on effects on the supply base. The excess capacity in Europe has been estimated at 30%.\textsuperscript{2} Recurrent economic slowdown in Europe is causing companies to focus on the problem.

Inevitably entering new markets means investment in additional capacity to serve these markets and exacerbates the capacity issue. However, the question of over-capacity is complex and varies from place to place, time to time and company to company. Market trends and consumer choice have a significant impact. There is no meta logic or force by which the industry as a whole can cut capacity. It will therefore continue to be tackled piecemeal by individual companies according to circumstance.

4.4 Changing geography of production

In Europe it is clear that the geographical boundaries of production have expanded with the opening of new markets in Central and Eastern Europe – and the opportunities to exploit lower local labour costs. However, this is not a new pattern. Previous expansion of the EU, favourable regional aid regimes and the attractiveness of ‘green field’ sites and working practices led to the establishment of new plants in Spain, Portugal and Southern Italy starting in the 1970s.

To a large extent the new plants demonstrate a pattern of production for lower cost, smaller models. However, as discussed by Lung (2003), this pattern is not uniform with some high-cost models being manufactured in new locations and new investment for low-cost models being made in automotive regions in Europe’s manufacturing heartlands. The location of major suppliers has followed the establishment of new sites by the vehicle makers.

4.5 Outsourcing

Another likely constant is the continued trend towards outsourcing – since it is dictated by the economics of the industry. The trend will, therefore, continue but will not be uniform. A significant variable is the degree to which outsourcing will extend to the supply of pre-assembled modules and systems. Another is the scale to which high level design functions are outsourced. There is a certain level of concern at both and the loss of competence (hollowing out) of the vehicle makers and, from time to time, companies will bring functions back in-house. However the only variable feature is the pace at which outsourcing continues to develop – not the general principle of whether it will happen.

4.6 Technology

The past decade has seen a number of significant technological advances. The drivers have been:
• competition – and consumer demand for novelty
• the need to increase margins on vehicle sales by fitting high value ‘extras’
• the demands of increasing concern for environmental sustainability – including better traffic mobility
• increased pressure to improve occupant and pedestrian safety.

The industry is probably at the beginning of a further major shift in technology as mechanical control of functions, such as steering, braking and automatic transmissions, is replaced by computerised electrical operation. Manufacturers will continue to improve technologies in order to meet both customer demand and the requirements of legislation.

4.7 Regulations

Another important variable is the regulatory framework. The European Commission has taken a strong lead in a number of areas ranging from ‘end of pipe’ emissions to the opening up of retailing through the New Block Exemption Regulation. EC, industry and consumer concerns for environmental sustainability, road safety and mobility have led to a number of significant technological developments. These can have both positive and negative effects on profitability. For example, a limited number of specialist high-tech suppliers might prosper while vehicle makers see their already narrow profit margins cut even further. This would make them vulnerable to further consolidation and restrict their investment in new market opportunities. An example is the concern shown by European manufacturers, including the US-owned subsidiaries, at the EC’s proposed limits on CO₂ emissions. Alternatively, innovations developed to meet regulatory demands may have the potential to give European producers a lead vis-à-vis the competition.

Amongst the legislative changes in the pipeline are:
• new emissions legislation – EURO 4 (mid-2006) and 5 (late 2009) and concern about possible US legislation
• legislation on allowable substances, e.g., air conditioner coolants
• EURO-NCAP standards for occupant and pedestrian safety
• end of life vehicle and recycling requirements.

4.8 New players

The pressure of intense competition will undoubtedly continue. However, that is not to say that the status quo will be retained. As new markets develop there is a strong possibility of companies from developing regions emerging as significant global players. A few years ago there was concern at the expansion of the Korean companies. Now the concern is less since Korean economic difficulties have led to a number of acquisitions, by European and US companies. However, Hyundai/Kia is still showing strong growth – and is opening a new European car plant at Zelina in Slovakia with plans to produce up to 200,000 small- to medium-sized cars under the Kia brand.

Home players in other developing markets are also likely to develop ambitions to enter the lucrative European and US markets. Examples include the Indian carmaker,
Tata, which is in a current joint venture with MG-Rover to market its small car in Europe as the ‘City Rover’, and has indicated that it would like to sell other models under its own brand. Also, Chinese manufacturers such as FAW and SAIC, and the Russian firm AutoVaz, are fast growing and, for the present at least, have relatively protected home markets.

5 Scenarios

As can be inferred from the above discussion there are a number of factors that will influence industry change and organisation. However, two variables, Demand and Consolidation, can be identified as those likely to have the most significant impact – and where there are strong precedents.

Four scenarios can thus be identified in the quadrants of the two axes as shown in Figure 1 below:

5.1 Scenario 1: high demand and low levels of consolidation

This is the most positive scenario for employment. It also has some basis for expectation since, as seen in Figure 1 and Table 2, prospects for growth are fair – provided no economic shocks, such as a new oil crisis, cause major disruption to the global economy.

The possibility of low consolidation amongst carmakers is also backed up by forecasts. At present, as discussed above, the smaller manufacturers tend to be those doing best in terms of both growth and profits. Many analysts, including Autopolis, suggest that there could even be fragmentation – for example there continue to be rumours that Ford could sell off part of PAG and GM might lose patience with losses at Saab. The scenario, therefore, assumes no additional carmaker consolidation in Europe and little by European manufacturers outside Europe.

The same low level of consolidation may not be the case in the supply industry where consolidation is likely to continue. However, this scenario assumes that the rate of development will be slow.
5.1.1 Demand

Demand conditions can be differentiated between those inside and those outside Europe. It is likely that demand outside Europe will be the main driver of any expansion. Since the main companies have made large investments outside Europe, this will not lead to significant increases in European jobs. However, company profitability will be boosted taking some pressure off cost-cutting. Table 1 below gives some forecasts made by the automotive consultancy Autopolis.

The figures demonstrate the importance of the North American market that, on these figures, will replace Western Europe as the world’s no. 1 car market.

There will also be an increased European export surplus. If conditions are favourable premium vehicle sales in the USA and other regions will boost companies such as Daimler-Chrysler, BMW, Ford PAG (Jaguar, Land Rover, Volvo and Aston Martin), Audi and the smaller specialist manufacturers such as Porsche and Ferrari.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Vehicle sales by region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle sales (000)</td>
<td>1995</td>
</tr>
<tr>
<td>Western Europe</td>
<td>13,583</td>
</tr>
<tr>
<td>Japan</td>
<td>6865</td>
</tr>
<tr>
<td>NAFTA</td>
<td>16,089</td>
</tr>
<tr>
<td>Pacific Rim</td>
<td>5689</td>
</tr>
<tr>
<td>South America</td>
<td>2382</td>
</tr>
<tr>
<td>Eastern and central Europe</td>
<td>1892</td>
</tr>
<tr>
<td>Other markets</td>
<td>1698</td>
</tr>
<tr>
<td>Total</td>
<td>48,198</td>
</tr>
</tbody>
</table>

Source: Autopolis. Figures for 1995 and 2000 are actual, the remainder are forecasts.

The importance of exports is illustrated by the figures, in Table 2 below, for Mercedes passenger cars. In 2003, despite the unfavourable exchange rate, the company increased North American sales by 38% and sales in Japan by 4% – while Western Europe sales fell by 4%. This was mostly through export from Europe not local production. The only Mercedes brand capacity in the USA is the M-class plant in Alabama that has a capacity of 80,000 cars p.a. These figures meant that overall, sales of Mercedes passenger cars were about even between 2002 and 2003.

<table>
<thead>
<tr>
<th>Table 2</th>
<th>Figures for Mercedes brand passenger car sales in 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger Car Sales 2003*</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>Units</td>
</tr>
<tr>
<td>Mercedes-Benz</td>
<td>1,092</td>
</tr>
<tr>
<td>Of which: S-Class/SL/Maybach</td>
<td>109</td>
</tr>
<tr>
<td>E-Class</td>
<td>305</td>
</tr>
<tr>
<td>C-Class</td>
<td>442</td>
</tr>
<tr>
<td>Of which: CLK</td>
<td>86</td>
</tr>
<tr>
<td>SLK</td>
<td>22</td>
</tr>
</tbody>
</table>
Table 2  Figures for Mercedes brand passenger car sales in 2003 (Continued)

<table>
<thead>
<tr>
<th>Passenger Car Sales 2003*</th>
<th>2000</th>
<th>03/03</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Units</td>
<td>In %</td>
</tr>
<tr>
<td>Sport Coupe</td>
<td>53</td>
<td>-28</td>
</tr>
<tr>
<td>A-Class</td>
<td>147</td>
<td>-14</td>
</tr>
<tr>
<td>M-Class</td>
<td>81</td>
<td>-20</td>
</tr>
<tr>
<td>G-Class</td>
<td>7</td>
<td>-16</td>
</tr>
<tr>
<td>Smart</td>
<td>125</td>
<td>+2</td>
</tr>
<tr>
<td>Mercedes Car Group</td>
<td>1,217</td>
<td>-1</td>
</tr>
<tr>
<td>Of Which: Germany</td>
<td>390</td>
<td>-6</td>
</tr>
<tr>
<td>Western Europe</td>
<td>423</td>
<td>+1</td>
</tr>
<tr>
<td>(excluding Germany)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NAFTA</td>
<td>236</td>
<td>+2</td>
</tr>
<tr>
<td>United States (retail sales)</td>
<td>219</td>
<td>+3</td>
</tr>
<tr>
<td>South America</td>
<td>11</td>
<td>-18</td>
</tr>
<tr>
<td>Asia/Oceania (excluding Japan)</td>
<td>67</td>
<td>+9</td>
</tr>
<tr>
<td>Japan</td>
<td>46</td>
<td>-3</td>
</tr>
</tbody>
</table>

Note: * Group figures, Unless otherwise indicated (including lossed vehicles)

Source: Daimler-Chrysler Annual Report 2003

5.1.2 Market segments

Demand will not be universal across all segments. The trend in recent years has been for an expansion in small car sales plus increased sales of premium cars and 4×4 vehicles but a squeeze on the medium car segment. This has caused problems for companies such as VW, Ford, Fiat and Opel (GM’s European subsidiary.) Profits in the small car segment are low since margins on each vehicle tend to be small. Healthy margins are only obtained if consumers are persuaded to buy the higher specification versions. Where companies have tried to move their vehicles into a higher price bracket, by adding to the specification, they have overlapped with the price range of the premium vehicle manufacturers. To a significant degree European consumers have preferred the latter.

Therefore, even in this positive scenario, the squeeze on the medium segment will lead to cutbacks and job losses. Current restructuring plans include those at:

- **VW:** 5000 job losses planned by 2005 and €2 bn cost savings – however this is only half of the number of production workers taken on during 2002/2003
- **Opel:** project Olympia to reduce capacity by 350,000 cars, reduce employment by 3000 and cut costs by €1.5 bn
- **Fiat:** in the middle of a plan to cut 12,300 jobs worldwide and close a dozen factories. However, investment plans are for €19.5 bn
- **Ford:** has closed of five out of 11 European plants, ended car production at Dagenham (UK) and closed a shift at Genk (B) with 3000 redundancies. Ford is now operating at above 90% capacity in Europe.
5.1.3 Productivity

As discussed above demand in Europe is likely to remain flat overall. However, competition will still drive cost savings and productivity improvements. Coupled to flat demand there will be continued pressure on jobs. The change, however, is not likely to be dramatic. The big changes came in the periods of recession and threats posed by the more efficient Japanese car industry. Mercedes alone shed some 40,000 jobs in the early 1990s. Nevertheless we might expect a steady reduction in employment in both carmakers and the supply base.

5.1.4 Suppliers

There are many more jobs in the supply industry than in the vehicle manufacturers themselves. The industry has been severely squeezed in recent years by the competitive pressure on costs and vehicle makers’ demands for year on year savings. As discussed above, the trend to outsourcing has led to large suppliers taking on additional functions and added value on each vehicle. This has led to a growth of employment in the supply base to match the reduction in the vehicle makers. Also, several of the major suppliers have tended to be more profitable than their customers (Sadler, 1998).

The trend to consolidation has been just as dramatic amongst the major suppliers as amongst the vehicle producers. This trend is likely to continue, especially if Europe continues to lead in key technologies and if European manufacturers continue to outsource to the extent of modular or systems production. For example, specialist European high technology suppliers such as GKN (drive joints and components), Mahle (pistons and other engine components) and ZF (transmission systems) could be the target for the larger systems integrators such as Bosch (D), Visteon, Lear, TRW and other US-owned giants.

Under this scenario it can be assumed that there will be less moves towards further modularisation since the car manufacturers will be under less pressure. This will in turn reduce (some!) pressure on the suppliers. There will, however, be a continued drift of the supply industry to low cost locations. Initially they will follow vehicle companies into new markets – but there will be pressure to reduce costs by importing components from these markets into Western Europe. The main impact will undoubtedly be on the smaller sub-contractors. This trend will be given a further impetus because requirements for local content agreements – for example in China – will stimulate the development of local suppliers.

Current predictions envisage big reductions in the numbers of lower tier suppliers as the trend of lean manufacturing develops. Many smaller engineering companies have been bought by larger groups resulting in job losses. An expansion in the Chinese market is likely to reduce numbers even more – and result in significant job cuts.

5.1.5 Geography of production

Pressure on the medium-sized sector will leave some volume producers with greater dependence on small car sales. Lower unit margins in this sector will encourage cost cutting – including possible moves of more production to Europe’s peripheral regions. These include Spain, Portugal, Hungary, Poland, Czech Republic and Slovakia. As discussed elsewhere there has already been considerable investment in small car
production capacity in these states. This trend might well continue leading to cutbacks in traditional manufacturing areas.

Undoubtedly the location of suppliers’ plants in the lower cost member states will lead to some reorganisation and rationalisation. However, the principles of just-in-time manufacture pose a constraint on the movement of parts. There will not, therefore, be wholesale movement of production. Large components, modules and systems will still be assembled close to the car plants. However, some manufacture, especially of components that are easy to transport, will move.

The scenario envisages strong demand outside Europe such as in China. As suppliers develop manufacturing capacity in China there will be pressure to bring Chinese-manufactured components into the EU to supply local production. As standardisation across model ranges increases this trend will accelerate.

A possible negative affect of high US growth and lower European growth could be the export of some production by Ford or GM. Current figures for European and US sales of premium segment cars from the two companies are shown in Table 3. This shows that a very significant proportion of production is exported to the US market. Persistent rumours have suggested that part of Jaguar production and Saab production could move to the USA (Automotive News, 10th March 2003). It is also apparent that Ford, for example, is unhappy at the recent industrial unrest at the UK Land Rover plant near Birmingham. Some Land Rover and Jaguar production have recently been transferred to Ford’s plant in Liverpool. Such an unprecedented move could indicate the possibility of moving some production out of Europe completely. For Ford PAG this would be increasingly feasible as platforms and components become standardised across the group.

Exchange rates would also be a factor. At the time of writing the EURO has a high value compared to the US dollar. This means a high cost of manufacturing in Europe and high prices for European vehicles in the USA. European premium manufacturers such as Audi, BMW and Mercedes could also transfer production.

Table 3 EU and US sales of Ford and GM premium brands in 2002

<table>
<thead>
<tr>
<th></th>
<th>EU</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aston Martin</td>
<td>791</td>
<td>302</td>
</tr>
<tr>
<td>Jaguar</td>
<td>51,775</td>
<td>47,849</td>
</tr>
<tr>
<td>Land Rover</td>
<td>82,248</td>
<td>28,990</td>
</tr>
<tr>
<td>Volvo</td>
<td>230,932</td>
<td>137,328</td>
</tr>
<tr>
<td>Saab</td>
<td>72,654</td>
<td>39,334</td>
</tr>
</tbody>
</table>

Source: Automotive News, Global Data Book 2003

5.1.6 Technology

Investment in technology will be strong. A good economic situation, and high sales of premium vehicles, will encourage manufacturers to change and improve key vehicle technologies. This will be further good news for the supply industry – and for Europe in general given the lead in many of the next generation technologies. These include electronic and electrical systems, communications systems, road-tolling systems, etc., (MacNeill, Srbljanin and Bentley, 2002). Given the positive outlook for sales in North America there will be opportunities for additional sales by European companies such as Bosch, Siemens, ZF, etc.
5.1.7 Policy framework

Legislation is a significant driver. European legislation covers End of Life Vehicle, recycling and emissions of NOx and particulates. The EC is also seeking to set a standard for average CO₂ emissions per kilometre travelled. The proposed standards are 140 grams per km by 2008 and 120 grams per km by 2012. This is causing concern in the European industry. Although the standard is achievable it is anticipated that the cost will be high and will erode already thin profit margins. This raises the issue of alternative technologies. For example, at only 104 gm/km the new generation of Toyota’s hybrid car the ‘Prius’ already meets both the above European standards (Automotive News, 22nd September, 2003). European and US manufacturers are struggling to keep up and market their own hybrid vehicles should legislation force the industry to adopt hybrids in greater numbers. A non-manageable change could make the smaller European car-makers, with smaller resources, vulnerable.

The same might be true of other legislation or influences. One concern is that US legislation might leapfrog that in the EU, for example, on emissions. Safety is another area where new influences might be important. Currently there is a proposal for a European Directive on pedestrian protection based on the EuroNCAP tests. This will come into force in late 2005. Europe has a lead here, since there is no equivalent US proposal (Japan will adopt the EU standard), and manufacturers will be able to meet the standard. However, a disruptive change, perhaps originating from US pressure groups could have negative short-term affects.

In this positive scenario it is assumed that legislative changes have a positive impact on European technological development and help preserve Europe’s lead (see MacNeill, Srbijanin and Bentley, 2002; ACEA and EuroNCAP – both World Wide Web).

Another important aspect of legislation is in the area of labour laws. In any scenario there will be political and economic pressure to reduce the level of social protection. In this positive scenario it is likely to be manageable and negotiated.

5.1.8 Production system

The special nature of the European production system has been discussed above. Partnership is a clear alternative to merger. Sharing platforms and technical developments are a common feature amongst the vehicle makers and between vehicle makers and suppliers. In this scenario it is probable that cost reductions through economies of scale would be achieved by partnership not merger.

5.1.9 New players

The expected strength of demand from new markets, and the range of their joint ventures with European companies will accelerate the growth of rivals. While demand in their home markets is strong there will be less pressure on these companies to export to Europe and North America. However, the logic of scale economies will lead to the expansion of companies such as FAW, SAIC, Tata and AutoVaz. As these companies develop and improve their own products, they could ‘attack’ the low-cost segment of the European market. One significant development, with the accession of the ten new member states is the removal of import tariffs in the C&E European markets. This will present new opportunities to Japanese, Korean and other manufacturers. As discussed above both Hyundai and Toyota are investing in the accession countries.
5.1.10  Japanese market share

Europe has had a long-standing concern, shared with the USA, about the market imbalance with Japanese car-makers. Some lessening of this concern has resulted from the recent vulnerability of some Japanese companies and western manufacturers’ control of Nissan (Renault), Mazda (Ford) and Mitsubishi (Daimler-Chrysler). Also the market share of Japanese vehicles (both imports and products of European factories) has remained at around 11% for more than a decade. However, the balance of the 11% has changed with Toyota taking an increased proportion.

It is difficult to predict whether this scenario would lead to a greater or smaller market share for Japanese manufacturers. It is clear though that Toyota is expanding – particularly in the USA. In global sales, in 2003, the company overtook Ford to take the number two spot. It also has the advantage of a high capitalisation, based on strong profits, compared to all the other carmakers. The company is also making high investments in Europe. With new plants in Poland (engines) and the Czech Republic (small cars, joint venture with Peugeot) and adding to production in its Western Europe plants at Valenciennes (F) and Burnaston (UK).

5.1.11  Effect of changes: labour and skills

The change to work organisation will not be dramatic. Some new technology will be introduced but at a manageable rate. The division of labour between vehicle makers and suppliers will continue along the current trend but without dramatic change. It is unlikely that further modularisation ‘experiments’ such as the smart factory will be attempted.

Reasonable prospects, if allied to reliable forecasts, should relieve some of the pressure to increase the ‘flexibility’ of the labour force. There is therefore unlikely to be a significant increase in the role of temporary or agency labour. However, even if the overall picture is stable, there will be fluctuations in demand and models that fail to reach sales expectations. Therefore, the practice will not disappear. This will be especially the case in the supply industry. Vehicle manufacturers are notorious for not being able to schedule work accurately. Often, daily (just-in-time) schedules are changed in the course of a few hours. Supply companies, in particular, are likely to argue the need to have flexibility – for example through annual hours contracts.

Within companies the increasing levels of both production and vehicle technologies are likely to lead to an increase in ‘white-collar’ staff. At the same time productivity gains will lead to a reduction in ‘blue-collar’ production workers. This will relieve some of the industry’s skills shortages amongst skilled production workers, machine setters and operators. Also, as the nature of the production process changes more female workers are likely to be employed. This will provide a new pool of potentially skilled labour, provided appropriate training is available.

The continued growth of the knowledge services sector is also expected. However, in a period of stability and reasonable returns, car companies will tend to carry out a larger proportion of development work themselves. This may accelerate the trend to a higher proportion of white-collar workers.

With continuing productivity gains, even with strong demand, reductions in employment are inevitable. Employment in vehicles and parts (NACE 34) in the EU15 is 1.94 millions and just under 2.2 millions in the EU25. The overall total, to include supply companies classified under other NACE codes, such as metal, rubber or glass manufacture, that are partly dependent upon the motor industry is higher – perhaps
3-3.5 million. Even on this positive scenario a cut of up to 5% to achieve on-going productivity gains would, by the end of the decade, involve the loss of some 100,000 jobs in the vehicles and parts industry. Together with the knock-on loss in firms outside NACE 34 the total loss of manufacturing employment might be as high as 175,000 jobs by 2010.

5.2 Scenario 2: high demand/high level of consolidation

The demand conditions for this Scenario have been covered in the discussion of scenario 1 above. The same features can be assumed to apply – fairly flat, but nevertheless increased, demand in Europe and strong demand in other markets.

5.2.1 Consolidation

Further consolidation can be divided into different categories:

- within Europe reducing the number of independent European manufacturers
- outside Europe – where European manufacturers acquire other companies
- consolidation amongst suppliers – again sub-divided into the same categories.

Different factors could lead to some or all of these possibilities. Not all the effects are negative.

5.2.2 Market segments

As described, in scenario 1 above, demand will not be universal across all segments. The difficulties for some manufacturers, especially in the medium-sized car market segment, have been discussed. The assumption in scenario 1 was that the short-term difficulties in 2004 will be overcome, and profitability will be better as the European market picks up from 2005 onwards. However, an alternative view is that this will not be the case and the market for certain models will be less than expected.

The economics of scale that drive the industry mean that production levels have to be maintained as much as possible. The traditional remedy, particularly of the US manufacturers, has been to offer incentives either through heavy discounting11 or the offer of attractive (zero interest) financial packages. Such solutions eat into, or remove entirely, the direct profit on sales12 of these models. This weakens the company and makes it vulnerable especially if stock market listings fall.

The biggest challenge amongst the European carmakers is that for Fiat as the company struggles to overcome its financial difficulties. It has embarked on a major restructuring and investment exercise to ‘kick start’ a new model programme and sales increases. The company has seen both absolute sales and its share of the market fall. Table 3 shows the decline. The automotive consultancy, Autopolis, predicts a further decline in market share. Fiat is in a joint venture with General Motors that contains the possibility of being extended to GM’s outright control. Neither company, however, wants this and, in any case, GM, despite huge resources, is having its own struggles in Europe with losses at Opel as detailed above. Table 4 shows predictions that GM’s own share of the European market will also fall.
The two companies already plan to share platforms and power-train developments. This collaboration is to save costs, allow GM access to Fiat’s technical capabilities and give Fiat access to markets through GM’s worldwide networks. One possibility, as an alternative to further merger, might be the floating of a new jointly owned European company.

It is notable, however, that GM is short of premium European brands compared with its rival Ford. Given the losses at Ford PAG, and at its own Saab division, this might be regarded as positive but the premium sector is attractive because higher margins are possible and there are clear market trends in Europe towards premium vehicles. It is probable that GM would take the opportunity to buy a premium brand if it arose. Given its collaboration with Fiat, ownership of the Ferrari or Alfa Romeo brands within the Fiat Auto Group would be very attractive.

### Table 4  European market shares and predictions

<table>
<thead>
<tr>
<th></th>
<th>1995</th>
<th>2002</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VW</td>
<td>16.7</td>
<td>VW</td>
</tr>
<tr>
<td>2</td>
<td>GM</td>
<td>13.0</td>
<td>PSA</td>
</tr>
<tr>
<td>3</td>
<td>PSA</td>
<td>11.9</td>
<td><strong>Renault-Nissan</strong></td>
</tr>
<tr>
<td>4</td>
<td>Ford</td>
<td>11.7</td>
<td><strong>Ford</strong></td>
</tr>
<tr>
<td>5</td>
<td>Fiat</td>
<td>11.1</td>
<td>GM</td>
</tr>
<tr>
<td>6</td>
<td>Renault</td>
<td>10.3</td>
<td><strong>Fiat</strong></td>
</tr>
<tr>
<td>7</td>
<td>BMW</td>
<td>6.3</td>
<td><strong>DCM</strong></td>
</tr>
<tr>
<td>8</td>
<td>Mercedes</td>
<td>3.4</td>
<td><strong>Toyota</strong></td>
</tr>
<tr>
<td>9</td>
<td>Nissan</td>
<td>3.0</td>
<td><strong>BMW</strong></td>
</tr>
<tr>
<td>10</td>
<td>Toyota</td>
<td>2.5</td>
<td><strong>Hyundai-Kia</strong></td>
</tr>
</tbody>
</table>

**Note:** * Daimler-Chrysler-Mitsubishi  
**Source:** autoPOLIS

However, hostile takeovers are unlikely because of family ownership (PSA, BMW) or protected status (VW) of several auto-makers. Consolidations between European manufacturers are, similarly, difficult to predict. In addition a web of collaborations has been sought as an alternative strategy to achieve economies of scale and share costs.

### 5.2.3 Developing markets

The strength of the markets in this scenario might encourage European expansion by acquisition in other markets. It is for example, possible that Daimler Chrysler could increase its equity in Mitsubishi (and possibly others) to the extent of outright control. This is possible since the company has shown itself to be ambitious and has gained a world lead in the truck industry through acquisition. The figures in Table 3, from Autopolis, are based on this possibility. Renault-Nissan also has ambitions to increase its scale as a global group – and could buy into new markets.

Such expansions would, if market conditions were positive, bring economies that would in turn enable future technical investment in Europe.
5.2.4 Suppliers

Significant new consolidation is likely to be reflected amongst the suppliers at all levels. Europe has a good base of medium and medium/large, high technology, and high quality supply companies. These include companies such as ZF Friedrichshafen (D), GKN (UK), Autoliv(S), Freudenberg(D), Magneti-Marelli(I), Behr(D) and Mahle(D). These companies operate at first and second tier in the supply base. However, Europe is less well represented amongst the larger, module suppliers (0.5 tier). Although Robert Bosch vies with Delphi to be the world’s largest supply company, most of the other top module/system suppliers and integrators are US owned – Delphi, Visteon, Johnson Controls, Lear, TRW – and just three, Bosch and Faurecia (F) and Valeo(F) are European.

In a scenario of high consolidation some European supply companies will be vulnerable to merger or acquisition. This could lead to job losses but also loss of technical leadership. The same considerations about modularisation and the drift to low cost locations as in the scenario 1 can be assumed to apply here. These will have a major impact on the smaller, process-based, suppliers – particularly those supplying low value, high volume, commodity components. The trend of closures, mergers, acquisitions and job losses in this segment of the supply base will continue.

5.2.5 Geography of production

The same considerations as in scenario 1 will apply. However, consolidation of suppliers is likely to accelerate the process of bringing parts from lower cost locations to be incorporated into modules and systems assembled in Europe.

It might also be expected that there would be a further shift of production to ‘green field’ sites in C&E Europe given the more relaxed labour laws and lower levels of unionisation – as well as lower wage costs. One possibility could be a move to manufacture more of the technologically advanced, upper market segment vehicles outside the European manufacturing ‘core’.

5.2.6 Policy framework

One possible cause of a higher level of consolidation would be disruptive changes in legislation, and technology, that the industry would find hard to manage. The positive affects of legislation on emissions or safety have been detailed in scenario 1. However, possible negative impacts could be from EU or external legislation. For example, the European lead in diesel technology was discussed in the introduction. However, the US diesel market is forecast to expand and US companies, particularly in Europe, are currently relying on European manufacturers such as Peugeot, Fiat, Bosch and AVL for diesel technologies. However, if US concerns (and strict regulations aimed at trucks) were to come on to the US market there could be a severe knock on affect.

Such negative affects would lead to reduced profitability leaving companies vulnerable to merger or acquisition. In such circumstances the largest companies, with the most resources, would have an advantage. Smaller businesses such as Peugeot or BMW might struggle to find the necessary resources to address the legislative requirements.
With regard to working conditions, it is probable that further consolidation at any level will result in more pressure to make European labour markets ‘flexible’. Larger companies, including those in overseas ownership, will seek to maximise the returns from different possible production sites – new and old. Non-European ownership, as described above, is likely to accelerate a move to ‘green field’ locations in the new member states where labour conditions are seen as more attractive.

5.2.7 New players

Japanese, Korean and manufacturers from other countries, of either vehicles or components have not, to date, shown a desire to expand through acquisition. Rather they have preferred steady growth based upon their own resources and good manufacturing practice. The trends, discussed under scenario 1 that might lead to new players entering the European market will apply.

5.2.8 Effect of changes: labour and skills

As in scenario 1, the change to work organisation will not be dramatic and new technology will be introduced but at a manageable rate. The division of labour, and shift of employment between vehicle makers and suppliers resulting from more value being outsourced will continue.

However, consolidation is generally accompanied by cost-cutting exercises – often it is driven by the need to cut costs. Inevitably, despite the positive demand, there will be additional job cuts and an increase in the use of temporary labour and flexible contracts. Consolidation means fewer companies and there will be a reduction in white-collar research and development jobs as well as less employment in production. Also, some high value functions could move abroad.

As in scenario 1 there is unlikely to be a significant increase in the level of outsourcing. Some functions could even be brought in-house.

A combination of continuing productivity gains and further consolidation, even with strong demand, will bring about larger reductions in employment than would be the case in Scenario1. On a 5–10% cut there would be a loss of jobs approaching 200,000, amongst the car-makers and components manufacturers, and a total reduction of 350,000 if the wider implications for manufacturing are considered.

5.3 Scenario 3: low demand/low level of consolidation

This scenario assumes some kind of slowdown of the economy. This could be European or global. This is the least likely combination of our scenarios since consolidation often accompanies low demand for particular manufacturers’ products – leading to low returns, loss of stock value and shareholder disquiet.

5.3.1 Demand

Again demand can be differentiated between that inside Europe and that outside. Low demand in Europe will make certain manufacturers vulnerable and lead to lower profits. In addition Europe will have a surplus of capacity. Companies will, therefore seek to export the excess. However, the investment in the new and emerging markets has made this difficult.
The worst possible scenario would be accompanying low demand in other markets – if, for instance, the economic slowdown was global. In such circumstances there would be pressure on European manufacture from low-cost markets and increased import penetration by Korean and other brands. There would also be difficulty in exporting premium vehicles – principally to the USA. Tables 2 and 3 demonstrate the importance of the US market. Similar figures can be observed for other European premium brands such as Audi, BMW, Porsche and Ferrari.

North American sales, as discussed under scenario 2, would be particularly sensitive to the euro/dollar exchange rate.

5.3.2 Market segments

Low demand will not be universal. As discussed in scenario 1, the main impact may be on the medium car segment that, even with the current positive forecasts overall, is undergoing major restructuring. On this scenario the cutbacks presently proposed would be insufficient and short-term job losses could be at least double of those envisaged in the present round of cuts.

The premium car segment would be able to withstand the slowdown better because of its greater profitability. This would particularly true if the US market were to remain buoyant. However, a combination of low demand in Europe, high US demand and an unfavourable exchange rate would make the prospect of Ford, GM or leading European premium manufacturers, transferring production to the US more likely.

The impact of low demand on ‘volume producers’ would vary. A lot would depend on design appeal as well as price and quality. The good production habits of the Japanese manufacturers might see them increasing their market share. In a period of economic slowdown, quality, low-cost maintenance and re-sale value all become more important. With intensified competition for shares of a smaller market, manufacturers would seek to meet all tastes by offering more, small production volume, niche vehicles. Their design would be outsourced to companies such as Pininfarina, Bertone, Karmann and Mayflower. This would lead to a growth in the design and development functions of these companies. However, it is likely that production would be brought in-house by the carmakers for maximum use of capacity.\(^{14}\)

5.3.3 Discounting

A traditional strategy to combat low demand, and maintain high volume production, is to discount – through the showrooms or to the hire companies or other fleets. In this scenario it is likely that some producers will offer considerable incentives – further weakening their financial base. To compensate, auto. companies are likely to expand their interests in the finance and insurance sector. Discounting will also put pressure on the dealer networks. Reduced margins will accelerate the process of consolidation of dealers made easier by the New Block Exemption Regulations.

5.3.4 Productivity

If demand falls the pressure of competition will accelerate the drive for cost savings and productivity improvements. Major job cuts would be likely with carmakers and suppliers alike. One aspect of increased productivity might be the increase of modularisation and
further outsourcing to suppliers. New, green field sites might be set up to accommodate further modular production methods. This would be at the expense of existing traditional plants.

5.3.5 Suppliers

The industry would be under even more pressure to deliver cost savings. Carmakers would be likely to attempt to share risks by outsourcing more production value. The supply base would be under the twin pressures of achieving savings and taking extra responsibility. The major supplier, TRW observe that approximately 65% of value of their steering assemblies is bought in. This is about the same proportion for supplier value in finished vehicles. Large suppliers would, therefore, be in a position to pass on this pressure as far as possible – which would put a further squeeze on the lower tier and process-based component manufacturers.

Current predictions envisage big reductions in the numbers of lower tier suppliers. This is unlikely to change substantially. It just may proceed slower or faster. This scenario, of slow consolidation, may result in a weakened supply base that, in the long run, loses its technological lead in several areas.

In order to cut fixed costs the carmakers would also outsource more of research and development. This could strengthen the knowledge services sector and companies such as AVL and Ricardo.

5.3.6 Geography of production

A general decrease in demand, pressure on the medium-sized sector and a poorer economic situation will leave volume producers with greater dependence on small car sales. Lower unit margins in this sector will encourage further cost cutting. This will accelerate moves of production to Europe’s peripheral regions. Sharing of platforms and components could increase the trend. For example, Renault small car production could move to the Nissan factory in the UK if it were not being fully utilised. PSA, Ford and VW could make similar decisions to move production at the expense of the Central Zone factories. There will also be a likelihood of products from Chinese and Indian joint ventures (where production costs are low) being imported – especially if the low demand extends to these markets resulting in unused capacity. This will maintain company profits but will further depress sales of European manufactured products. The effect will be exacerbated by a negative impact on the second-hand market – further depressing new car sales. An alternative strategy would be to cut back or mothball capacity in developing markets.

The location of suppliers’ plants in the lower cost member states will lead to some reorganisation and rationalisation. However, the principles of just-in-time manufacture pose a considerable constraint on the movement of parts. The carmakers will pressurise the supply base to use these locations, and locations outside Europe, to supply into European manufacturing plants leading to cutbacks and factory closures in Europe.

As discussed in scenarios 1 and 2 a negative affect of high US growth and lower European growth could be the export of production by Ford or GM. This course of action would be more likely in the scenario of low demand here. In the USA there has been a move in recent years to reduce union coverage in plants. Moves to less, or non-unionised US plants could be envisaged. Loss of this production would lower employment, affect
the supply base and weaken Europe’s technological capacity. Other European premium brands, such as Audi, BMW and Mercedes could also seek additional US capacity. For Mercedes this would be facilitated by the (apparent) excess capacity at Chrysler plants.

5.3.7 Technology

Investment in technology will continue to be necessary. Consumers in Europe demand novelty and technological upgrading. There is also an ongoing need to meet environmental and safety legislation. A poor economic situation, and lower sales, will restrict manufacturers’ capacity to make the investment in-house. This will benefit the knowledge-based suppliers of design, research and development. It will also benefit the supply industry since there will be further outsourcing and reliance on suppliers’ technical capabilities. To a certain extent this may compensate the supply base, in the higher tiers at least, for the accompanying squeeze on costs. The big suppliers might again emerge as the ‘winners’ from a period of change (Sadler, op. cit.).

5.3.8 Policy framework

The policy framework for environmental and safety legislation, will not be significantly different from that previously described. However, there is likely to be additional pressure on the labour laws and on trades unions to agree to changes in working practices and new approaches to redundancy. Companies will be under greater pressure to save money and will seek agreement to shed the expensive workers unconstrained by social considerations. New member states, and some existing ones, will promote the lack of restriction in their labour markets. In any scenario there will be political and economic pressure to reduce the level of social protection. In this negative scenario there is, therefore, likely to be industrial unrest at a number of plants.

The industry is a flagship for the public and politicians. With falling demand, and job losses, there will be pressure for public sector support. Competition policy in Europe (and global free trade agreements) prevents direct subsidy. The probable outcome will be a number of ‘soft’ help measures. These are likely to be aimed at the supply base but with a view to assisting the principal players. Subsidised research and training are two possibilities. A good example is the ‘Accelerate’ programme in the UK’s West Midlands region. This offers supply chain and process improvement support to assist that region’s automotive industry. It will be important that policy is geared to the future and to expanding segments of the industry and not just to short-term job-saving measures.

5.3.9 Production system: partnerships

The further development of the European system of modular and system production has been discussed. This partnership approach is likely to extend to the car manufacturers. To save costs there will be more joint ventures plus sharing of platforms for engine development and other functions.

5.3.10 Downstream distribution and sales

Pressure can be expected to make the distribution and retailing sector leaner. As discussed in the first article, there is scope to reduce costs by limiting the amount of
stock in the system. Volume car production is likely to be to order rather than to stock. Delivery times to the customer will also be reduced. These developments will put additional pressure on suppliers. Delivery schedules for parts will become even more critical. The challenge will be to standardise as far as possible while still giving maximum choice to customers. As discussed in the sections above, the car-makers are likely to rely more heavily on the supply matrix to achieve this.

There will also be considerable pressure on the dealerships. Firstly, as discussed in the above section on discounting, there will be a squeeze on margins. This will accelerate the process of dealer consolidation and reduction in the number of sites leading to considerable job losses. Secondly, there is likely to be an expansion of internet-based purchasing.

5.3.11 Japanese market share

Japanese and Korean manufacturers, such as Toyota, Honda and Hyundai are likely to benefit at the expense of some European manufacturers. Their good production habits, and good cost base, will enable them to offer competitively priced, and high quality, products. In a period of economic slowdown, quality, low-cost maintenance and resale value all become more important. Customers are likely to place less emphasis on the European virtues of sophisticated technology and high performance and seek reliability and good second-hand value. The main pressure will fall on the volume sector.

5.3.12 Effect of changes: labour and skills

There may be significant change in work organisation. Within car companies there will be increased attempts to shed labour. There will be heavy investment in automated production. The division of labour between vehicle makers and suppliers will accelerate and jobs will be ‘transferred’ to the supply industry. In some cases this may mean a literal transfer as non-core functions are outsourced. There is also likely to be an increase in temporary or agency labour.

Transfers of production to lower cost, or peripheral regions in Europe will result in pressure to remove traditional employment protection – particularly at the German and French plants. This will lead to industrial unrest and some, inevitable, deals to achieve further flexibility. Trades unions will be forced to accept these in order to protect jobs in the traditional manufacturing areas. In a situation of reducing numbers, there will be little prospect that the proportion of female workers will increase.

Development of new vehicle technologies is likely to be outsourced. This could lead to cutbacks in white-collar staff with the carmakers but an increase in employment within the high-value engineering services sector – already strong in Europe. These companies are likely to experience some recruitment difficulties.

With continuing productivity gains, and low demand, reductions in employment are inevitable. A cutback of 10–15% would result in 500,000 job losses by the end of the decade.

5.4 Scenario 4: low demand/high level of consolidation

As for scenario 3, this assumes an economic slowdown that could be European or global. Consolidation would be expected to accompany low demand since companies would have excess capacity and experience low returns on investment.
5.4.1 Demand and market segments

The demand conditions, and the different impact of an economic slowdown on each market segment, have been discussed under scenario 3. Companies will have weak profits and stock values will fall. However, as discussed, low demand will not be universal.

5.4.2 Competition and consolidation

As discussed under scenario 2, further consolidation can be divided into different categories:

- within Europe, reducing the number of independent European manufacturers
- outside Europe – where European manufacturers acquire other companies
- consolidation amongst suppliers – again sub-divided into the same categories.

There is likely to be pressure on a number of European manufacturers. The issues for Fiat, and its relationship with GM, have been discussed in some detail in scenario 2. Analysts have also described potential difficulties for PSA and BMW and questioned their ability to survive as independent companies. The same is clearly true for MG-Rover which, given its largely UK sales base, is over dependent on the UK economy and has little ‘spread’ to protect it if British sales fall.

Each has, however, adopted strategies that in many ways differ from the conventional wisdom. For the former two companies their approach has clearly brought success and good profitability. Their ownership structure also prevents hostile takeover.

For MG-Rover there would be a real question mark on its survival as an independent company. It is likely that another manufacturer would seek to buy the brand – especially the famous MG marque. However, this would not guarantee production continuing in Birmingham. If a buyer, that would maintain production at the Longbridge site, was found it would most likely be a new player in the European market, such as the Indian manufacturer Tata or Proton of Malaysia – if they sought a European manufacturing base.

There would be little incentive to acquire additional capacity. However, a number of European brands would be attractive to US purchasers, particularly BMW and specialist manufacturers such as Porsche and Ferrari. Purchase would, inevitably, be followed by rationalisation and plant closures. Europe would also lose out on technological development. New US owners would be inclined to move development to their home base. This would, potentially, be damaging for the European engineering services sector.

Such consolidations could also occur amongst the European manufacturers. The larger companies such as VW and Daimler-Chrysler might seek to expand their market shares. However, there would be little or no business case for acquiring additional volume capacity. Any major merger would result in factory closures. In addition attractive and high value brands would be sought. This would continue the trend (not easily explained), of car-makers desiring prestigious brands – even though the value of returns is low. As discussed above, this could see the end of independence for some well-known smaller marques.

Outside Europe further consolidation would be likely. Daimler-Chrysler, Ford and GM would all seek to dominate new markets in anticipation of future growth. The expectation would be that Daimler-Chrysler would take complete control of both Mitsubishi and Hyundai/Kia – and might also be interested in the Malaysian company, Proton. Medium-sized companies elsewhere, with good reputations and strong brands...
such as Honda, could also be targets if their sales were to decline in the European or US markets. Ford, GM and Renault-Nissan would be potential buyers.

A depressed market and a round of consolidations would lead to factory closures. Fiat has already announced cutbacks in several of its plants – and some have been closed in the last decade. More would follow – with or without the intervention of GM. Likewise companies such as Opel (GM), PSA (Peugeot-Citroën), Renault and Ford would close or cut back in some older plants.

5.4.3 Productivity

As discussed in scenario 3, pressure of competition will accelerate the drive for cost savings and productivity improvements resulting in major job cuts at carmakers and suppliers alike.

5.4.4 Suppliers

As discussed under scenario 3, the industry would be under even more pressure to deliver cost savings. More responsibility would be transferred to the supply base.

In a scenario of high consolidation European supply companies will be vulnerable to merger or acquisition. In particular, the large US-based module and systems suppliers and integrators would seek to expand their market share (see the discussion in scenarios 1 and 2). Major European suppliers such as Bosch and Valeo would follow the same strategy. Major takeovers by US companies would not only lead to job losses but also loss of European technical leadership.

However, a possible backlash against the trend might be car manufacturers’ resistance to being too dependent on a limited number of suppliers. As described in the first article, a result of consolidation has been the specialisation of the large suppliers. This resistance is unlikely to prevent further consolidation but might lead to the carmakers themselves buying into the supply chain. This could see a reversal of the trend where supply businesses, such as Delphi (GM), Visteon (Ford), Magnetti Marelli (Fiat) and Unipart (MG-Rover) were sold off. Notably, PSA has retained the supply company Faurecia – and in recent months has increased its share of the equity.

5.4.5 Geography of production

A general decrease in demand, and extra pressure on the medium-sized sector, will leave volume producers with greater dependence on small car sales. Lower unit margins in this sector will encourage further cost cutting. This will accelerate moves of production to Europe’s peripheral regions. With consolidations, and therefore more sharing of components and platforms, this trend will be accelerated. Companies such as Renault, PSA, Opel, Ford and VW could move more production to peripheral European plants – especially if these were underutilised in a general economic slowdown. Plants in the UK, Spain, Czech Republic, Slovakia, Poland and Hungary could gain at the expense of plants in France, Germany and Northern Italy. Within single states there could also be production transfers and closures of older plants – especially where there are traditions of poor labour relations.

The location of suppliers’ plants in the lower cost member states will lead to some reorganisation and rationalisation. However, the principles of just-in-time manufacture pose a constraint on the movement of parts. The carmakers will pressurise the supply
base to use these factories, and those at locations outside Europe, to supply into European manufacturing plants leading to cutbacks and factory closures in Europe.

As discussed in previous scenarios a negative affect could be the export of production by Ford or GM – or by European manufacturers with strong sales in the US market.

5.4.6 Policy framework

The policy framework as previously described for environmental and safety legislation will not be significantly different.

As in scenario 3, there is likely to be considerable pressure on the labour laws and on trade unions to agree on changes in working practices and new approaches to redundancy. The fact of the industry being a ‘flagship’ will lead to pressure for public sector support. With mergers and takeovers there will be additional concern. It will be important that policy is geared to the future, to preserving key technologies and to supporting the expanding segments of the industry such as the knowledge services sector. It should not just address short-term job-saving measures.

5.4.7 Japanese market share

Japanese and Korean manufacturers, such as Toyota, Honda and Hyundai are likely to benefit at the expense of some European manufacturers. This will put further pressure on the need to consolidate, e.g., the complete takeover of Mitsubishi and Hyundai by Daimler-Chrysler. Increased market penetration will lead to the possibility of new Japanese or Korean factories. Depending on the models these may be located in the peripheral or core-manufacturing regions. (In 1993 Japanese imports into Europe were 930,000 vehicles and production of Japanese brands in Europe was 580,000. Ten years later, in 2002 the number of imported vehicles was 800,000 while European-based production had risen to approximately 13,500,000.) New Japanese plants would lead to a lowering of the overall trade union representation in the industry.

Moves to create more ‘local’ production would bring mixed rewards. There would be significant numbers of jobs protected allowing politicians to claim the benefits of ‘their’ flexible labour markets. However, the real issue would be the loss of technical leadership, since the design and development authority would remain in Japan. Also, Japanese firms would bring many of their home suppliers with them. There would also be the prospect of further damage to ‘home’ volume producers given the flat or, even, declining overall market in Europe.

5.4.8 Effect of changes: labour and skills

There may be significant change in work organisation. Within consolidated car companies and suppliers there will be increased attempts to shed labour and heavy investment in automation at new ‘green field’ (peripheral’) locations. The division of labour between vehicle makers and suppliers will accelerate. Jobs will be ‘transferred’ to the supply industry. In some case this may mean a literal transfer as non-core functions are outsourced. There is also likely to be an increase in temporary or agency labour.

Newly consolidated groups, and new players in the market will seek to negotiate ‘flexibility’ deals. The move out of the core locations will lead to reduced unionisation. This will in turn see pressures on trade unions in the old core sites to relax the conditions
of employment – or otherwise see more production moving. Solidarity amongst member states, or indeed amongst the employees of the different plants, is unlikely to develop sufficiently to have any significant impact on the trend.

With continuing productivity gains, low demand and further rounds of consolidation in both car plants and suppliers’ factories, reductions in employment are inevitable. A cutback as high as 20% would result in more than 700,000 job losses by the end of the decade. The pressure on the retail side, although outside the scope of the scenarios, is likely to result in further significant losses. The total effect could see the total loss top the 1 million mark by 2010.

6 Summary

The above scenarios have tried to take account of the ongoing developments resulting from the relentless competition in the industry. They have also tried to be realistic. However, they are not, and cannot be, all encompassing. There are too many factors and variables.

At present the industry is successful from some perspectives but not from others. For example, it is undoubtedly innovative and produces very high value for money, performance and sophistication for its consumers.

In other ways it is less successful. Profit margins (on vast turnovers) are low and, in most cases, shareholder returns are moderate. Many decisions, such as to make large investments in prestige, high performance brands, might be viewed as irrational. Others, such as decisions to buy market share through discounting, lead to long term, structural weakness. Also adversarial relationships, such as between car-makers and suppliers continue. For example the annual ‘cost down’ negotiation with suppliers (and suppliers’ suppliers) is ultimately unsustainable.

In the scenarios the assumption has been made that these features of the industry and the cost base, and organisation, will not change. In all the scenarios discussed therefore, the same trends will continue – and overall employment will decline. The main variable is the rate of change. In all four scenarios, however, the consumer will continue to benefit.

It is also clear that despite political and press speculation, the core internal combustion technologies (gasoline and diesel) will continue to power all but a tiny proportion of vehicles in the next twenty years. There is little prospect of a dramatic change (MacNeill, Srbljanin and Bentley, 2002).

Finally, considering some of the illogical features described above, it should be said that not all in the industry is based on logic. Cars are the great iconic product of our times. Car making, as car buying, also has strong elements of pride and emotion.

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References


Notes

1 A result is that US-based have been interested in accessing technology through company acquisitions.


3 Daimler-Chrysler took a 20% stake in Hyundai as part of a global expansion plan. However, a perceived lack of financial or technological return has led to the recent sale of this interest.


5 There have been persistent rumours that Ford could sell Volvo cars – to the extent that Renault Chairman Louis Schweitzer has indicated renewed interest in acquiring the business. There have clearly been ‘cultural problems’ which have fuelled speculation but there has never been any official statement.

6 Volkswagen predict the volume of sales in China will reach 1 m in the next ten years – compared with a 2002 figure of 511,000.

7 Audi forecasts 200,000 US sales by 2008 compared with 86,000 in 2003. (Source: Automotive News, 22nd March, 2002)

8 Vehicles from this plant are imported into Europe, as are Chrysler models such as the small/medium ‘Neon’ and the ‘PT Cruiser’ mini van.

9 These have more high value extras. A good example is the profitable BMW Mini, which has a high spec and where consumers have opted for the more powerful versions.
PricewaterhouseCoopers predict a reduction in tier 1 suppliers to 30 by 2010 and major reductions in numbers at tier 2 and lower—a forecast reduction from 10,000 tier 2 suppliers to less than 1000.

This can mean price reduction or packages of extras such as equipment or extended warranties. For example Ford, in order to retain market share in Holland is offering around €5000 worth of extras on Focus models sold in Holland.

Other routes to profit can be through aftermarket sales of parts, financing or insurance.

GM has Cadillac in the USA but few vehicles are imported into Europe.

For example, Ford outsourced design of the Puma to the UK firm Mayflower. However, production was brought in-house to Ford’s Cologne plant.

For example, BMW’s ownership of Rolls Royce, VW’s ownership of Bentley and Daimler-Chrysler’s revival of the ultra upmarket Maybach brand.

For example, TRW in safety systems.